

SCS ENGINEERS

April 18, 2016
File No. 09210021.26

Mr. Henry Freedenburg P.E., P.G.
Solid Waste Section
Florida Department of Environmental Protection
2600 Blair Stone Road, MS 4565
Tallahassee, Florida 32399

Subject: Citrus County Class I Central Landfill, Citrus County
Operation Permit Renewal 10-year term
WACS No. 39859
21375-25-SO/01

Dear Mr. Freedenburg:

On behalf of Citrus County Board of County Commissioners (BOCC), SCS Engineers (SCS) submits the following responses to the Florida Department of Environmental Protection (FDEP) Request for Additional Information (RAI) No. 1 letter dated November 5, 2015. For ease of review, each FDEP comment is reiterated in bold type followed by SCS's response in normal print.

GENERAL

- 1. The following link points to a webpage containing the 2015 version of the landfill permit application form. This form has been adjusted to include the 2014 updates to 62-701 F.A.C. and is included in Chapter 62-70 I as 62-701.900(1) F.A.C. Please resubmit your permit renewal application using the current (2015) form and reconcile all rule references in the application with the 2014 Chapter revision.**

[http://www.dep.state.fl.us/waste/quick_topics/forms/documents/62-701/62-701.900\(1\).pdf](http://www.dep.state.fl.us/waste/quick_topics/forms/documents/62-701/62-701.900(1).pdf)

Response: The application form has been changed to the 2015 version. Please see the updated application following this letter.

- 2. You supplied a table listing cross references needed to reconcile the numbering used in 62-701.900(1) F.A.C. with the internal numbering system used in your application. Future readers will have an easier time if your numbering system in your permit application is consistent with the numbering system in 62-701.900(1) F.A.C. Please adjust your application to match reflect the order and the numbering of sections in the permit application form before resubmittal.**

Response: Table K-1 has been removed from the operations plan and the numbering system has been updated to match that of 62-701.900(1).

3. Numerous spelling/numbering/chapter title/ included reference errors are present in the proposed Operation Plan. Examples of these include:

- a. On Page B-1, Section B.2, please list key personnel by name in the first chapter of the Operation Plan.**

Response: Key personnel have been added by name on Pages 1 and 2, Section K.2, of the Operation Plan

- b. On Page B-4I, Section B.3, you speak about a contingency plan in the first paragraph and an “Emergency Incidents Plan” in your Section B.3.a. These appear to be the same document. Please decide on a name for this document and, in the introductory paragraph identify that this document also serves to fulfill the requirements of 62-701.320(16).**

Response: The name has been changed to the Emergency Incidents and Contingency Plan throughout the document.

- c. Page C-1, Section C discusses a leachate sampling plan. Leachate sampling is no longer required. Also, as per the 62-701.500(4)(a) F.A.C. rule update, you need to record county of origin for your waste.**

Response: Any reference to Leachate sampling or its plan have been removed and the County of origin requirement has been added to Section K.3

- d. Page F-1, please state in Section F that access will only be allowed when an attendant is on duty.**

Response: This statement has been added to the beginning of Section K.6

- e. F-1, Section F 62-701.500(6)(a) F.A.C. addresses unauthorized wastes. Item 4 on this page discusses restricted material. Are “unauthorized waste” and “restricted material” the same?**

Response: “Restricted” was replaced with “unauthorized” in item 4 of Section K.6.a

- f. Page F-2 Section F-2 on page F-2 to fully reflect the requirements of 62-701.500(6)(b)(1) F.A.C. Please pay special attention to the requirement that you promptly notify the Department when regulated hazardous wastes are identified during random load checking. Also, describe the precautionary measures required by 62-701.500(6)(b)F.A.C. Please clarify your reasoning underlying the inclusion of waste tires in your hazardous waste stream. Also please address 62-701.500(6)(b)(2)(d) F.A.C. with regard to temporary storage of waste.**

Response: Reference to waste tires as hazardous waste has been removed. Remainder of comment is addressed in Section K.6.b

- g. Please add the requirement that all inspection results must be maintained at the landfill for a minimum of 3 years to page F-3 as per 62-701.500(6)(b)(2)(c) F.A.C.**

Response: Comment has been addressed in section K.6.c

- h. Page G-1, Section G-4 Please adjust your wording to qualify the requirement to read “The working face will only be wide enough” as per 62-701.500(7)(d).**

Response: Comment has been addressed in section K.7.d

- i. Page G-2, Section G-6, please explain how per 62-701.500(7)(f) F.A.C applies to intermediate cover.**

Response: Section K.7.g now properly references 62-701.500(7)(g).

- j. Page G-2 Section G-7 is labeled as Final Cover. Most readers would recognize that 62-701.500(7)(g) F.A.C refers to intermediate cover.**

Response: Section K.7.h now properly references 62-701.500(7)(h).

- k. The rule referred to in the Litter Policing Erosion Control Subsections (G.9 and G.10) are mislabeled. 62-701.500(7)(j) F.A.C. addresses litter policing while 62-701.500(7)(k) F.A.C describes erosion control requirements. This rule also includes time standards for department notification. These time requirements do not appear in your proposed operation plan submittal. Please add them.**

Response: Rule references have been corrected in sections K.7.j and K.7.k and the requirement for department notification has been added.

- l. The Emergency Contact Chart on page 14 of the Emergency Incidents and Contingency Plan is confusing. Please redo this chart in a standard “organization chart” format.**

Response: Please see the revised Emergency Contact chart from the Emergency Incidents and Contingency Plan on page 14 located in Appendix B of the Operations Plan in Attachment S.

Items a-1 above should be construed as a starting point. It is by no means a complete representation of the items in your application that require further attention.

Your Operation Plan should be a stand-alone document. In general, when a rule requires DEP notification you should provide the DEP contact point in your Operation Plan. If a time limit for notification is specified in the rule, this needs to be carried over to your Operation Plan.

In every case, if there is a conflict between any F.A.C. rule and your Operation Plan, the rule will prevail.

Response: Numerous spelling/numbering/chapter title/ included reference errors have been revised with the appropriate information.

- 4. You have indicated a desire to use on-site soils for final closure. Use of onsite soils will reduce the amount of required Financial Assurance. AS per 62-701.630(3)(d)1 F.A.C. and 62-701 (3)(d)2 F.A.C, this is permitted. Please submit a letter that satisfies 62-701.630(3)(d)1 F.A.C. This letter should be sealed by a P.E. and should clearly indicate all documents included by reference. The letter should also include a drawing delineating the exact area on the site from which the closure soil will be drawn and sufficient geotechnical information to support your representation of suitability (ie you may want to consider the eventual installation of additional borings to further characterize the borrow material). Please submit separate pdfs of the documents included by reference for entry into Oculus. Please submit a covenant, easement, trust or other legal agreement with the Department as required by 62-701.630(3)(d)2. As per our telephone conversation of November 4, 2015, the Department has developed "boilerplate" for a model agreement that satisfies the rule. This will be forwarded to you in a separate e-mail.**

Response: The County is in receipt of the boiler plate covenant and has developed the documentation noted above. The area where the soil that is proposed to be used for closure was previously planned for a solid waste transfer station. For the purpose of the permitting of the transfer station a soil study was conducted by King Engineering in conjunction with Universal Engineering. To develop the calculations and support information for utilizing the soil for closures, SCS has used the soils information from that report. The borings show suitable soils material at multiple levels that could be used for closure soils.

- 5. You have submitted a DVD provided by Florida Jetclean to provide a video record of your 2015 LCS inspection. The DVD contains a series of .vob files. Please provide the Department with .mp4 files.**

Response: A new DVD containing .mp4 files is included.

- 6. Please provide a table listing all "Documents Included by Reference." It is the Department's intent to provide Oculus hotlinks to all listed documents. The conforming final permit modification application will include these Oculus links.**

Response: Please see Attachment I for the List of Referenced Documents.

- 7. Please adjust the cover letter to represent that that all significant changes from the previous application are included in your summary. This letter should be signed by a P.E.**

Response: Please see the new cover letter included after this letter.

- 8. The expiration date on the Closure Cost Estimate should be changed to reflect the new expiration date. This is a new estimate and as per 62-701.630 (4)(b) estimates are to updated every 5 years.**

Response: Per our phone conversation on 12/23/2015 no changes to this section have been made.

- 9. Please submit a Water Quality Monitoring Plan as per 62-701.510(2)(a) incorporating the changes proposed by CDM Smith in the report titled "Water Quality Monitoring Plan Evaluation Report, Semester 0 1 2013-Semester 1 2015", dated September 2015. Include an updated figure showing the revised Zone of Discharge and revised monitor well locations.**

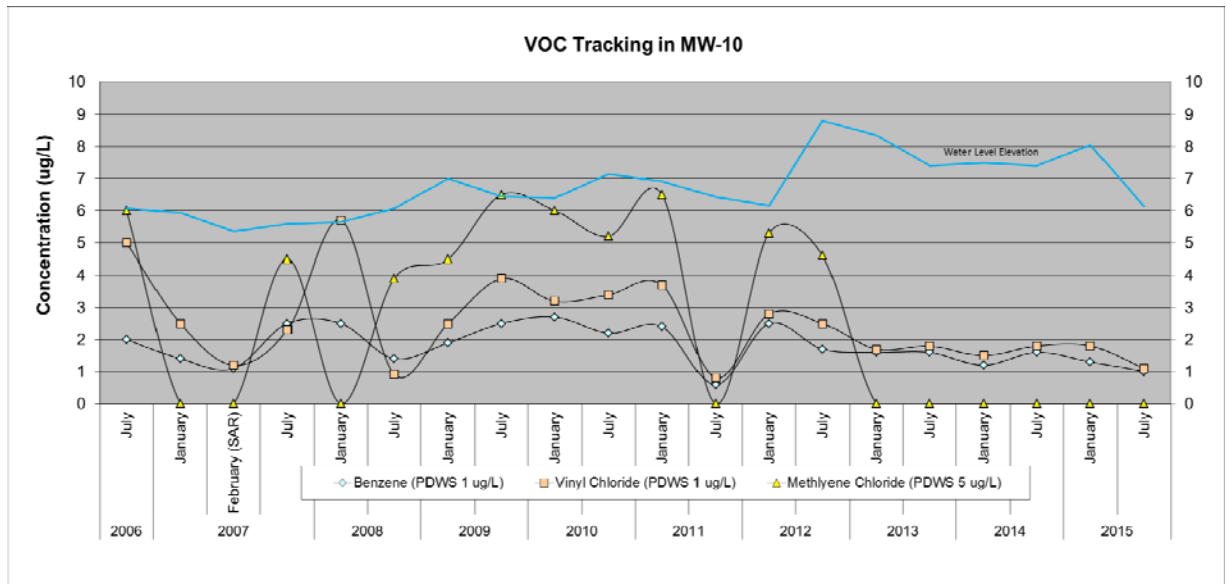
Response: A Water Quality Monitoring Plan will be included as Appendix I of the Operations Plan in Attachment S.

Please reconcile your proposed Water Quality Monitoring Plan with Consent Order #05-1078. The specific areas of concern are:

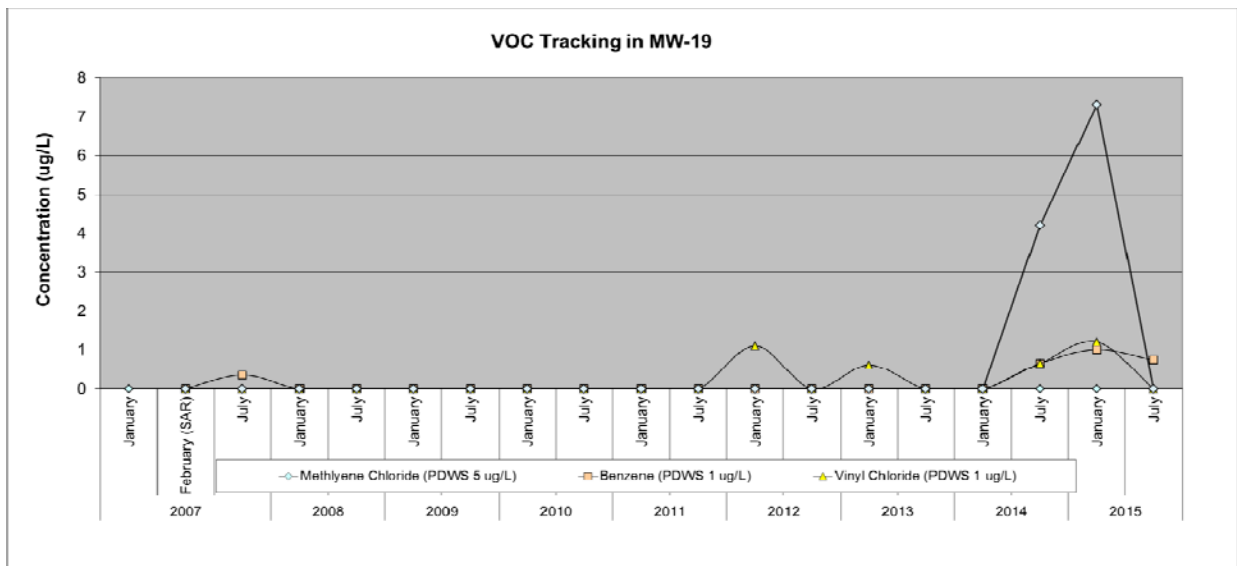
- a) Ground Water Quality – Northwest Corner of Facility**
-Impacts to ground water quality on the west side of the landfill (the closed disposal areas) were addressed as part of CO #05-1078. Results reported for recent routine ground water sampling events show persistent, low-level exceedances for benzene, methylene chloride and vinyl chloride at well MW-10 with a downward trend of concentrations. No exceedances have been reported for the lateral extent well (MW-18), however the vertical extent well (MW-19) has reported a recent and increasing trend of methylene chloride concentrations. Please address the increase of methylene chloride concentrations detected at vertical extent well MW-19.

Response: See Jones Edmunds & Associates, Inc. (JEA) response below

“The landfill gas extraction groundwater remediation system was installed in response to elevated VOCs in MW-10. Since the systems installation and optimization in March 2011, the concentrations of the parameters of concern (Benzene, Vinyl Chloride, and Methylene Chloride) have slowly decreased in MW-10.



Concentrations of the parameters of concern have not been detected in downgradient assessment well MW-18; however, recently, Methylene Chloride has been detected in the vertical extent assessment well MW-19. The chart below shows the trends of the parameters of concern in MW-19 since the well was installed.



There have been low level hits of both Benzene and Vinyl Chloride in MW-19 in the past; however, just recently has the well had detections of all 3 parameters at elevated concentrations. Of the parameters of concern, Methylene Chloride is the most soluble in water; therefore it will dissolve into water at the highest concentrations. Methylene Chloride also has the highest Vapor Pressure; therefore, Methylene Chloride will volatilize out of water first due to changes in pressure. Reviewing the first chart, which shows the VOC tracking in MW-10, Methylene Chloride had the greatest concentration and was the first to fall out after implementation of the gas extraction remediation. Since

Methylene Chloride has not shown back up in MW-10 it indicates that the gas extraction system is still effecting the VOC concentrations in the groundwater.

The VOC Tracking in MW-19 chart shows a spike in Methylene Chloride associated with smaller spikes of both Benzene and Vinyl Chloride. All of the parameters in MW-19 have decreased during the July 2015 sampling event. The pattern observed in MW-19 is indicative of a plume migrating through the aquifer; however, there was no Methylene Chloride observed in shallow well MW-10. This indicates that the VOCs dissolved into the groundwater in one of two methods.

1. Landfill gas built up inside MW-19 causing condensate to develop inside the well riser, and the condensate dripped down into the groundwater.
 - a. Landfill gas will be measured in MW-19 to verify if it is infiltrating into the well. However, if the exceedances were caused by condensate dripping in the well we would expect a more prolonged time of exceedances.
2. The concentrations indicate that a plume of VOCs dissolved into the aquifer and has migrated deeper than the effects of the remediation system and MW-10's screen interval.
 - a. The low levels observed in the July 2015 sampling event indicate that, if this was the case, the plume has passed and continued exceedances are not expected to occur. Since MW-19 is screened deeper than MW-10 and there has been no associated hits of Methylene Chloride in MW-10, the landfill gas that caused this plume never made it to the landfill gas extraction system to be removed and the landfill gas extraction system did not have sufficient vacuum to pull the VOCs from deeper in the aquifer.

The County is exploring options to optimize the groundwater treatment system over the coming year to prevent further migration of contaminants. Options under consideration include:

1. Shutting down the deeper gas vents and pulling only from the intermediate vent screens might degas without pulling additional gas into contact with the groundwater.
2. Shutting down GEW-1 and GEW-5 would increase the pull from GEW-2, GEW-3, and GEW-4 where more Carbon Dioxide has been detected. Additionally, the County may install solar powered turbines on GEW-1 and GEW-5 and isolate them from the rest of the system.
3. Reversing the air flow in GEW-1 and GEW-5 would channel landfill gas toward GEW-2, GEW-3, and GEW-4. This would require an additional blower fan.
4. Reversing the flow in the deeper wells, pushing subsurface air upward toward the

- more shallow extraction wells. This would require an additional fan.
5. Installing a blower with more capacity to remove more landfill gas from the subsurface.

Consent Order Reconciliation:
Consent Order Status of Compliance

The Consent Order (OGC File No. 05-1078) was specific to the closed unlined 60 acre landfill groundwater exceedances beginning in 2002 in downgradient wells and Landfill gas above the LEL beginning in 2003 at the property boundary.

In a Status of Compliance letter from Deborah Getzoff (FDEP Southwest District Director) dated October 27, 2009, FDEP stated that the Landfill has completed, or is in compliance with, all of the Orders in the Consent Order except for Order 6 and Order 11b. Order 6 and 11b are discussed below:

Order 6: The approved Groundwater Investigation Plan is incorporated into the Consent Order and must be implemented.

- Compliance with Item 6 was considered ‘pending conclusion of Rule 62-780.600 Site Assessment activities.’ As part of the original Site Assessment, a lease agreement with the Department of Forestry expanded the property boundary and zone of discharge. New wells were installed at the new zone of discharge: MW-10, MW-11, MW-12, MW-13, MW-14, MW-15 and MW-17. While this would conclude the specific Site Assessment cited by the Consent Order, through Order 11b the exceedances in MW-10 were made subject to an additional Rule 62-780.600 FAC Site Assessment.
- FDEP issued a “does not object” e-mail dated April 26, 2010 to the proposed corrective actions outlined in the 62-780 Site Assessment Report (SAR) for the exceedances in MW-10. While the e-mail did not expressly state that the SAR was approved, the construction of the remedial system was approved.
- The remedial system for MW-10 was installed and has been in operation since October 2010 and the constituents of concern are slowly decreasing. Based on this, the Site Assessment is complete and the remedial process is now under Rule 62-780.700 FAC – Active Remediation.

The County implemented the approved Groundwater Investigation Plan and now considers Order 6 complete as the assessment sampling of the delineation wells installed around MW-10 are part of the permit.

Order 11b: If exceedances are found in the initial sampling event of MW-10, MW-11, MW-12, MW-13, MW-14, MW-15 and MW-17, the landfill must conduct a site assessment under Rule 62-780-600. The October 2009 Status of Compliance letter stated that if these

new wells report exceedances in the future, the additional wells will be included in the assessment activities.

- MW-15 detected Vinyl Chloride at 2 µg/L in the initial event, but it was not confirmed in subsequent sampling. MW-10 detected elevated Vinyl Chloride at 5 µg/L and Benzene at 2 µg/L in the second sampling event (not in the initial event)

and they were confirmed in subsequent sampling, initiating the 62-780 site assessment.

- A SAR was submitted for MW-10 on October 22, 2007 in accordance with this Order due to VOC exceedances.
- Additional VOC contamination was detected in MW-13 and MW-15 in October 2009. However, concentrations in MW-15 are currently below the standard and occasional detections in MW-13 have been (as defined by the FDEP 'rounding rule') at, but not above the standard. More recent detections in MW-18 through 21 do not apply to the OGC Order.

By the letter of the OGC Consent Order, the contaminants in MW-10 do not apply since they were not detected in the initial sampling event as specified in Order 11. However, they have been treated as though they apply and the requirements of Rule 62-780.600 FAC have been followed. Regarding the contamination in MW-10, the Consent Order has been redundant because the permit also requires the sampling.

No other significant contamination has been detected in the wells listed in the Consent Order, though if contamination is found in the future, the permit would require the initiation of an assessment in accordance with Rule 62-780 FAC. Therefore Order Nos# 6 and # 11b are considered completed.

By the requirements in the site permit, Rule 62-780.700 FAC will continue to be followed for the issues in MW-10 and additional assessment will be initiated if required by FDEP from additional exceedances observed in any of the other wells at the zone of discharge. Therefore, the County concludes that OGC Consent Agreement No. 05-1078, executed on September 20, 2005, is complete and requests that it be closed.”

Ground Water Quality -- Background Well MW-7

-The last 4 routine sampling events have reported exceedances of the benzene standard, with no apparent trend. It appears unlikely that the adjacent property to the east in the upgradient direction (State forest) would be a source of benzene in ground water. Please address potential sources of benzene in background well MW-7

Response: See Jones Edmunds & Associates, Inc. (JEA) response below

Degradation of the groundwater quality in the vicinity of MW-7 is not attributed to a discharge of leachate from the nearby lined Phase I, Phase II, or Phase III landfill cells.

Many of the typical indicator parameters for landfill leachate are not present in samples collected from well MW-7 in concentrations that would be expected if the source was landfill leachate. Additionally, there does not appear to be an up gradient off-site source for the VOCs observed in MW-7.

The most likely source of the Benzene observed in the groundwater at MW-7 is attributed to the presence of landfill gas. Gas will migrate in the unsaturated pore space following

the path of least resistance. The most likely source is that the liners of the newly installed landfill cells are preventing the dissipation of the landfill gas that emanates from the closed unlined landfill. The gas is migrating under the new landfill liner in contact with the groundwater causing changes in the local geochemistry and exchange of organic contaminants from the gas to the groundwater in the vicinity of well MW-7. The observed increasing parameters in MW-7 are similar to those observed in wells MW-10 and MW-19. The contamination in these wells has been shown to be from landfill gas not from leachate.

Hydraulically, MW-7 is on the up gradient boundary of the landfill and is appropriately positioned for a background well. The parameters observed in this well are expected to be from migrating landfill gas and not from off-site contamination.

Final Cover – 7-Acre Cell

- During the July 2015 site inspection areas of settlement were observed in the final cover system for the 7-Acre Cell. Relatively low areas in a north to south orientation were observed. Additionally, vehicle ruts were noted in an area where standing water had ponded on the top of the 7-Acre Cell.

Response: The condition has been remedied and a plan to handle the problem in the future is included in Appendix K of the Ops plan.

- The need to perform repairs to the final cover system of the 7-Acre Cell should be included in the engineering evaluation submitted as part of the permit renewal application.

Response: The condition has been remedied and a plan to handle the problem in the future is included in Appendix K of the Ops plan.

Leachate Collection System

- Considerable areas of standing water were observed in Cell 3 during the July 2015 site inspection. The western portion of Cell 3 was not actively being filled and has intermediate cover with ponded water. The working face was located in the eastern portion of Cell 3 which also had ponded water. The facility was directed to pump the standing water to the leachate collection system.

Response: The County has removed the water and addressed the issue for future operations.

Mr. Henry Freedenburg P.E., P.G.

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- Notifications submitted by Citrus County indicate the leakage action rate has been exceeded for Cell 2 and Cell 3. Monthly notifications were most recently submitted for July, August and September 2015. The notification submitted for September 2015 is attached.

Response: A plan to handle the problem in the future is included in Appendix K of the Ops plan.

-Evaluation of the leachate collection system and the need to implement corrections should be included in the engineering evaluation submitted as part of the permit renewal application

Response: The leachate collection system was jet-cleaned and videoed by Florida Jet Clean and they appear to be functioning as designed. The Report by Florida Jet Clean is located in Appendix F of the Ops plan and the video is included with this RAI Response.

Please do not hesitate to contact us if you need anything further.


Sincerely,

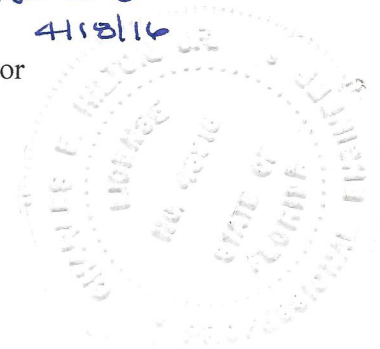
Ian Spurlock, E.I.
Staff Professional
SCS ENGINEERS

CEH/IUS:ceh

Attachments

cc: Cory Dilmore, FDEP
Philip J. Ciaravella, FDEP
Larry Brock, Citrus County
Henry Norris, Citrus County
Cathy Winter, Citrus County


Charles E. Hilton, Jr. P.E. 4/18/16
Vice President/Project Director
SCS ENGINEERS



SCS ENGINEERS

~~October 13, 2015~~ April 18, 2016

File No: 09210021.26

Mr. Henry Freedenberg PE, PG

Solid Waste Section

Florida Department of Environmental Protection

2600 Blair Stone Road, MS 4565

Tallahassee, Florida 32399

RE: Citrus County Central Landfill Operations Permit Renewal

Permit No: 21375-18-SO/01

Dear Mr. Freedenberg,

Attached is the Citrus County Operations Permit Renewal Application package for the Citrus County Central Landfill. The due date for the submittal as per the existing permit is October 15, 2015. The application documents have been prepared by SCS Engineers (SCS) in association with the County staff. The County is opting for a 10 year operations permit and a check for the full amount of the fee (\$20,000.00) is included with the submittal (the check was included with the original submittal and not with this RAI response).

Since the last renewal there have been multiple changes in the regulations that will modify the existing permit. Among those are:

- Special Condition D.3 - Changes in the record keeping and reporting to once annually from quarterly
- Special Condition E.4.C - Deleting the groundwater monitoring well at the treated leachate percolation basin (MW-6) since on-site disposal is no longer active
- Special Condition D.3, E.9, and E.10- Deleting leachate sampling, testing, and reporting
- Special Condition B.1 b. and 2 – The County has submitted the required documentation of the decommissioning of the on-site leachate treatment facility. With the decommissioning of the old treatment plant, the County has an agreement with the County utilities to accept the site leachate for treatment. A copy of the agreement is in the application
- Special Condition F.3 – Ambient monitoring of the leachate treatment plant is no longer applicable since the plant has been removed
- Special Condition A.3.d, B.1.b and .c – The conditions have been met allowing Phase 3 operation and filling of Phase 1 and 1-A
- Special Condition C.4.d – materials generated from the landfill and leachate will no longer require dewatering prior to placing back in the landfill as per the regulations

FDEP had requested that two items be addressed. These relate to the settlement on the 7 acre closure area and on the secondary containment in Phase 3. The Action Plans for the two issues is

located in Appendix K of the Operations Plan. Relating to the secondary containment reports the County requests that those reports be allowed to be submitted to FDEP on a quarterly basis.

An additional finding during the cleaning and videoing of the leachate collection systems on the landfill is noted herein. In Phase 1 the collection header has become oval in shape in the middle of that disposal area. Based on the photographs taken the pipe continues to function. See the Jet Clean report in Appendix F.

Please note that the Groundwater Technical Report is being submitted separately. The report will be submitted as "*Citrus County Central Class I Landfill Water Quality Monitoring Plan Evaluation Report*", prepared and submitted by CDM Smith.

As relates to the Financial Assurance, the available soil for the closure of the landfill will be taken from on-site sources as provided for in 62-701.630(3)(d). Citrus County Landfill has a significant depth to groundwater, as much as 120 feet (Universal Engineering Sciences Geotechnical Investigation for Citrus County Central Landfill New Disposal Cell 11/15/2001). Cell depths to 80 feet below ground surface have been constructed. SCS has recently conducted a brief study for potential expansion of the currently permitting disposal area. Part of the expansion area could be used for soil for the closure whether or not the expansion occurs, and if the expansion occurs there would be significant soil that will be excavation some of which could be used for the closure. The calculations and soils information are in Attachment R of the application. The County will work with FDEP to establish the agreement between the two entities as required in the regulation.


A new Water Quality Monitoring Plan has been added as Appendix I of the Operations Plan contained in Attachment S.

All significant changes from the previous application are included in the above summaries.

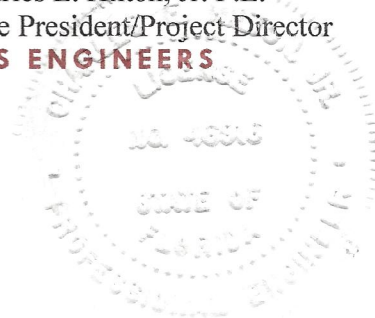
On behalf of Citrus County, SCS is pleased to present this renewal application for approval. Please feel free to call Mr. Henry Norris at 352.527.7670 or Mr. Ed Hilton, P.E., at 407.514.2766 for additional information if needed.

Sincerely,

Ian Spurlock, E.I.
Staff Professional
SCS ENGINEERS


Charles E. Hilton, Jr. P.E. 4118114
Vice President/Project Director
SCS ENGINEERS

CC: Cory Dilmore P.E., FDEP
Philip J. Ciaravella, FDEP
Larry Brock, Citrus County
Henry Norris, Citrus County
Cathy Winter, Citrus County





Florida Department of Environmental Protection

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

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

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

Effective Date: February 15, 2015

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

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

APPLICATION INSTRUCTIONS AND FORMS

Northwest District
160 Governmental Street
Suite 308
Pensacola, FL 32502-5794
850-595-8300

Northeast District
7777 Baymeadows Way West
Suite 100
Jacksonville, FL 32256-7590
904-256-1700

Central District
3319 Maguire Boulevard
Suite 232
Orlando, FL 32803-3767
407-897-4100

Southwest District
13051 North Telecom Pkwy
Temple Terrace, FL 33637
813-470-5700

South District
2295 Victoria Ave, Suite 364
P.O. Box 2549
Fort Myers, FL 33901-3881
239-344-5600

Southeast District
3301 Gun Club Road
MSC 7210-1
West Palm Beach, FL 33406
561-681-6600

INSTRUCTIONS TO APPLY FOR A SOLID WASTE MANAGEMENT FACILITY PERMIT

I. General

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

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

II. Application Parts Required for Construction and Operation Permits

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

NOTE: Portions of some Parts may not be applicable.

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

III. Application Parts Required for Closure Permits

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

NOTE: Portions of some Parts may not be applicable.

IV. Permit Renewals

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

V. Application Codes

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

VI. Listing of Application Parts

- PART A: GENERAL INFORMATION
- PART B: DISPOSAL FACILITY GENERAL INFORMATION
- PART C: PROHIBITIONS
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- PART I: GEOTECHNICAL INVESTIGATION REQUIREMENTS
- PART J: VERTICAL EXPANSION OF LANDFILLS
- PART K: LANDFILL OPERATION REQUIREMENTS
- PART L: WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS
- PART M: SPECIAL WASTE HANDLING REQUIREMENTS
- PART N: GAS MANAGEMENT SYSTEM REQUIREMENTS
- PART O: LANDFILL CLOSURE REQUIREMENTS
- PART P: OTHER CLOSURE PROCEDURES
- PART Q: LONG-TERM CARE
- PART R: FINANCIAL ASSURANCE
- PART S: CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

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

Please Type or Print

PART A. GENERAL INFORMATION

1. Type of disposal facility (check all that apply):

- | | |
|--|--|
| <input checked="" type="checkbox"/> Class I Landfill | <input type="checkbox"/> Ash Monofill |
| <input type="checkbox"/> Class III Landfill | <input type="checkbox"/> Asbestos Monofill |
| <input type="checkbox"/> Industrial Solid Waste | |
| <input type="checkbox"/> Other (describe): | |
-
-
-

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

2. Type of application:

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

3. Classification of application:

- | | |
|---|--|
| <input type="checkbox"/> New | <input type="checkbox"/> Substantial Modification |
| <input checked="" type="checkbox"/> Renewal | <input type="checkbox"/> Intermediate Modification |
| | <input type="checkbox"/> Minor Modification |

4. Facility name: Citrus County Class I Central Landfill

5. DEP ID number: 39859 County: Citrus

6. Facility location (main entrance):
State Road 44 between Lecanto and Inverness, Florida

7. Location coordinates:

Section: 1 Township: 19S Range: 18E

Latitude: 28 ° 51 ' 07 " Longitude: 82 ° 26 ' 12 "

Datum: WGS 1984 Coordinate method: Google Earth

Collected by: Ian Spurlock Company/Affiliation: SCS Engineers

PART B. DISPOSAL FACILITY GENERAL INFORMATION

1. Provide brief description of disposal facility design and operations planned under this application:

The disposal facility consists of Phase 1/1A, Phase 2 and Phase 3. Continued
Class I disposal operations in Phase 1/1A, Phase 2, and Phase 3. Phase 3 is
the lateral expansion from Phase 2.

2. Facility site supervisor: Henry Norris

Title: Solid Waste Director Telephone: (352) 527-7670

henry.norris@citrusbocc.com

E-Mail address (if available)

3. Disposal area: Total acres: 80 Used acres: 32 Available acres: 48

4. Weighing scales used: Yes No

5. Security to prevent unauthorized use: Yes No

6. Charge for waste received: _____ \$/yds³ 24 _____ \$/ton

7. Surrounding land use, zoning:

Residential

Industrial

Agricultural

None

Commercial

Other (describe):

Conservation

8. Types of waste received:

Household

C & D debris

Commercial

Shredded/cut tires

Incinerator/WTE ash

Yard trash

Treated biomedical

Septic tank

Water treatment sludge

Industrial

Air treatment sludge

Industrial sludge

Agricultural

Domestic sludge

Asbestos

Other (describe):

9. Salvaging permitted: Yes No
10. Attendant: Yes No Trained operator: Yes No
11. Trained spotters: Yes No Number of spotters used: Minimum of one
12. Site located in: Floodplain Wetlands Other (describe):
Upland
-
13. Days of operation: Monday -Saturday and some Holidays
14. Hours of operation: Monday - Friday 8:00am - 4:30pm; Saturday and Holidays 8:00am - 2:30pm
15. Days working face covered: Monday - Saturday
16. Elevation of water table: 7 ft. Datum Used: NGVD 1929
17. Number of monitoring wells: 23
18. Number of surface monitoring points: 0
19. Gas controls used: Yes No Type controls: Active Passive
- Gas flaring: Yes No Gas recovery: Yes No
20. Landfill unit liner type:
- | | |
|---|--|
| <input type="checkbox"/> Natural soils | <input checked="" type="checkbox"/> Double geomembrane |
| <input type="checkbox"/> Single clay liner | <input type="checkbox"/> Geomembrane & composite |
| <input type="checkbox"/> Single geomembrane | <input checked="" type="checkbox"/> Double composite |
| <input type="checkbox"/> Single composite | <input type="checkbox"/> None |
| <input type="checkbox"/> Slurry wall | <input type="checkbox"/> Other (describe): |
-
21. Leachate collection method:
- | | |
|--|---|
| <input checked="" type="checkbox"/> Collection pipes | <input type="checkbox"/> Double geomembrane |
| <input checked="" type="checkbox"/> Geonets | <input type="checkbox"/> Gravel layer |
| <input type="checkbox"/> Well points | <input type="checkbox"/> Interceptor trench |
| <input type="checkbox"/> Perimeter ditch | <input type="checkbox"/> None |
| <input type="checkbox"/> Other (describe): | |
-

22. Leachate storage method:

- Tanks Surface impoundments
 Other (describe):

23. Leachate treatment method:

- Oxidation Chemical treatment
 Secondary Settling
 Advanced None
 Other (describe):

Aeration Pre-treatment

24. Leachate disposal method:

- Recirculated Pumped to WWTP
 Transported to WWTP Discharged to surface water/wetland
 Injection well Percolation ponds
 Evaporation Spray irrigation
 Other (describe):

25. For leachate discharged to surface waters:

Name and Class of receiving water:

N/A

26. Storm Water:

Collected: Yes No

Type of treatment:

Dry retention/percolation

Name and Class of receiving water:

None

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

ERP No. 09-0292195-001 (Closed Landfill)

ERP No. 09-0291076-001 (Active Landfill)

PART C. PROHIBITIONS (62-701.300, FAC)

LOCATION

- | | | | | |
|---------------------------------------|---------------------|------------------------------|---|---|
| S <input type="checkbox"/> | <u>Section C.1</u> | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | 1. Provide documentation that each of the siting criteria will be satisfied for the facility; (62-701.300(2), FAC) |
| S <input type="checkbox"/> | <u>Section C.2</u> | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | 2. If the facility qualifies for any of the exemptions contained in Rules 62-701.300(12), (13) and (16) through (18), FAC, then document this qualification(s); |
| S <input type="checkbox"/> | <u>Section C.3</u> | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | 3. Provide documentation that the facility will be in compliance with the burning restrictions; (62-701.300(3), FAC) |
| S <input type="checkbox"/> | <u>Section C.4</u> | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | 4. Provide documentation that the facility will be in compliance with the hazardous waste restrictions; (62-701.300(4), FAC) |
| S <input type="checkbox"/> | <u>Section C.5</u> | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | 5. Provide documentation that the facility will be in compliance with the PCB disposal restrictions; (62-701.300(5), FAC) |
| S <input type="checkbox"/> | <u>Section C.6</u> | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | 6. Provide documentation that the facility will be in compliance with the biomedical waste restrictions; (62-701.300(6), FAC) |
| S <input type="checkbox"/> | <u>Section C.7</u> | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | 7. Provide documentation that the facility will be in compliance with the Class I surface water restrictions; (62-701.300(7), FAC) |
| S <input type="checkbox"/> | <u>Section C.8</u> | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | 8. Provide documentation that the facility will be in compliance with the special waste for landfills restrictions; (62-701.300(8), FAC) |
| S <input type="checkbox"/> | <u>Section C.9</u> | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | 9. Provide documentation that the facility will be in compliance with the liquid restrictions; (62-701.300(10), FAC) |
| S <input type="checkbox"/> | <u>Section C.10</u> | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | 10. Provide documentation that the facility will be in compliance with the used oil and oily waste restrictions; (62-701.300(11), FAC) |
| S <input checked="" type="checkbox"/> | <u>Section C.11</u> | N/A <input type="checkbox"/> | N/C <input type="checkbox"/> | 11. Provide documentation that the facility will be in compliance with the CCA treated wood restrictions; (62-701.300(14), FAC) |
| S <input checked="" type="checkbox"/> | <u>Section C.12</u> | N/A <input type="checkbox"/> | N/C <input type="checkbox"/> | 12. Provide documentation that the facility will be in compliance with the dust control restrictions; (62-701.300(15), FAC) |

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

LOCATION

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

LOCATION

PART D CONTINUED

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

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

LOCATION

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

LOCATION

PART E CONTINUED

S Section E.2.f N/A N/C

f. Any previously filled waste disposal areas;

S Section E.2.g N/A N/C

g. Fencing or other measures to restrict access;

S Section E.3 N/A N/C

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

S Section E.3.a N/A N/C

a. Proposed fill areas;

S Section E.3.b N/A N/C

b. Borrow areas;

S Section E.3.c N/A N/C

c. Access roads;

S Section E.3.d N/A N/C

d. Grades required for proper drainage;

S Section E.3.e N/A N/C

e. Cross sections of lifts;

S Section E.3.f N/A N/C

f. Special drainage devices if necessary;

S Section E.3.g N/A N/C

g. Fencing;

S Section E.3.h N/A N/C

h. Equipment facilities;

S Section E.4 N/A N/C

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

S Section E.4.a N/A N/C

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

S Section E.4.b N/A N/C

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

S Section E.4.c N/A N/C

c. Planned active life of the facility, the final design height of the facility, and the maximum height of the facility during its operation;

S Section E.4.d N/A N/C

d. The source and type of cover material used for the landfill;

S Section E.5 N/A N/C

5. Provide evidence that an approved laboratory shall conduct water quality monitoring for the facility in accordance with Chapter 62-160, FAC; (62-701.330(3)(g), FAC)

S Section E.6 N/A N/C

6. Provide a statement of how the applicant will demonstrate financial responsibility for the closing and long-term care of the landfill; (62-701.330(3)(h), FAC)

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

LOCATION

- S Section F.1 N/A N/C 1. Describe (and show on a Federal Insurance Administration flood map, if available) how the landfill or solid waste disposal unit shall not be located in the 100 year floodplain where it will restrict the flow of the 100 year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result in a washout of solid waste; (62-701.340(3)(b), FAC)
- S Section F.2 N/A N/C 2. Describe how the minimum horizontal separation between waste deposits in the landfill and the landfill property boundary shall be 100 feet, measured from the toe of the proposed final cover slope; (62-701.340(3)(c), FAC)

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

LOCATION

- S _____ N/A N/C 1. Describe how the landfill shall be designed so the solid waste disposal units will be constructed and closed at planned intervals throughout the design period of the landfill, and shall be designed to achieve a minimum factor of safety of 1.5 using peak strength values to prevent failures of side slopes and deep-seated failures; (62-701.400(2), FAC)
- S _____ N/A N/C 2. Landfill liner requirements; (62-701.400(3), FAC)
- S _____ N/A N/C a. General construction requirements; (62-701.400(3)(a), FAC)
- S _____ N/A N/C (1) Provide test information and documentation to ensure the liner will be constructed of materials that have appropriate physical, chemical, and mechanical properties to prevent failure;
- S _____ N/A N/C (2) Document foundation is adequate to prevent liner failure;
- S _____ N/A N/C (3) Constructed so bottom liner will not be adversely impacted by fluctuations of the ground water;
- S _____ N/A N/C (4) Designed to resist hydrostatic uplift if bottom liner located below seasonal high ground water table;
- S _____ N/A N/C (5) Installed to cover all surrounding earth which could come into contact with the waste or leachate;

LOCATION

PART G CONTINUED

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

b. Composite liners; (62-701.400(3)(b), FAC)

(1) Upper geomembrane thickness and properties;

(2) Design leachate head for primary leachate collection and removal system (LCRS) including leachate recirculation if appropriate;

(3) Design thickness in accordance with Table A and number of lifts planned for lower soil component;

c. Double liners; (62-701.400(3)(c), FAC)

(1) Upper and lower geomembrane thickness and properties;

(2) Design leachate head for primary LCRS to limit the head to one foot above the liner;

(3) Lower geomembrane sub-base design;

(4) Leak detection and secondary leachate collection system minimum design criteria ($k \geq 10$ cm/sec, head on lower liner ≤ 1 inch, head not to exceed thickness of drainage layer);

d. Standards for geosynthetic components; (62-701.400(3)(d), FAC)

(1) Factory and field seam test methods to ensure all geomembrane seams achieve the minimum specifications;

(2) Geomembranes to be used shall pass a continuous spark test by the manufacturer;

(3) Design of 24-inch-thick protective layer above upper geomembrane liner;

(4) Describe operational plans to protect the liner and leachate collection system when placing the first layer of waste above a 24-inch-thick protective layer;

(5) HDPE geomembranes, if used, meet the specifications in GRI GM13, and LLDPE geomembranes, if used, meet the specifications in GRI GM17;

(6) PVC geomembranes, if used, meet the specifications in PGI 1104;

LOCATION

PART G CONTINUED

S _____ N/A N/C

(7) Interface shear strength testing results of the actual components which will be used in the liner system;

S _____ N/A N/C

(8) Transmissivity testing results of geonets if they are used in the liner system;

S _____ N/A N/C

(9) Hydraulic conductivity testing results of geosynthetic clay liners if they are used in the liner system;

S _____ N/A N/C

e. Geosynthetic specification requirements; (62-701.400(3)(e), FAC)

S _____ N/A N/C

(1) Definition and qualifications of the designer, manufacturer, installer, QA consultant and laboratory, and QA program;

S _____ N/A N/C

(2) Material specifications for geomembranes, geocomposites, geotextiles, geogrids, and geonets;

S _____ N/A N/C

(3) Manufacturing and fabrication specifications including geomembrane raw material and roll QA, fabrication personnel qualifications, seaming equipment and procedures, overlaps, trial seams, destructive and non-destructive seam testing, seam testing location, frequency, procedure, sample size, and geomembrane repairs;

S _____ N/A N/C

(4) Geomembrane installation specifications including earthwork, conformance testing, geomembrane placement, installation personnel qualifications, field seaming and testing, overlapping and repairs, materials in contact with geomembranes, and procedures for lining system acceptance;

S _____ N/A N/C

(5) Geotextile and geogrids specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials;

S _____ N/A N/C

(6) Geonet and geocomposites specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials and any overlying materials;

S _____ N/A N/C

(7) Geosynthetic clay liner specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials;

LOCATION

PART G CONTINUED

- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C

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

LOCATION

PART G CONTINUED

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

3. Leachate collection and removal system (LCRS); (62-701.400(4), FAC)

a. The primary and secondary LCRS requirements; (62-701.400(4)(a), FAC)

- (1) Constructed of materials chemically resistant to the waste and leachate;
- (2) Have sufficient mechanical properties to prevent collapse under pressure;
- (3) Have granular material or synthetic geotextile to prevent clogging;
- (4) Have a method for testing and cleaning clogged pipes or contingent designs for reducing leachate around failed areas;

b. Other LCRS requirements; (62-701.400(4)(b), (c) and (d), FAC)

- (1) Bottom 12 inches having hydraulic conductivity $\geq 1 \times 10^{-3}$ cm/sec;
- (2) Total thickness of 24 inches of material chemically resistant to the waste and leachate;
- (3) Bottom slope design to accommodate for predicted settlement and still meet minimum slope requirements;
- (4) Demonstration that synthetic drainage material, if used, is equivalent or better than granular material in chemical compatibility, flow under load, and protection of geomembranes liner;
- (5) Schedule provided for routine maintenance of LCRS.

4. Leachate recirculation; (62-701.400(5), FAC)

a. Describe general procedures for recirculating leachate;

b. Describe procedures for controlling leachate runoff and minimizing mixing of leachate runoff with storm water;

c. Describe procedures for preventing perched water conditions and gas buildup;

LOCATION

PART G CONTINUED

S _____ N/A N/C

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

S _____ N/A N/C

e. Describe methods of gas management in accordance with Rule 62-701.530, FAC;

S _____ N/A N/C

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

S _____ N/A N/C

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

S _____ N/A N/C

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

S _____ N/A N/C

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

S _____ N/A N/C

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

S _____ N/A N/C

(3) General design requirements;

S _____ N/A N/C

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

S _____ N/A N/C

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

S _____ N/A N/C

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

S _____ N/A N/C

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

S _____ N/A N/C

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

S _____ N/A N/C

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

LOCATION

PART G CONTINUED

S _____ N/A N/C

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

S _____ N/A N/C

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

S _____ N/A N/C

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

S _____ N/A N/C

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

S _____ N/A N/C

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

S _____ N/A N/C

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

S _____ N/A N/C

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

S _____ N/A N/C

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

S _____ N/A N/C

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

S _____ N/A N/C

(7) Inspections, corrective action, and reporting requirements;

S _____ N/A N/C

(a) Weekly inspection of overfill prevention system;

S _____ N/A N/C

(b) Weekly inspection of exposed tank exteriors;

S _____ N/A N/C

(c) Inspection of tank interiors when tank is drained, or at least every three years;

S _____ N/A N/C

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

S _____ N/A N/C

(e) Inspection reports available for Department review;

S _____ N/A N/C

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

LOCATION

PART G CONTINUED

S _____ N/A N/C

(1) Describe materials of construction;

S _____ N/A N/C

(2) A double-walled tank design system to be used with the following requirements:

S _____ N/A N/C

(a) Interstitial space monitoring at least weekly;

S _____ N/A N/C

(b) Corrosion protection provided for primary tank interior and external surface of outer shell;

S _____ N/A N/C

(c) Interior tank coatings compatible with stored leachate;

S _____ N/A N/C

(d) Cathodic protection inspected weekly and repaired as needed;

S _____ N/A N/C

(3) Describe an overflow prevention system, such as level sensors, gauges, alarms, and shutoff controls to prevent overflowing, and provide for weekly inspections;

S _____ N/A N/C

(4) Inspection reports available for Department review;

S _____ N/A N/C

6. Liner systems construction quality assurance (CQA); (62-701.400(7), FAC)

S _____ N/A N/C

a. Provide CQA Plan including:

S _____ N/A N/C

(1) Specifications and construction requirements for liner system;

S _____ N/A N/C

(2) Detailed description of quality control testing procedures and frequencies;

S _____ N/A N/C

(3) Identification of supervising professional engineer;

S _____ N/A N/C

(4) Identify responsibility and authority of all appropriate organizations and key personnel involved in the construction project;

S _____ N/A N/C

(5) State qualifications of CQA professional engineer and support personnel;

LOCATION

PART G CONTINUED

S _____ N/A N/C

(6) Description of CQA reporting forms and documents;

S _____ N/A N/C

b. An independent laboratory experienced in the testing of geosynthetics to perform required testing;

S _____ N/A N/C

7. Soil liner CQA; (62-701.400(8), FAC)

S _____ N/A N/C

a. Documentation that an adequate borrow source has been located with test results, or description of the field exploration and laboratory testing program to define a suitable borrow source;

S _____ N/A N/C

b. Description of field test section construction and test methods to be implemented prior to liner installation;

S _____ N/A N/C

c. Description of field test methods, including rejection criteria and corrective measures to insure proper liner installation;

S _____ N/A N/C

8. For surface water management systems at aboveground disposal units, provide documentation showing the design of any features intended to convey stormwater to a permitted or exempted treatment system; (62-701.400(9), FAC)

S _____ N/A N/C

9. Gas control systems; (62-701.400(10), FAC)

S _____ N/A N/C

a. Provide documentation that if the landfill is receiving degradable wastes, it will have a gas control system complying with the requirements of Rule 62-701.530, FAC;

S _____ N/A N/C

10. For landfills designed in ground water, provide documentation that the landfill will provide a degree of protection equivalent to landfills designed with bottom liners not in contact with ground water; (62-701.400(11), FAC)

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

LOCATION

S Section H.1 N/A N/C

1. Submit a hydrogeological investigation and site report including at least the following information:

S Section H.1.a N/A N/C

a. Regional and site specific geology and hydrology;

S Section H.1.b N/A N/C

b. Direction and rate of ground water and surface water flow including seasonal variations;

LOCATION

PART H CONTINUED

S Section H.1.c N/A N/C

c. Background quality of ground water and surface water;

S Section H.1.d N/A N/C

d. Any on-site hydraulic connections between aquifers;

S Section H.1.e N/A N/C

e. Site stratigraphy and aquifer characteristics for confining layers, semi-confining layers, and all aquifers below the site that may be affected by the disposal facility;

S Section H.1.f N/A N/C

f. Description of topography, soil types, and surface water drainage systems;

S Section H.1.g N/A N/C

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

S Section H.1.h N/A N/C

h. Identify and locate any existing contaminated areas on the site;

S Section H.1.i N/A N/C

i. Include a map showing the locations of all potable wells within 500 feet of the waste storage and disposal areas;

S Section H.2 N/A N/C

2. Report signed, sealed, and dated by P.E. and/or P.G.

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

LOCATION

S Section I.1 N/A N/C

1. Submit a geotechnical site investigation report defining the engineering properties of the site including at least the following:

S Section I.1.a N/A N/C

a. Description of subsurface conditions including soil stratigraphy and ground water table conditions;

S Section I.1.b N/A N/C

b. Investigate for the presence of muck, previously filled areas, soft ground, and lineaments;

S Section I.1.c N/A N/C

c. Estimates of average and maximum high water table across the site;

S Section I.1.d N/A N/C

d. Evaluation of potential for fault areas and seismic impact zones;

S Section I.1.e N/A N/C

e. Foundation analysis including:

LOCATION

PART I CONTINUED

- S Section I.1.e(1) N/A N/C (1) Foundation bearing capacity analysis;
- S Section I.1.e(2) N/A N/C (2) Total and differential subgrade settlement analysis;
- S Section I.1.e(3) N/A N/C (3) Slope stability analysis;
- S Section I.1.f N/A N/C f. Evaluation of potential for sinkholes and sinkhole activity at the site that is based upon the investigations required in Rule 62-701.410(3)(f), F.A.C.;
- S Section I.1.g N/A N/C g. A geotechnical report providing a description of methods used in the investigation, and includes soil boring logs, laboratory results, analytical calculations, cross sections, interpretations, conclusions, and a description of any engineering measures proposed for the site;
- S Section I.2 N/A N/C 2. Report signed, sealed, and dated by P.E. and/or P.G.

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

LOCATION

- S _____ N/A N/C 1. Describe how the vertical expansion shall not cause or contribute to any violations of water quality standards or criteria, shall not cause objectionable odors, or adversely affect the closure design of the existing landfill;
- S _____ N/A N/C 2. Describe how the vertical expansion over unlined landfills will meet the requirements of Rule 62-701.400, FAC with the exceptions of Rule 62-701.430(1)(c), FAC;
- S _____ N/A N/C 3. Provide foundation and settlement analysis for the vertical expansion;
- S _____ N/A N/C 4. Provide total settlement calculations demonstrating that the final elevations of the lining system, gravity drainage, and no other component of the design will be adversely affected;
- S _____ N/A N/C 5. Minimum stability factor of safety of 1.5 for the lining system component interface stability and for deep stability;
- S _____ N/A N/C 6. Provide documentation to show the surface water management system will not be adversely affected by the vertical expansion;
- S _____ N/A N/C 7. Provide gas control designs to prevent accumulation of gas under the new liner for the vertical expansion;

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

LOCATION

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

LOCATION

PART K CONTINUED

S Section K.7 N/A N/C

S Section K.7.a N/A N/C

S Section K.7.b N/A N/C

S Section K.7.c N/A N/C

S Section K.7.d N/A N/C

S Section K.7.e N/A N/C

S Section K.7.e(1) N/A N/C

S Section K.7.e(2) N/A N/C

S Section K.7.e(3) N/A N/C

S Section K.7.e(4) N/A N/C

S Section K.7.e(5) N/A N/C

S Section K.7.f N/A N/C

S Section K.7.g N/A N/C

S Section K.7.h N/A N/C

S Section K.7.i N/A N/C

S Section K.7.j N/A N/C

S Section K.7.k N/A N/C

7. Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7), FAC)

a. Waste layer thickness and compaction frequencies;

b. Special considerations for first layer of waste placed above the liner and leachate collection system;

c. Slopes of cell working face and side grades above land surface, and planned lift depths during operation;

d. Maximum width of working face;

e. Description of type of initial cover to be used at the facility that controls:

(1) Vector breeding/animal attraction;

(2) Fires;

(3) Odors;

(4) Blowing litter;

(5) Moisture infiltration;

f. Procedures for applying initial cover, including minimum cover frequencies;

g. Procedures for applying intermediate cover;

h. Time frames for applying final cover;

i. Procedures for controlling scavenging and salvaging;

j. Description of litter policing methods;

k. Erosion control procedures;

LOCATION

PART K CONTINUED

S Section K.8 N/A N/C

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

S Section K.8.a N/A N/C

a. Leachate level monitoring;

S Section K.8.b N/A N/C

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

S Section K.8.c N/A N/C

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

S Section K.8.d N/A N/C

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

S Section K.8.e N/A N/C

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

S Section K.8.f N/A N/C

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

S Section K.8.g N/A N/C

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

S Section K.8.h N/A N/C

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

S Section K.9 N/A N/C

9. Describe how the landfill receiving degradable wastes shall implement a gas management system meeting the requirements of Rule 62-701.530, FAC; (62-701.500(9), FAC)

S Section K.10 N/A N/C

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

S Section K.11 N/A N/C

11. Equipment and operation feature requirements; (62-701.500(11), FAC)

S Section K.11.a N/A N/C

a. Sufficient equipment for excavating, spreading, compacting, and covering waste;

S Section K.11.b N/A N/C

b. Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown;

S Section K.11.c N/A N/C

c. Communications equipment;

LOCATION

PART K CONTINUED

S Section K.11.d N/A N/C

d. Dust control methods;

S Section K.11.e N/A N/C

e. Fire protection capabilities and procedures for notifying local fire department authorities in emergencies;

S Section K.11.f N/A N/C

f. Litter control devices;

S Section K.11.g N/A N/C

g. Signs indicating operating authority, traffic flow, hours of operation, and disposal restrictions;

S Section K.12 N/A N/C

12. Provide a description of all-weather access road, inside perimeter road, and other on-site roads necessary for access at the landfill; (62-701.500(12), FAC)

S Section K.13 N/A N/C

13. Additional record keeping and reporting requirements; (62-701.500(13), FAC)

S Section K.13.a N/A N/C

a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill;

S Section K.13.b N/A N/C

b. Monitoring information, calibration and maintenance records, and copies of reports required by permit maintained for at least 10 years;

S Section K.13.c N/A N/C

c. Maintain annual estimates of the remaining life of constructed landfills, and of other permitted areas not yet constructed, and submit this estimate annually to the Department;

S Section K.13.d N/A N/C

d. Procedures for archiving and retrieving records which are more than five years old;

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

LOCATION

S Section L.1 N/A N/C

1. A water quality monitoring plan shall be submitted describing the proposed ground water and surface water monitoring systems, and shall meet at least the following requirements:

S Section L.1.a N/A N/C

a. Based on the information obtained in the hydrogeological investigation and signed, dated, and sealed by the P.G. or P.E. who prepared it; (62-701.510(2)(a), FAC)

LOCATION

PART L CONTINUED

S Section L.1.b N/A N/C

b. All sampling and analysis performed in accordance with Chapter 62-160, FAC; (62-701.510(2)(b), FAC)

S Section L.1.c N/A N/C

c. Ground water monitoring requirements; (62-701.510(3), FAC)

S Section L.1.c(1) N/A N/C

(1) Detection wells located downgradient from and within 50 feet of disposal units;

S Section L.1.c(2) N/A N/C

(2) Downgradient compliance wells as required;

S Section L.1.c(3) N/A N/C

(3) Background wells screened in all aquifers below the landfill that may be affected by the landfill;

S Section L.1.c(4) N/A N/C

(4) Location information for each monitoring well;

S Section L.1.c(5) N/A N/C

(5) Well spacing no greater than 500 feet apart for downgradient wells and no greater than 1500 feet apart for upgradient wells, unless site specific conditions justify alternate well spacings;

S Section L.1.c(6) N/A N/C

(6) Properly selected well screen locations;

S Section L.1.c(7) N/A N/C

(7) Monitoring wells constructed to provide representative ground water samples;

S Section L.1.c(8) N/A N/C

(8) Procedures for properly abandoning monitoring wells;

S Section L.1.c(9) N/A N/C

(9) Detailed description of detection sensors, if proposed;

S Section L.1.d N/A N/C

d. Surface water monitoring requirements; (62-701.510(4), FAC)

S Section L.1.d(1) N/A N/C

(1) Location of and justification for all proposed surface water monitoring points;

S Section L.1.d(2) N/A N/C

(2) Each monitoring location to be marked and its position determined by a registered Florida land surveyor;

S Section L.1.e N/A N/C

e. Initial and routine sampling frequency and requirements; (62-701.510(5), FAC)

S Section L.1.e(1) N/A N/C

(1) Initial background ground water and surface water sampling and analysis requirements;

LOCATION**PART L CONTINUED**

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

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

- | | | | |
|----------------------------|--------------------|--|--|
| S <input type="checkbox"/> | <u>Section M.1</u> | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | 1. Describe procedures for managing motor vehicles; (62-701.520(1), FAC) |
| S <input type="checkbox"/> | <u>Section M.2</u> | N/A <input checked="" type="checkbox"/> N/C <input type="checkbox"/> | 2. Describe procedures for landfilling shredded waste; (62-701.520(2), FAC) |
| S <input type="checkbox"/> | <u>Section M.3</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | 3. Describe procedures for asbestos waste disposal; (62-701.520(3), FAC) |
| S <input type="checkbox"/> | <u>Section M.4</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | 4. Describe procedures for disposal or management of contaminated soil; (62-701.520(4), FAC) |
| S <input type="checkbox"/> | <u>Section M.5</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | 5. Describe procedures for disposal of biological wastes; (62-701.520(5), FAC) |

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

LOCATION

- | | | | |
|----------------------------|----------------------|--|---|
| S <input type="checkbox"/> | <u>Section N.1</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | 1. Provide documentation for a gas management system that will: (62-701.530(1), FAC) |
| S <input type="checkbox"/> | <u>Section N.1.a</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | a. Be designed to prevent concentrations of combustible gases from exceeding 25% the LEL in structures and 100% the LEL at the property boundary; |
| S <input type="checkbox"/> | <u>Section N.1.b</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | b. Be designed for site specific conditions; |
| S <input type="checkbox"/> | <u>Section N.1.c</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | c. Be designed to reduce gas pressure in the interior of the landfill; |
| S <input type="checkbox"/> | <u>Section N.1.d</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | d. Be designed to not interfere with the liner, leachate control system, or final cover; |
| S <input type="checkbox"/> | <u>Section N.2</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | 2. Provide documentation that will describe locations, construction details, and procedures for monitoring gas at ambient monitoring points and with soil monitoring probes; (62-701.530(2), FAC) |
| S <input type="checkbox"/> | <u>Section N.3</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | 3. Provide documentation describing how the gas remediation plan and odor remediation plan will be implemented; (62-701.530(3), FAC) |
| S <input type="checkbox"/> | <u>Section N.4</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | 4. Landfill gas recovery facilities; (62-701.530(5), FAC) |
| S <input type="checkbox"/> | <u>Section N.4.a</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | a. Provide information required in Rules 62-701.320(7) and 62-701.330(3), FAC; |
| S <input type="checkbox"/> | <u>Section N.4.b</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | b. Provide information required in Rule 62-701.600(4), FAC, where relevant and practical; |
| S <input type="checkbox"/> | <u>Section N.4.c</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | c. Provide estimates of current and expected gas generation rates and description of condensate disposal methods; |
| S <input type="checkbox"/> | <u>Section N.4.d</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | d. Provide description of procedures for condensate sampling, analyzing, and data reporting; |
| S <input type="checkbox"/> | <u>Section N.4.e</u> | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | e. Provide closure plan describing methods to control gas after recovery facility ceases operation, and any other requirements contained in Rule 62-701.400(10), FAC; |

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

LOCATION

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

LOCATION

PART O CONTINUED

S Section O.2.f(4) N/A N/C

(4) Top gradient design to maximize runoff and minimize erosion;

S Section O.2.f(5) N/A N/C

(5) Provisions for cover material to be used for final cover maintenance;

S Section O.2.g N/A N/C

g. Final cover design requirements;

S Section O.2.g(1) N/A N/C

(1) Protective soil layer design;

S Section O.2.g(2) N/A N/C

(2) Barrier soil layer design;

S Section O.2.g(3) N/A N/C

(3) Erosion control vegetation;

S Section O.2.g(4) N/A N/C

(4) Geomembrane barrier layer design;

S Section O.2.g(5) N/A N/C

(5) Geosynthetic clay liner design, if used;

S Section O.2.g(6) N/A N/C

(6) Stability analysis of the cover system and the disposed waste;

S Section O.2.h N/A N/C

h. Proposed method of stormwater control;

S Section O.2.i N/A N/C

i. Proposed method of access control;

S Section O.2.j N/A N/C

j. Description of the proposed or existing gas management system which complies with Rule 62-701.530, FAC;

S Section O.3 N/A N/C

3. Closure operation plan shall include: (62-701.600(4), FAC)

S Section O.3.a N/A N/C

a. Detailed description of actions which will be taken to close the landfill;

S Section O.3.b N/A N/C

b. Time schedule for completion of closing and long-term care;

S Section O.3.c N/A N/C

c. Describe proposed method for demonstrating financial assurance for long-term care;

S Section O.3.d N/A N/C

d. Operation of the water quality monitoring plan required in Rule 62-701.510, FAC;

S Section O.3.e N/A N/C

e. Development and implementation of gas management system required in Rule 62-701.530, FAC;

LOCATION

PART O CONTINUED

- S Section O.4 N/A N/C 4. Certification of closure construction completion and final reports including: (62-701.600(6), FAC)
- S Section O.4.a N/A N/C a. Survey monuments; (62-701.600(6)(a), FAC)
- S Section O.4.b N/A N/C b. Final survey report; (62-701.600(6)(b), FAC)
- S Section O.4.c N/A N/C c. Closure construction quality assurance report; (62-701.400(7), FAC)
- S Section O.5 N/A N/C 5. Declaration to the public; (62-701.600(7), FAC)
- S Section O.6 N/A N/C 6. Official date of closing; (62-701.600(8), FAC)
- S Section O.7 N/A N/C 7. Justification for and detailed description of procedures to be followed for temporary closure of the landfill, if desired; (62-701.600(9), FAC)

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

LOCATION

- S Section P.1 N/A N/C 1. Describe how the requirements for use of closed solid waste disposal areas will be achieved; (62-701.610(1), FAC)
- S Section P.2 N/A N/C 2. Describe how the requirements for relocation of wastes will be achieved; (62-701.610(2), FAC)

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

LOCATION

- S Section Q.1 N/A N/C 1. Maintaining the gas collection and monitoring system; (62-701.620(5), FAC)
- S Section Q.2 N/A N/C 2. Stabilization report requirements; (62-701.620(6), FAC)
- S Section Q.3 N/A N/C 3. Right of access; (62-701.620(7), FAC)
- S Section Q.4 N/A N/C 4. Requirements for replacement of monitoring devices; (62-701.620(8), FAC)
- S Section Q.5 N/A N/C 5. Completion of long-term care signed and sealed by professional engineer; (62-701.620(9), FAC)

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

LOCATION

S Section R.1 N/A N/C

1. Provide cost estimates for closing, long-term care, and corrective action costs estimated by a P.E. for a third party performing the work, on a per unit basis, with the source of estimates indicated; (62-701.630(3) & (7), FAC)

S Section R.2 N/A N/C

2. Describe procedures for providing annual cost adjustments to the Department based on inflation and changes in the closing, long-term care, and corrective action plans; (62-701.630(4) & (8), FAC)

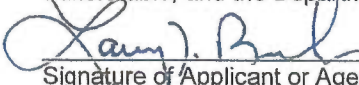
S Section R.3 N/A N/C

3. Describe funding mechanisms for providing proof of financial assurance and include appropriate financial assurance forms. (62-701.630(5), (6), & (9), FAC)

PART 5. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

1. Applicant:

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

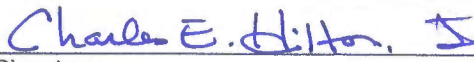

Signature of Applicant or Agent
Larry Brock
Name and Title (please type)
larry.brock@citrusbocc.com
E-Mail Address (if available)

3600 W Sovereign Path, Suite 212
Mailing Address
Lecanto, FL 34461
City, State, Zip Code
(352) 527-5477
Telephone Number
Date: April 11, 2016

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

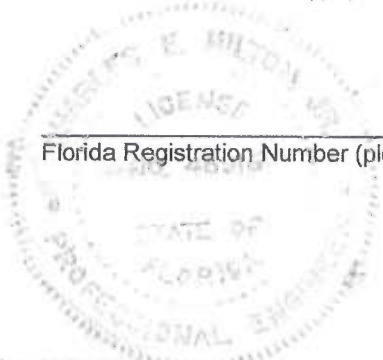
2. Professional Engineer registered in Florida (or Public Officer if authorized under Sections 403.707 and 403.7075, Florida Statutes):

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


Signature
Charles E. Hilton Jr., Project Director
Name and Title (please type)

4041 Park Oaks Blvd, Suite 100
Mailing Address
Tampa, Florida, 33610
City, State, Zip Code
ehilton@scsengineers.com
E-Mail Address (if available)
(813) 621-0080
Telephone Number
Date: 04/11/2016

46916
Florida Registration Number (please affix seal)





ENGINEERING REPORT

Citrus County Class I Central Landfill Operation Permit Renewal Application



Citrus County, Florida

Prepared for:
Citrus County
Board of County Commissioners
P.O. Box 340
Lecanto, Florida 34460

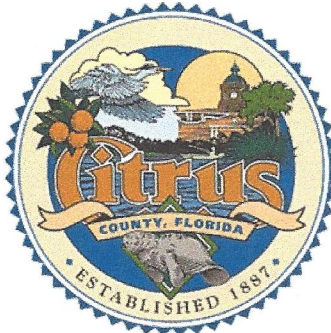
Prepared by:

SCS ENGINEERS
4041 Park Oaks Blvd, Suite 100
Tampa, FL 33610
(813) 621-0080

File No. 09210021.26
~~October 13, 2015~~
Revised April 18, 2016

Offices Nationwide
www.scsengineers.com

ENGINEERING REPORT
Citrus County
Class I Central Landfill
Operation Permit Renewal Application



Citrus County, Florida

Prepared for:
Citrus County
Board of County Commissioners
P.O. Box 340
Lecanto, Florida 34460

Prepared by:
SCS ENGINEERS
4041 Park Oaks Blvd, Suite 100
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Charles E. Hilton, Jr.

Charles E. Hilton, Jr. P.E.
PE 46916

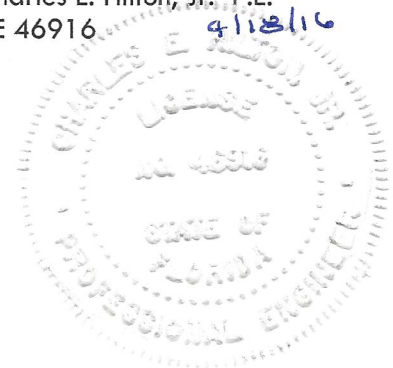


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Attachment F	Signed and Sealed Survey & Report
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Attachment R	Closure Cost Estimate
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Section A

GENERAL INFORMATION

SCS Engineers (SCS) has prepared this Operation Permit Renewal Application for the Citrus County Central Landfill in conjunction with the Citrus County Board of County Commissioners (County) in accordance with applicable Sections of Rule 62-701, Florida Administrative Code (FAC). The Operation Permit Renewal Application has been prepared on behalf of the Citrus County Board of County Commissioners (BOCC) and provides the required facility information for FDEP review and approval. This Operation Permit renewal application is divided into Sections following the State of Florida Department of Environmental Protection Application for a Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility Application Form 62-701.900(1).

A.1 SITE LOCATION

The Citrus County Central Landfill is located on S.R. 44, 3 miles east of Lecanto, Citrus County, Florida. The site property lies within Section 1, Township 19 South and Range 18 East in Citrus County, Florida. The main entrance of the Citrus County Central Landfill facility is located at latitude 28°51'07"N, longitude 82°26'12"W

An aerial photograph with a one mile radius around the Citrus County Central Landfill was obtained from the Florida Department of Environmental Protection Land Boundary Information system (www.LABINS.org) December 2013 and is included on Sheet 2 of the Operation Drawings in Appendix A of the Operations Plan located in Attachment S.

The information required for the site location, operating authority, authorized agent, and area of the State of Florida Department of Environmental Protection Application for a Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility Application Form 62-701.900(1) has been included on the Form which is attached at the beginning of this Operation Permit renewal application.

Section B

DISPOSAL FACILITY GENERAL INFORMATION

General information for the Citrus County Central Landfill is included in the FDEP permit application Form 62-701.900(1) that is attached at the beginning of this permit application report.

Section C

PROHIBITIONS

C.1 SITING

No substantial change is proposed. The Citrus County Central Landfill is an existing facility and is permitted to accept solid waste, therefore, the siting criteria has been previously satisfied.

C.2 EXEMPTIONS

No substantial change is proposed. Phase I was permitted prior to May 27, 2007, and remains subject to prohibitions that were in effect at the time the construction permit was issued.

C.3 BURNING

No substantial change is proposed. Burning of solid waste is not proposed at the Citrus County Central Landfill in accordance with Rule 62-701.300(3), FAC. The County does not burn waste at the landfill and takes active steps to prevent the burning of waste, including load inspections and stockpiling cover soil to smother any fire that might break out in the in-place waste.

C.4 HAZARDOUS WASTE

No substantial change is proposed. Hazardous waste is not accepted for disposal in the Citrus County Central Landfill in accordance with Rule 62-701.300(4), FAC.

C.5 PCB DISPOSAL

No substantial change is proposed. Polychlorinated biphenyls (PCB's) or liquids containing a PCB's concentration of 50 parts per million or greater, or non-liquid PCB's at concentrations of 50 parts per million or greater in the form of contaminated soil, rags, or other debris are not accepted for disposal in the Citrus County Central Landfill in accordance with Rule 62-701.300(5), FAC.

C.6 BIOMEDICAL WASTE

No substantial change is proposed. In accordance with Rule 62-701.300(6), FAC biomedical wastes are not accepted for disposal in the Citrus County Central Landfill, except for waste that has been properly incinerated. Biomedical waste generated by individuals performing self care at home is included in the household waste to be disposed of at this facility.

C.7 CLASS I SURFACE WATERS

No substantial change is proposed. In accordance with Rule 62-701.300(7), FAC the Citrus County Central Landfill is not located within 3,000 feet of Class I surface waters. Please See

~~attachment~~ Attachment E-1 of the 2010 Operations permit renewal application prepared by SCS Engineers and submitted to FDEP on February 1, 2010.

C.8 SPECIAL WASTE

No substantial change is proposed. Per Rule 62-701.300(8) FAC, special wastes will not be accepted for disposal within the Citrus County Central Landfill. Special wastes include lead-acid batteries, used oil, yard trash, white goods, and whole waste tires.

C.9 LIQUIDS

No substantial change is proposed. Per Rule 62-701.300(10)(a) and 62-701.300(10)(b), FAC liquid waste will not be accepted for disposal within the Citrus County Central Landfill.

C.10 USED OIL

No substantial change is proposed. Per Rule 62-701.300(11)(a), FAC used oil, either commingled or mixed with solid waste, will not be accepted for disposal within the Citrus County Central Landfill. Used oil is accepted for recycling in the Citizens Service Area.

C.11 CCA TREATED WOOD

CCA treated wood will be handled according to Rule 62-701.300(14), FAC.

C.12 DUST CONTROL

At the facility dust will be handled in compliance with Rule 62-701.300(15), FAC.

Section D

SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL

D.1 PERMIT APPLICATION FORM AND SUPPORTING DOCUMENTS

In accordance with Rule 62-701.320(5)(a), FAC, ~~four copies a minimum of the one~~ completed State of Florida Department of Environmental Protection Application for a Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility Application Form 62-701.900(1), is attached at the beginning of this operations permit renewal application. The supporting data and reports which are located is attached at the beginning of this Operation Permit renewal application, including all supporting data, is are included as part of the proposed Citrus County Central Landfill Operation Permit renewal application.

D.2 ENGINEERING CERTIFICATION

Part S of the State of Florida Department of Environmental Protection Application for a Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility Application Form 62-701.900(1) has been signed and sealed by C. Ed Hilton Jr., P.E., a registered Professional Engineer in the State of Florida (License No. 46916) together with all other applicable engineering plans, reports and supporting information for the Citrus County Central Landfill Operation Permit renewal application herein as required by Rule 62-701.320(6), FAC.

D.3 TRANSMITTAL LETTER

A transmittal RAI response letter is included at the beginning of this Operation Permit renewal application as required by Rule 62-701.320(7)(a), FAC. In addition, the ~~transmittal~~ letter identifies this Operation Permit renewal application is for a 10-year Permit as opposed to a 5-year Permit.

D.4 PERMIT APPLICATION FORMS

Part S of the State of Florida Department of Environmental Protection Application for a Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility Application Form 62-701.900(1) has been signed and sealed by C. Ed Hilton, Jr., P.E., a registered Professional Engineer in the State of Florida (License No. 46916) together with all other applicable submittals for the Citrus County Central Landfill Operation Permit renewal application as required by Rule 62-701.320(7)(b), FAC and is attached at the beginning of this Operation Permit renewal application. In addition, the Form has been signed and dated by Larry Brock, Assistant Public Works Director, the designated responsible person for the Citrus County Board of County Commissioners and the Citrus County Central Landfill.

D.5 PERMIT APPLICATION FEE

In accordance with Rule 62-701.315(2)(a) and (13), FAC an application fee of \$20,000 is required for the 10-year Operation Permit renewal application for the Citrus County Central Landfill. In accordance with Rule 62-701.315(14), FAC a check for of \$20,000 is included within the application package.

D.6 ENGINEERING REPORT

The Citrus County Central Landfill Operation Permit renewal application with supporting drawings, figures, tables, calculations and attachments meets the requirements of an Engineering Report as required by Rule 62-701.320(7)(d), FAC.

D.7 OPERATION PLAN AND CLOSURE PLAN

Per Rule 62-701.320(7)(e)1, FAC the Operation Plan is outlined in Section K of this Operation Permit renewal application. The Closure Plan is discussed in Section O of this Operation Permit renewal application. The Operation Permit for the Citrus County Central Landfill has an expiration date of December 20, 2015.

- Citrus County Central Landfill's Operation Plan is considered a working document. As manpower, equipment or work environment changes the Operation Plan will be updated to reflect the new conditions as needed. The required submittal date of the renewal documents is October 20, 2015.

D.8 CONTINGENCY PLAN

The Operation Permit for the Citrus County Central Landfill has an expiration date of December 20, 2015.

- Per Rule 62-701.320(7)(e)2, FAC the Contingency Plan has been updated and is incorporated within the Operation Plan located in Attachment S of the Operation Permit renewal application.
- Citrus County Central Landfill's Contingency Plan is considered a working document and will be updated as needed.

D.9 SOLID WASTE MANAGEMENT FACILITY PLANS

Per Rule 62-701.320(7)(f), FAC a reduced sized set of the Operation Drawings for the Citrus County Central Landfill are in Appendix A of the Operations Plan located in Attachment S (~~24 inch X 36 inch~~) of this submittal. The elevations shown on the drawings located in Appendix A are based on the National Geodetic Vertical Datum 1929 (NGVD1929) and North, the grid, and the coordinates shown are referenced to the West Zone of the Florida State Plane Coordinate System, North American Datum (NAD) 1983, 1990 adjustment. The Operation Drawings are in

the appropriate format including sheet size restrictions, cover sheet, legends, north arrow, horizontal and vertical scales, elevations referenced and the coordinates shown are referenced.

The existing conditions shown on the Operation Permit renewal application drawings are based on an aerial topographic survey conducted by Pickett and Associates, Inc. (Pickett), dated October 4, 2014. The existing conditions aerial topographic survey conducted by Pickett of the Citrus County Central Landfill facility is included in Attachment F along with the survey report signed and sealed by a licensed Florida surveyor.

A signed and sealed Boundary Survey for the Citrus County Central Landfill is included in Attachment D. The property boundary for the original landfill facility remains unchanged from previous permit applications and is not expected to change as a result of this Operation Permit renewal application.

D.9.a Regional Map

Per Rule 62-701.320(7)(a)3, FAC the Citrus County Central Landfill location is shown on a Regional Map identifying the location of the Citrus County Central Landfill is shown on the Cover Sheet of the Operation Permit renewal application drawings in Appendix A of the Operations Plan located in Attachment S.

An aerial photograph with a one mile radius around the Citrus County Central Landfill was obtained from the Florida Department of Environmental Protection Land Boundary Information system (www.LABINS.org) December 2013 and is included on Sheet 2 of the Operation Permit renewal application drawings in Appendix A of the Operations Plan located in Attachment S.

D.9.b Vicinity Map/Aerial Photograph

An aerial photograph with a one mile radius around the Citrus County Central Landfill was obtained from the FDEP Land Boundary Information system (www.LABINS.org) December 2013 and is included on Sheet 2 of the Operation Permit renewal application drawings in Appendix A of the Operations Plan located in Attachment S. Information regarding land use and zoning has been identified on the drawing. In addition, the Zoning and Land Use Maps have been obtained from the County for the areas surrounding the landfill and are located in Attachment G.

D.9.c Site Plan

Sheets 3 and 4 of the Operation Permit renewal application drawings in Appendix A of the Operations Plan located in Attachment S depict the current limits of the property owned by Citrus County BOCC to be used by the Citrus County Central Landfill. A signed and sealed Boundary Survey for the Citrus County Central Landfill is included in Attachment D. The property boundary for the original landfill facility remains unchanged from previous permit applications and is not expected to change as a result of the Operation Permit renewal application

D.9.d Details

Engineering details necessary to support the Engineering Report for the Citrus County Central Landfill Operation Permit renewal application are shown on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S. The elevations shown on the drawings are based on the National Geodetic Vertical Datum 1929 (NGVD1929) and North, the grid, and the coordinates shown are referenced to the West Zone of the Florida State Plane Coordinate System, North American Datum (NAD) 1983, 1990 adjustment.

D.10 PROOF OF PROPERTY OWNERSHIP

No substantial change is proposed. The Citrus County Board of County Commissioners owns and operates the Landfill.

D.11 RECYCLING GOALS

No substantial change is proposed. The Citrus County recycling program is not expected to change as a result of this Operation Permit renewal application.

D.12 HISTORY OF DEPARTMENT ENFORCEMENT ACTIVITIES

There has been no change to this section.

D.13 PROOF OF PUBLICATION OF NOTICE OF APPLICATION

In accordance with Rule 62-701.320(8)(a), FAC the County will publish a Notice of Application for the Citrus County Central Landfill Operation Permit renewal application in a local newspaper (Citrus County Chronicle) of general circulation in Citrus County within 14 days after filing the Operation Permit renewal application with the Department. The required proof of publication will be forwarded to the Department upon receipt.

D.14 AIRPORT SAFETY REQUIREMENTS

No substantial change is proposed. The Citrus County Central Landfill is not located within five miles of any licensed airports. Therefore, the requirements of Rule 62-701.320(13)(e), notification of the Federal Aviation Administration, does not apply.

D.15 OPERATOR TRAINING REQUIREMENTS

In accordance with Rule 62-701.320(15), FAC key supervisory staff at the Citrus County Central Landfill has received Landfill Operator Certification Training. As required by Rule 62-701.320(15), FAC a trained operator will be onsite at all times when waste is received at the Citrus County Central Landfill facility and a trained spotter will be onsite during all times when solid waste is deposited at the working face. In addition, the equipment operators shall have sufficient training and knowledge to move waste and soil, and to develop the site in accordance with the design and operational standards described in this Operation Permit renewal application. Records of all training for operators and spotters (course completions and certifications obtained) are kept at the Citrus County Central Landfill and are available for Department inspection.

In order to be considered trained; Operators of the Citrus County Central Landfill shall complete 24 hours of initial training, and shall pass an examination as part of that training. Within three years after passing the examination, and every three years thereafter, operators shall complete an additional 16 hours of continued training.

In order to be considered trained; spotters shall complete 8 hours of initial training. Within three years after attending the initial training, and every three years thereafter, spotters shall complete an additional 4 hours of continued training.

Operator and spotter training courses will be attended as offered by the University of Florida Center for Training, Research and Education for Environmental Occupations (TREEO) and through other FDEP approved sources. Copies of training records have been included in Appendix E of the Operation Plan located in Attachment S of this Operation Permit renewal application.

Section E

LANDFILL PERMIT REQUIREMENTS

E.1 REGIONAL MAP

There has been no substantial change to this section since the last Permit Renewal Application was submitted in February 2010. The landfill is not located within five miles of any licensed airports as verified by review of the FAA map.

E.2 PLOT PLANS

Per Rule 62-701.330(3)(b), FAC plot plans with a scale not greater than 200 feet to the inch showing the required information are in Appendix A of the Operations Plan located in Attachment S. This includes drawings that show the proposed dimensions, locations of proposed and existing water quality monitoring wells, locations of soil borings, proposed plan of trenching or disposal areas, cross sections showing original elevations and proposed final contours, previously filled waste disposal areas, and details necessary to support the Operation Permit renewal application.

E.2.a Dimensions

Per Rule 62-701.330(3)(b), FAC plot plans with a scale not greater than 200 feet to the inch showing the dimensions as required are shown on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S.

E.2.b Locations of Proposed and Existing Water Quality Monitoring Wells

Per Rule 62-701.330(3)(b), FAC plot plans with a scale not greater than 200 feet to the inch showing the locations of the existing water quality monitoring wells and piezometers are provided on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S. In addition, a summary table of the existing groundwater monitoring wells, piezometers and LFG monitoring probes is included on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S.

E.2.c Locations of Soil Borings

Several previous geotechnical investigations of the site have been performed and the boring locations and soil strata information was previously provided to the Department and are on file at the FDEP Southwest District Office.

E.2.d Proposed Plan of Trenching or Disposal Areas

Per Rule 62-701.330(3)(b), FAC plot plans with a scale not greater than 200 feet to the inch showing the locations of proposed plan of trenching or disposal areas are provided on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S.

E.2.e Cross Sections Showing Original Elevations and Proposed Final Contours

Per Rule 62-701.330(3)(b), FAC plot plans with a scale not greater than 200 feet to the inch with cross sections showing original elevations and proposed final contours as required are provided on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S.

E.2.f Previously Filled Waste Disposal Areas

Per Rule 62-701.330(3)(b), FAC plot plans with a scale not greater than 200 feet to the inch showing the (previously filled and current waste disposal areas as required are provided on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S.

E.2.g Fencing or Other Measures to Restrict Access

Per Rule 62-701.330(3)(b), FAC plot plans with a scale not greater than 200 feet to the inch showing fencing to restrict the Citrus County Central Landfill facility access are provided on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S.

E.3 TOPOGRAPHIC MAPS

The topographic maps and drawings required by Rule 62-701.330(3)(c), FAC are included on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S. This includes drawings that show the existing fill areas, access roads, grades required for proper drainage, cross sections, drainage structures, fencing, and other details necessary to support the Operation Drawings.

E.3.a Proposed Fill Areas

The existing conditions topography shown on the Operation Drawings are based on an aerial topographic survey conducted by Pickett and Associates, Inc. (Pickett), dated October 4, 2014. The existing conditions aerial topographic survey conducted by Pickett of the Citrus County Central Landfill is included on the Operation Permit renewal application drawings in Appendix A of the Operations Plan located in Attachment S.

Access roads for the Citrus County Central Landfill leading to the disposal areas are shown on the Operation Drawings. The grades required for proper drainage of the surface water management system will be constructed during the sequencing of the landfill.

Plot plans identifying the proposed fill areas with a scale not greater than 200 feet to the inch with cross sections showing original elevations and proposed final contours as required are provided on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S.

E.3.b Borrow Areas

No substantial change is proposed. See the Operation drawings in Appendix A of the Operations Plan located in Attachment S for the borrow area location.

E.3.c Access Roads

Access roads for the Citrus County Central Landfill disposal areas are shown on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S.

E.3.d Grades Required for Proper Drainage

Grades required for proper drainage and stormwater management details are shown on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S.

E.3.e Cross-sections of Lifts

Cross sections of the lifts are shown on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S.

E.3.f Special Drainage Devices

Drainage devices are shown on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S. No special drainage devices are proposed at the time of this Operation Permit renewal application. Therefore, this section of the Operation Permit renewal application has been marked as “Not Applicable.”

E.3.g Fencing

Fencing is shown on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S.

E.3.h Equipment Facilities

Site equipment facilities are shown on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S.

E.4 REPORT

E.4.a Current and Projected Population and Area to be Served

Per Rule 62-701.330(3)(d), FAC current and future population estimates for Citrus County were obtained from the Bureau of Economic and Business Research (BEBR) to estimate the waste quantity disposal rate per capita. Projections were made by BEBR to estimate the future population of Citrus County from 2015 through 2040. Please refer to Attachment H for the planned active life calculations. Included in the site life calculations are the projected population to be served in the future by the Citrus County Central Landfill.

E.4.b Waste Type, Quantity, and Source

The Citrus County Central Landfill accepts waste types as identified in Section B - Disposal Facility General Information of the State of Florida Department of Environmental Protection Application for a Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility Application Form 62-701.900(1) attached at the beginning of this Operation Permit

renewal application. Solid waste currently entering the Class I MSW includes residential, commercial, industrial, and non-hazardous waste customers. Other waste, such as C&D and non-combustible materials are also accepted in mixed loads.

E.4.c Anticipated Facility Life

The site life calculations contained in Attachment H show the estimated amount of airspace used and the amount still remaining in the currently permitted waste disposal units.

E.4.d Source and Type of Cover Material

There has been no substantial change to this subsection since the Phase 3 construction permit application submittal. Cover material will be utilized to minimize vector breeding animal attraction and fire potential, as well as to prevent blowing litter and control odors. Daily cover will be composed of soil from the on-site stockpile, a 50/50 mixture of yard waste mulch and soil, synthetic materials such as tarps and geomembranes, or approved Alternate Daily Cover (ADC) material consisting of a spray of slurry polymer and recycled paper fibers. Daily soil cover will be placed and compacted to a minimum thickness of 6 inches; spray on daily cover will be applied per manufacturer specifications and shall not be used in the rain. The intermediate cover will be comprised of soil from the onsite stockpile, a 50/50 mixture of yard waste mulch and soil. The intermediate soil cover will be placed and compacted to a minimum thickness of 12 inches. Mulch is from on-site recycled yard waste.

E.5 APPROVED LABORATORY

There has been no substantial change to this subsection since the Phase 3 construction permit application submittal. Per Rule 62-701.330(3)(g), FAC water quality monitoring will be performed by an approved laboratory in accordance with Rule 62-160, FAC. All water quality sampling and testing shall be conducted in accordance with the Department's Standard Operating Procedures and all sample analyses will be conducted by a firm that is certified by the Florida Department of Health's Environmental Laboratory Certification Program. Currently one of the engineering consultants under contract with the County selects a qualified laboratory as a subcontractor for analytical work for groundwater and leachate monitoring. The credentials of the selected laboratory are presented along with the first report prepared for the County.

E.6 FINANCIAL RESPONSIBILITY

Financial responsibility requirements are discussed in Section R of this application in accordance with Rule 62-701.330(3)(h).

Section F

GENERAL CRITERIA FOR LANDFILLS

There has been no change to this section since the Phase 3 construction permit application submittal.

F.1 100-YEAR FLOODPLAIN

There has been no substantial change to this subsection since the Phase 3 construction permit application submittal.

F.2 MINIMUM HORIZONTAL SEPARATION

Per Rule 62-701.340(3)(c), FAC requires a minimum 100-foot horizontal separation between waste deposits and the facility property boundary as measured from the toe of the proposed final cover slope. As shown on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S more than 100 feet measured horizontally separates the toe of the final cover slope from the facility property boundary on all sides of the Citrus County Central Landfill.

Section G

LANDFILL CONSTRUCTION REQUIREMENTS

This section is Not Applicable because no substantial construction is planned at this time.

Section H

HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS

H.1 HYDROGEOLOGICAL INVESTIGATION AND SITE REPORT

No substantial change is proposed. The Citrus County Landfill has had numerous geological, hydrogeological and geotechnical investigations conducted over the last 20 years as part of the design, permitting, and on-going monitoring of lined waste disposal cells at the facility. Copies of these reports were provided in the Phase 2 Expansion Construction Permit Application or under a separate cover to FDEP and include the following:

- *Citrus County Central Landfill – Expansion Site Ground Water Monitoring Plan*, August 1988, prepared by Post, Buckley, Schuh & Jernigan, Inc. (PBS&J): The PBS&J investigation was performed for the new (at the time) proposed 80-acre landfill. The PBS&J report was provided in Appendix G of the Phase 2 Expansion Construction Permit Application.
- *Ground Water and Leachate Monitoring Plan Review, Class I Central Landfill, Citrus County, FL*, July 2001, prepared by Jones Edmunds and Associates, Inc. (JE&A): The JE&A Report provides information on the overall ground water resources and monitoring effort on-going for the entire 80-acre site. The JE&A report was provided in Appendix M of the Phase 2 Expansion Construction Permit Application.
- *Geotechnical Investigation for Citrus County Central Landfill – New Disposal Cell*, November 2001, prepared by Universal Engineering Sciences (Universal): The Universal report provides specific geologic, hydrogeologic and geotechnical information. A copy of the Universal report is provided in Appendix F.
- *Citrus County Central Class I Landfill, Biennial Report 2004-2007*, July 2007, prepared by JE&A: The JE&A Report provides information on the overall ground water resources and monitoring effort on-going for the entire 80-acre site for the period extending from October 2004 through April 2007. This document was provided under a separate cover to FDEP.

The following documents provide new or revised information regarding aspects of the site hydrogeology:

- Ground Water Monitoring Plan Evaluation, 2004 prepared by JE&A. The Ground Water Monitoring Plan Evaluation document provides site hydrogeology description, calculation of hydraulic gradient and ground water velocity.
- Ground Water Investigation Report, November 2006, prepared by JE&A. This document provides slug test results at compliance wells, revised calculation of ground

water velocity.

- *Citrus County Central Landfill Site Assessment Report*, October 2007, prepared by JE&A. This document provides slug test results at assessment wells/new piezometers.
- *Citrus County Central Landfill Water Quality and Leachate Monitoring Plan*, November 2008, prepared by JE&A. This document was prepared to update the monitoring program from the Citrus County Central Landfill in response to the construction of the Phase 3 Expansion Area.
- *Citrus County Central Class I Landfill Water Quality Monitoring Plan Evaluation Report*, May 2013, prepared by CDM Smith. This document was prepared to assess the Water Quality Monitoring Plan and to summarize the findings of the water quality monitoring From Semester I of 2010 to Semester II of 2012.
- *Citrus County Central Class I Landfill Water Quality Monitoring Plan Evaluation Report*, September 2015, prepared by CDM Smith. This document was prepared to assess the Water Quality Monitoring Plan and to summarize the findings of the water quality monitoring From Semester II of 2013 to Semester I of 2015.

H.1.a Regional and Site Specific Geology and Hydrogeology

No substantial change is proposed. The PBS&J Hydrogeological Investigation Report was previously submitted to FDEP in support of permitting for the Citrus County Central Landfill and sections 3 and 4 present regional and site-specific geology and hydrogeology for the overall Landfill site. In addition, the geotechnical investigation performed by Universal Engineering Sciences on November 15, 2001 provides more information on the site-specific geology of the Phase 3 Expansion area.

H.1.b Direction and Rate of Ground Water and Surface Water Flow Including Seasonal Variations

No substantial change is proposed. *Citrus County Central Class I Landfill Water Quality Monitoring Plan Evaluation Report, September 2015*~~May 2013~~, prepared by CDM Smith discussed the direction and rate off groundwater flow. There are no permanent surface waters on or near the Landfill site.

H.1.c Background Quality of Ground Water and Surface Water

No substantial change is proposed. The most current background ground water quality information for the Landfill site is presented in the CDM Smith report referenced in Section H.1.b above.

H.1.d On-Site Hydraulic Connections Between Aquifers

No substantial change is proposed. ~~There is a hydraulic connection between two aquifers at the site as described in Section I.1.e.~~

H.1.e Site Stratigraphy and Aquifer Characteristics

There are no changes to the site stratigraphy and aquifer characteristics below the landfill site. The Floridan aquifer is located approximately 35 to 40 feet below the base of the disposal area in the sandy deposits of the Alachua formation. Water levels in the Floridan aquifer often rise above the contact between the overlying sands/clayey sands and the underlying limestone formations.

H.1.f Topography, Soil Types and Surface Water Drainage Systems

No substantial change is proposed. *Citrus County Central Class I Landfill Water Quality Monitoring Plan Evaluation Report*, September 2015, prepared by CDM Smith discussed the direction and rate of groundwater flow.

H.1.g Well Inventory

No substantial change is proposed. SCS has obtained from the Southwest Florida Water Management District (SWFWMD) Water Use Permit (WUP) and Well Construction Permit (WCP) database an updated printout of the inventory of public and private potable water wells within a one-mile radius of the Citrus County Central Landfill. The query search conducted on August 31, 2015 included all publically available information on public and private potable water wells within one-mile of the landfill. A listing of potable water wells obtained from the District has been included in Attachment C.

H.1.h Existing Contaminated Areas

Based on the information presented in the *Citrus County Central Class I Landfill Water Quality Monitoring Plan Evaluation Report*, September 2015, prepared by CDM Smith which was previously submitted to the District. September 2015, there is no reason to believe that there are contaminated areas at the site due to leachate seepages from the active landfill. Therefore, this subsection has been identified as “No Change” on the Operation Permit renewal application and has been so designated on the State of Florida Department of Environmental Protection Application for a Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility Application Form 62-701.900(1).

H.1.i Map of Potable Wells and Community Water Supply Wells

There has been no substantial change to this subsection since the Phase 3 construction permit application submittal. The only potable wells within the 500 foot radius of the landfill are two onsite wells used for water to supply the facility toilets, operations within the Materials Recycling Facility (MRF) and a fire hydrant. The two wells are not used for drinking water (bottled water is for drinking water). There are no community supply wells within 1,000 feet of the waste storage and disposal areas.

SCS has obtained from the SWFWMD WUP and WCP database an updated printout of the inventory of public and private water wells within a one-mile radius of the Citrus County Landfill. The query search conducted on August 31, 2015 included all publically available

information on public and private wells within one-mile of the landfill. A listing of potable water wells obtained from the District has been included in Attachment C. In addition Figure 1 Potable Well Inventory, Citrus County Landfill, Citrus County, Florida has been provided in Attachment C. Therefore, this subsection has been identified as “No Change” on the Operation Permit renewal application and has been so designated on the State of Florida Department of Environmental Protection Application for a Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility Application Form 62-701.900(1).

H.2 PROFESSIONAL ENGINEER OR GEOLOGIST SIGNATURE

The information previously provided to the Department was signed, sealed, and dated by the professional engineer and/or professional geologist. Therefore, this subsection has been identified as “No Change” on the Operation Permit renewal application and has been so designated on the State of Florida Department of Environmental Protection Application for a Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility Application Form 62-701.900(1).

Section I

GEOTECHNICAL INVESTIGATION REQUIREMENTS

I.1 GEOTECHNICAL SITE INVESTIGATION REPORT

Several previous geotechnical investigations of the site have been performed and the boring locations and soil strata information previously provided to the Department in Appendix F, Appendix G, and Appendix M of the Construction Permit Application, Phase 2 expansion, Citrus County Central Landfill, Submitted to FDEP in August 2002.. Therefore, this subsection has been identified as “No Change” on the Operation Permit renewal application and has been so designated on the State of Florida Department of Environmental Protection Application for a Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility Application Form 62-701.900(1).

I.1.a Description of Subsurface Conditions Including Soil Stratigraphy and Ground Water Table Conditions

No substantial change is proposed. Refer to Appendix F, Section 3.4 of Appendix G, and the description given in Section J.1.b of the engineering report of the Phase 2 Construction Permit Application submitted to the FDEP in August 2002.

I.1.b Investigation for the Presence of Muck, Previously Filled Areas, Soft Ground, Lineaments and Sinkholes

No substantial change is proposed. Refer to Subsection J.1.b of the Phase 2 construction permit application submitted to the FDEP in August 2002.

I.1.c Average and Maximum High Water Table

No substantial change is proposed. Estimates of the average and maximum high water table were previously submitted to the district in Section 3.3 of the Universal Geotechnical Investigation in Appendix F and in Section 2.1.2 of the Citrus County Central Landfill Groundwater and Leachate Monitoring Plan Review in Appendix M of the *Citrus County Class I Central Landfill Operations Permit Renewal Application*, dated February 1, 2010, prepared by SCS.

I.1.d Evaluation of Potential for Fault Areas and Seismic Impact Zones

No substantial change is proposed.

I.1.e Foundation Analysis

This information was previously provided to the Department with the *Citrus County Class I Central Landfill Operations Permit Renewal Application*, dated February 1, 2010, prepared by SCS and no revisions are being conducted as part of the Operation Permit renewal application.

Therefore, this subsection has been identified as “No Change” on the Operation Permit renewal application and has been so designated on the State of Florida Department of Environmental Protection Application for a Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility Application Form 62-701.900(1).

1.1.e.1 Foundation Bearing Capacity Analysis

No substantial change is proposed.

1.1.e.2 Total and differential Subgrade settlement analysis

No substantial change is proposed.

1.1.e.3 Slope Stability Analysis

No substantial change is proposed.

**1.1.f ~~Description of Methods Used In the Investigation~~
Evaluation of Potential for Sinkholes and Sinkhole Activity**

No substantial change is proposed. A description of the methods used in the investigation, soil borings, laboratory results, cross sections, interpretations, and conclusions have been included in Sections 2.4 and 2.5 of the Universal Geotechnical Investigation included in the Phase 2 Expansion Construction Permit Application as Appendix F submitted to the FDEP in August 2002.

**1.1.g ~~Fault Areas, Seismic Impact Zones, and Unstable Areas~~
Investigation Description of Methods Used in the Investigation**

No substantial change is proposed. A description of the methods used in the investigation, soil borings, laboratory results, cross sections, interpretations, and conclusions have been included in Sections 2.4 and 2.5 of the Universal Geotechnical Investigation included in the Phase 2 Expansion Construction Permit Application as Appendix F submitted to the FDEP in August 2002.

1.2 PROFESSIONAL ENGINEER OR GEOLOGIST

No substantial change is proposed. All the geotechnical investigation reports attached with the Phase 3 construction permit application were signed, sealed and dated by a professional engineer or geologist. All revised calculations since the Phase 3 construction permit application have been signed, sealed and dated by a professional engineer or geologist.

Section J

VERTICAL EXPANSION

This section is Not Applicable because no substantial construction is planned at this time.

Section K

LANDFILL OPERATION REQUIREMENTS

The information required for Section K (Operation Plan) is included in Attachment S.

K.1 TRAINED OPERATORS

No substantial change is proposed. In accordance with Rule 62-701.500(1), F.A.C., key supervisory staff at the Citrus County Central Landfill has received Landfill Operator Certification Training. Operator training certificates and hours completed are provided in the Operations Plan located in Attachment S.

As required by Rule 62-701.320(15), F.A.C. a State-certified Landfill Operator will be onsite when waste is received for disposal at the Citrus County Central Landfill and a trained spotter will be onsite during all times when waste is deposited at the landfill working face to detect any unauthorized wastes.

Operator training includes a 24-hour course and 16 hours of continuing education every three years. Spotter training includes an 8-hour course and 4 hours of continuing education every three years. Operator and spotter training courses will be attended as offered by the University of Florida Center for Training, Research and Education for Environmental Occupations (TREEO) and through other FDEP approved sources. A listing of TREEO training courses and schedules is available at www.treeo.ufl.edu.

K.2 LANDFILL OPERATION PLAN

In accordance with Rule 62-701.500(2), FAC the Operation Plan has been updated and is provided in Attachment S.

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

In accordance with Rule 62-701.500(2)a, FAC see the Operation Plan, Attachment S, Section ~~B-2~~K.2.a for the designation of responsible operating and maintenance personnel.

K.2.b Contingency Plan

In accordance with Rule 62-701.500(2)b, FAC the Operation Plan identifies emergency preparedness and response as required in Subsection 62-701.320(16), FAC.

K.2.c Controlling Types of Waste Received

Waste type control is described in the Operations Plan located in Attachment S, Section ~~B-4~~K.2.c. There has been no change to this subsection.

K.2.d Weighing Incoming Waste

In accordance with Rule 62-701.500(2)d, FAC the Operation Plan identifies weighing incoming waste received at the landfill. All waste hauling vehicles entering and exiting the landfill are required to pass over the scales located at the facility entrance. Upon entering the facility, the scale house attendant weighs the vehicle and classifies each load. The load weights are printed on tickets and recorded on computer. ~~The waste is categorized and the tonnages are annotated in the appropriate category in the Waste Quantity Form located in Appendix J of the Operation Plan.~~

K.2.e Vehicle Traffic Control

In accordance with Rule 62-701.500(2)e, FAC the Operation Plan located in Attachment S, identifies the vehicle traffic control at the landfill. Signs are posted that indicate name of the operating authority, traffic flow, hours of operation, and restrictions or conditions of disposal. Signs posted at the gate state hours of operation and types of waste restrictions. Upon entering the site, all vehicles are required to stop at the scalehouse for weighing. The scalehouse attendant directs the driver to the appropriate on-site facility for unloading. All site roads are adequate for two-way traffic, and the speed limits are clearly marked. At each on-site facility, landfill personnel direct traffic to unload at the proper area.

K.2.f Method and Sequence of Filling Waste

In accordance with Rule 62-701.500(2)f, FAC the Operation Plan in Attachment S, Section ~~B-8~~K.2.f identifies the method and sequence of filling waste at the landfill.

Refer to the Operation Drawings located in Appendix A of the Operations Plan located in Attachment S for the sequence of filling waste. Loose waste will be spread in two-foot thick layers and compacted to approximately one foot in thickness.

K.2.g Waste Compaction and Application of Cover

In accordance with Rule 62-701.500(2)g, FAC the Operation Plan Attachment S, Section ~~B-8~~K.2.g, identifies waste compaction and application of cover procedures.

K.2.h Operations of Gas, Leachate, and Stormwater Controls

In accordance with Rule 62-701.500(2)h, FAC the Operation Plan Attachment S, Section ~~B-9~~K.2.h, identifies the operations of gas, leachate, and stormwater controls.

K.2.i Water Quality Monitoring

In accordance with Rule 62-701.500(2)i, FAC the Operation Plan Attachment S, Section ~~B-10~~K.2.i, addresses the groundwater quality monitoring at the landfill. Water quality monitoring for site-specific test parameters, locations, frequencies, and reports will be conducted as required by the facility Operation Permit.

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

In accordance with Rule 62-701.500(2)j, FAC the Operation Plan Attachment S, Section ~~B.11~~K.2.j, addresses maintaining and cleaning the leachate collection system at the landfill. The leachate collection and leak detection laterals and headers shown on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S will be cleaned and maintained through the cleanout riser pipes. The LCRS pipes will be cleaned by flushing and/or be inspected by video recording in accordance with Rule 62-701.500(8)(h), FAC [effective 8/12/12] at least once every five years during the 10-year Operation Permit period.

K.3 OPERATING RECORD

The Operations Plan located in Attachment S, Section K.3 addresses operating records that will be kept at Citrus County Central Landfill. There has been no change to this section.

K.4 WASTE RECORDS

The Operations Plan located in Attachment S, Section ~~D~~K.4 addresses waste records that will be kept at the Citrus County Central Landfill. There has been no change to this section.

K.5 ACCESS CONTROLS

The Operations Plan located in Attachment S, Section ~~E~~K.5 addresses the access controls at the Citrus County Central Landfill. There has been no change to this section.

K.6 LOAD CHECKING PROGRAM

In accordance with Rule 62-701.500(6), FAC the Operation Plan in Attachment S, Section ~~F~~K.6, describes the load checking program implemented at the landfill to discourage disposal of unauthorized wastes. The Operation Plan lists the waste materials and their proper disposal or storage locations and also lists waste materials that are prohibited from entering or being disposed of in the landfill.

K.7 SPREADING AND COMPACTING WASTE

In accordance with Rule 62-701.500(7)a through k, FAC the Operation Plan located in Attachment S, Section ~~G~~K.7, identifies the procedures for waste layer thickness and compaction frequencies at the landfill.

K.7.a Waste Layer Thickness and Compaction Frequencies

In accordance with Rule 62-701.500(7)a, FAC the Operation Plan describes the waste layer thickness and compaction frequencies. When waste is disposed of, it is spread in two-foot thick layers and compacted with either a Bulldozer, Compactor, or other equipment of sufficient weight to compact the waste to approximately one-foot in thickness. Generally three to five passes should be sufficient to compact the waste. The maximum lift height is ten feet high.

K.7.b First Layer Thickness

In accordance with Rule 62-701.500(7)b, FAC the Operation Plan located in Attachment S, Section ~~G.2~~K.7.b describes the procedure for filling and compacting the first layer of waste to protect the integrity of the liner and leachate collection system. An initial lift of select waste, a minimum of four feet in thickness, will be placed over the projected sand layer. The loose waste will be spread out and inspected for large rigid objects that may puncture the liner system when compacted. Heavy vehicles will not be allowed to drive directly on the sand layer.

K.7.c Slopes of Cell Working Face, Side Grades, and Lift Depths

In accordance with Rule 62-701.500(7)c, FAC the Operation Plan located in Attachment S, Section ~~G.3~~K.7.c describes the slopes of the cell working face and side grades above land surface, and the planned waste lift depth during operation.

K.7.d Maximum Width of Working Face

In accordance with Rule 62-701.500(7)d, FAC the Operation Plan located in Attachment S, Section ~~G.4~~K.7.d describes the width of the working face and operations to keep it as small as practical. The working face will be kept as small as practical but large enough to allow up to four trucks to be unloaded at one time. There has been no change to this subsection.

K.7.e Initial Cover Controls

In accordance with Rule 62-701.500(7)e.1 through 62-701.500(7)e.4, FAC initial cover is used to control disease vector/animal attraction, fires, odors, blowing litter, and moisture infiltration. A description of types of initial cover to be used at the Citrus County Central Landfill is included in the Operations Plan located in Attachment S, Section ~~G.5~~K.7.e. There has been no change to this subsection.

K.7.f Initial Cover Application Procedures and Frequency

In accordance with Rule 62-701.500(7)f, FAC the Operation Plan describes the procedures for applying initial cover including minimum cover frequencies. Cover is applied at the end of each working day for more information on the cover activities see Section ~~G.5~~K.7.f of the Operations Plan located in Attachment S. There has been no change to this subsection.

K.7.g Intermediate Cover Application Procedures

In accordance with Rule 62-701.500(7)g, FAC an intermediate cover in addition to the initial cover will be applied and maintained within seven days of cell completion if additional solid waste will not be deposited within 180 days of cell completion. Refer to the Operations Plan located in Attachment S, Section ~~G.6~~K.7.g. There has been no change to this subsection.

K.7.h Final Cover Application Time Frame

In accordance with Rule 62-701.500(7)h, FAC the Operation Plan describes the time frames for applying final cover. The County will place cover over sideslopes and other areas that have

reached final grade. Final cover will include a grading layer, low permeability geomembrane, two feet of soil cover, and sod.

K.7.i Scavenging and Salvaging

Procedures for controlling scavenging and salvaging are included in the Operations Plan located in Attachment S, Section ~~G.8~~K.7.i. There has been no change to this subsection.

K.7.j Litter Policing

In accordance with Rule 62-701.500(7)j, FAC litter policing is employed to keep litter from leaving the working area of the landfill. Refer to the Operations Plan located in Attachment S, Section ~~G.9~~K.7.j. There has been no change to this subsection.

K.7.k Erosion Control Procedures

In accordance with Rule 62-701.500(7)k, FAC the erosion control procedures utilized at the landfill are described in the Operations Plan located in Attachment S, Section ~~G.10~~K.7.k. There has been no change to this subsection.

K.8 LEACHATE MANAGEMENT

Operational procedures for leachate management are included in the Operations Plan located in Attachment S, Section ~~H~~K.8.

K.8.a Leachate Level Monitoring

In accordance with Rule 62-701.500(8)a, the landfill operator is responsible for maintenance and monitoring of the leachate collection system.

K.8.b Operation and Maintenance of the Leachate Collection and Removal System

In accordance with Rule 62-701.500(8)b, the landfill operator is responsible for the operation of the leachate collection and removal system and for maintaining the system as designed for the design period. If the leachate is classified as a hazardous waste, it shall be managed in accordance with Chapter 62-730, FAC. The leachate collection and leak detection laterals and headers shown on the Operation Drawings will be cleaned and maintained through the cleanout riser pipes. The LCRS pipes will be cleaned by flushing and/or be inspected by video recording in accordance with Rule 62-701.500(8)(h), FAC [effective 8/12/12] at least once every five years during the 10-year Operation Permit period.

K.8.c Procedures for Managing Leachate upon Regulation Changes

In accordance with Rule 62-701.500(8)c, leachate may be discharged to an off-site treatment plant. The landfill operator is responsible for having a written contract or agreement with the off-site treatment plant to discharge leachate to the plant. Please refer to Appendix ~~H~~I within

the Operation Plan located in Attachment S for a copy of the ~~contract~~ agreement with Meadowcrest Waste Water Treatment Plant. If at any time the leachate is determined to be hazardous, it will be managed in accordance with Rule 62-730, FAC.

K.8.d Offsite Discharge and Treatment of Leachate

The forcemain is now complete and leachate is being pumped offsite for treatment at a County owned and operated Waste Water Treatment Plan and the on-site leachate treatment system has been decommissioned and will be demolished. In accordance with Rule 62-701.500(8)d, on-site the pretreatment system is part of the leachate collection and removal system has been designed according to the expected characteristics of the leachate. The design includes adjustments to the system as necessary to accommodate changing leachate characteristics. The landfill operator is responsible for having a written contract or agreement with the off-site treatment plant to discharge leachate to the plant, see the Operations Plan in Attachment S for the agreement. The leachate will also be applied in small quantities within the bermed working face area from a spray bar mounted on the rear of a tank truck. Leachate will not be applied during active precipitation, in the presence of ponding or in quantities that may cause runoff, surface seeps, wind-blown spray, or exceedance of limits as the amounts described below:

- Leachate will be applied in Phase 3 once 30 ft of waste is in place. and may be applied at a rate of 3,552 gal/day. . Leachate recirculation will only be applied within the bermed working face area. If this area is already wet due to rainfall, leachate recirculation will not be applied and will not occur during active rainfall or where any standing water is observed within the bermed working face area.
- Leachate will be applied in Phase 2 and 3 at a maximum rate of 4,663 gal/day once 70 ft of waste is in place. Leachate recirculation will only be applied within the bermed working face area. A maximum of 4,663 gal/day can be recirculated in Phase 3. Leachate recirculation will only be applied within the bermed working face area. If this area is already wet due to rainfall, leachate recirculation will not be applied. Leachate recirculation will not occur during active rainfall or where any standing water is observed within the bermed working face area.
- ~~A maximum of 4,663 gal/day can be recirculated in Phase 2. Leachate recirculation will only be applied within the bermed working face area. If this area is already wet due to rainfall, leachate recirculation will not be applied. Leachate recirculation will not occur during active rainfall or where any standing water is observed within the bermed working face area.~~

Offsite discharge and treatment of leachate is described in the Operations Plan located in Attachment S.

K.8.e Contingency Plan

In accordance with Rule 62-701.500(8)e, the landfill operator shall have a prepared contingency plan to handle leachate collection, removal, and treatment problems such as interruptions of

discharges to a treatment plant. The Contingency Plan is described in the Operations Plan located in Attachment S.

K.8.f Procedures for Recording Quantities of Leachate Generation

In accordance with Rule 62-701.500(8)f, the quantities of leachate collected by the leachate collection and removal system are recorded in gallons per day before offsite disposal and are included with the operating record. The quantity of leachate pumped each day is recorded in gallons/day and included with the operating record.

K.8.g Precipitation and Leachate Comparison

In accordance with Rule 62-701.500(8)g, a rain gauge is located onsite, operated, and maintained to record precipitation at the Citrus County Central Landfill. Precipitation records are included with the operating record and are maintained and used by the County to compare with leachate generation rates. Rain data, in excess of one tenth of an inch, is recorded daily in the operating record by landfill personnel.

K.8.h Leachate Collection System Cleaning or Video Inspecting

The leachate collection pipes as shown on the drawings will be cleaned and maintained, as necessary, through the cleanout riser pipes. The leachate collection pipes may be cleaned by flushing or be inspected by video recording in accordance with Rule 62-701.500(8)(h), F.A.C. See Appendix F of the Operations Plan located in Attachment S for the Leachate Cleaning and Video Inspection Report.

K.9 GAS MONITORING PROGRAM

In accordance with Rule 62-701.500(9), FAC the Operation Plan identifies the operational procedures for landfill gas management. Gas monitoring locations, frequencies, and reports will be conducted as required by the facility Operation Permit.

K.10 STORMWATER MANAGEMENT SYSTEM

In accordance with Rule 62-701.500(10), FAC the Operation Plan identifies the operational procedures for the stormwater management system operation and maintenance at the landfill. The stormwater management system is operated and maintained as necessary to meet the requirements of subsection 62-701.400(9), FAC. Stormwater management for the facility consists of perimeter ditches and culverts that discharge to on-site retention ponds. Surface water collected from the final cover system, and from the exterior slopes with intermediate cover, is discharged to the perimeter ditch. Operation and maintenance of the stormwater management system includes periodic grass mowing and controlling vegetation in the ditches and swales, inspecting the berms, performing minor repairs if erosion features are observed, and inspecting the outfall structures.

K.11 EQUIPMENT AND OPERATION

K.11.a Operating Equipment

In accordance with Rule 62-701.500(11)a, FAC the Operation Plan identifies the equipment to ensure proper operation of the facility for excavating, spreading, compacting and covering waste. The site will have sufficient equipment to ensure proper operation of the facility for excavating, spreading, compacting and covering waste. Normal maintenance will be performed on site. Major maintenance item repairs (e.g., engine, transmissions, and auxiliary drives) will be handled at off-site service facilities.

K.11.b Reserve Equipment

In accordance with Rule 62-701.500(11)b, FAC the Operation Plan Section ~~K.2~~K.11.b located in Attachment S identifies reserve equipment. The existing equipment on site is sufficient to handle the incoming waste stream. Rental equipment is readily available if it becomes necessary to replace or supplement the equipment available on site. There has been no change to this subsection.

K.11.c Communications Equipment

In accordance with Rule 62-701.500(11)c, FAC the Operation Plan Section ~~K.3~~K.11.c located in Attachment S identifies communications equipment for emergency and routine communications onsite. There has been no change to this subsection.

K.11.d Dust Control

In accordance with Rule 62-701.500(11)d, FAC the Operation Plan Section ~~K.4~~K.11.d located in Attachment S identifies dust control methods. There has been no change to this subsection.

K.11.e Fire Protection

In accordance with Rule 62-701.500(11)e, FAC the Operation Plan Section ~~K.5~~K.11.e located in Attachment S identifies fire protection and fire-fighting capabilities adequate to control accidental burning of solid waste at the Citrus County Central Landfill. There has been no change to this subsection.

K.11.f Litter Control

In accordance with Rule 62-701.500(11)f, FAC the Operation Plan Section ~~K.6~~K.11.f located in Attachment S identifies litter control devices, portable fences, or other suitable devices. There has been no change to this subsection.

K.11.g Signs

In accordance with Rule 62-701.500(11)g, FAC the Operation Plan Section ~~K.7~~K.11.g located in Attachment S identifies the signs indicating the name of the operating authority, traffic flow, hours of operations and restrictions or conditions of disposal. There has been no change to this subsection.

K.12 ALL-WEATHER ACCESS ROAD

In accordance with Rule 62-701.500(12), FAC the Operation Plan Section ~~L~~K.12 located in Attachment S identifies the access roads at the landfill. Access roads are passable and safe under normal operating conditions. The perimeter road and other on-site roads are maintained to allow access to monitoring devices and stormwater controls for landfill inspections and fire fighting as needed. There has been no change to this section.

K.13 ADDITIONAL RECORDKEEPING

Additional record keeping and reporting requirements are described in Attachment S, Section ~~M~~K.13. Operating records, such as permits, plans, inspections and other are maintained on site at the Citrus County Central Landfill. There has been no change to this section.

K.13.a Permit Application Development

In accordance with Rule 62-701.500(13)a, FAC the Operation Plan Section ~~M-1~~K.13.a located in Attachment S identifies the County shall keep records of all information used to develop or support the permit applications and any supplemental information submitted pertaining to construction of the landfill throughout the design period. Records pertaining to the operation, except for weigh tickets, of the landfill shall be kept for the design period of the landfill. Weigh tickets shall be kept for five years. In addition to waste and operating records, supplemental information from the permit applications and information pertaining to the landfill's construction and maintenance are on file at the facility. These records will be retained at the site for the remainder of the landfill's life. There has been no change to this subsection.

K.13.b Monitoring Information

In accordance with Rule 62-701.500(13)b, FAC the Operation Plan Section ~~M-2~~K.13.b located in Attachment S identifies the County shall retain records of all monitoring information, including calibration and maintenance records, all original chart recordings for continuous monitoring instrumentation, and copies of all reports required by permit, for at least ten years. Background water quality records shall be kept for the design period of the landfill. Copies are submitted to FDEP in accordance with its permit requirements. There has been no change to this subsection.

K.13.c Site Life Estimates

In accordance with Rule 62-701.500(13)c, FAC the Operation Plan Section ~~M-3~~K.13.c located in Attachment S identifies the County shall maintain an annual estimate of the remaining life. Citrus County will maintain an annual estimate of the remaining solid waste disposal capacity (in cubic yards) and life of the existing Class I landfill. The estimate will be based on the geometry of the solid waste disposal area and the scalehouse waste records. These estimates will be reported to the FDEP annually. There has been no change to this subsection.

K.13.d Archiving and Retrieving Records

In accordance with Rule 62-701.500(13)d, FAC the Operation Plan Section ~~M-4~~K.13.d located in

Attachment S identifies records which are more than five years old and which are required to be retained may be archived by the County, provided that the landfill operator can retrieve them for inspection within seven days. All records pertaining to the operation of the facility will be retained throughout the design life of the landfill. All monitoring records, calibration and maintenance records, and reports required by the operating permit will be retained for at least ten years. There has been no change to this subsection.

Section L

WATER QUALITY MONITORING REQUIREMENTS

L.1 WATER QUALITY MONITORING PLAN

In accordance with Rule 62-701.510(2)a, FAC the water quality monitoring requirements and locations of the existing and proposed groundwater monitoring wells for the Citrus County Central Landfill have been identified in the updated *Water Quality Monitoring Plan Evaluation Report*, prepared by CDM Smith was previously submitted to the District, September, 2015. The updated Groundwater Monitoring Plan prepared by Jones Edmunds is included in Appendix I of the Operations Plan dated March 2, 3016.

L.1.a Hydrogeological Investigation Information Signed, Dated and Sealed

Please see Attachment M-1 of the Phase 3 construction permit application for signed, dated and sealed plans. There are no changes to this subsection.

L.1.b Sampling and Analysis Methods

Sampling and analysis of groundwater and surface water is described in the Water Quality Monitoring Plan. There are no changes to this subsection.

L.1.c Groundwater Monitoring Requirements

L.1.c.1 Detection Wells Located Downgradient Within 50 Feet of Disposal Units

There are no detection wells at the Citrus County Central Landfill and no detection wells are currently planned to be constructed. There are no changes to this subsection.

L.1.c.2 Downgradient Compliance Wells

There are currently ~~seven~~ nine compliance wells (MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-17, MW-20 and MW-21) positioned at the edge of the zone of discharge, which is the compliance line boundary. Please refer to ~~Attachment 1~~ Appendix I of the Operations Plan in Attachment S for the WQMP document ~~for the~~ which contains the approximate location of the downgradient compliance well. There are no changes to this subsection.

L.1.c.3 Background Wells

There are currently two background wells (MW-3, and MW-7). up gradient from the Phase 3 Expansion area . Therefore the existing network has two background wells (MW-3, and MW-7).

The only laterally continuous aquifer at the Citrus County Central Landfill is the unconfined Floridan aquifer. There are no other changes to this subsection.

L.1.c.4 Location Information for Monitoring Wells

No substantial change is proposed. The locations of the monitoring wells are shown on Figure No. 1-1 of the “Water Quality Monitoring Plan Evaluation Report” by CDM Smith previously submitted to the Department, September, 2015 and in the Jones Edmunds Groundwater Monitoring Plan dated March 2, 3016.

L.1.c.5 Well Spacing

No substantial change is proposed.

L.1.c.6 Well Screen Locations

No substantial change is proposed.

L.1.c.7 Monitoring Well Representative Groundwater Samples

Information regarding monitoring wells representative groundwater samples were discussed in the “Water Quality Monitoring Plan Evaluation Report” by CDM Smith previously submitted to the Department, September, 2015.

L.1.c.8 Procedures for Monitoring Well Abandonment

No substantial change is proposed.

L.1.c.9 Detailed Description of Detection Sensors

No substantial change is proposed. The County does not use detection sensors capable of detecting changes in ground water that may indicate leachate releases. Therefore, this section of the Operation Permit renewal application has been marked as “Not Applicable.”

L.1.d Surface Water Monitoring Locations

L.1.d.1 Proposed Surface Water Monitoring Locations

No substantial change is proposed.

L.1.d.2 Surface Water Monitoring Locations

No substantial change is proposed. No additional surface water monitoring locations are proposed.

L.1.e Initial and Routine Sampling Frequency and Requirements

L.1.e.1 Initial Background Groundwater and Surface Water Sampling

No substantial change is proposed.

L.1.e.2 Routine Monitor Well Sampling and Analysis

For information regarding the well sampling and analysis see the “Water Quality Monitoring Plan Evaluation Report” by CDM Smith, submitted September, 2015 and the Jones Edmunds Groundwater Monitoring Plan dated March 2, 3016.

L.1.e.3 Routine Surface Water Sampling and Analysis

No substantial change is proposed.

L.1.f Procedures for Evaluation, Prevention, Corrective Action

No substantial change is proposed.

L.1.g Water Quality Monitoring Report Requirements

L.1.g.1 Semi-annual Report Requirements

There are no changes to this section.

L.1.g.2 Water Quality Data Electronic Format Submittal to the Department

The water quality data shall continue to be provided to the Department in an electronic format consistent with requirements for importing into the Department databases.

L.1.g.3 Technical Report Requirements

Technical Reports covering two and a half years will be signed, dated and sealed by a PG.

Section M

SPECIAL WASTE HANDLING REQUIREMENTS

M.1 PROCEDURES FOR MANAGING MOTOR VEHICLES

Motor vehicles are not currently accepted for disposal at the Citrus County Central Landfill. Should motor vehicles be accepted for disposal in the future they will be handled and disposed of in compliance with applicable rules and regulations. Therefore this section is marked “Not Applicable”. There are no changes to this section.

M.2 PROCEDURES FOR LANDFILLING SHREDDED WASTE

Citrus County Central Landfill does not shred waste neither does it accept any shredded waste therefore this section is “Not Applicable”. There are no changes to this section.

M.3 PROCEDURES FOR ASBESTOS WASTE DISPOSAL

In accordance with Rule 62-701.520(3), FAC procedures for asbestos waste disposal have been identified in the Operation Plan. Asbestos Containing Materials (ACM) are accepted at the Citrus County Central Landfill after special arrangements are made with landfill personnel. Quantity and scheduled shipment date are coordinated. Any friable asbestos is wet-wrapped. A location is prepared separate from the landfill working face. The disposal location within the landfill is recorded and the disposed asbestos is covered with daily soil cover. There are no changes to this subsection.

M.4 PROCEDURES FOR CONTAMINATED SOIL DISPOSAL

In accordance with Rule 62-701.520(4), FAC the County accepts contaminated soils on the condition that they are not hazardous. Contaminated soil can be disposed in the Citrus County Central Landfill after special arrangements are made with landfill personnel. Quantity and scheduled shipment date are coordinated. Only petroleum-contaminated soil treated in accordance with chapter 62-713, FAC, is accepted. In addition, analysis results showing that the soil is non-hazardous is required prior to disposal. The contaminated soil is disposed of at the landfill working face and the location in the landfill is recorded. There are no changes to this subsection.

M.5 BIOLOGICAL WASTES

In accordance with Rule 62-701.520(5), FAC biological waste includes sludges and medical waste. Citrus County Landfill does not accept biological wastes. There are no changes to this subsection.

Section N

GAS MANAGEMENT SYSTEM REQUIREMENTS

N.1 GAS MANAGEMENT SYSTEM DESIGN

The LFG management system at the site currently consists of passive vents in the old closed 60-acre landfill, which serves to minimize the potential for off-site migration of LFG. Phases 1/1A, and 2 of the 80-acre active landfill was issued a construction permit (Permit No. 21375-017-SC/08) for a gas collection and control system (GCCS). ~~and is currently under construction.~~ Construction of the GCCS, ~~which includes~~ the installation of vertical extraction wells, tie-ins to the leachate collection removal system (LCRS) risers, and a header/lateral system that ~~will~~ routes collected landfill gas (LFG) to a blower/flare station. ~~shall be nearly complete at the time of this application submittal and a certification of construction completion shall be submitted to the Department in the near future.~~

The GCCS ~~proposed~~ for the Class I landfill is a voluntary active LFG collection and control system that is being installed to proactively reduce methane emissions to the atmosphere. This system is not required by the Federal New Source Performance Standards (NSPS).

N.1.a Preventing High Combustible Gas Concentrations

Landfill gas migration is ~~currently~~ being controlled by the ~~existing~~ LFG management system. The GCCS in the lined Class I landfill ~~will further~~ reduces the potential for subsurface LFG migration and odors.

N.1.b Design for Site Specific Conditions

Based on observations at the site, the current LFG management system in place at the 60-acre closed area appears to be adequate for the design of the landfill. The GCCS in the lined Class I landfill is a voluntary active LFG collection and control system that ~~was~~ is being installed to proactively reduce methane emissions to the atmosphere.

N.1.c Reduction of Gas Pressures Within the Interior of the Landfill

Based on review of the available data and observations of the performance of the system, excessive pressures do not appear to be present within the 60-acre closed landfill area. The additional wells in the lined Class I landfill ~~will~~ reduces internal gas pressures of the landfill which ~~will~~ further reduce the potential for subsurface lateral migration of LFG.

N.1.d Non-Interference with the Liner, Leachate Control System, or Final Cover

Based on on-site observations and discussions with County staff, there is no evidence that LFG is interfering with the function of any of the systems located at the closed 60-acre area. The

permitted GCCS will not interfere with the bottom liner and leachate collection system. The vertical LFG extraction wells will terminate a minimum of 15 feet above the liner system.

N.2 LANDFILL GAS MONITORING

No changes to the LFG migration monitoring plan are being proposed with this application. Gas monitoring is performed in accordance with Rule 62-701.530, F.A.C. The results of the quarterly monitoring are submitted to FDEP. The current system will be modified as the waste fill sequence progresses.

N.3 GAS AND ODOR REMEDIATION PLANS

No changes to the landfill gas remediation and odor remediation plans are being proposed with this application. In the event that methane is detected in concentrations that exceed the regulatory limit during quarterly monitoring, Citrus County shall submit to FDEP a gas remediation plan within seven days of detection and the remedy will be completed within 60 days of the exceedance detection, or as approved by FDEP.

In the event that an objectionable odor caused by LFG is detected, a routine odor-monitoring program will be implemented. If the odor monitoring program confirms the existence of objectionable odors, then an odor remediation plan shall be submitted to FDEP. Upon approval by FDEP, the odor remediation plan shall be implemented within 30 days.

N.4 LANDFILL GAS RECOVERY FACILITIES

The permitted GCCS ~~will route~~ collected LFG to the candlestick flare where the gas is ~~will be~~ being combusted.

N.4.a Application Information

The information required by Rule 62-701.320(7) and 62-701.330(3), F.A.C. was included in both the permit forms and this engineering report of the solid waste construction permit application for a landfill gas collection and control system submitted April 22, 2009.

N.4.b Closure Information

Waste disposal activities are on-going at the site. At landfill closure, the closure plan will address any integration of the GCCS with the intended end use, which has not yet been determined.

N.4.c Gas Generation and Condensate Management

The permitted GCCS is designed to recover and combust a portion of the LFG generated by the landfill. Even though the GCCS is not required per the NSPS or as part of a landfill closure, the GCCS was designed to handle future generation rates in accordance with Rule 62-701.530, F.A.C. Please refer to the construction permit application for a landfill gas collection and control system submitted April 22, 2009 for the gas generation and condensate management.

N.4.d Condensate Sampling, Analyzing, and Data Reporting

Collected condensate will drain from the self-draining traps back into the waste mass and eventually into the leachate collection system. Condensate from the condensate sump will be pumped into the leachate holding tank and treated as a component of the leachate. ~~Leachate sampling takes place at the landfill and as a result the County will not conduct condensate sampling.~~

N.4.e Closure Plan

Waste disposal activities are on-going at the site. At landfill closure, the closure plan will address any integration of the GCCS with the intended end use. The GCCS Closure Plan will be submitted with the final GCCS design and will contain the following:

- A closure report
- A closure design plan
- A closure operations plan
- Closure procedures
- A plan for long-term care
- Demonstration of proof of financial responsibility for long-term care

N.4.f Closure Costs

The closure cost estimate for the permitted voluntary LFG collection and control system includes conversion of the LFG extraction points to passive vents. The closure and long-term care costs associated with the GCCS are included in the financial assurance documentation located in Attachment S.

Section O

LANDFILL FINAL CLOSURE REQUIREMENTS

O.1 CLOSURE PERMIT REQUIREMENTS

In accordance with Rule 62-701.600(2), FAC ~~at least 90 days prior to the projected date when~~ wastes will no longer be accepted at the facility, Citrus County Central Landfill, Citrus County BOCC will provide to FDEP and the local pollution control agency a written notice with a schedule for cessation of waste acceptance and closure of the landfill. The Closure Plan submitted with the Closure Permit application will include the following:

- Closure design plan;
- Closure operation plan;
- Plan for long-term care; and
- A demonstration of proof of financial responsibility for long-term care.

O.1.a Application Submitted to Department

In accordance with Rule 62-701.600(2), FAC ~~at least 90 days prior to the projected date when~~ wastes will no longer be accepted at the facility, Citrus County will submit to FDEP an application for final closure of the facility. The application will include a Closure Plan consisting of the items listed in Item O.1.b Closure Plan below.

O.1.b Closure Plan

In accordance with Rule 62-701.600(2), FAC the Closure Plan submitted with the Closure Permit application will include the following:

- (1) Closure Design Plan;
- (2) Closure Operation Plan;
- (3) Plan for long-term care; and
- (4) A demonstration of proof of financial responsibility for long-term care.

O.2 CLOSURE DESIGN PLAN REQUIREMENTS

In accordance with Rule 62-701.600(3), FAC the Closure Design Plan consisting of engineering plans and a report on closing procedures that apply to the final closing of the waste disposal units will be submitted ~~at least 90 days before~~ the date when wastes will no longer be accepted. The design will include the information listed below.

- (a) Plan drawing showing phases of site closing.

- (b) Drawings showing existing topography as proposed final grades.
- (c) Provisions to close units when they reach approved final dimensions.
- (d) Final elevations before settlement.
- (e) Final sideslope design.
- (f) Final cover installation plan to including:
 - 1. Construction Quality Assurance (CQA) Plan for installing and testing final cover.
 - 2. Schedule for installing final cover after final receipt of waste.
 - 3. Description of drought-resistant species to be used in the vegetative cover.
 - 4. Top gradient design to maximize runoff and minimize erosion.
 - 5. Provisions for cover material to be used for final cover maintenance.
- g. Final Cover Design - the final cover design will comply with Rule 62-701.600(3)(g). The design will address:
 - a. Protective soil layer design.
 - b. Barrier soil layer design.
 - c. Erosion control vegetation.
 - d. Geomembrane/soil barrier layer design.
 - e. Geosynthetic clay liner design if used.
 - f. Stability analysis of the cover system and the disposed waste.
- h. Proposed method of storm water control.
- i. Proposed method of access control.
- j. Description of the proposed or existing gas management system.

O.3 CLOSURE OPERATION PLAN

In accordance with Rule 62-701.600(4), FAC the Closure Operation Plan will include the following:

- a. Detailed description of actions that will be taken to close the facility.
- b. Time schedule for completion of closing and long term care.

- c. Description of method for demonstrating financial responsibility.
- d. Operation of the Water Quality Monitoring Plan required.
- e. Development and implementation of a gas management system.

O.4 CERTIFICATION OF CONSTRUCTION COMPLETION

Certification of closure construction will include survey monuments and a final survey report. A certification of closure construction completion, consistent with the requirements of the CQA Plan for the project, signed, dated and sealed by a Professional Engineer in the State of Florida will be provided to FDEP upon completion of closure in accordance with Rule 62-701.600(6), FAC.

O.4.a Survey Monuments

Survey monuments already exist at the Citrus County Central Landfill. The existing survey monuments are shown on the Operation Drawings in Appendix A of the Operations Plan located in Attachment S. The survey monuments shall be preserved and maintained.

O.4.b Final Survey Report

A final topographic survey will be performed as part of the construction completion certification in accordance with Rule 62-701.600(6)(b), FAC to confirm that the final contours and elevations of the facility are in accordance with the plans as approved in the closure permit. The topographic map will be prepared by a registered land surveyor in the State of Florida or by aerial mapping with equivalent accuracy.

O.4.c Closure Construction Quality Assurance Report

A closure construction quality assurance report will be compiled and included in the construction completion certification in accordance with Rule 62-701.400(7)(f).

O.5 DECLARATION TO THE PUBLIC

The Declaration to the Public required by Rule 62-701.600(7), FAC will be prepared and filed in the deed records of the Citrus County Clerk's office.

O.6 OFFICIAL DATE OF CLOSING

The official date of closing will be determined in accordance with Rule 62-701.600(8), FAC.

O.7 TEMPORARY CLOSURE

It is not anticipated that temporary closure of the Citrus County Central Landfill will be required. If temporary closure is proposed, the closure will be conducted in accordance with the requirements of Rule 62-701.600(9), FAC.

Section P

OTHER CLOSURE PROCEDURES

P.1 USE OF CLOSED LANDFILL AREAS

Consultation with FDEP is required prior to conducting activities at closed landfills in accordance with Rule 62-701.610(1), FAC.

Closed landfill areas, if disturbed, are a potential hazard to public health, ground water and the environment. FDEP retains regulatory control over activities which may affect the integrity of the environmental protection measures such as the landfill cover, drainage, liners, monitoring system, or leachate and stormwater controls. Citrus County will consult with FDEP prior to conducting activities over the closed landfill areas. No changes are proposed.

P.2 RELOCATION OF WASTES

After closure, permission from the FDEP is required to move disposed materials from one point to another within the footprint of the storage in accordance with Rule 62-701.610(2), FAC. No changes are proposed.

Section Q

LONG-TERM CARE REQUIREMENTS

Long-term care will be provided for the Citrus County Central Landfill pursuant to Rule 62-701.620, FAC. The County will continue to monitor and maintain the facility in accordance with the approved Closure Plan for 30 years from the date of closing. The surface water management system, gas control system, and vegetative cover will be maintained during the long-term care period. The leachate collection, transmission, and disposal system will be operated during the long-term care period. General provisions the County will conduct for long-term care will consist of:

- Maintenance of cover soils to assure positive drainage, minimize erosion and filling areas of subsidence or other depressions.
- Maintenance of vegetative cover.
- Maintenance of the stormwater management system.
- Maintenance of groundwater monitoring wells and monitoring at existing monitoring wells.
- Maintenance and management of the leachate collection system.
- Maintenance and management of the groundwater collection system.
- Maintenance and management of the landfill gas management system.
- Maintaining provisions and anticipated source of cover material and vegetation.
- General maintenance and periodic inspection of the facility.

In the event of damage to the Citrus County Landfill facility or failure of a portion of the Citrus County Landfill system, the County will immediately notify FDEP explaining the occurrence and remedial measures to be taken and the time needed for repairs.

MAINTENANCE AND INSPECTION

The County will use in-house equipment and personnel when practical and cost-effective to perform onsite activities.

The County will inspect the landfill daily on operating days for settlement and erosion (low spots or insufficiently graded areas). Any subsidence or erosion on the landfill cap or terraces over the cap will be repaired promptly. Soil material will be purchased from nearby offsite sources as needed.

Grass will be re-sodded as needed to keep a healthy vegetative cover over the landfill and on the

sideslopes of the stormwater management system. Mowing will be conducted approximately six times per year, or as needed.

The County will maintain the property including fences, monitoring devices, survey monuments and other permanent features. General inspections will occur periodically, especially after large rainfall events. Inspection will also occur during ground maintenance.

MONITORING AND MAINTENANCE OF MONITORING WELLS AND GAS PROBES

Environmental monitoring will be performed by an outside sampling firm using an FDEP approved laboratory. An outside vendor will collect the required samples. Laboratory analysis will be performed by an approved laboratory meeting FDEP required quality assurance standards. Groundwater monitoring will continue to be conducted semi-annually per the current schedule and the results will be placed in the landfill's permanent file and submitted to FDEP following each sampling event. Gas monitoring will be performed at the gas probe locations according to the Operation Permit.

Q.1 GAS COLLECTION AND MONITORING SYSTEM

The gas collection and monitoring system will be maintained for the duration of the long-term care period as required by Rule 62-701.620(5), F.A.C. No changes are proposed.

Q.2 STABILIZATION REPORT REQUIREMENTS

Every five years after issuance of a permit for long-term care, Citrus County BOCC will submit a report to the Department that addresses stabilization of the landfill as required by Rule 62-701.620(6), F.A.C. No changes are proposed.

Q.3 RIGHT OF ACCESS

In accordance with Rule 62-701.620(7), FAC after termination of solid waste operations, the County will retain the right of entry to the landfill property for the long-term care period, after termination of solid waste operations, for inspection, monitoring, and maintenance purposes for the duration of the long-term care period. No changes are proposed.

Q.4 REPLACEMENT OF MONITORING DEVICES

In accordance with Rule 62-701.620(8), FAC if a monitoring well or other device required by the approved Monitoring Plan is destroyed or becomes inoperable, the County will notify FDEP in writing immediately upon discovery. Inoperative monitoring devices will be replaced with functioning devices within 60 days of the discovery or as required by Rule 62-701.620(8), FAC. No changes are proposed.

Q.5 COMPLETION OF LONG-TERM CARE

In accordance with Rule 62-701.620(19), FAC after FDEP acknowledges that the facility has been closed Citrus County will continue to monitor and maintain the facility for at least 30 years,

unless specific release from all or part of these requirements is granted by the FDEP. Monitoring activities will include inspection of the side slopes, monitoring for gas formation, and checking for unauthorized use of the site for debris disposal. Ground water monitoring will be conducted under the operation and long-term care requirements.

Long-term maintenance consists of periodic inspection, repairing erosion damage, repairing exposed geomembranes, repair and replacement of groundwater monitor wells, and cleaning and maintenance of the stormwater control structures. Citrus County will conduct these activities with their onsite employees and equipment in conjunction with the maintenance and repair activities required.

In accordance with Rule 62-701.620(109), FAC following completion of the long-term care period, Citrus County will submit a certification, signed and sealed by a Professional Engineer, verifying that long-term care has been completed in accordance with the Closure Plan has been placed in the operating record. No changes are proposed.

Section R

FINANCIAL ASSURANCE REQUIREMENTS

This Section of the Operation Permit renewal application addresses the issue of financial assurance requirements in terms of long-term care costs for the Citrus County Central Landfill. The regulatory requirements for these costs are reviewed annually. In addition, the method of financial assurance selected by Citrus County is reviewed. Note that along with this submittal for the permit renewal, the County has developed the agreement between the County and State for use of on-site soils for the Closure of Phases 1 through 3.

R.1 COST ESTIMATES

Citrus County is required by Rule 62-701.630, FAC, to provide FDEP a description of the financial mechanism that demonstrates proof of financial assurance for closure and long-term care of the facility.

Each year, closure and long-term care cost estimates will be prepared for the facility in accordance with Rule 62-701.630(3) and (4), FAC. In preparing the closure cost estimates, the following assumptions are to be made:

- The closure cost estimates include the permitted areas of the landfill
- Construction of the closure will be performed under contract by a private contractor
- Onsite soils will be used for closure according to 62-701.630.3(d), FAC
- The cost estimates are prepared for the time period during the landfill operation when the extent and manner of the landfill's operation make closing the most expensive
- The closure cost estimate assumes a geomembrane cover system over all of Phase 3
- Long-term care costs include land surface care, landfill gas control, leachate control, groundwater and surface water monitoring, and administration

Refer to Attachment R for the ~~Financial Assurance~~ Closure Cost Estimate and calculations.

R.2 ANNUAL COST ESTIMATES

An annual cost adjustment will be provided to FDEP in accordance with Rule 62-701.630(4) FAC. The estimate will address closure and long-term care costs, as well as corrective action costs, if required.

R.3 FUNDING MECHANISMS

Citrus County BOCC has a financial funding mechanism for the closure and long-term care of Citrus County Central Landfill currently on file with FDEP. To comply with the requirements of

Rule 62-701.630(4), F.A.C., Citrus County submits annual adjustments to FDEP for the cost estimates for the closure and long term-care of the Citrus County Central Landfill.

~~R.4 DELAY OF SUBMITTAL OF PROOF OF FINANCIAL ASSURANCE~~

~~Citrus County may delay submitting proof of financial assurance for a solid waste disposal unit in accordance with Rule 62 701.630(2) under the following conditions. No solid waste shall be stored or disposed of at the Citrus County Landfill until the County has received written approval of the financial assurance mechanism from the Department.~~

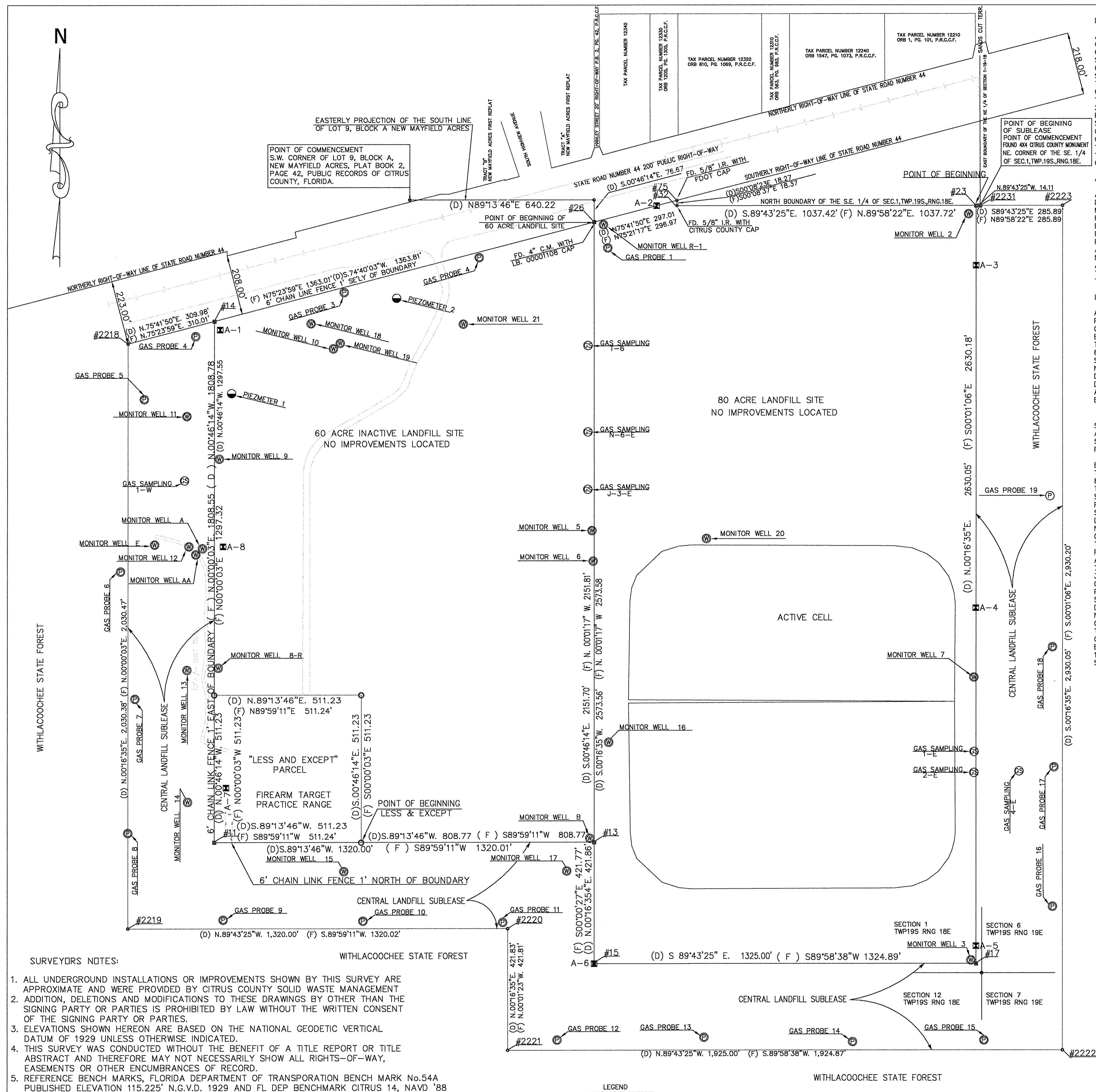
Attachment C

SWFWMD List of Wells
1-Mile Radius

WCP_PERMIT_NBR	WMIS Link	WELL_NBR	SITE_STATUS_DESC	WELL_USE_TYPE_DESC	WELL_CASING_DIAMETER_MS	CASING_TO_DEPTH_MS	WELL_DEPTH_MS	STATIC_WATER_LEVEL_MS	OWNERNAME	WELL_LOCATION_STREET_NAME	LICENSE_NBR	CONTRACTORNAME	WELL_DRILL_METHOD_DESC	LATITUDE	LONGITUDE	SECTION_ID	TOWNSHIP_ID	RANGE_ID	PERMIT_ISSUE_DT	SITE_ID
394272	WMIS	1	Active	DOMESTIC		4	176	178	117	45 SALISBURY TERRACE	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 21.40	82 25 37.08	6	19	19	7/27/1984	130793
407866	WMIS	1	Active	DOMESTIC		4	134	145	105	11690 WEST WALSHINGHAM ROAD	1584	F.B.MCCRAY WELL DRILLING INC.	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	9/3/1985	144387
411226	WMIS	1	Active	DOMESTIC		4	134	137	115	LOT 9 HIGHVIEW AVE	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	1/3/1986	147747
414048	WMIS	1	Active	DOMESTIC		4	230	258	110	11690 WEST WALSHINGHAM ROAD	1584	F.B.MCCRAY WELL DRILLING INC.	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	4/1/1986	150569
423725	WMIS	1	Active	DOMESTIC		4				8438 S SUNCOAST BLVD	2017	CORBIN WELL, PUMP & SUPPLY	COMBINATION (TWO OR MORE METHODS)	28 50 29.49	82 26 33.69	12	19	18	11/13/1986	160231
423940	WMIS	1	Active	DOMESTIC		4	31	42	3	9918 E BASS	1546	ADVANCED WELL DRILLING INC.	CABLE TOOL	28 50 29.49	82 26 33.69	12	19	18	11/18/1986	160446
441799	WMIS	1	Active	DOMESTIC		4	229	255	110	1129 OCEAN DRIVE	1315	GARY PICKEL	ROTARY	28 51 21.83	82 26 34.27	1	19	18	12/10/1987	178295
466175	WMIS	1	Active	PUBLIC SUPPLY		4	77	79	13	79 HWY 41 N	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 21.40	82 25 37.08	6	19	19	8/25/1988	202671
481685	WMIS	1	Active	PUBLIC SUPPLY		4	345	385	73	6510 E LAHAVEN DRIVE	9015	CORBIN WELL PUMP & SUPPLY INC.	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	6/9/1989	218181
527805	WMIS	1	Active	DOMESTIC		4	159	164	115	Hall Brothers Construction	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 55.36	82 26 12.21	36	18	18	7/23/1992	273757
575981	WMIS	1	Active	DOMESTIC		4	128.5	131	22	LOT 56 PATRIOT STREET	9015	CORBIN WELL PUMP & SUPPLY INC.	CABLE TOOL	28 50 23.07	82 26 26.23	12	19	18	2/6/1996	353104
586491	WMIS	1	Active	DOMESTIC		4	214	215	112	Citrus Hills Constr	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 47.88	82 26 23.09	1	19	18	12/17/1996	367612
305332	WMIS	1	Active	DOMESTIC		3	47	73		LOT 71 WHITE LAKE	1342	WILBUR LANGLEY & SON WELL DRILLI	CABLE TOOL	28 50 29.44	82 25 36.83	7	19	19	3/25/1970	41843
664251	WMIS	1	Active	DOMESTIC		4	144	157	110	Citrus Hills Constr	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 47.79	82 26 23.09	1	19	18	2/1/2002	472893
673227	WMIS	1	Active	DOMESTIC		4	153	175	130	Avanzini Homes Corporation	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 53.33	82 26 09.18	36	18	18	8/5/2002	487466
313851	WMIS	1	Active	DOMESTIC		4	135	150	60	Belmont Homes	999998	RECORD MISSING AT UPLOAD	ROTARY	28 51 21.40	82 25 37.08	6	19	19	1/1/1970	50362
698527	WMIS	1	Active	DOMESTIC		4	102	105	51	Keith Cook	9305	CAM WELL & PUMP	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	3/31/2004	529618
334123	WMIS	1	Active	DOMESTIC		4	211	240	114	Lott B	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 21.40	82 25 37.08	6	19	19	1/1/1970	70634
339983	WMIS	1	Active	DOMESTIC		4	175	180	92	Petry,I	1584	F.B.MCCRAY WELL DRILLING INC.	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	1/1/1970	76493
807045	WMIS	1	Active	DOMESTIC		4	248	265	120	Knaub John &	9305	CAM WELL & PUMP	COMBINATION (TWO OR MORE METHODS)	28 51 32.85	82 26 48.19	1	19	18	8/23/2010	763591
383873	WMIS	1	Active	PUBLIC SUPPLY		4	217	220	137	Ryan, Donald	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	7/12/1983	120384
402731	WMIS	1	Active	DOMESTIC		4	73	80		LOT 38 APPOMATTOX LANE	2017	CORBIN WELL, PUMP & SUPPLY	CABLE TOOL	28 50 29.49	82 26 33.69	12	19	18	4/8/1985	139252
411479	WMIS	1	Active	DOMESTIC		4				Mawby, Alan C	2017	CORBIN WELL, PUMP & SUPPLY	CABLE TOOL	28 50 29.49	82 26 33.69	12	19	18	1/10/1986	148000
413655	WMIS	1	Active	DOMESTIC		4	323	343	136	Fitzgerald, James	1342	WILBUR LANGLEY & SON WELL DRILLI	COMBINATION (TWO OR MORE METHODS)	28 51 21.40	82 25 37.08	6	19	19	3/20/1986	150176
416553	WMIS	1	Active	DOMESTIC		4	35	43	10	Haller, Bob	2017	CORBIN WELL, PUMP & SUPPLY	COMBINATION (TWO OR MORE METHODS)	28 50 29.49	82 26 33.69	12	19	18	6/10/1986	153068
423550	WMIS	1	Active	DOMESTIC		4	57	60	14	Lewis, Frank	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 21.40	82 25 37.08	6	19	19	11/6/1986	160056
477867	WMIS	1	Active	DOMESTIC		4	210	220	135	Deeb Commercial	9015	CORBIN WELL PUMP & SUPPLY INC.	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	3/30/1989	214363
503542	WMIS	1	Active	DOMESTIC		4	189	205	120	Bange, Patrick	1342	WILBUR LANGLEY & SON WELL DRILLI	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	8/30/1990	240036
504502	WMIS	1	Active	DOMESTIC		4	140	143	15	Touchton, Daniel	9015	CORBIN WELL PUMP & SUPPLY INC.	CABLE TOOL	28 50 35.75	82 26 55.92	12	19	18	9/24/1990	240995
498510	WMIS	1	Active	DOMESTIC		4	180	190	135	B G Rusaw Inc	1584	F.B.MCCRAY WELL DRILLING INC.	COMBINATION (TWO OR MORE METHODS)	28 51 21.40	82 25 37.08	6	19	19	5/11/1990	235004
541673	WMIS	1	Active	PUBLIC SUPPLY		4	166	195	134	Frank Lewis	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 21.40	82 25 37.08	6	19	19	8/24/1993	296168
559946	WMIS	1	Active	DOMESTIC		4	133	145	15	Barry & Susan Jones	9015	CORBIN WELL PUMP & SUPPLY INC.	COMBINATION (TWO OR MORE METHODS)	28 50 29.49	82 26 33.69	12	19	18	11/8/1994	327013
587372	WMIS	1	Active	DOMESTIC		4	202	205	126	David Dollar	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 21.40	82 25 37.08	6	19	19	1/21/1997	368683
597515	WMIS	1	Active	DOMESTIC		4	142	183	69	Norman Adams	9015	CORBIN WELL PUMP & SUPPLY INC.	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	9/22/1997	381965
652289	WMIS	1	Active	DOMESTIC		4	211	240	125	Chuck Sanders	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	5/3/2001	454570
310046	WMIS	1	Active	DOMESTIC		4	236	240	120	No Name - Do Not Modify	26	HOPKINS WELL DRILLING	CABLE TOOL	28 51 21.83	82 26 34.27	1	19	18	1/1/1970	46557
664859	WMIS	1	Active	DOMESTIC		4	146	157	114	Clanton Homes Inc	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 49.99	82 26 07.00	36	19	18	2/15/2002	473697
310152	WMIS	1	Active	DOMESTIC		4	283	290		L Stakes	999998	RECORD MISSING AT UPLOAD	ROTARY	28 51 21.40	82 25 37.08	6	19	19	1/1/1970	46663
311626	WMIS	1	Active	DOMESTIC		4	120	180	60	J M Vincent	999998	RECORD MISSING AT UPLOAD	CABLE TOOL	28 51 21.40	82 25 37.08	6	19	19	1/1/1970	48137
686531	WMIS	1	Active	DOMESTIC		4	160	167	129	Avanzini Homes Corporation	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 53.33	82 26 09.18	36	18	18	6/24/2003	509749
315375	WMIS	1	Active	DOMESTIC		4	165	178	135	D Hensley	999998	RECORD MISSING AT UPLOAD	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	1/1/1970	51886
694920	WMIS	1	Active	DOMESTIC		4	282	287	124	Reginald Robertson	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 54.78	82 26 16.24	36	18	18	1/21/2004	523683
696251	WMIS	1	Active	DOMESTIC		4	240	240	120	Acme Homes	9015	CORBIN WELL PUMP & SUPPLY INC.	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	2/17/2004	525818
720987	WMIS	1	Active	DOMESTIC		4	232	232		Acme Homes	9015	CORBIN WELL PUMP & SUPPLY INC.	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	6/14/2005	556954
364979	WMIS	1	Active	DOMESTIC		4	225	250	80	Belmont Homes	1584	F.B.MCCRAY WELL DRILLING INC.	ROTARY	28 51 21.40	82 25 37.08	6	19	19	5/6/1981	101489
387654	WMIS	1	Active	DOMESTIC		4	90	100	25	Sellers, William D.	2268	SIDNEY T JAMES	CABLE TOOL	28 50 29.49	82 26 33.69	12	19	18	12/2/1983	124177
409440	WMIS	1	Active	DOMESTIC		4	105	108	82	Peters, Robert Mr	1150	CITRUS WELL DRILLING	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	10/28/1985	145961
411154	WMIS	1	Active	DOMESTIC		4	174	180	105	Marion Hms	1315	GARY PICKEL	ROTARY	28 51 21.83	82 26 34.27	1	19	18	12/30/1985	147675
411087	WMIS	1	Active	DOMESTIC		4	209	257	20	Austin, Howard	2017	CORBIN WELL, PUMP & SUPPLY	COMBINATION (TWO OR MORE METHODS)	28 50 29.49	82 26 33.69	12	19	18	12/26/1985	147608
416791	WMIS	1	Active	DOMESTIC		4	237	247	90	Mahoney, Michael	2316	SMITTY'S WELL DRILLING	CABLE TOOL	28 51 21.83	82 26 34.27	1	19	18	6/17/1986	153305
418090	WMIS	1	Active	PUBLIC SUPPLY		4	195	210	124	Sims, Mike	2017	CORBIN WELL, PUMP & SUPPLY	COMBINATION (TWO OR MORE METHODS)	28 51 21.40	82 25 37.08	6	19	19	7/15/1986	154601
432146	WMIS	1	Active	DOMESTIC		4	361	390	24	Mesker, Ken	2017	CORBIN WELL, PUMP & SUPPLY	CABLE TOOL	28 50 29.49	82 26 33.69	12	19	18	5/12/1987	168644
439477	WMIS	1	Active	DOMESTIC		4	160	190	115	Dan Drummond Const	1584	F.B.MCCRAY WELL DRILLING INC.	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	10/19/1987	175973
444518	WMIS	1	Active	DOMESTIC		4	189	210	115	Len Kelly Homes	1584	F.B.MCCRAY WELL DRILLING INC.	COMBINATION (TWO OR MORE METHODS)	28 51 21.83	82 26 34.27	1	19	18	2/5/1988	1

Attachment D

Signed and Sealed Boundary Survey



SURVEYOR'S NOTES:

- ALL UNDERGROUND INSTALLATIONS OR IMPROVEMENTS SHOWN BY THIS SURVEY ARE APPROXIMATE AND WERE PROVIDED BY CITRUS COUNTY SOLID WASTE MANAGEMENT. ADDITIONAL DELETIONS AND MODIFICATIONS TO THESE DRAWINGS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED BY LAW WITHOUT THE WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.
- ELEVATIONS SHOWN HEREON ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 UNLESS OTHERWISE INDICATED.
- THIS SURVEY WAS CONDUCTED WITHOUT THE BENEFIT OF A TITLE REPORT OR TITLE ABSTRACT AND THEREFORE MAY NOT NECESSARILY SHOW ALL RIGHTS-OF-WAY, EASEMENTS OR OTHER ENCUMBRANCES OF RECORD.
- REFERENCE BENCH MARKS, FLORIDA DEPARTMENT OF TRANSPORTATION BENCH MARK No.54A PUBLISHED ELEVATION 115.225' N.G.V.D. 1929 AND FL DEP BENCHMARK CITRUS 14, NAVD '88 ELEVATION OF 135.09' (NGVD ELEVATION OF 134.25')
- THERE ARE INTERNAL IMPROVEMENTS THAT WERE NOT LOCATED BY THIS SURVEY
- BEARINGS AS SHOWN HEREON, ARE BASED ON THE NORTH BOUNDARY OF THE SE 1/4 OF SECTION 1, TOWNSHIP 18 SOUTH, RANGE 18 EAST HAVING A BEARING OF N.89°58'22"E PER FLORIDA STATE PLANE COORDINATES.
- "X-Y" COORDINATES SHOWN ON TABLES REFLECT FLORIDA STATE PLANE, WEST ZONE, NORTH AMERICAN DATUM OF 1983. THESE COORDINATES ARE BASED ON NATIONAL GEODETIC SURVEY CONTROL STATIONS "CITRUS 13" AND "CITRUS 14", AND WERE DERIVED USING REAL TIME KINEMATIC GLOBAL POSITIONING SYSTEMS, WITH AN ESTIMATED ACCURACY OF ±0.07', AND CONVENTIONAL SURVEY METHODS MEETING FLORIDA SURVEY STANDARDS.
- CONVERSION FROM NGVD 1929 TO NAVD 1988 FOR THIS SITE IS -0.84'
- THIS SURVEY MAP WAS PRODUCED TO SHOW UPDATED NGVD '29 ELEVATIONS OF THE MONITOR WELLS SHOWN HEREON. NO X OR Y COORDINATES OR ELEVATIONS OF GAS MONITORING PROBES WERE REVISITED. BOUNDARY DATA SHOWN HEREON WAS PREVIOUSLY PRODUCED BY THIS OFFICE.

LEGEND
 ○ = DESCRIPTIVE POINTS
 NGVD = NATIONAL GEODETIC VERTICAL DATUM OF 1929
 NAVD = NORTH AMERICAN VERTICAL DATUM OF 1988
 TWP = TOWNSHIP RNG = RANGE

DESCRIPTION AS FURNISHED

A PORTION OF SECTION 1, TOWNSHIP 19 SOUTH, RANGE 18 EAST, TALLHASSEE MERIDIAN, CITRUS COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHEAST CORNER OF THE SOUTHWEST 1/4 OF SECTION 1, TOWNSHIP 19 SOUTH, RANGE 18 EAST, TALLHASSEE MERIDIAN; THENCE N.89°43'25"W. ALONG THE NORTH BOUNDARY OF THE SOUTHWEST 1/4 OF SAID SECTION 1, A DISTANCE OF 14.11 FEET TO THE POINT OF BEGINNING SAID POINT BEING THE NORTHEAST CORNER OF THOSE LANDS DESCRIBED IN OFFICIAL RECORD BOOK 759, PAGE 889, PUBLIC RECORDS OF CITRUS COUNTY, FLORIDA; THENCE S.00°16'35"E, A DISTANCE OF 2,573.56 FEET TO A POINT ON THE SOUTH RIGHT-OF-WAY LINE OF STATE ROAD NO. 44, SAID POINT BEING 150.00 FEET FROM, WHEN MEASURED AT RIGHT ANGLES TO THE CENTERLINE OF SAID STATE ROAD NO. 44; THENCE N.89°43'25"E, PARALLEL WITH THE NORTH BOUNDARY OF THE SOUTHWEST 1/4 OF SAID SECTION 1, A DISTANCE OF 1,325.00 FEET; THENCE N.00°16'35"E, A DISTANCE OF 2,573.56 FEET TO A POINT ON THE SOUTH RIGHT-OF-WAY LINE OF STATE ROAD NO. 44, SAID POINT BEING 150.00 FEET FROM, WHEN MEASURED AT RIGHT ANGLES TO THE CENTERLINE OF SAID STATE ROAD NO. 44; THENCE S.89°13'46"W, A DISTANCE OF 1,325.00 FEET; THENCE N.89°43'25"E, PARALLEL WITH THE NORTH BOUNDARY OF THE SOUTHWEST 1/4 OF SAID SECTION 1, A DISTANCE OF 1,325.00 FEET; THENCE S.89°13'46"W, A DISTANCE OF 1,325.00 FEET; THENCE N.89°43'25"E, PARALLEL WITH THE NORTH BOUNDARY OF THE SOUTHWEST 1/4 OF SAID SECTION 1, A DISTANCE OF 1,325.00 FEET TO THE POINT OF BEGINNING.

AND

A PORTION OF SECTION 1, TOWNSHIP 19 SOUTH, RANGE 18 EAST, TALLHASSEE MERIDIAN, CITRUS COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCE AT THE SOUTHWEST CORNER OF LOT 9, BLOCK A, NEW MAYFIELD ACRES AS RECORDED IN PLAT BOOK 2, PAGE 49, PUBLIC RECORDS OF CITRUS COUNTY, FLORIDA, THENCE N.89°13'46"E, AN EASTERLY PROJECTION OF THE SOUTH LINE OF SAID LOT 9, BLOCK A, A DISTANCE OF 640.22 FEET, THENCE S.0°46'14"E, A DISTANCE OF 76.67 FEET TO A POINT THAT IS 150 FEET FROM, MEASURED AT A RIGHT ANGLE TO, THE CENTERLINE OF STATE ROAD NO. 44; SAID POINT ALSO BEING THE POINT OF BEGINNING; THENCE CONTINUE S.0°46'14"E, A DISTANCE OF 2,151.70 FEET; THENCE S.89°13'46"W, A DISTANCE OF 1,325.00 FEET; THENCE N.0°16'35"E, A DISTANCE OF 2,630.05 FEET TO A POINT OF INTERSECTION WITH THE SOUTHERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 44; THENCE N.89°43'25"E, PARALLEL WITH THE NORTH BOUNDARY OF THE SOUTHWEST 1/4 OF SAID SECTION 1, A DISTANCE OF 1,325.00 FEET; THENCE S.89°13'46"W, A DISTANCE OF 1,325.00 FEET; THENCE N.89°43'25"E, PARALLEL WITH THE NORTH BOUNDARY OF THE SOUTHWEST 1/4 OF SAID SECTION 1, A DISTANCE OF 1,325.00 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT

A PORTION OF SECTION 1, TOWNSHIP 19 SOUTH, RANGE 18 EAST, CITRUS COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCE AT THE SOUTHWEST CORNER OF LOT 9, BLOCK A, NEW MAYFIELD ACRES AS RECORDED IN PLAT BOOK 2, PAGE 42, PUBLIC RECORDS OF CITRUS COUNTY, FLORIDA; THENCE S.89°13'46"E, ALONG THE SOUTH LINE OF SAID LOT 9, BLOCK A AND AN EASTERLY PROJECTION THEREOF, A DISTANCE OF 640.22 FEET, THENCE S.0°46'14"E, A DISTANCE OF 76.67 FEET TO A POINT THAT IS 150 FEET SOUTHEASTERLY FROM, WHEN MEASURED AT A RIGHT ANGLE TO THE CENTERLINE OF STATE ROAD NO. 44; THENCE CONTINUE S.0°46'14"E, A DISTANCE OF 2,151.70 FEET; THENCE S.89°13'46"W, A DISTANCE OF 1,325.00 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE S.89°13'46"W, A DISTANCE OF 1,325.00 FEET; THENCE N.89°43'25"E, PARALLEL WITH THE NORTH BOUNDARY OF THE SOUTHWEST 1/4 OF SAID SECTION 1, A DISTANCE OF 1,325.00 FEET; THENCE S.89°13'46"W, A DISTANCE OF 1,325.00 FEET TO THE POINT OF BEGINNING.

DESCRIPTION AS FURNISHED

BEGIN AT THE NORTHEAST CORNER OF THE SOUTHWEST QUARTER OF SECTION 1, TOWNSHIP 19 SOUTH, RANGE 18 EAST, CITRUS COUNTY, FLORIDA; THENCE SOUTH 89°43'25" EAST ALONG AN EASTERLY EXTENSION OF THE NORTH BOUNDARY OF THE SOUTHWEST QUARTER OF SAID SECTION 1, A DISTANCE OF 2,630.05 FEET; THENCE NORTH 00°16'35" WEST, A DISTANCE OF 421.83 FEET; THENCE NORTH 89°43'25" WEST PARALLEL WITH THE NORTH BOUNDARY OF THE SOUTHWEST QUARTER OF SAID SECTION 1, A DISTANCE OF 1,320.00 FEET; THENCE NORTH 00°16'35" EAST, A DISTANCE OF 2,030.39 FEET TO A POINT OF INTERSECTION WITH THE SOUTHERLY RIGHT-OF-WAY LINE OF STATE ROAD NUMBER 44, SAID POINT BEING 150.00 FEET FROM, WHEN MEASURED AT RIGHT ANGLES TO THE CENTERLINE OF SAID STATE ROAD NUMBER 44; THENCE NORTH 75°41'50" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 309.89 FEET; THENCE DEPARTING SAID SOUTHERLY RIGHT-OF-WAY LINE SOUTH 00°16'35" WEST, A DISTANCE OF 1,808.41 FEET; THENCE SOUTH 89°43'25" EAST PARALLEL WITH THE NORTH BOUNDARY OF THE SOUTHWEST QUARTER OF SAID SECTION 1, A DISTANCE OF 1,325.00 FEET; THENCE NORTH 00°16'35" EAST, A DISTANCE OF 2,630.05 FEET TO A POINT OF INTERSECTION WITH THE NORTH BOUNDARY OF THE SOUTHWEST QUARTER OF SAID SECTION 1, A DISTANCE OF 1,325.00 FEET; THENCE SOUTH 89°43'25" EAST ALONG THE NORTH BOUNDARY OF THE SOUTHWEST QUARTER OF SAID SECTION 1, A DISTANCE OF 14.11 FEET TO THE POINT OF BEGINNING.

POINT NUMBER	X COORDINATE	Y COORDINATE
14	514395.1807	1642753.9871
26	515714.1808	1644097.5662
75	516001.5039	1644172.6504
32	516001.5501	1644154.2004
23	517039.2700	1644154.6930
2231	517053.3100	1644154.6790
2233	517339.2700	1644154.8351
17	517040.1105	1641524.5131
2222	517340.2063	1641224.6324
2221	515415.3389	1641223.8669
15	515715.2180	1641523.9862
13	515715.1632	1641945.7506
2220	515415.1689	1641645.6796
2219	514095.1490	1641645.3671
2218	514095.1795	1643675.8414
11	514395.1535	1641945.4381

AERIAL TARGET NUMBER	X COORDINATE	Y COORDINATE	ELEVATION
A-1	514415.7043	1643723.8932	110.16'
A-2	515930.7731	1644154.1668	116.16'
A-3	517039.1853	1643947.0030	130.79'
A-4	517038.7010	1642758.8531	126.06'
A-5	517039.9417	1641584.9931	119.62'
A-6	515715.2180	1641523.9862	109.08'
A-7	514435.8577	1642134.6139	115.28'
A-8	514425.2393	1642971.9717	109.56'

MONITOR WELL No.	RING	X COORDINATE	Y COORDINATE	LONGITUDE	LATITUDE	NGVD '29 ELEVATION
B	ACTIVE	515703.1888	1641952.201	82°26'19.5991" W	28°59'58.4506" N	113.30'
2	ACTIVE	517016.947	1644134.0121	82°26'04.9153" W	28°51'21.0969" N	136.05'
3	ACTIVE	517026.889	1641928.493	82°26'04.6985" W	28°50'55.3038" N	120.305'
AA	ACTIVE	514330.1915	1642944.6966	82°26'35.0806" W	28°51'09.2264" N	105.85'
5	ACTIVE	515706.7199	1643027.8870	82°26'19.8041" W	28°51'01.0772" N	120.98'
6	ACTIVE	515710.8712	1642921.8127	82°26'19.5530" W	28°51'09.0508" N	118.27'
R-1	ACTIVE	515734.4675	1644075.0314	82°26'19.3356" W	28°51'20.4690" N	118.07'
E	ACTIVE	514187.411	1642978.872	82°26'36.6877" W	28°51'09.5952" N	109.36'
7	ACTIVE	517032.495	1642518.150	82°26'04.8736" W	28°51'05.1022" N	128.47'
9	ACTIVE	514411.959	1643276.437	82°26'34.7505" W	28°51'12.5138" N	113.29'
8-R	ACTIVE	514408.379	1642551.088	82°26'34.1849" W	28°51'06.3323" N	117.98'
10	ACTIVE	514808.4751	1643659.0352	82°26'29.7319" W	28°51'09.2264" N	113.37'
11	ACTIVE	514299.5523	1643424.8999	82°26'35.4453" W	28°51'13.9780" N	104.69'
12	ACTIVE	514306.5574	1642872.8677	82°26'35.3476" W	28°51'09.5044" N	103.36'
13	ACTIVE	514299.7062	1642543.8233	82°26'35.4066" W	28°51'05.2564" N	111.92'
14	ACTIVE	514302.3733	1642085.7341	82°26'35.3574" W	28°51'05.1022" N	108.50'
15	ACTIVE	514845.7153	1641844.4367	82°26'29.2372" W	28°50'58.3522" N	123.58'
18	ACTIVE	515765.7292	1642292.9040	82°26'18.9151" W	28°51'02.8210" N	119.64'
17	ACTIVE	515619.9611	1641846.2474	82°26'20.5307" W	28°50'58.3965" N	110.85'
18	ACTIVE	514730.9420	1643746.0676	82°26'30.6075" W	28°51'30.8751" N	115.82'
19	ACTIVE	514816.3731	1643660.2048	82°26'29.6431" W	28°51'06.3283" N	113.90'
PIEZOMETER 1	TOP	514454.2759	1643505.5883	82°26'33.7087" W	28°51'14.7841" N	110.57'
PIEZOMETER 2	TOP	515020.7812	1643833.4583	82°26'27.3518" W	28°51'18.0511" N	116.82'
20	ACTIVE	516104.004	1642999.189	82°26'15.133" W	28°51'09.831" N	119.76'
21	ACTIVE	515259.800	1643743.909	82°26'24.660" W	28°51'17.171" N	115.63'

THE TOP OF PIPE OR TOP OF RING ELEVATIONS SHOWN HEREON WERE TAKEN ON THE NORTH RIM OF SAID TOP. EACH NORTH RIM HAD EITHER AN EXISTING FILE CUT OR BLACK MARKER "CROWS FOOT".

GAS MONITORING PROBE No.	X COORDINATE	Y COORDINATE	LONGITUDE	LATITUDE	ELEVATION TOP OF WELL CASING
1	515759.6430	1644024.1637	82°26'19.0504" W	28°51'19.9663" N	114.31'
2	515311.3421	1643985.9194	82°26'24.0940" W	28°51'19.5728" N	121.10'
3	514843.5355	1643863.4854	82°26'29.3462" W	28°51'18.5419" N	115.08'
4	514330.4791	1643702.8107	82°26'35.1092" W	28°51'12.5138" N	104.54'
5	514152.2832	1643484.9916	82°26'37.1042" W	28°51'14.5631" N	105.17'
6	514069.5702	1642886.4767	82°26'38.0907" W	28°51'08.6404" N	112.12'
7	514119.8141	1642444.1964	82°26'37.4254" W	28°51'04.2634" N	114.60'
8	514095.1760	1641978.8777	82°26'37.6828" W	28°50'59.6536" N	106.71'
9	514426.7014	1641676.8201	82°26'33.9421" W	28°50'56.6773" N	114.28'
10	514912.7361	1641672.9166	82°26'28.4764" W	28°50'56.6565" N	125.70'
11	515397.5489	1641867.9273	82°26'29.0924" W	28°50'56.6749" N	114.69'
12	515586.1393	1641850.9907	82°26'20.8866" W	28°50'52.5940" N	117.04'
13	516095.9861	1641289.1991	82°26'15.1537" W	28°50'52.7028" N	107.41'
14	516611.7615	1641253.6098	82°26'09.3512" W	28°50'52.5673" N	127.48'
15	517067.5366	1641259.1318	82°26'04.2280" W	28°50'52.3852" N	124.11'
16	517305.4731	1641722.4351	82°26'01.5724" W	28°50'57.2341" N	120.84'
17	517310.3329	1642206.8639	82°26'01.5367" W	28°51'02.0283" N	117.59'
18	517305.2505	1642823.1043	82°26'01.6110" W	28°51'06.1512" N	116.01'
GS-1-3-E	515892.9475	1643169.3309	82°26'19.7649" W	28°51'11.5008" N	125.74'
GS-N-6-E	515693.4141	1643368.8358	82°26'19.7802" W	28°51'13.4859" N	127.45'
GS-T-6	515693.4326	1643668.7379	82°26'19.7802" W	28°51'16.4450" N	126.97'
GS-2-E	517032.8076	1642187.6990	82°26'04.6668" W	28°51'01.8362" N	128.86'
GS-4-E	517186.9927	1642192.9295	82°26'02.9006" W	28°51'01.8880" N	128.77'
GS-1-E	517033.1595	1642260.5152	82°26'04.6558" W	28°51'02.5518" N	128.26'
GS-1-W	514292.2992	1643199.6376	82°26'35.5179" W	28°51'11.7520" N	119.76'
GP-19	517295.633	1643146.916	82°26'01.741" W	28°51'11.337" N	124.04' (NAVD 1988)

JOB No. 15-039
 PROJ. No. 15-458
 DRAWN BY: MTT
 DWG. No. 15039-A
 MAP DATE: 6-11-2015
 SCALE: 1" = 200'
 SHEET No. 1 OF 1
 FIELD DATE: 6-11-2015
 FB L4 AND L5
 SEC. 01, TWP. 19 S, RNG 18 E

SPECIAL PURPOSE SURVEY

Citrus County

Division of Engineering Survey Section

3600 WEST SOVEREIGN PATH, SUITE 241
LEGANTO, FLORIDA, 34461
(352) 627-6498 FAX (352) 627-5476

Mark T. Thomas
Florida Registration No. 5151

SEPTEMBER 2ND, 2015
Date

Not valid without the original raised seal and signature of a Florida licensed Surveyor and Mapper

Attachment F

Signed and Sealed Survey & Report

SURVEYOR'S REPORT

Citrus County Landfill

Prepared for:

SCS ENGINEERS

Prepared by:



PICKETT & ASSOCIATES PROJECT NO.: 17446
TITLE/TYPE OF SURVEY: TOPOGRAPHIC SURVEY
DATE OF SURVEY: 10/04/14

NOTE: THIS REPORT AND ACCOMPANYING MAP TITLED CITRUS COUNTY LANDFILL, ARE NOT FULL AND COMPLETE WITHOUT THE OTHER AND ARE NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

ACCURACY STATEMENT:

The following stated plus or minus tolerances encompass a minimum of 90% of the difference between photogrammetrically measured values and any ground truth of all well-identified features. Mapped features will meet or exceed the Florida Minimum Technical Standards.

VERTICAL:

Contours may be measured to an estimated vertical positional accuracy of 0.5'. Spot elevations and well-identified features have been measured to an estimated vertical positional accuracy of 0.25'.

HORIZONTAL:

Well-identified features have been measured to an estimated horizontal positional accuracy of 1.66', as per Florida Minimum Technical Standards. All measurements are in U.S. Survey Feet.

MAP PLOTTING:

This map is intended to be displayed at a scale of 1" = 50' (1:600) or smaller.

DATUM:**HORIZONTAL:**

Coordinates are referenced to the West Zone of the Florida State Plane Coordinate System, North American Datum of 1983 (NAD'83) 1990 adjustment.

VERTICAL:

Elevations are to North American Vertical Datum of 1988.

Targeted Control Points Used:

Pt#	Easting	Northing	Elevation
AT-1	514449.438	1642081.647	115.87
AT-2	516991.704	1641577.750	117.09
AT-4	516982.674	1643896.588	125.86

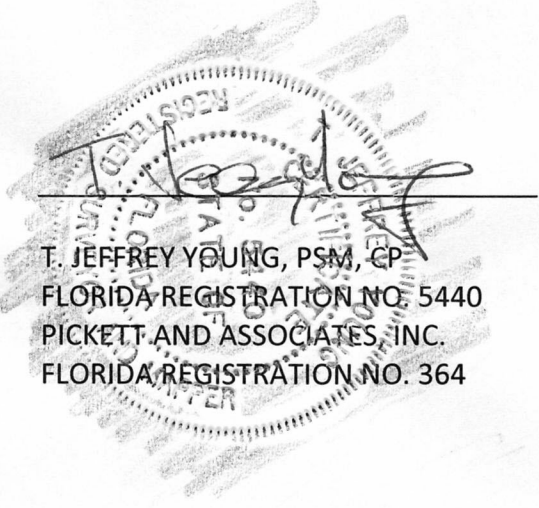
Measurement Methods:

This map is limited to those features visible on aerial imagery. Color digital imagery was acquired at an average altitude of 2417' using a metric precision digital camera whose focal length is 70.3mm. Mapping was performed using LiDAR and softcopy photogrammetric techniques. The LiDAR data has a estimated point sample distance of 0.67 points per square foot and a density of 2.54 points per square foot (± 27.34 points per square meter). For a vertical accuracy check, the LiDAR data was compared to the three (3) points set as targets for aerial imagery. The Root Mean Square Error of the

Elevations (RMSEZ) is 0.079 foot, being the equivalent of 0.154' FGDC/NSSDA Vertical Accuracy. All measurements are in U.S. Survey Feet. Additional control points were extracted from the 2013 mapping, converted to NAVD88 and used to help rectify the orthoimagery.

Limitations:

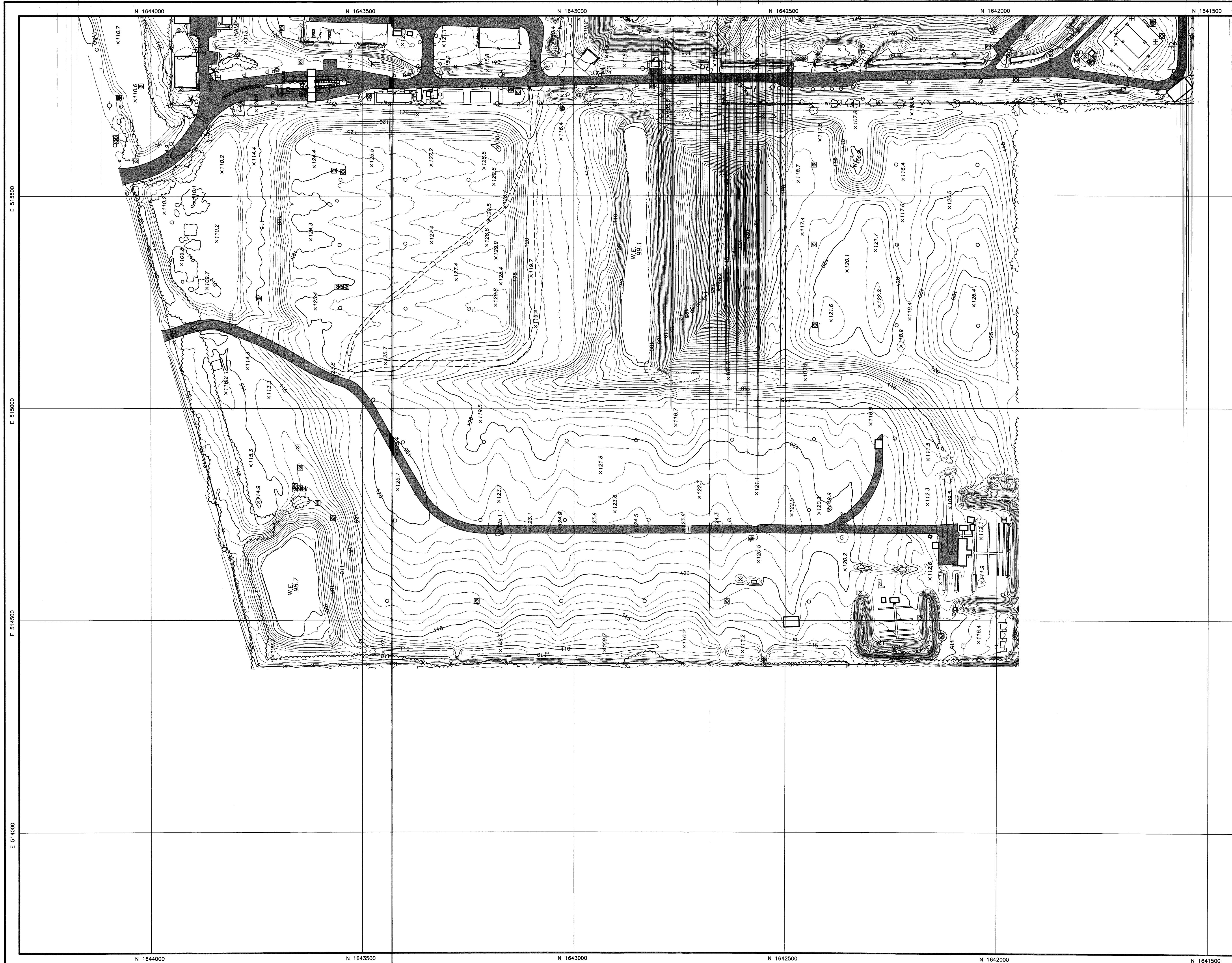
This mapping should be used for preliminary design work only and should not replace an actual field survey where the required accuracy is greater than the accuracy stated in this report. No responsibility is assumed for areas outside the contracted scope or for the ground control provided by the Citrus County Department of Public Works, Survey Section.



T. JEFFREY YOUNG, PSM, CP
FLORIDA REGISTRATION NO. 5440
PICKETT AND ASSOCIATES, INC.
FLORIDA REGISTRATION NO. 364

10/4/14

SURVEY DATE



SURVEYOR'S NOTES:

- 1.) North, the grid, and the coordinates shown on this map were determined by the Florida State Plane Coordinate System, NAD 83, 1980 adjustment.
- 2.) Elevations are NAVD 88.
- 3.) This topographic survey was prepared by photogrammetric methods. See the attached report for map accuracy and surveyor's signature and seal. This map is limited to those features visible on aerial photography.

(THESE FEATURES ARE REPRESENTED BY SYMBOLS NOT TO SCALE)

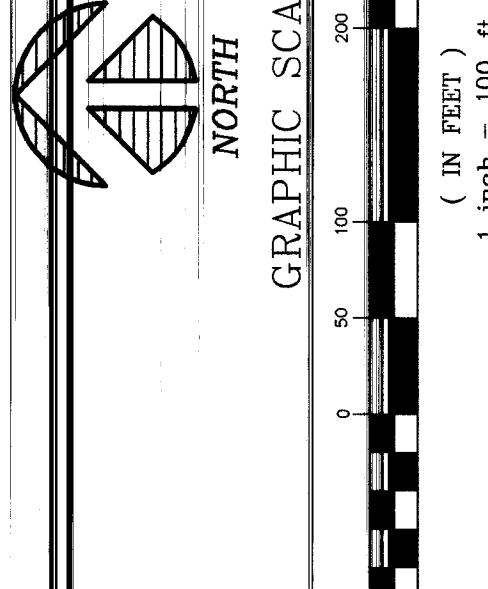
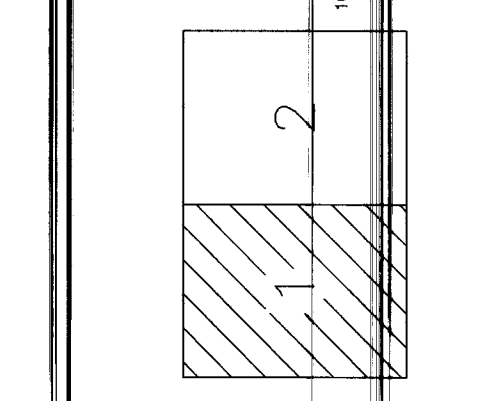
- CONTROL
- PI# TARGET NUMBER
- N# NORTHING
- E# EASTING
- EL ELEVATION
- U# UTILITY POLE
- POST
- VALVE
- GUYWIRE
- MANHOLE
- CULVERT
- CATCH BASIN
- AIR CONDITIONER
- ELECTRICAL
- TREE
- PALM
- SHRUB
- MISCELLANEOUS SYMBOL

(THESE FEATURES ARE TO SCALE)

- PAVED ROAD
- CONCRETE SURFACE
- UNPAVED ROAD
- FENCE
- GUARDRAIL
- WALL
- STRUCTURE
- FREE LINE
- SHRUB LINE
- PIPELINE
- EDGE OF WATER

(THESE INFORMATIVE LABELS ARE NOT SCALE DEPENDENT)

- W.E. WATER ELEVATION
- MISC MISCELLANEOUS



NOTICE: THE SURVEYOR'S LIABILITY IS LIMITED TO THE ACCURACY OF THE DATA PROVIDED TO HIM BY THE CLIENT. THE SURVEYOR IS NOT RESPONSIBLE FOR THE ACCURACY OF THE DATA PROVIDED TO HIM BY THE CLIENT. THE SURVEYOR'S LIABILITY IS LIMITED TO THE ACCURACY OF THE DATA PROVIDED TO HIM BY THE CLIENT.

DISCLAIMER: THIS MAP IS INTENDED TO BE USED FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR ANY OTHER PURPOSES. THE SURVEYOR'S LIABILITY IS LIMITED TO THE ACCURACY OF THE DATA PROVIDED TO HIM BY THE CLIENT.

PROJECT No.	17446
DRAWING No.	LD-5466

TOPOGRAPHIC SURVEY
CITRUS COUNTY LANDFILL
LOCATED IN SECTION 1, TOWNSHIP 19 SOUTH,
RANGE 18 EAST

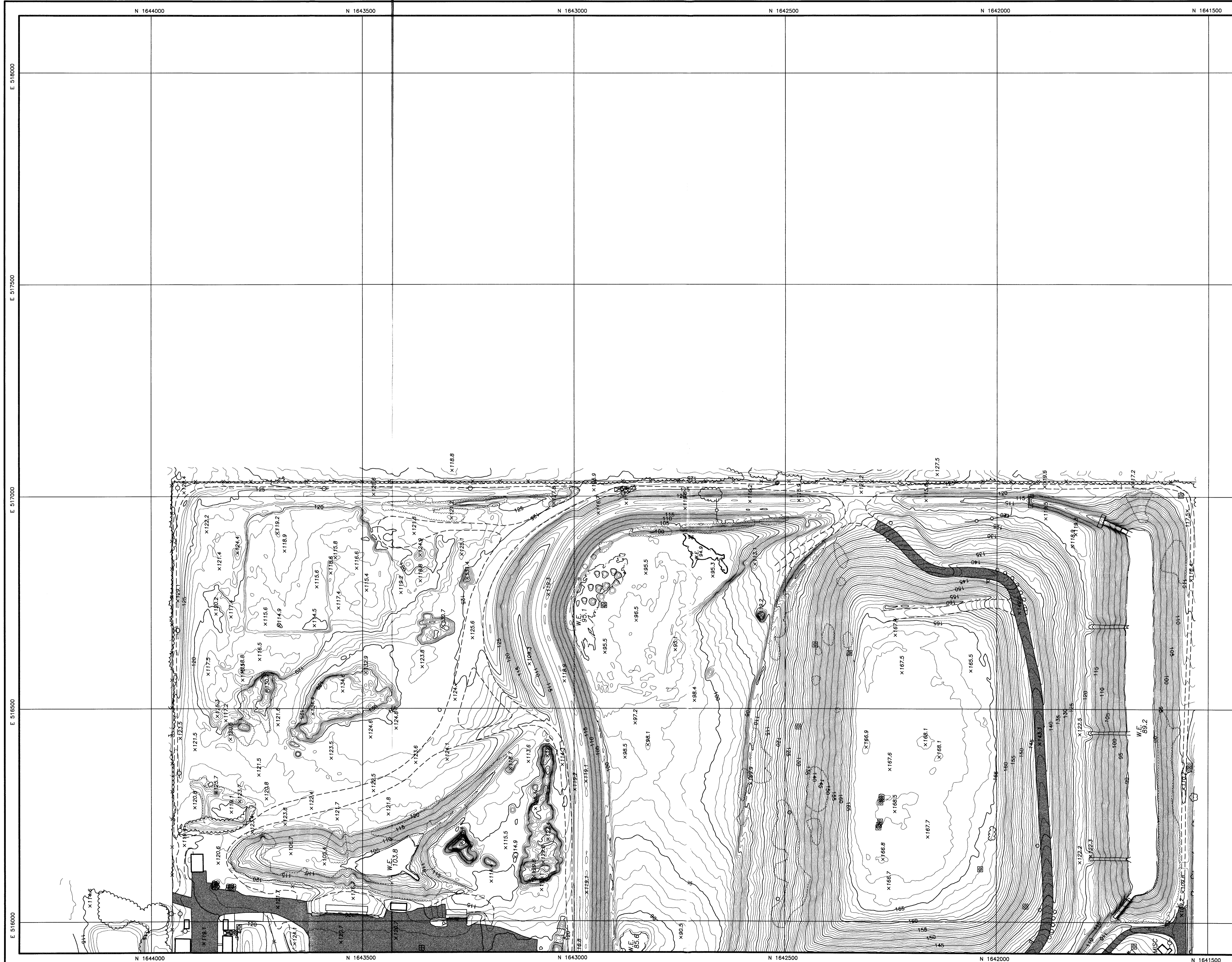
PREPARED FOR: SOS ENGINEERS

PICKETT
 SURVEYING & PHOTOGRAMMETRY
 POKETT ASSOCIATES, INC.
 LICENSED BUSINESS FIRM

Edited by: RP
 Compiled by: DT & DW
 Drawing: 17446.DWG
 Flight Date: 10/04/14

No.	DATE	APPROVED	REVISION
O.R.	10/20/14	TJJ	ORIGINAL RELEASE

10/04/14
 SURVEY DATE



ACTIVITY STATEMENT: The boundary, extent, and other information shown on this map were obtained by means of a survey conducted in accordance with the provisions of the Florida Statutes, Chapter 469, Part I, and the rules of the Florida Board of Professional Surveying, Chapter 61G03, Florida Administrative Code.

VERTICAL: Contours have been measured to an accuracy of ± 0.1 feet. The vertical datum is the Mean Sea Level (MSL) datum of the Florida State Plane Coordinate System, NAD 83, 1980 adjustment.

MAP PROJECTIONS: This map is intended to be displayed on a computer screen. The map is intended to be displayed on a computer screen. The map is intended to be displayed on a computer screen.

MANUFACTURING METADATA: This map is intended to be displayed on a computer screen. The map is intended to be displayed on a computer screen. The map is intended to be displayed on a computer screen.

LEGEND: This map is intended to be displayed on a computer screen. The map is intended to be displayed on a computer screen. The map is intended to be displayed on a computer screen.

SCALE: 1 inch = 100 feet

LEGEND:
(THESE FEATURES ARE TO SCALE)

PAVED ROAD	PIPELINE
CONCRETE SURFACE	EDGE OF WATER
UNPAVED ROAD	(THESE INFORMATIVE LABELS ARE NOT SCALE DEPENDENT)
FENCE	W.E. WATER ELEVATION
GUARDRAIL	x120.1 SPOT ELEVATION
WALL	MISC MISCELLANEOUS
STRUCTURE	
TREE LINE	
SHRUB LINE	

LEGEND:
(THESE FEATURES ARE REPRESENTED BY SYMBOLS NOT TO SCALE)

CONTROL	CULVERT
PI TARGET NUMBER	CATCH BASIN
NORTHING	AIR CONDITIONER
E ELEVATION	ELECTRICAL
UTILITY POLE	TREE
POST	PALM
VALVE	SHRUB
GWIRE	MISCELLANEOUS SYMBOL
MANHOLE	

SURVEYOR'S NOTES:

- North, the grid, and the coordinates shown on this map were obtained by means of a survey conducted in accordance with the provisions of the Florida Statutes, Chapter 469, Part I, and the rules of the Florida Board of Professional Surveying, Chapter 61G03, Florida Administrative Code, NAD 83, 1980 adjustment.
- Elevations are NAVD 88.
- This topographic survey was prepared by photogrammetric methods. See the attached report for map accuracy and surveyor's signature and seal. This map is limited to those features visible on aerial photography.

TOPOGRAPHIC SURVEY
CITRUS COUNTY LANDFILL
LOCATED IN SECTION 1, TOWNSHIP 19 SOUTH,
RANGE 18 EAST

PREPARED FOR: SOS ENGINEERS

PROJECT No.	17446
DRAWING No.	LD-5466
DATE	10/20/14
APPROVED	TJY
REVISION	ORIGINAL RELEASE

PICKETT
SURVEYING & PHOTOGRAMMETRY
SPECIAL SERVICES, INC.
1400 S. US HWY 90, SUITE 100
BARTON, FLORIDA 32820
PHONE: (888) 333-9995
FAX: (888) 333-1466

Edited by: RP
Compiled by: DT & DW
Flight Date: 10/04/14
Drawing Name: 17446.DWG

Horiz. Scale: 1" = 100'
Contour Interval: 1'

Attachment G

Land Use and Zoning Maps



Street Centerlines / Roads

-  County Road
-  State Road
-  US Highway

Street Centerlines / Roads



Street Centerlines / Roads

-  County Road; State Road; SR 44; US Highway; US 19-98; US 41; US 98
- 

Cities / Corporate Boundaries



Water Bodies / Hydro



County Boundary



Future Land Use

- 
-  AGR
-  CITY
-  CL
-  CLC
-  CON
-  CRR
-  EXT
-  GNC
-  HDR
-  IND
-  LDR
-  MDR
-  MHP
-  PORT

-  PSI
-  PSO
-  RAC
-  REC
-  RMU
-  RUR
-  RVP
-  TCU

Lots / Parcels



Metes and Bounds Lots / Parcels






Easements

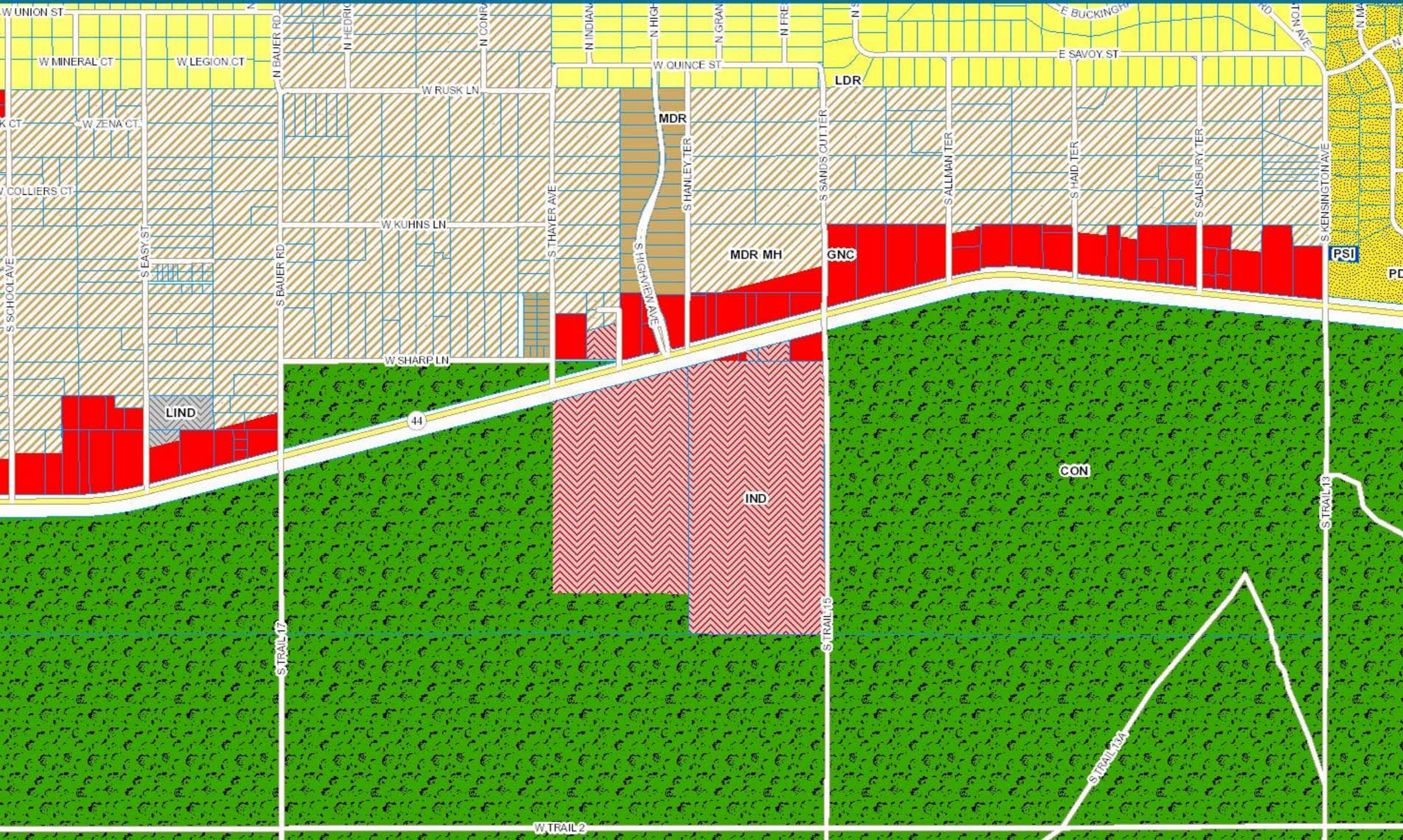


Right of Ways



2011 Aerial Imagery

-  Red: Band_1
-  Green: Band_2
-  Blue: Band_3



Street Centerlines / Roads

-  County Road
-  State Road
-  US Highway

Street Centerlines / Roads



Street Centerlines / Roads

-  County Road; State Road; SR 44; US Highway; US 19-98; US 41; US 98
- 

Cities / Corporate Boundaries



Water Bodies / Hydro



County Boundary































Lots / Parcels



Current Zoning

-  AGRICULTURAL DISTRICT
-  AGRICULTURAL DISTRICT WITH MOBILE HOMES
-  WITHIN CITY LIMITS
-  LOW INTENSITY COASTAL AND LAKES DISTRICT
-  LOW INTENSITY COASTAL AND LAKES DISTRICT WITH MOBILE HOMES
-  COASTAL AND LAKES COMMERCIAL DISTRICT
-  COASTAL AND LAKES COMMERCIAL DISTRICT WITH MOBILE HOMES
-  COASTAL AND LAKES RESIDENTIAL DISTRICT
-  COASTAL AND LAKES RESIDENTIAL DISTRICT WITH MOBILE HOMES
-  CONSERVATION DISTRICT
-  CONSERVATION DISTRICT WITH MOBILE HOMES
-  CENTRAL RIDGE RESIDENTIAL DISTRICT

-  CENTRAL RIDGE RESIDENTIAL DISTRICT WITH MOBILE HOMES
-  EXTRACTIVE DISTRICT
-  EXTRACTIVE DISTRICT WITH MOBILE HOMES
-  GENERAL COMMERCIAL DISTRICT
-  GENERAL COMMERCIAL DISTRICT WITH MOBILE HOMES
-  HIGH DENSITY RESIDENTIAL DISTRICT
-  HIGH DENSITY RESIDENTIAL DISTRICT WITH MOBILE HOMES
-  HEAVY INDUSTRIAL DISTRICT
-  LIGHT INDUSTRIAL DISTRICT
-  LOW DENSITY RESIDENTIAL DISTRICT
-  LOW DENSITY RESIDENTIAL DISTRICT WITH MOBILE HOMES
-  MEDIUM DENSITY RESIDENTIAL DISTRICT
-  MEDIUM DENSITY RESIDENTIAL DISTRICT WITH MOBILE HOMES
-  MOBILE HOME PARK
-  NEIGHBORHOOD COMMERCIAL DISTRICT
-  PLANNED RESIDENTIAL DEVELOPMENT DISTRICT
-  PLANNED RESIDENTIAL DEVELOPMENT DISTRICT WITH MOBILE HOMES
-  PORT DISTRICT
-  PUBLIC/SEMI-PUBLIC, INSTITUTIONAL DISTRICT
-  PUBLIC/SEMI-PUBLIC, INSTITUTIONAL DISTRICT WITH MOBILE HOMES
-  PROFESSIONAL SERVICES/OFFICE DISTRICT
-  PROFESSIONAL SERVICES/OFFICE DISTRICT WITH MOBILE HOMES
-  RECREATION DISTRICT
-  RECREATION DISTRICT WITH MOBILE HOMES
-  RURAL RESIDENTIAL DISTRICT
-  RURAL RESIDENTIAL DISTRICT WITH MOBILE HOMES
-  RECREATIONAL VEHICLE PARK/CAMPGROUND DISTRICT
-  TRANSPORTATION/COMMUNITATION/UTILITIES DISTRICT
-  TRANSPORTATION/COMMUNITATION/UTILITIES DISTRICT WITH MOBILE HOMES

Metes and Bounds Lots / Parcels






Easements



Right of Ways



RASTER.AERIAL_RASTERS_2014

-  Red: Band_1
-  Green: Band_2
-  Blue: Band_3

Attachment H
Site Life Calculations



DEPARTMENT OF PUBLIC WORKS

DIVISION OF ENGINEERING

3600 W. Sovereign Path, Suite 241
Lecanto, Florida 34461

Telephone: (352) 527-5446 Fax: (352) 527-5476
Citrus Springs/Dunnellon/Inglis/Yankeetown area - Toll Free (352) 489-2120
TTY Telephone: (352) 527-0825 or (352) 527-5312

CITRUS COUNTY CENTRAL LANDFILL

OCTOBER 2014 SITE LIFE CALCULATION ANNUAL REPORT

FDEP PERMIT NO. 21375-018-S0/01

PHASES 1/1A, 2 and 3

Located in S1/T19S/R18E, Citrus County, Florida

Prepared for:

**Citrus County Department of Public Works
Solid Waste Management Division
Attn: Charlie Gatto, Interim Assistant Public Works Director
230 W. Gulf-to-Lake Highway
Lecanto, FL 34461
(352) 527-7670**

Prepared on December 15, 2014

Jeffrey D. Gower, P.E.
FL. Reg. No. 53849
Engineer I

Citrus County's Department of Public Works - Division of Engineering and Department of Planning and Development – Land Development Division has calculated the remaining site life for Phases 1/1A, 2 and 3 of the Citrus County Central Landfill based on the past twelve months of data. The remaining airspace was estimated using population projections, projections of future waste receipts and topographic survey efforts performed by Pickett Surveying & Photogrammetry for SCS Engineers under the direction of the Citrus County Department of Public Works in October 2014. The topographic survey information was compiled using real time kinematic satellite navigation (GPS) and is based on NAVD88 datum. The vertical elevations were then converted to NGVD 1929 to match the vertical datum as issued by the FDEP Permit.

Phase's 1/1A, 2, and 3:

The airspace consumed from September 30, 2013 (the date of the last topographic survey as prepared by Citrus County and as referenced in the November 2013 Site Life Calculation Report) to October 4, 2014 (the date of the current survey) was calculated by comparing the surface contours from the two surveys. The calculated airspace consumed during this time period was 113,295 CY (unadjusted), as shown on Sheet 1 of 3 of the Volume Calculation Drawings, Attachment A.

The effective density of the waste deposited in the landfill was estimated by comparing the waste tonnage records supplied by Citrus County Solid Waste Management Division for the same period (79,908 tons) to the airspace consumed. The estimated effective density was determined to be 1,410.62 pounds per cubic yard. This translates to an effective airspace consumption rate of 1.42 CY per ton of waste disposed. The volume of the Cap was entered on the calculation as zero. The volume of the cap was reduced from the Airspace Available Volume Calculation of 2,032,759 CY (unadjusted). The calculated effective density and consumption rate are shown in the Site Life Calculations in Attachment B and are supported by Sheet 2 of 3 of the Volume Calculation Drawings, Attachment A.

The remaining life through build out of Phases 1/1A, 2 and 3 was estimated by multiplying the future projected quantities of waste by the effective airspace consumption rate. Waste tonnage was assumed to increase each year at the same rate as the population as estimated by the "High" projections in the University of Florida Bureau of Economic and Business Research (BEBR) population projections for Citrus County, Attachment C. The projected waste tonnage for each year was multiplied by

the effective airspace consumption rate to obtain the airspace volume consumed each year. This is then subtracted from the remaining airspace for each year until the available airspace is depleted. The calculations indicate that Phases 1/1A, 2, and 3 have approximately 2,032,759 CY (unadjusted) of available airspace as of the October 4, 2014 survey (Attachment A, Sheet 2 of 3) and that this airspace could be completely utilized by October 2027 (Attachment B). This assumes that all waste will continue to be disposed of in the landfill. For quick reference, the previous Site Life Calculation Report prepared in November 2013 estimated this date to be January 2034 using the “High” projection.

Specific Conditions

Specific Conditions: Part C – Operation Requirements, 13.e. of the FDEP permit (Permit No. 21375-018-S0/01) states:

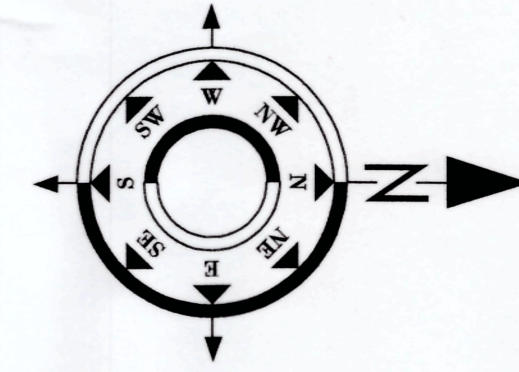
The owner or operator shall conduct a topographic survey of, and shall estimate the remaining disposal capacity and site life of each disposal area as required by Rule 62-701.500(13)(c), F.A.C. Annually, no later than January 15th each year, a copy of this survey, supporting capacity calculations, signed and sealed by a registered professional engineer and/or licensed professional land surveyor as appropriate shall be submitted to the Department. The survey shall demonstrate that the above-grade side slopes are no greater than the design slopes, that the top elevation does not exceed design elevation, and that all other design features and related improvements conform to the Department-approved permit drawings. The capacity estimate shall include updated design life calculations.

As shown in the cross-sections provided on the Volume Calculation Drawings, Sheet 3 of 3, Attachment A, the above grade side slopes appear to be less than or equal to the design slopes, the design top elevation of the landfill has not been attained, and all other features and related improvements are in conformance with the approved permit drawings.

ATTACHMENT A

VOLUME CALCULATION DRAWINGS

(Refer to 24' x 36" Drawings)



PROFILE VIEWS ARE ON SHEET 3

LEGEND AND ABBREVIATIONS

- EXISTING ELEVATION CONTOUR (25' INTERVAL) 10/04/2014 SURVEY
- EXISTING ELEVATION CONTOUR (5' INTERVAL) 10/04/2014 SURVEY
- PREVIOUS ELEVATION CONTOUR (25' INTERVAL) 10/01/2013 SURVEY
- PREVIOUS ELEVATION CONTOUR (5' INTERVAL) 10/01/2013 SURVEY

SITE VOLUME TABLE

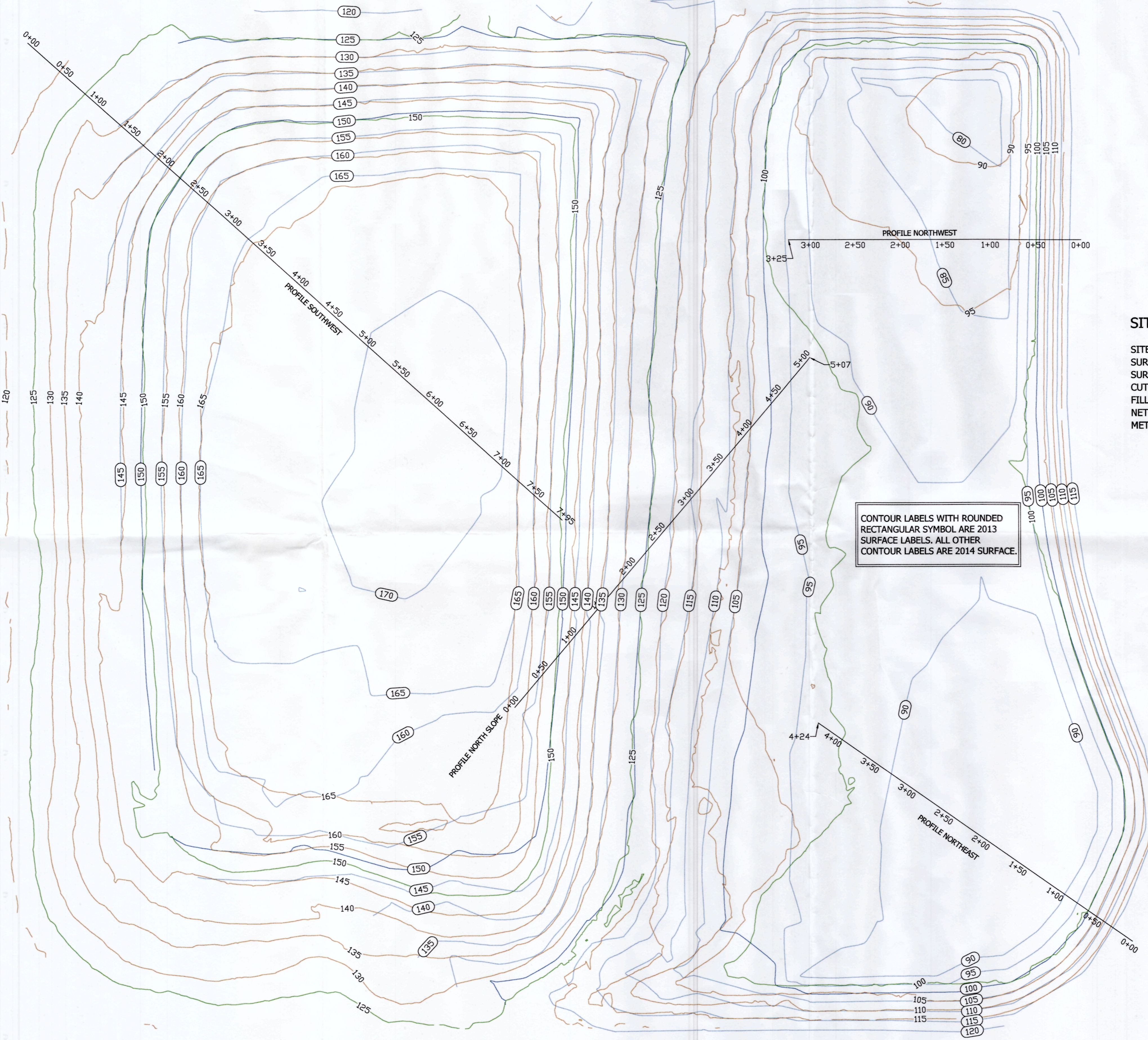
SITE	CITRUS COUNTY CENTRAL LANDFILL
SURFACE 1	OCTOBER 2013 (FIELD SURVEY BY CITRUS COUNTY)
SURFACE 2	OCTOBER 2014 (PHOTOGRAMMETRY DATA BY PICKETT & ASSOCIATES, INC.)
CUT UNADJUSTED	15,801 CU. YD.
FILL UNADJUSTED	129,096 CU. YD.
NET UNADJUSTED	113,295 CU. YD.
METHOD	COMPOSITE

SURVEY SOURCE NOTE

The Comparable Volume report for the period stated was calculated based on Aerial Photogrammetry data provided by Pickett Surveying and Photogrammetry, Bartow, FL office, and the 2013 Base Surface in the Citrus County Engineering Division files.

The Citrus County Base Surface was a compilation of Real Time Kinematic (RTK) Global Positioning data collected by Citrus County Survey Section personnel for the 2012-2013 Volume Calculation Report. Both the Pickett Surface and the Citrus County Surface were created using NAVD 88 elevations (See accompanying Pickett Surveyor's report). The Control panels noted in said report (AT-1, AT-2, and AT-4) were established using said RTK GPS redundant observations on said Control Points, cross referenced to Published National Geodetic Survey Control Stations Citrus 13 and Citrus 14.

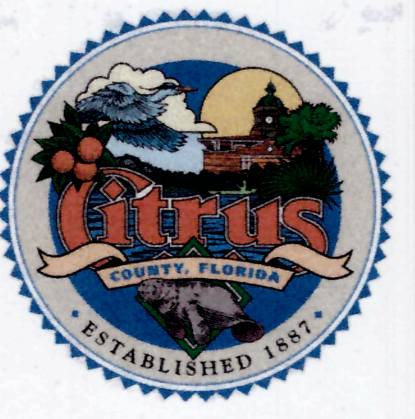
As the original designed Landfill closure surface was calculated and published utilizing NGVD of 1929, the 2013 and 2014 NAVD 1988 surfaces were adjusted +0.85' per NGS Vertcon, converting the NAVD 88 elevations to NGVD 29 elevations for relative volume calculations.



3600 SOVEREIGN PATH
SUITE 241
LELAND FLORIDA 34461
(888) 627-6466

**CITRUS COUNTY
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING**

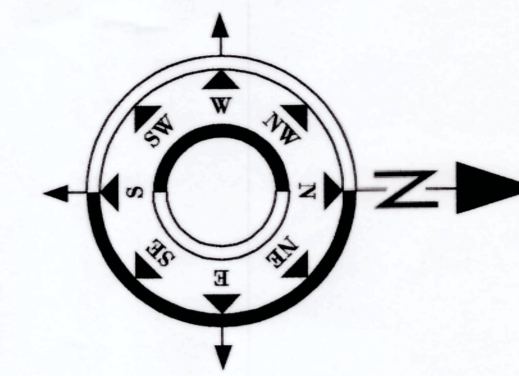
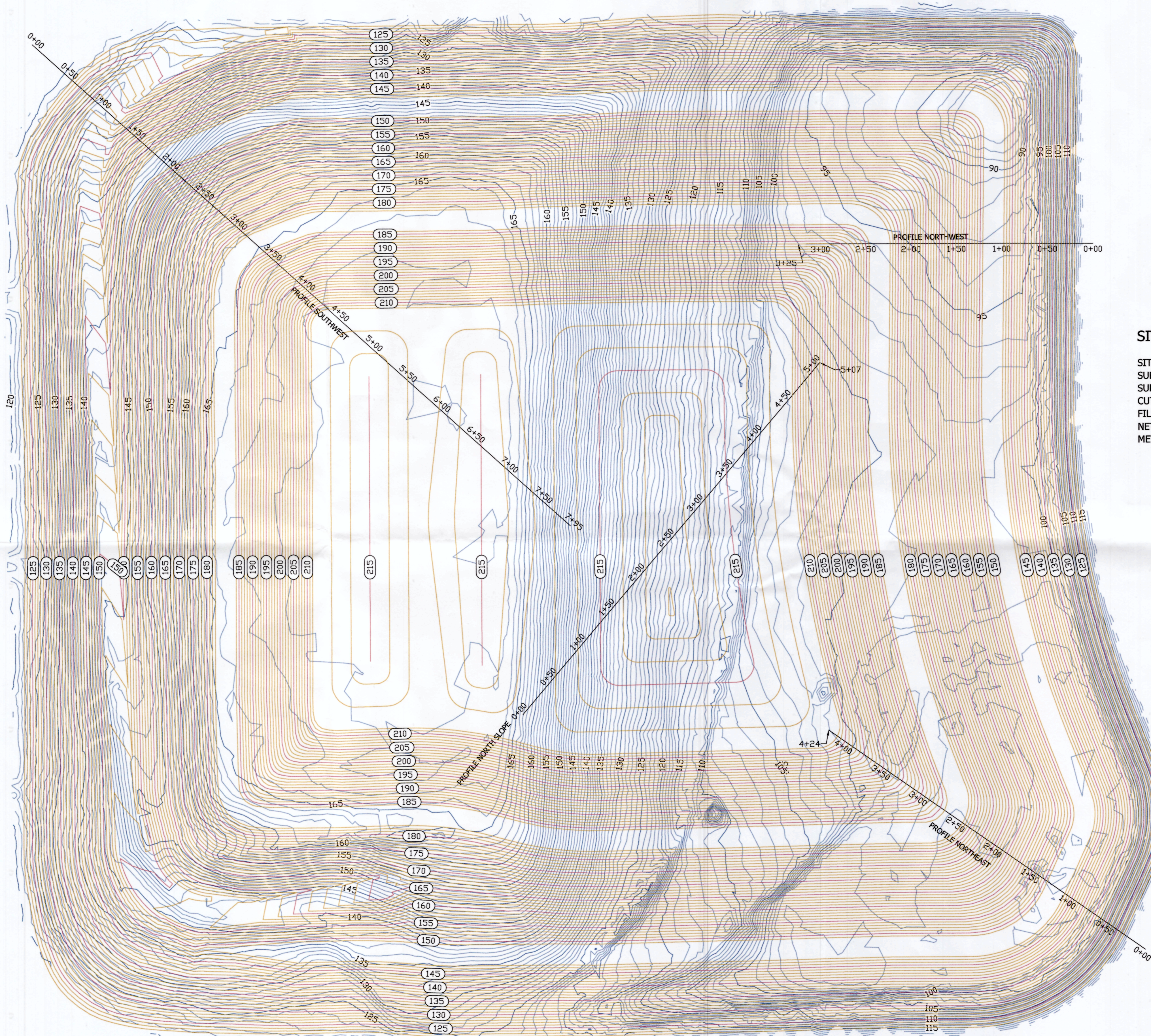
**CITRUS COUNTY
CENTRAL LANDFILL
OCTOBER 2014 SITE
LIFE CALCULATION
REPORT**



**CITRUS COUNTY
CENTRAL LANDFILL
10/01/2013 SURVEY
vs.
10/04/2014 SURVEY
VOLUME ESTIMATE
PLAN**

Jeffrey D. Gower
JEFFREY D. GOWER, P.E.
ENGINEER I
FL REG. NO. 33849

SURVEY PROJECT NO.	14-094	SHEET NO.	1
DATE	12/8/2014	OF	3
SCALE	1" = 60'		



PROFILE VIEWS ARE ON SHEET 3

LEGEND AND ABBREVIATIONS

- EXISTING ELEVATION CONTOUR (5' INTERVAL) 10/04/2014 SURVEY
- EXISTING ELEVATION CONTOUR (1' INTERVAL) 10/04/2014 SURVEY
- DESIGN ELEVATION CONTOUR (5' INTERVAL) FINAL CLOSURE
- DESIGN ELEVATION CONTOUR (1' INTERVAL) FINAL CLOSURE

SITE VOLUME TABLE

SITE	CITRUS COUNTY CENTRAL LANDFILL
SURFACE 1	FINAL CLOSURE (DESIGN)
SURFACE 2	OCTOBER 2014 (PHOTOGRAMMETRY DATA BY PICKETT AND ASSOCIATES, INC.)
CUT UNADJUSTED	1236 CU. YD.
FILL UNADJUSTED	2,033,995 CU. YD.
NET UNADJUSTED	2,032,759 CU. YD.
METHOD	COMPOSITE

SURVEY SOURCE NOTE

The Comparable Volume report for the period stated was calculated based on Aerial Photogrammetry data provided by Pickett Surveying and Photogrammetry, Bartow, FL office, and the 2013 Base Surface in the Citrus County Engineering Division files.

The Citrus County Base Surface was a compilation of Real Time Kinematic (RTK) Global Positioning data collected by Citrus County Survey Section personnel for the 2012-2013 Volume Calculation Report. Both the Pickett Surface and the Citrus County Surface were created using NAVD 88 elevations (See accompanying Pickett Surveyor's report). The Control panels noted in said report (AT-1, AT-2, and AT-4) were established using said RTK GPS redundant observations on said Control Points, cross referenced to Published National Geodetic Survey Control Stations Citrus 13 and Citrus 14.

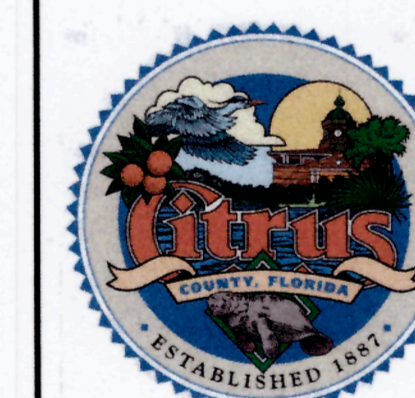
As the original designed Landfill closure surface was calculated and published utilizing NGVD of 1929, the 2013 and 2014 NAVD 1988 surfaces were adjusted +0.85' per NGS Vertcon, converting the NAVD 88 elevations to NGVD 29 elevations for relative volume calculations.

CONTOUR LABELS WITH ROUNDED RECTANGULAR SYMBOL ARE FINAL SURFACE LABELS. ALL OTHER CONTOUR LABELS ARE 2014 SURFACE.

3600 SOVEREIGN PATH
SUITE 204
LEON VALLEY, FL 34661
(820) 827-5446

**CITRUS COUNTY
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING**

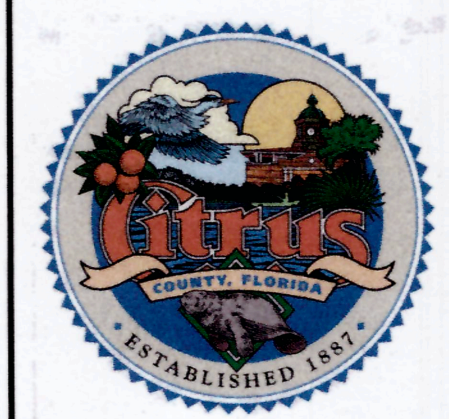
**CITRUS COUNTY
CENTRAL LANDFILL
OCTOBER 2014 SITE
LIFE CALCULATION
REPORT**



**CITRUS COUNTY
CENTRAL LANDFILL
FINAL CLOSURE
DESIGN
vs.
10/04/2014 SURVEY
VOLUME ESTIMATE
PLAN**

Jeffrey D. Gower
JEFFREY D. GOWER, P.E.
ENGINEER
FL. REG. NO. 53849

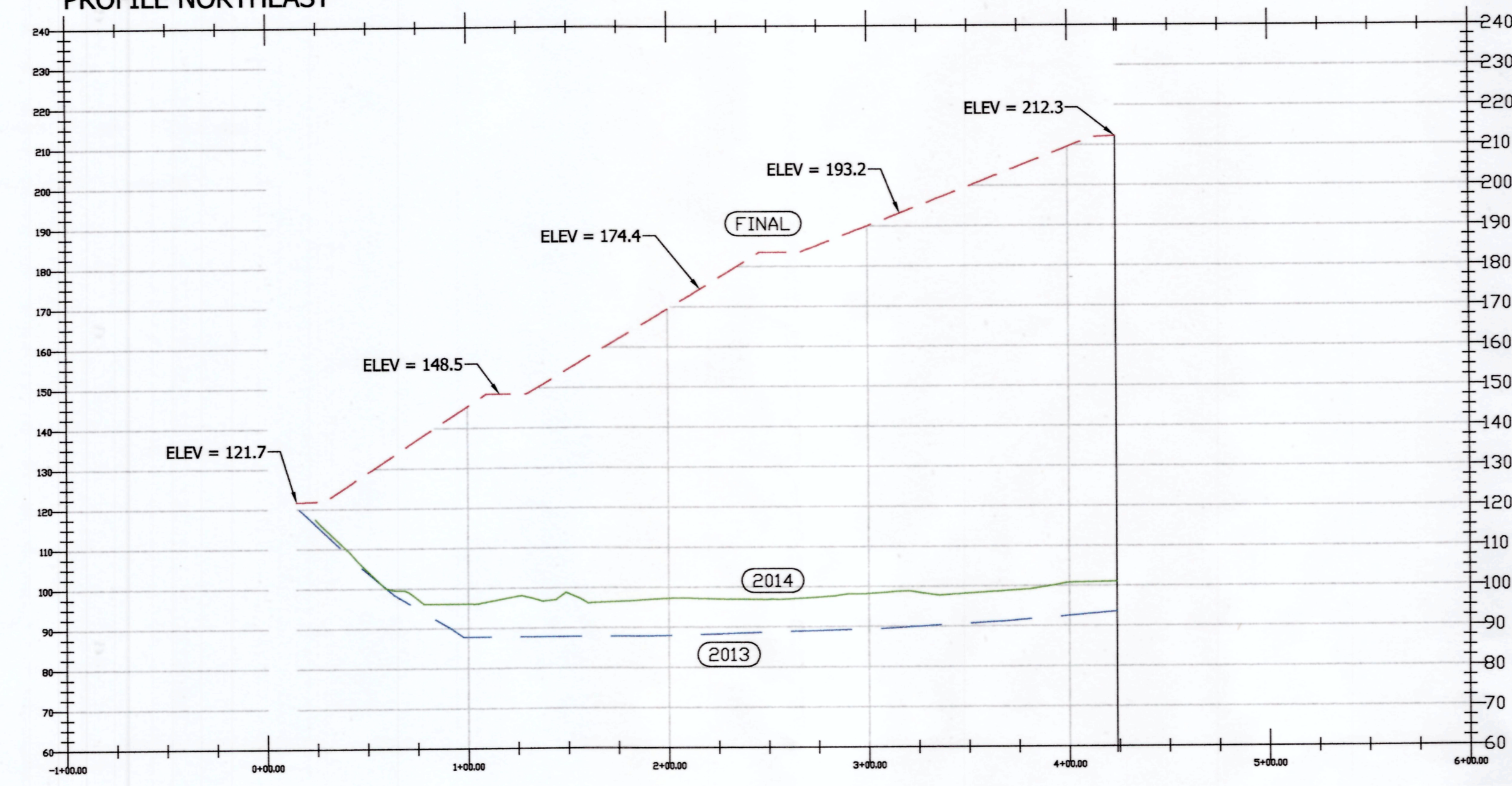
SURVEY PROJECT NO.	SHEET NO.
14-094	2
DATE: 11/26/2014	OF
SCALE: 1" = 60'	3



Jeffrey D. Gower
12/15/14
JEFFREY D. GOWER, P.E.
ENGINEER I
FL. REG. NO. 53849

SURVEY PROJECT NO.	14-094	SHEET NO.	3
DATE	11/26/2014	OF	
SCALE:	1" = 60' H 1" = 30' V		3

PROFILE NORTHEAST

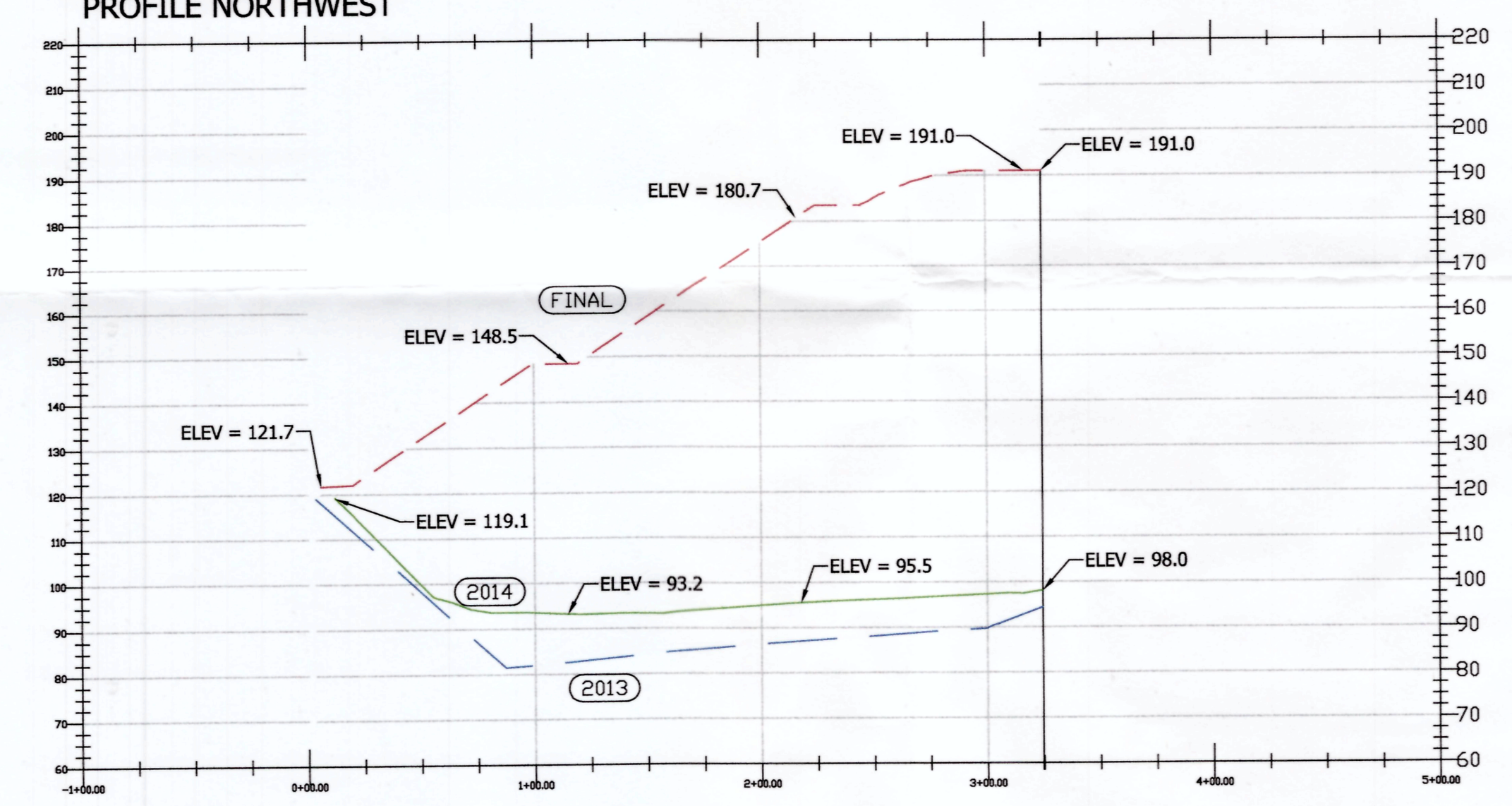


LEGEND AND ABBREVIATIONS

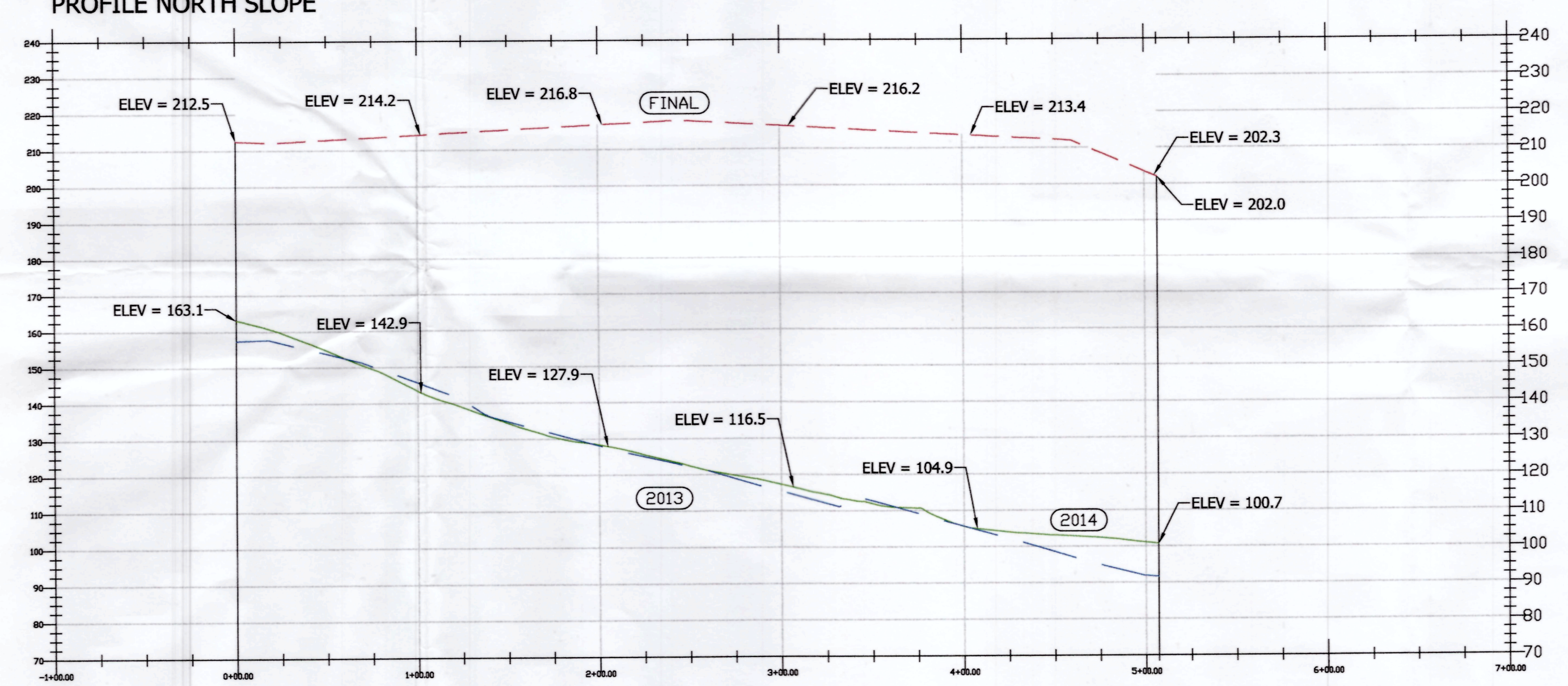
- - - SURFACE 1 FINAL CLOSURE (DESIGN)
- - - SURFACE 2 OCTOBER 2013 (FIELD SURVEY BY CITRUS COUNTY)
- SURFACE 3 OCTOBER 2014 (PHOTOGRAMMETRY DATA BY PICKETT & ASSOCIATES, INC.)

PLAN VIEWS ARE ON SHEETS 1 AND 2

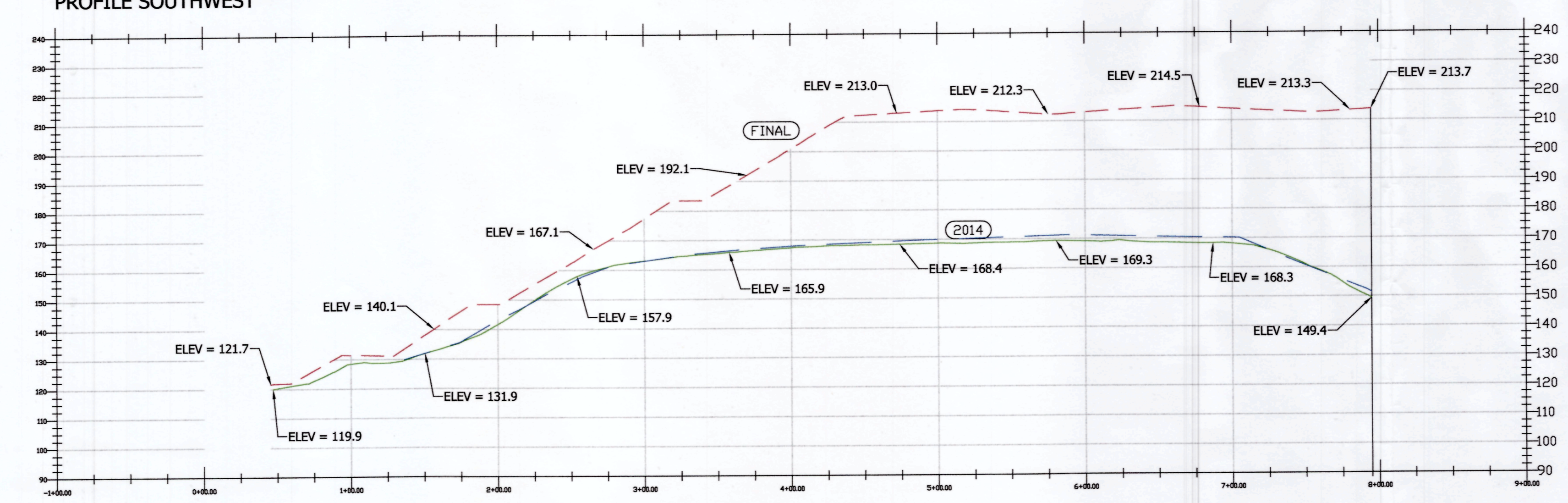
PROFILE NORTHWEST



PROFILE NORTH SLOPE



PROFILE SOUTHWEST



SURVEY SOURCE NOTE

The Comparable Volume report for the period stated was calculated based on Aerial Photogrammetry data provided by Pickett Surveying and Photogrammetry, Bartow, Fl office, and the 2013 Base Surface in the Citrus County Engineering Division files.

The Citrus County Base Surface was a compilation of Real Time Kinematic (RTK) Global Positioning data collected by Citrus County Survey Section personnel for the 2012-2013 Volume Calculation Report. Both the Pickett Surface and the Citrus County Surface were created using NAVD 88 elevations (See accompanying Pickett Surveyor's report). The Control panels noted in said report (AT-1, AT-2, and AT-4) were established using said RTK GPS redundant observations on said Control Points, cross referenced to Published National Geodetic Survey Control Stations Citrus 13 and Citrus 14.

As the original designed Landfill closure surface was calculated and published utilizing NGVD of 1929, the 2013 and 2014 NAVD 1988 surfaces were adjusted +0.85' per NGS Vertcon, converting the NAVD 88 elevations to NGVD 29 elevations for relative volume calculations.

ATTACHMENT B

SITE LIFE CALCULATIONS

**CITRUS COUNTY SOLID WASTE MANAGEMENT DIVISION
CENTRAL LANDFILL SITE LIFE CALCULATION
NOVEMBER 2014 REPORT**

Objective: Calculate the October 2014 remaining site life for Phases 1 thru 3 using waste tonnage records from Citrus County and calculated waste generation projections.

Approach:

1. Calculate the available airspace as of the most recent survey.
2. Calculate the "Effective Density" using volume consumed between October 2012 through September 2013.
3. Use the effective density to calculate the remaining life of the available airspace.

Available Airspace Calculation:

Airspace available from Oct 2014 to Final Grade = 2,032,759 CY

Air volume consumed Oct 2013 through September 2014 = 113,295 CY

Effective Density Calculation:

Waste Disposed of between 10/2013 through 09/2014 = 79,908 tons (per records)

$$\text{Effective Density} = \frac{79,908 \text{ ton}}{113,295 \text{ CY}} \times \frac{2,000 \text{ lbs}}{\text{ton}} = \frac{1,410.62 \text{ lbs}}{\text{CY}} \text{ lbs/CY}$$

$$\text{Effective Airspace Consumption Rate} = \frac{113,295 \text{ CY}}{79,908 \text{ ton}} \times \frac{1.42 \text{ lbs}}{\text{CY}} = 1.42 \text{ CY/ton}$$

Assuming the waste will be filled up to the final capacity and allowed to settle before placing the cover soil.

$$\text{Cap Volume} = 0 \text{ CY}$$

Subtract Cap Volume from air volume (airspace available) to determine useable waste volume for site life calculation.

$$\text{Remaining Volume} = 2,032,759 \text{ CY} - 0 \text{ CY} = \underline{2,032,759 \text{ CY}}$$

Site Life Calculation

The site life calculation is based on Citrus County waste tonnage records and population projections from the University of Florida Bureau of Business and Economic Research (BEER). The population mirrors the BEER high estimates and therefore, that population projection was used.

FISCAL YEAR	TONNAGE	VOLUME CONSUMED (CY)	NET REMAINING AIRSPACE (CY)
			2,032,759
2013-2014	79,908	113,295	1,919,464
2014-2015	86,138	122,127	1,797,337
2015-2016	87,746	124,408	1,672,929
2016-2017	89,355	126,689	1,546,240
2017-2018	90,963	128,969	1,417,271
2018-2019	92,572	131,250	1,286,021
2019-2020	94,180	133,530	1,152,491
2020-2021	95,778	135,795	1,016,696
2021-2022	97,375	138,060	878,636
2022-2023	98,973	140,325	738,310
2023-2024	100,570	142,591	595,720
2024-2025	102,168	144,856	450,864
2025-2026	103,722	147,059	303,806
2026-2027	105,276	149,262	154,544
2027-2028	106,830	151,465	3,079
2028-2029	108,384	153,668	-150,589
2029-2030	109,937	155,871	-306,461

CONCLUSION: Estimated Phases 1/1A, 2 & 3 Fill Completion Date = October 2027

**CITRUS COUNTY CENTRAL LANDFILL
WASTE TONNAGE PROJECTION (High)**

Year	*Population (BEBR Estimate)	% Change in Population	Tons/Year
2013 ⁽¹⁾	140,761		81,326
2014	140,519	-0.17%	79,908
2015	152,400	7.80%	86,138
2016	155,300	1.87%	87,746
2017	158,200	1.83%	89,355
2018	161,100	1.80%	90,963
2019	164,000	1.77%	92,572
2020	166,900	1.74%	94,180
2021	169,780	1.70%	95,778
2022	172,660	1.67%	97,375
2023	175,540	1.64%	98,973
2024	178,420	1.61%	100,570
2025	181,300	1.59%	102,168
2026	184,100	1.52%	103,722
2027	186,900	1.50%	105,276
2028	189,700	1.48%	106,830
2029	192,500	1.45%	108,384
2030	195,300	1.43%	109,937
2031	197,920	1.32%	111,393
2032	200,540	1.31%	112,848
2033	203,160	1.29%	114,303
2034	205,780	1.27%	115,759
2035	208,400	1.26%	117,214
2036	210,920	1.19%	118,614
2037	213,440	1.18%	120,015
2038	215,960	1.17%	121,415
2039	218,480	1.15%	122,816
2040	221,000	1.14%	124,216

*Population projection data for Citrus County originated from the University of Florida Bureau of Economic and Business Research (BEBR) Florida Population Studies, Bulletin 168. A linear interpolation for yearly population increase was performed between the years in bold.

⁽¹⁾ Previously reported value: 2013 Site Life Calculation Annual report.

The 2014 "Tons/Year" amount is based on scale house data supplied by the Waste Management Department and is based upon the monthly collection reports from 10/01/2013 - 09/30/2014.

ATTACHMENT C

POPULATION PROJECTIONS

**UNIVERSITY OF FLORIDA
BUREAU OF ECONOMIC AND
BUSINESS RESEARCH
(BEBR)**

Projections of Florida Population by County, 2015–2040, with Estimates for 2013

County and State	Estimates April 1, 2013	Projections, April 1					
		2015	2020	2025	2030	2035	2040
ALACHUA	248,002						
Low		237,400	241,800	244,800	245,800	244,900	242,400
Medium		252,600	265,700	278,200	289,200	298,600	306,800
High		267,700	289,600	311,500	332,500	352,400	371,300
BAKER	26,881						
Low		26,000	26,900	27,700	28,200	28,400	28,400
Medium		27,600	29,600	31,500	33,200	34,600	36,000
High		29,300	32,300	35,200	38,100	40,900	43,500
BAY	169,866						
Low		162,900	166,400	168,700	170,000	170,200	168,800
Medium		173,300	182,800	191,700	200,000	207,600	213,700
High		183,700	199,300	214,800	230,000	245,000	258,500
BRADFORD	27,217						
Low		25,900	25,800	25,500	25,200	24,700	24,000
Medium		27,500	28,300	29,000	29,600	30,100	30,400
High		29,200	30,900	32,500	34,000	35,500	36,800
BREVARD	548,424						
Low		525,000	536,300	542,500	543,800	541,200	535,200
Medium		558,500	589,300	616,400	639,800	660,000	677,500
High		592,000	642,400	690,400	735,700	778,800	819,700
BROWARD	1,784,715						
Low		1,694,800	1,688,900	1,673,900	1,655,500	1,632,100	1,603,700
Medium		1,803,000	1,855,900	1,902,200	1,947,700	1,990,300	2,029,900
High		1,911,200	2,023,000	2,130,500	2,239,800	2,348,600	2,456,200
CALHOUN	14,621						
Low		13,600	13,500	13,300	13,100	12,700	12,200
Medium		14,800	15,400	15,900	16,300	16,700	17,000
High		16,000	17,200	18,400	19,600	20,700	21,800
CHARLOTTE	163,679						
Low		156,300	158,500	159,200	158,900	158,100	156,200
Medium		166,300	174,100	181,000	187,000	192,800	197,700
High		176,300	189,800	202,700	215,000	227,500	239,300
CITRUS	140,519						
Low		135,200	139,300	142,500	144,300	144,800	144,300
Medium		143,800	153,100	161,900	169,800	176,600	182,700
High		152,400	166,900	181,300	195,300	208,400	221,000
CLAY	192,843						
Low		188,600	200,400	209,100	215,000	218,200	217,900
Medium		200,700	222,700	243,200	262,200	279,700	294,500
High		212,700	244,900	277,200	309,400	341,300	371,000
COLLIER	333,663						
Low		324,400	344,900	362,000	375,600	385,900	389,100
Medium		345,100	379,100	411,400	441,900	470,600	492,500
High		365,800	413,200	460,700	508,200	555,300	596,000
COLUMBIA	67,489						
Low		64,800	66,300	67,500	68,100	68,000	67,600
Medium		68,900	72,900	76,700	80,100	83,000	85,500
High		73,000	79,400	85,900	92,100	97,900	103,500
DE SOTO	34,367						
Low		32,400	31,900	31,100	30,200	29,500	28,600
Medium		34,500	35,000	35,400	35,600	36,000	36,300
High		36,600	38,200	39,600	40,900	42,400	43,900
DIXIE	16,263						
Low		15,300	15,500	15,500	15,400	15,200	14,800
Medium		16,600	17,600	18,500	19,300	20,000	20,600
High		17,900	19,700	21,400	23,100	24,800	26,300

Attachment I

List of Referenced Documents

No.	Document Information
1	Citrus County Central Landfill – Expansion Site Ground Water Monitoring Plan, August 1988, prepared by Post, Buckley, Schuh & Jernigan, Inc. (PBS&J)
2	Ground Water and Leachate Monitoring Plan Review, Class I Central Landfill, Citrus County, FL, July 2001, prepared by Jones Edmunds and Associates, Inc. (JE&A)
3	Geotechnical Investigation for Citrus County Central Landfill – New Disposal Cell, November 2001, prepared by Universal Engineering Sciences (Universal)
4	Citrus County Central Class I Landfill, Biennial Report 2004-2007, July 2007, prepared by JE&A
5	Ground Water Monitoring Plan Evaluation, 2004 prepared by JE&A
6	Ground Water Investigation Report, November 2006, prepared by JE&A
7	Citrus County Central Landfill Site Assessment Report, October 2007, prepared by JE&A
8	Citrus County Central Landfill Water Quality and Leachate Monitoring Plan, November 2008, prepared by JE&A
9	Citrus County Central Class I Landfill Water Quality Monitoring Plan Evaluation Report, May 2013, prepared by CDM Smith
10	Citrus County Central Class I Landfill Water Quality Monitoring Plan Evaluation Report, September 2015, prepared by CDM Smith
11	Construction Permit Application, Phase 2 expansion, Citrus County Central Landfill, Submitted to FDEP in August 2002
12	Citrus County Class I Central Landfill Operations Permit Renewal Application, dated February 1, 2010, prepared by SCS

Attachment R
Closure Cost Estimate



Florida Department of Environmental Protection

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

DEP Form # 62-701.900(28), F.A.C.

Form Title: Closure Cost Estimating Form
For Solid Waste Facilities

Effective Date: January 6, 2010

Incorporated in Rule 62-701.630(3), F.A.C.

CLOSURE COST ESTIMATING FORM FOR SOLID WASTE FACILITIES

Date of DEP Approval: 39859

I. GENERAL INFORMATION:

Facility Name: Citrus County Central Class I Landfill WACS ID: _____
 Permit Application or Consent Order No.: 21375-18-SO/01 Expiration Date: 12/20/2015
 Facility Address: 230 W. Gulf to Lake Hwy, Lecanto FL, 34461
 Permittee or Owner/Operator: Citrus County Board of County Commissioners
 Mailing Address: P.O. Box 340, Lenacto FL, 34460

Latitude: 28° 51' 07" Longitude: 82° 26' 12"
 Coordinate Method: Rectangular Survey Sys Datum: WGS84 Geodetic
 Collected by: U.S.Public Land Survey System Company/Affiliation Google Earth

Solid Waste Disposal Units Included in Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Active Life of Unit From Date of Initial Receipt of Waste	If active: Remaining life of unit	If closed: Date last waste received	If closed: Official date of closing
Phase 3	6.8	2011	15	13		
Phase 2	6	2005	10	3		
Phase 1	19.1	1991	14	1		
Closed Site	60	1975	Closed	Closed		
Waste Tire 126602-003-WT/02	0.125	NA	On-going	On-going		

Total disposal unit acreage included in this estimate: Closure: 32 Long-Term Care: 60

Facility type: Class I Class III C&D Debris Disposal
 (Check all that apply) Other: Waste Tire Facility

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check type)

- Letter of Credit* Insurance Certificate Escrow Account
 Performance Bond* Financial Test Form 29 (FA Deferral)
 Guarantee Bond* Trust Fund Agreement

* - Indicates mechanisms that require the use of a Standby Trust Fund Agreement

Northwest District
160 Government Center
Pensacola, FL 32502-5794
850-595-8360

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

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

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

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

Southeast District
400 N. Congress Ave., Ste. 200
West Palm Beach, FL 33401
561-681-6600

III. ESTIMATE ADJUSTMENT

40 CFR Part 264 Subpart H as adopted by reference in Rule 62-701.630, Florida Administrative Code, (F.A.C.) sets forth the method of annual cost estimate adjustment. Cost estimates may be adjusted by using an inflation factor or by recalculating the maximum costs of closure in current dollars. Select one of the methods of cost estimate adjustment below.

(a) Inflation Factor Adjustment

(b) Recalculated or New Cost Estimates

Inflation adjustment using an inflation factor may only be made when a Department approved closure cost estimate exists and no changes have occurred in the facility operation which would necessitate modification to the closure plan. The inflation factor is derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year. The inflation factor may also be obtained from the Solid Waste website www.dep.state.fl.us/waste/categories/swfr or call the Financial Coordinator at (850) 245-8706.

This adjustment is based on the Department approved closing cost estimate dated: _____

Latest Department Approved Closing Cost Estimate:		Current Year Inflation Factor, e.g. 1.02			Inflation Adjusted Closing Cost Estimate:
_____	x	_____	=		_____

This adjustment is based on the Department approved long-term care cost estimate dated: _____

Latest Department Approved Annual Long-Term Care Cost Estimate:		Current Year Inflation Factor, e.g. 1.02			Inflation Adjusted Annual Long-Term Care Cost Estimate:
_____	x	_____	=		_____
		Number of Years of Long Term Care Remaining:		x	_____
		Inflation Adjusted Long-Term Care Cost Estimate:		=	_____

Signature by: Owner/Operator Engineer (check what applies)

Signature

Address

Name & Title

City, State, Zip Code

Date

E-Mail Address

Telephone Number

IV. ESTIMATED CLOSING COST (check what applies)

Recalculated Cost Estimate **New Facility Cost Estimate**

- Notes: 1. Cost estimates for the time period when the extent and manner of landfill operation makes closing most exp
 2. Cost estimate must be certified by a professional engineer.
 3. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.
 4. In some cases, a price quote in support of individual item estimates may be required.

Description	Unit	Number of Units	Cost / Unit	Total Cost
1. Proposed Monitoring Wells (Do not include wells already in existence.)				
	EA			
				Subtotal Proposed Monitoring Wells:
2. Slope and Fill (bedding layer between waste and barrier layer):				
Excavation	SY	170,176	\$0.18	\$30,631.68
Placement and Spreading	CY	56,158	\$4.18	\$234,740.44
Compaction	CY			
Off-Site Material	CY			
Delivery	CY			
				Subtotal Slope and Fill:
				\$265,372.12
3. Cover Material (Barrier Layer):				
Off-Site Clay	CY			
Synthetics - 40 mil	SY	170,176	\$6.48	\$1,102,740.48
Synthetics - GCL	SY			
Synthetics - Geonet	SY			
Synthetics - Other (explain)	SY	170,176	\$9.45	\$1,608,163.20
Composite				Subtotal Cover Material:
				\$2,710,903.68
4. Top Soil Cover:				
Off-Site Material	CY	1	\$500,425.00	\$500,425.00
Delivery	CY			
Spread	CY			
				Subtotal Top Soil Cover:
				\$500,425.00
5. Vegetative Layer				
Sodding	SY	170,176	\$2.20	\$374,387.20
Hydroseeding	AC			
Fertilizer	AC			
Mulch	AC			
Other (explain)				
				Subtotal Vegetative Layer:
				\$374,387.20
6. Stormwater Control System:				
Earthwork	CY			
Grading	SY			
Piping	LF	5,317	\$27.67	\$147,121.39
Ditches	LF			
Berms	LF	5,678	\$0.18	\$1,022.04
Control Structures	EA	14	\$4,500.00	\$63,000.00
Other (explain)				
				Subtotal Stormwater Control System:
				\$211,143.43

Description	Unit	Number of Units	Cost / Unit	Total Cost
7. Passive Gas Control:				
Wells	EA	70	\$5,500.00	\$385,000.00
Pipe and Fittings	LF			
Monitoring Probes	EA			
NSPS/Title V requirements	LS	1		
Subtotal Passive Gas Control:				\$385,000.00
8. Active Gas Extraction Control:				
Traps	EA			
Sumps	EA			
Flare Assembly	EA			
Flame Arrestor	EA			
Mist Eliminator	EA			
Flow Meter	EA			
Blowers	EA			
Collection System	LF			
Other (explain) _____				
Subtotal Active Gas Extraction Control:				
9. Security System:				
Fencing	LF			
Gate(s)	EA			
Sign(s)	EA			
Subtotal Security System:				
10. Engineering:				
Closure Plan Report	LS	1	\$200,000.00	\$200,000.00
Certified Engineering Drawings	LS	1	\$15,000.00	\$15,000.00
NSPS/Title V Air Permit	LS	1		
Final Survey	LS	1	\$8,500.00	\$8,500.00
Certification of Closure	LS	1	\$35,000.00	\$35,000.00
Other (explain) _____				
Subtotal Engineering:				\$258,500.00

Description	Hours	Cost / Hour	Hours	Cost / Hour	Total Cost
11. Professional Services					
	<u>Contract Management</u>		<u>Quality Assurance</u>		
P.E. Supervisor	160	\$175.00	40	\$175.00	\$35,000.00
On-Site Engineer	480	\$130.00	200	\$130.00	\$88,400.00
Office Engineer	200	\$115.00	200	\$115.00	\$46,000.00
On-Site Technician		\$75.00	840	\$75.00	\$63,000.00
Other (explain) _____	60	\$75.00	400	\$75.00	\$34,500.00
Administrative					

Description	Unit	Number of Units	Cost / Unit	Total Cost
Quality Assurance Testing	LS	1	\$40,000.00	\$40,000.00
Subtotal Professional Services:				\$306,900.00

Subtotal of 1-11 Above: \$5,012,631.43

12. Contingency 10 % of Subtotal of 1-11 Above \$501,263.14

Subtotal Contingency: \$501,263.14

Estimated Closing Cost Subtotal: \$5,513,894.57

Description	Total Cost
13. Site Specific Costs	
Mobilization	<u>\$407,585.36</u>
Waste Tire Facility	<u>\$9,064.30</u>
Materials Recovery Facility	<u> </u>
Special Wastes	<u> </u>
Leachate Management System Modification	<u> </u>
Other (explain) _____	<u> </u>
_____	<u> </u>
Subtotal Site Specific Costs:	<u>\$416,649.66</u>

TOTAL ESTIMATED CLOSING COSTS (\$): \$5,930,544.23

V. ANNUAL COST FOR LONG-TERM CARE

See 62-701.600(1)a.1., 62-701.620(1), 62-701.630(3)a. and 62-701.730(11)b. F.A.C. for required term length. For landfills certified closed and Department accepted, enter the remaining long-term care length as "Other" and provide years remaining. (Check Term Length) 5 Years 20 Years 30 Years Other, ___ Years

- Notes: 1. Cost estimates must be certified by a professional engineer.
 2. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.
 3. In some cases, a price quote in support of individual item estimates may be required.

All items must be addressed. Attach a detailed explanation for all entries left blank.

Description	Sampling Frequency (Events / Year)	Number of Wells	(Cost / Well) / Event	Annual Cost
1. Groundwater Monitoring [62-701.510(6), and (8)(a)]				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	14	\$1,829.00	\$51,212.00
Annually	1	_____	_____	_____
Subtotal Groundwater Monitoring:				\$51,212.00
2. Surface Water Monitoring [62-701.510(4), and (8)(b)]				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	_____	_____	_____
Annually	1	_____	_____	_____
Subtotal Surface Water Monitoring:				_____
3. Gas Monitoring [62-701.400(10)]				
Monthly	12	_____	_____	_____
Quarterly	4	19	\$719.74	\$54,700.24
Semi-Annually	2	_____	_____	_____
Annually	1	_____	_____	_____
Subtotal Gas Monitoring:				\$54,700.24
4. Leachate Monitoring [62-701.510(5), (6)(b) and 62-701.510(8)c]				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	_____	_____	_____
Annually	1	_____	_____	_____
Other (explain) _____	_____	_____	_____	_____
Subtotal Leachate Monitoring:				_____

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. Leachate Collection/Treatment Systems Maintenance				
<u>Maintenance</u>				
Collection Pipes	LF	_____	_____	_____
Sumps, Traps	EA	_____	_____	_____
Lift Stations	EA	_____	_____	_____
Cleaning	LS	1	\$19,925.00	\$19,925.00
Tanks	EA	4	\$4,200.00	\$16,800.00

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. (continued)				
<u>Impoundments</u>				
Liner Repair	SY	_____	_____	_____
Sludge Removal	CY	_____	_____	_____
<u>Aeration Systems</u>				
Floating Aerators	EA	_____	_____	_____
Spray Aerators	EA	_____	_____	_____
<u>Disposal</u>				
Off-site (Includes transportation and disposal)	1000 gallon	<u>432</u>	<u>\$8.40</u>	<u>\$3,628.80</u>
Subtotal Leachate Collection / Treatment Systems Maintenance:				<u>\$40,353.80</u>
6. Groundwater Monitoring Well Maintenance				
Monitoring Wells	LF	_____	_____	_____
Replacement	EA	<u>1</u>	<u>\$900.00</u>	<u>\$900.00</u>
Abandonment	EA	<u>1</u>	<u>\$100.00</u>	<u>\$100.00</u>
Subtotal Groundwater Monitoring Well Maintenance:				<u>\$1,000.00</u>
7. Gas System Maintenance				
Piping, Vents	LF	<u>57</u>	<u>\$140.00</u>	<u>\$7,980.00</u>
Blowers	EA	_____	_____	_____
Flaring Units	EA	<u>7</u>	<u>\$140.00</u>	<u>\$980.00</u>
Meters, Valves	EA	_____	_____	_____
Compressors	EA	_____	_____	_____
Flame Arrestors	EA	_____	_____	_____
Operation	LS	<u>1</u>	_____	_____
Subtotal Gas System Maintenance:				<u>\$8,960.00</u>
8. Landscape Maintenance				
Mowing	AC	<u>145</u>	<u>\$47.04</u>	<u>\$6,820.80</u>
Fertilizer	AC	_____	_____	_____
Subtotal Landscape Maintenance:				<u>\$6,820.80</u>
9. Erosion Control and Cover Maintenance				
Sodding	SY	_____	_____	_____
Regrading	AC	<u>1</u>	<u>\$801.54</u>	<u>\$801.54</u>
Liner Repair	SY	<u>1</u>	<u>\$2,195.28</u>	<u>\$2,195.28</u>
Clay	CY	_____	_____	_____
Subtotal Erosion Control and Cover Maintenance:				<u>\$2,996.82</u>
10. Storm Water Management System Maintenance				
Conveyance Maintenance	LS	<u>1</u>	<u>\$9,315.00</u>	<u>\$9,315.00</u>
Subtotal Storm Water Management System Maintenance:				<u>\$9,315.00</u>
11. Security System Maintenance				
Fences	LS	<u>1</u>	<u>\$1,301.50</u>	<u>\$1,301.50</u>
Gate(s)	EA	_____	_____	_____
Sign(s)	EA	_____	_____	_____
Subtotal Security System Maintenance:				<u>\$1,301.50</u>

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
12. Utilities	LS	<u>1</u>		
			Subtotal Utilities:	
13. Leachate Collection/Treatment Systems Operation				
<u>Operation</u>				
P.E. Supervisor	HR	<u>96</u>	<u>\$175.00</u>	<u>\$16,800.00</u>
On-Site Engineer	HR			
Office Engineer	HR	<u>32</u>	<u>\$115.00</u>	<u>\$3,680.00</u>
OnSite Technician	HR	<u>300</u>	<u>\$75.00</u>	<u>\$22,500.00</u>
Materials	LS	<u>1</u>		
			Subtotal Leachate Collection/Treatment Systems Operation:	<u>\$42,980.00</u>
14. Administrative				
P.E. Supervisor	HR	<u>48</u>	<u>\$175.00</u>	<u>\$8,400.00</u>
On-Site Engineer	HR			
Office Engineer	HR			
OnSite Technician	HR	<u>48</u>	<u>\$75.00</u>	<u>\$3,600.00</u>
Other Clerical	HR	<u>48</u>	<u>\$70.00</u>	<u>\$3,360.00</u>
			Subtotal Administrative:	<u>\$15,360.00</u>

Subtotal of 1-14 Above: \$235,000.16

15. Contingency	<u>5</u>	% of Subtotal of 1-14 Above		<u>\$11,750.01</u>
			Subtotal Contingency:	<u>\$11,750.01</u>

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
16. Site Specific Costs				
			Subtotal Site Specific Costs:	

ANNUAL LONG-TERM CARE COST (\$ / YEAR): \$246,750.17

Number of Years of Long-Term Care: 30

TOTAL LONG-TERM CARE COST (\$): \$7,402,505.04

VI. CERTIFICATION BY ENGINEER

This is to certify that the Cost Estimates pertaining to the engineering features of this solid waste management facility have been examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, the Cost Estimates are a true, correct and complete representation of the financial liabilities for closing and/or long-term care of the facility and comply with the requirements of Rule 62-701.630 F.A.C. and all other Department of Environmental Protection rules, and statutes of the State of Florida. It is understood that the Cost Estimates shall be submitted to the Department annually, revised or adjusted as required by Rule 62-701.630(4), F.A.C.

Charles E. Hilton
Signature

4041 Park Oaks Blvd.
Mailing Address

C. Ed Hilton Jr., P.E., Vice President
Name and Title (please type)

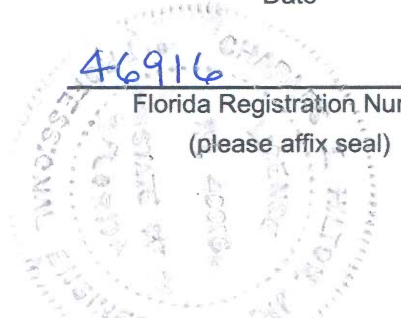
Tampa, FL 33610
City, State, Zip Code

10/13/15
Date

ehilton@scsengineers.com
E-Mail address (if available)

46916
Florida Registration Number
(please affix seal)

(813) 621-0080
Telephone Number



VII. SIGNATURE BY OWNER/OPERATOR

Henry C. Norris
Signature of Applicant

230 W Gulf to Lake Highway
Mailing Address

Henry C. Norris, Director, Solid Waste
Name and Title (please type)

Lecanto, FL 34460
City, State, Zip Code

henry.norris@citrusbocc.com
E-Mail address (if available)

352-527-7670
Telephone Number

CLIENT Citrus County	PROJECT Central Landfill Full Financial Assurance	JOB NO. 09210021.26	
SUBJECT Financial Assurance		BY IUS	DATE 10/13/2015
		CHECKED	DATE

1.) Monitoring Wells

All proposed groundwater monitoring wells have or will be installed during the base construction. No additional wells are proposed at the time of this cost estimate.

2.) Slope and Fill (bedding layer between waste and barrier layer)

There has been no change to the Closure design for the Citrus County Central Landfill therefore the Volumes and Calculations are based on previously approved calculations by SCS Engineers in "Operations Permit Renewal Application" dated February 1, 2010.

Area from CADD = 1,465,407 sf Sideslope area = 1,203,156 sf 5.5% added to account for sideslope area
 Revised Area = (1,203,156 x 105.5%) = 1,269,329 s Total Area = 1,269,329 + 262,251 (flat top area) = 1,531,581 sf = **170,176 SY**
 170,176 sy x 6" (0.16 sy) = 28,363 CY

Excavaton

Assume 6 inches of soil over the surface area. Existing intermediate cover will be fine graded and then 6" of offsite cover will be delivered, spread and compacted.

- Cost obtained from Attachment 2 RS Means Fine Grading
 Fine Grading = **\$0.18 per SY**

Placement and Spreading

To complete the cover under the liner, 1' (0.33yd) of off-site material will be added to the whole landfill.

170,176 sy X 0.33 yd = 56,158.08 Cubic Yards

- Cost obtained from Attachment 11 RS Means Fill from stockpile. See Attachment 12 for calculations for on-site soil.
 "Fill and Grade - Common Fill = **\$4.18/cubic yard**.

Compaction

Included in "Placement and Spreading".

Off Site Material

Not Applicable - According to Rule 62-701.630.3(d) the onsite soils will be used. Please see Attachment 12 for more information.

Delivery

Not Applicable - See Off Site Material not above.

3.) Cover Material (Barrier Layer)

Off-Site Clay - Not anticipated at the time of this cost estimate.

Synthetics - 40 mil - Quantity based on the landfill surface area plus and additional 5% for loss factor. The closure surface area is
 170,176 x 1.05 = **178,685 sq yds**

- Cost obtained from Attachment 1 Bid Breakdown Summary for the 2015 Side Slope Closure
 Furnish and Install Textured 40-Mil LLDPE Geomembrane Liner = \$0.72/square foot X 9 Ft/Yd =
\$6.48/ Square Yard

CLIENT Citrus County	PROJECT Central Landfill Full Financial Assurance	JOB NO. 09210021.26	
SUBJECT Financial Assurance	BY IUS	DATE 10/13/2015	
	CHECKED	DATE	

3.) Cover Material (Barrier Layer) (Continued)

Synthetics - Composite - Quantity based on the landfill surface area plus and additional 5% for loss factor. The closure surface area is **178,685 sq yds.**

- Cost obtained from Attachment 1 Bid Breakdown Summary for the 2015 Side Slope Closure
Furnish and Install 300 mil Double Sided Composite Drainage Net= \$1.05 sf = **\$9.45/Square Yard**

Synthetics - Other - Not anticipated at the time of this cost estimate.

4.) Top Soil Cover

Off-Site Material - Final closure surface area is **178,685** square yards.

Assumed the following:

6 inch topsoil layer used =>	30,376 cubic yards	30,376 cu. yd. x \$4.18 =	\$126,974
18 inch protective layer =>	89,343 cubic yards	89,343 cu. Yd. x \$4.18=	373,452
Total off-site material required =>	119,719 cubic yards	Total =	\$500,425

- Cost obtained from Attachment 11 RS Means Fill from stockpile. See Attachment 12 for calculations for on-site soil.
Fill from stockpile = **\$4.18/cubic yard.**

Delivery - Included in the material price.

Spread - Included in the material price.

5.) Vegetative Layer

Off-Site Material - Final closure surface area is 178,685 square yards.

Assumed the following:

- Cost obtained from Attachment 1 Bid Breakdown Summary for the 2015 Side Slope Closure
Sodding = **\$2.20/square yard.**

Hydroseeding - Not anticipated at the time of this cost estimate.

Fertilizer - Not anticipated at the time of this cost estimate.

Mulch - Not anticipated at the time of this cost estimate.

CLIENT Citrus County	PROJECT Central Landfill Full Financial Assurance	JOB NO. 09210021.26	
SUBJECT Financial Assurance	BY IUS	DATE 10/13/2015	
	CHECKED	DATE	

6.) Stormwater Control System

Earthwork - Assumed to be included in Piping cost below based on RS Means Attachment 3.

Grading - Assumed to be included in Piping cost identified below based on RS Means Attachment 3.

Piping - Assume all piping is 18 inch. Unit cost is based on RS Means Attachment 3.

12" pipe = 1,832 ft 18" pipe = 2,235 ft 24" pipe = 1,250 ft **Total Pipe = 5317 ft**

- Cost obtained from Attachment 3 RS Means Report
Cost to Excavate, Install Pipe and Backfill = **\$27.67/ft**

Ditches - Will not be required.

Berms - Cost based on RS Means Attachment 2. Fine Grading = **\$0.18 per SY**
Cross-sectional Area = $(2 \text{ ft} \times 20 \text{ ft})/2 = 20\text{sf}$ Total Length = 5,678 ft Volume = 20 sf x 5678 ft = 113,560 cf = 4,206 cy

Control Structures - Quantity of structures is assumed to be 14 control structures.

- Cost obtained from Attachment 1 Bid Breakdown Summary for the 2015 Side Slope Closure
Furnish and Install Downrain Outfall Structures = **\$4,500 each**.

7.) Passive Gas Control

Assume 2 gas vents per acre will be installed
35 acres x 2 = 70 vents

- Cost is based on SCS experience and data.
Furnish and Install 55' deep gass well = \$100 /ft x 55 ft = **\$5,500 each**.

8.) Active Gas Extraction Control

This landfill does not have an active landfill gas collection and control system. Hence Item 8 is not applicable.

9.) Security System

The landfill has an existing security system. No new security measures are proposed during closure.

CLIENT Citrus County	PROJECT Central Landfill Full Financial Assurance	JOB NO. 09210021.26	
SUBJECT Financial Assurance		BY IUS	DATE 10/13/2015
		CHECKED	DATE

10.) Engineering

All engineering costs and services are estimated by SCS Engineers. These costs would be typical for any third party engineering consulting firm to perform these tasks.

A breakdown of the costs are presented on the form. A NSPS/Title V Permit already exists for the facility.

11.) Professional Services

A breakdown of the costs are presented on the form. The Costs are based on SCS Fee schedule in Attachment 9.

12.) Contingency

A contingency amount of **10%** of the total cost was used in the cost estimate. This value is consistent with actual contingency values used in bidding landfill construction projects.

13.) Site Specific Costs

Mobilization - **5%** of Sub-total 1-11 (of the total cost of construction)
contingency values used in bidding landfill construction projects.

Waste Tire Facility - The costs associated with the closure of the waste tire facility are assumed to be the cost of the contracted disposal of 1,000 tones off tires. Per Orange County's current contract (Y12-1025-LC Attachment 4), this rate is a weighted average of the removal of Passenger/Truck tires and Oversized tires. 115 tons X \$78.82 per ton = **\$9,064.30**. Once the tires are removed regrading and seeding will to be used.

CLIENT Citrus County	PROJECT Central Landfill Full Financial Assurance	JOB NO. 09210021.26	
SUBJECT Financial Assurance	BY IUS	DATE 10/13/2015	
	CHECKED	DATE	

1.) Groundwater Monitoring

There are 14 groundwater that are monitored Semi-annually and 14 that are monitored annually.

- Cost obtained from Attachment 5 Proposal for Groundwater and Leachate Sampling and Reporting
the total cost = \$51,217 \$51,217 / 14 wells / 2 events = \$1,829 per well

2.) Surface Water Monitoring

This landfill does not have any surface water. Hence Item 2 is not applicable.

3.) Gas Monitoring

Gas monitoring occurs quarterly in 19 probes.

- Cost is assumed to be the same as the existing contract (PO # 73777 Attachment 10)
Contract price = \$54,700 \$54,700 / 19 probes / 4 events = \$719.74 per probe

4.) Leachate Monitoring

The leachate is now pumped to a WWTP. Hence Item 4 is not applicable.

5.) Leachate Collection/Treatment Systems Maintenance

- Cost obtained from Attachment 6 Florida JetClean Proposal for Citrus County Landfill
Contract price = \$19,925

- Cost obtained from Attachment 7 CECS Proposal for Washout and Inspection
Price per Tank = \$4,200 per Tank

Off-site disposal cost based on Attachment 8 Agreement with WWTP = \$8.40/1000 gal.

6.) Groundwater Monitoring Well Maintenance

Assume that one monitoring well needs to be replaced every five years.

- Cost based on SCS experience and data for replacement and abandonment.
Install Monitoring Wells = \$4,500 each, Abandon Monitoring Wells = \$500 each.

6 wells to be abandoned in 30 years and 6 to be replaced.

Replacement - (\$4500 per well X 6 wells)/30 years = **\$900/year**

Abandonment - (\$500 per well X 6 wells)/30 years = **\$100/year**

7.) Gas System Maintenance

Piping: Assume that half of the vents need maintenance every year (44 old LF + 70 Phase I, IA, II and III = 114) = 57 vents per year. Assume that 2 technicians could complete each well in 1 hour. Cost based on SCS Fee sheet in Attachment 9.

Total cost = 1 hr/vent x 2 technicians x 57 vents x \$75/hr. Tech. = \$8,550

Unit Cost = \$7,980/57 vents = \$150/vent

CLIENT Citrus County	PROJECT Central Landfill Full Financial Assurance	JOB NO. 09210021.26
SUBJECT Financial Assurance	BY IUS	DATE 10/13/2015
	CHECKED	DATE

7.) Gas System Maintenance (Continued)

Flare Unit: Assume 7 flaring units will need maintenance each year. Assume that 2 technicians could complete each flare in 1 hour.
 1 hr. x 2 Technicians x \$75 /hr. x 7 flares = \$1,050
 Unit Cost = \$1,050/7 flares = **\$150/unit**

Replacement : Assume a monitoring probe will be replaced twice within the next 30 years.
 Cost based on SCS Experience and Data = \$2,500 per monitoring probe. \$2,500 x 2 probes = \$5,000
 Annual Cost = \$5,000/30 years = **\$166.66 per year**

8.) Landscape Maintenance

Long-term care is assumed to include mowing the landfill surface quarterly. Fertilizing is not performed.
 Mowing area - 145 acres * 4 times per year = 580 acres
 Cost based on RS Means Quote. \$0.27 per 1000 sf.
 Total Cost = 580 acres x 43560 sf/acre x \$0.27/1000sf = \$6,821.50/ 145 acres = **47.04 per acre**

9.) Erosion Control and Cover Maintenance

Regrading: Assume 1% of total acreage will be regraded each year. Cells cover (92 acres x 43560 sf/acre) / 9 sf/sy = 445,280 sy
 445,280 x 0.01 = 4453 sy/year
 Cost from RS Means = \$0.18 / sy
 Annual Cost= 4453 sy x \$0.18/ sy = **\$801.54 per year**

Liner: Assume 1% of liner is repaired every 5 years. Area = (1,524,573 sf x 0.01)/5 years = 3049 sf/ year
 - Cost obtained from Attachment 1 Bid Breakdown Summary for the 2015 Side Slope Closure
 Annual cost = 3049 sf x \$0.72/sf = **\$2,195.28 per year**

10.) Storm Water Management System Maintenance

Pipes: Assume 250 ft of pipe to be replace each year.
 - Cost obtained from Attachment 1 Bid Breakdown Summary for the 2015 Side Slope Closure
 Not Applicable - See Off Site Material not above.
 Annual Cost = 250 LF x \$34.66 /LF = \$8,665 per year

Control Structures: Assume one structure to be replaced every 5 years.
 - Cost obtained from Attachment 1 Bid Breakdown Summary for the 2015 Side Slope Closure
 Furnish and install Toe Drain Outfall Structure = \$2000 Downdrain Structure = \$4,500 Average = (\$2000 + \$4500)/2 = \$3250
 Annual Cost = \$3250 / 5 years = \$650 per year

Total Annual Cost = \$8,665 + \$650 = **\$9,315 per year**

11.) Security System Maintenance

Estimate 50 LF of fence requires repair or replacement each year.
 - Cost obtained from RS Means see Attachment 8 Rs Means Quote
 Annual Cost = 50 LF x \$26.03 = **\$1,301.50 per year**

CLIENT Citrus County	PROJECT Central Landfill Full Financial Assurance	JOB NO. 09210021.26	
SUBJECT Financial Assurance	BY IUS	DATE 10/13/2015	
	CHECKED	DATE	

12.) Utilities

No Cost included for this item. Cost associated with pumps are included in leachate treatment system maintenance costs.

13.) Leachate Collection/Treatment Systems Operation

Assume 4 hour/month for site manger to oversee all the site operations.

Cost based on Senior Project Professional = \$112 /hour

Total = 4 hours/month x 12 months x \$112 /hour = **\$5,376 per year**

14.) Administrative

See Form for breakdown.

15.) Contingency

- 5% of estimated subtotal cost.

16.) Site Specific Costs

There are no site specific costs associated with the long-term care.

Attachment 1
Side Slope Closure Bid Tab

**BRIDGEWAY ACRES CLASS I LANDFILL
SIDE SLOPE CLOSURE
PROJECT NO.: 000748A/1792**

Pay Item	Item Description	Quantity	Unit	Southeast Environmental Contracting, Inc.		GLF Construction Corporation		Kammaing & Roodvoets, Inc.		Talle Construction Co., Inc.	
				Unit Cost	Amount	Unit Cost	Amount	Unit Cost	Amount	Unit Cost	Amount
1	Mobilization and Demobilization	1	LS	\$ 266,000.00	\$ 266,000.00	\$ 280,000.00	\$ 280,000.00	\$310,000.00	\$ 310,000.00	\$266,000.00	\$ 266,000.00
2	Site Preparation	31	ACRES	\$ 12,000.00	\$ 372,000.00	\$ 21,550.00	\$ 668,050.00	\$ 28,500.00	\$ 883,500.00	\$ 15,000.00	\$ 465,000.00
3	Fill and Grade - Common Fill	55,000	CY	\$ 20.00	\$ 1,100,000.00	\$ 9.00	\$ 495,000.00	\$ 25.00	\$ 1,375,000.00	\$ 31.00	\$ 1,705,000.00
4	Fill and Grade - 6-inch Final Cover Foundation Layer	30,000	CY	\$ 22.00	\$ 660,000.00	\$ 34.00	\$ 1,020,000.00	\$ 28.00	\$ 840,000.00	\$ 31.00	\$ 930,000.00
5	Fill and Grade - 18-inch Protective Soil Layer	90,000	CY	\$ 21.00	\$ 1,890,000.00	\$ 40.00	\$ 3,600,000.00	\$ 26.00	\$ 2,340,000.00	\$ 31.00	\$ 2,790,000.00
6	Fill and Grade - 6-inch Vegetative Layer	30,000	CY	\$ 8.00	\$ 240,000.00	\$ 14.00	\$ 420,000.00	\$ 25.00	\$ 750,000.00	\$ 5.00	\$ 150,000.00
7	Furnish and Install Textured 40-mil LLDPE Geomembrane Liner	1,365,000	SF	\$ 0.72	\$ 982,800.00	\$ 0.50	\$ 682,500.00	\$ 0.90	\$ 1,228,500.00	\$ 0.44	\$ 600,600.00
8	Furnish and Install 250 mil Double Sided Composite Drainage Net	1,365,000	SF	\$ 0.90	\$ 1,228,500.00	\$ 0.62	\$ 846,300.00	\$ 0.95	\$ 1,296,750.00	\$ 0.59	\$ 805,350.00
9	Furnish and Install 300 mil Double Sided Composite Drainage Net	1,365,000	SF	\$ 1.10	\$ 1,501,500.00	\$ 0.75	\$ 1,023,750.00	\$ 1.05	\$ 1,433,250.00	\$ 0.73	\$ 996,450.00
10	Furnish and Install 8-inch Perforated Toe Drain HDPE Pipe	6,350	LF	\$ 80.00	\$ 508,000.00	\$ 52.30	\$ 332,105.00	\$ 70.00	\$ 444,500.00	\$ 30.00	\$ 190,500.00
11	Furnish and Install 8-inch Solid Toe Drain HDPE Pipe	465	LF	\$ 30.00	\$ 13,950.00	\$ 20.00	\$ 9,300.00	\$ 35.00	\$ 16,275.00	\$ 25.00	\$ 11,625.00
12	Furnish and Install Toe Drain Outfall Structures	15	EACH	\$ 750.00	\$ 11,250.00	\$ 2,375.00	\$ 35,625.00	\$ 2,000.00	\$ 30,000.00	\$ 500.00	\$ 7,500.00
13	Furnish and Install Temporary Stormwater System	1	LS	\$ 14,000.00	\$ 14,000.00	\$ 50,000.00	\$ 50,000.00	\$146,000.00	\$ 146,000.00	\$100,000.00	\$ 100,000.00
14	Furnish and Install 24-inch Corrugated HDPE Downdrain Pipe	3,300	LF	\$ 50.00	\$ 165,000.00	\$ 70.00	\$ 231,000.00	\$ 65.00	\$ 214,500.00	\$ 50.00	\$ 165,000.00
15	Furnish and Install 18-inch Corrugated HDPE Downdrain Pipe	1,400	LF	\$ 36.00	\$ 50,400.00	\$ 61.00	\$ 85,400.00	\$ 51.00	\$ 71,400.00	\$ 33.00	\$ 46,200.00
16	Furnish and Install 12-inch Corrugated HDPE Downdrain Pipe	2,000	LF	\$ 12.00	\$ 24,000.00	\$ 21.00	\$ 42,000.00	\$ 31.00	\$ 62,000.00	\$ 43.00	\$ 86,000.00
17	Furnish and Install 24-inch Flashboard Riser	48	EACH	\$ 1,500.00	\$ 72,000.00	\$ 3,000.00	\$ 144,000.00	\$ 3,000.00	\$ 144,000.00	\$ 1,000.00	\$ 48,000.00
18	Furnish and Install 8-inch Solid HDPE Pipe (Downdrain)	450	LF	\$ 11.00	\$ 4,950.00	\$ 30.00	\$ 13,500.00	\$ 58.00	\$ 26,100.00	\$ 58.94	\$ 26,523.00
19	Furnish and Install Downdrain Outfall Structure	13	EACH	\$ 15,000.00	\$ 195,000.00	\$ 6,400.00	\$ 83,200.00	\$ 4,500.00	\$ 58,500.00	\$ 2,500.00	\$ 32,500.00
20	Furnish and Install Trench Drain Liner Flap	10,850	LF	\$ 20.00	\$ 217,000.00	\$ 13.00	\$ 141,050.00	\$ 20.00	\$ 217,000.00	\$ 16.00	\$ 173,600.00
21	Furnish and Install Trench Drain	10,850	LF	\$ 65.00	\$ 705,250.00	\$ 45.00	\$ 488,250.00	\$ 32.00	\$ 347,200.00	\$ 12.00	\$ 130,200.00

**BRIDGEWAY ACRES CLASS I LANDFILL
SIDE SLOPE CLOSURE
PROJECT NO.: 000748A/1792**

		Southeast Environmental Contracting, Inc.				GLF Construction Corporation		Kammaing & Roodvoets, Inc.		Talle Construction Co., Inc.	
22	Furnish and Install Fabric Formed Concrete Riprap	12,000	SF	\$ 7.00	\$ 84,000.00	\$ 9.00	\$ 108,000.00	\$ 25.00	\$ 300,000.00	\$ 8.00	\$ 96,000.00
23	Waste Excavation	69,000	CY	\$ 6.00	\$ 414,000.00	\$ 14.00	\$ 966,000.00	\$ 3.50	\$ 241,500.00	\$ 3.50	\$ 241,500.00
24	Waste Regrading	24,200	CY	\$ 5.00	\$ 121,000.00	\$ 4.80	\$ 116,160.00	\$ 8.00	\$ 193,600.00	\$ 2.00	\$ 48,400.00
25	Waste Relocation	37,400	CY	\$ 4.00	\$ 149,600.00	\$ 4.80	\$ 179,520.00	\$ 9.00	\$ 336,600.00	\$ 4.00	\$ 149,600.00
26	Furnish and Install Shallow Passive Gas Vents	13	EACH	\$ 2,500.00	\$ 32,500.00	\$ 4,750.00	\$ 61,750.00	\$ 5,000.00	\$ 65,000.00	\$ 6,000.00	\$ 78,000.00
27	Furnish and Install Oblong Corrugated Slotted Polyethylene Pipe	19,560	LF	\$ 50.00	\$ 978,000.00	\$ 22.00	\$ 430,320.00	\$ 25.00	\$ 489,000.00	\$ 25.00	\$ 489,000.00
28	Furnish and Install Sod	155,000	SY	\$ 2.25	\$ 348,750.00	\$ 2.20	\$ 341,000.00	\$ 4.00	\$ 620,000.00	\$ 1.90	\$ 294,500.00
29	Furnish and Install Access Roads	8,850	SY	\$ 23.00	\$ 203,550.00	\$ 20.00	\$ 177,000.00	\$ 26.00	\$ 230,100.00	\$ 45.00	\$ 398,250.00
30	Furnish and Install 48-inch Concrete Pipe and Mitered End Sections	144	LF	\$ 250.00	\$ 36,000.00	\$ 600.00	\$ 86,400.00	\$ 560.00	\$ 80,640.00	\$ 250.00	\$ 36,000.00
31	Furnish and Install 24-inch Corrugated Plastic Pipe	60	LF	\$ 48.00	\$ 2,880.00	\$ 300.00	\$ 18,000.00	\$ 200.00	\$ 12,000.00	\$ 135.00	\$ 8,100.00
32	Furnish and Install 24-inch Mitered end Sections and 24-inch Concrete Pipe	80	LF	\$ 100.00	\$ 8,000.00	\$ 275.00	\$ 22,000.00	\$ 225.00	\$ 18,000.00	\$ 125.00	\$ 10,000.00
33	Furnish and Install 30-inch Ductile Iron Pipe Sleeve	250	LF	\$ 150.00	\$ 37,500.00	\$ 300.00	\$ 75,000.00	\$ 250.00	\$ 62,500.00	\$ 100.00	\$ 25,000.00
34	Furnish and Install 12-inch HDPE Forcemain	4,350	LF	\$ 50.00	\$ 217,500.00	\$ 115.00	\$ 500,250.00	\$ 55.00	\$ 239,250.00	\$ 55.00	\$ 239,250.00
35	Furnish and Install the North Forcemain Connection	1	LS	\$ 5,000.00	\$ 5,000.00	\$ 20,000.00	\$ 20,000.00	\$ 14,500.00	\$ 14,500.00	\$ 8,000.00	\$ 8,000.00
36	Furnish and Install the Southwest Forcemain Connection	1	LS	\$ 4,000.00	\$ 4,000.00	\$ 21,000.00	\$ 21,000.00	\$ 14,500.00	\$ 14,500.00	\$ 7,000.00	\$ 7,000.00
37	Indemnification	1	LS		\$ 100.00		\$ 100.00		\$ 100.00		\$ 100.00
38	Miscellaneous Work and Cleanup	1	LS		\$ 25,000.00		\$ 115,000.00		\$ 750,000.00		\$ 1,480,000.00
39	Contingency for Unspecified Work	1			\$ 800,000.00		\$ 800,000.00		\$ 800,000.00		\$ 800,000.00
TOTAL BID					\$13,688,980.00		\$ 14,728,530.00		\$ 16,701,765.00		\$14,134,748.00

\$ 0.08

\$ 0.03

Attachment 2

Rs Means Cost Detail
(Mow, Fine Grade, Fence)

Date: 09/14/2015

Citrus Operation and Maintenance
Year 2015 Quarter 3
Unit Detail Report

Prepared By:
Mike McLaughlin
SCS Engineers

LineNumber	Description	Quantity	Unit	Total Incl. O&P	Ext. Total Incl. O&P
Division 01 General Requirements					
019304350080	Mowing lawns, tractor, 5 gang reel, 12' cut	1.00	M.S.F.	\$0.27	\$0.27
Division 01 General Requirements Subtotal					\$0.27
Division 31					
312216103300	Fine grading, slopes, gentle, finish grading	1.00	S.Y.	\$0.18	\$0.18
Division 31 Subtotal					\$0.18
Division 32					
323113202100	Fence, chain link industrial, no barbed wire, galvanized steel, 2" line post, 10' O.C., 1-5/8" top rail, 5' - 0" high, includes excavation, in concrete	1.00	L.F.	\$25.58	\$25.58
Division 32 Subtotal					\$25.58
Subtotal					\$26.03
General Contractor's Markup on Subs			0.00%		\$0.00
Subtotal					\$26.03
General Conditions			0.00%		\$0.00
Subtotal					\$26.03
General Contractor's Overhead and Profit			0.00%		\$0.00
Grand Total					\$26.03

Attachment 3

Rs Means Cost Detail (Piping)

Date: 09/14/2015

Citrus Piping
Year 2015 Quarter 3
Unit Detail Report

Prepared By:
Mike McLaughlin
SCS Engineers

LineNumber	Description	Quantity	Unit	Total Incl. O&P	Ext. Total Incl. O&P
Division 31 Earthwork					
312316130050	Excavating, trench or continuous footing, common earth, 3/8 C.Y. excavator, 1' to 4' deep, excludes sheeting or dewatering	1.00	B.C.Y.	\$9.09	\$9.09
312323142020	Backfill, structural, common earth, 80 H.P. dozer, 50' haul, from existing stockpile, excludes compaction	1.00	L.C.Y.	\$1.30	\$1.30
Division 31 Earthwork Subtotal					\$10.39
Division 33 Utilities					
334113501060	Public storm utility drainage piping, drainage and sewage, corrugated HDPE, type S, bell and spigot, with gaskets, 18" diameter, excludes excavation and backfill	1.00	L.F.	\$17.28	\$17.28
Division 33 Utilities Subtotal					\$17.28
Subtotal					\$27.67
General Contractor's Markup on Subs			0.00%		\$0.00
Subtotal					\$27.67
General Conditions			0.00%		\$0.00
Subtotal					\$27.67
General Contractor's Overhead and Profit			0.00%		\$0.00
Grand Total					\$27.67

Attachment 4
Bid Proposal Y12-1025-LC
(Waste Tire)

**BID PROPOSAL FORM
IFB #Y12-1025-LC**

The Contractor shall provide all labor and other resources necessary to provide the supplies, equipment and/or services in strict accordance with the specifications defined in this solicitation for the amounts specified in this Bid Proposal Form, inclusive of overhead, profit and any other costs.

ITEM NO.	DESCRIPTION	ESTIMATED ANNUAL QUANTITY	UNIT PRICE PER TON	ESTIMATED TOTAL
1.	Removal of Passenger/Truck Waste Tires Off -Site (section A)	1,125 tons	x \$ <u>76.00</u>	= \$ <u>85,500</u>
	Removed Waste Tires will be:	Recycled (X)	or	Disposed ()
2.	Removal of Oversized Waste Tires Off-Site (section B)	150 tons	x \$ <u>100.00</u>	= \$ <u>15,000</u>
	Removed Waste Tires will be:	Recycled (X)	or	Disposed ()

If recycling in accordance with provisions of Florida Administrative Code 62-701, enter five percent (5%) discount. \$ 5,025.00

TOTAL ESTIMATED BID \$ 95,475.00

SO49-0199726-012 &
 Waste Tire General Permit Number: WT49-0199726-014 Expiration Date: _____
 * see attached permit renewal application - existing permit is currently active.

Off-Site Processing Facility:

Name of Facility: Omni Waste of Osceola County, LLC, DBA J.E.D. Solid Waste Management Facility

Address of Facility: 1501 Omni Way, St. Cloud, FL 34773

Contact Person: Roger O'Connor Telephone Number: 407-908-3666

Was Visual Inspection made, per Special Terms and Conditions? Yes ___ No X

Omni Waste of Osceola County, LLC.
 Company Name

Attachment 5

Groundwater and Leachate Sampling Bid Breakdown

Citrus County Central Landfill
 GROUNDWATER AND LEACHATE SAMPLING AND REPORTING AND WATER QUALITY MONITORING PLAN EVALUATION - FY 2014-2015
 Cost Proposal - August 2014

Task #	Task Description	\$235.00		\$195.00		\$180.00		\$145.00		\$120.00		\$90.00		Total Hours	Task Total	OPs	ODCs	Total
		Hrs	\$	Hrs	\$	Hrs	\$	Hrs	\$	Hrs	\$	Hrs	\$					
1	Semi-Annual Groundwater Sampling & Reporting	4	\$940	8	\$1,560	24	\$4,320	80	\$11,600	56	\$6,720	40	\$3,600	212	\$28,740	\$20,977	\$1,500	\$51,217
2	Leachate Sampling and Reporting	1	\$235	2	\$390	4	\$720	16	\$2,320	8	\$960	8	\$720	39	\$5,345	\$2,200	\$400	\$7,945
3	Water Quality Monitoring Plan Evaluation (First Half 2013 - First Half 2015)	4	\$940	32	\$6,240	30	\$5,400	100	\$14,500	130	\$15,600	40	\$3,600	336	\$46,280	\$0	\$1,000	\$47,280
	Total Cost Lump Sum																	\$106,442
4	Groundwater Re-sampling (assumes re-sampling MW-10, MW-18, MW-19, MW-20 & MW-21 for all parameters analyzed from these wells during compliance sampling)	1	\$235	2	\$390	4	\$720	20	\$2,900	10	\$1,200	10	\$900	47	\$6,345	\$7,436	\$500	\$14,281
5	Leachate Re-sampling (assumes one semi-annual effluent sample for all parameters)	0	\$0	2	\$390	2	\$360	8	\$1,160	4	\$480	4	\$360	20	\$2,750	\$1,100	\$200	\$4,050
	Total Cost Not-To-Exceed Contingency Amount																	\$18,331
	Total Cost																	\$124,773

Attachment 6
Florida JetClean Bid

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING – EXPLOSION PROOF INSPECTION PIPE LOCATING – NO DIG REPAIRS - VACUUM TRUCK SERVICES

7538 Dunbridge Drive
Odessa, FL 33556
www.floridajetclean.com

TEL : 800-226-8013
FAX : 813-926-4616

PROPOSAL

DATE : 10/9/2014
TO : Orion Holtey – SCS Engineers
FROM : Ralph Calistri (floridajetclean@yahoo.com)
SUBJECT : Citrus County Landfill Phase 1-3 LCS Maintenance Services Proposal

Thank you for your inquiry. We confirm our capability and interest in carrying out this work for SCS Engineers at the Citrus County Landfill.

FLORIDA JETCLEAN specializes in leachate collection system maintenance and inspection, and has developed a considerable amount of specific expertise in this field over the last 27 years. Our company has worked at an extensive number of landfills in Florida, Georgia, the Carolinas, Delaware, and westward to Arkansas. We have worked with most engineering companies active in this field, and have also fostered excellent working relationships with the regulatory authorities. We use modified jetting equipment designed to achieve extended pipe distances found in landfill environments and our explosion proof camera equipment complies with OSHA and regulatory mandates for methane environments. Substantial references are available on request.

Based on the information provided in your email, we quote as follows:

High-pressure water-jetting and explosion-proof video-inspection of roughly 10,500' of existing leachate piping at Phases 1-3 at the above location

\$ 19,925.00

The proposal is subject to the following :

- **Our equipment and procedures fully meet OSHA and DEP requirements. In particular our video inspection equipment is certified Class 1, Division 1, Gas Groups C & D (i.e. explosion proof). This is required in methane piping per OSHA and NEC.**
- An adequate no charge on site water supply for jetcleaning
- No debris pumping/removal included in this bid.
- Substantial, non-routine volumes of debris/sand in the pipes may incur additional cleaning and vacuum removal charges
- 2 wheel drive vehicle access within 10'-15' of each cleanout
- Continuity of access allowing work to be carried out on a single mobilization

- Exposed and opened cleanouts at ground level
- Standby time chargeable at \$200.00 per hour should delays not of our making delay progress e.g. bad weather, access problems, flooded pipes, etc.
- Current technology limitations **may** preclude the use of tractor video systems (range 1350') in 8" lines or smaller restricted to cleanout access. If a push video system has to be used, we will be limited to a maximum 400'-500' from each point of entry.
- Pricing is unrelated to actual or achieved footages but on the number of setups required and the time we anticipate being on site.
- All jetcleaning and video-inspections will begin at available access points and continue into the pipes as far as possible. Additional access may be required for complete coverage.
- DVD and report after completion
- Payment : net 30 days

Regards,

A handwritten signature in black ink that reads "Ralph Calistri". The signature is written in a cursive, slightly slanted style.

Ralph Calistri – Florida Jetclean - 800-226-8013

Attachment 7
CECS Tank Cleaning Estimate



December 17, 2014
December 29, 2014 revised

**PROPOSAL 14-274
WASHOUT AND INSPECT SIX LEACHATE STORAGE TANKS**

**0.045-MG FIBERGLASS STANDPIPES
A.C.M.S. LANDFILL**

LAKE PANASOFKEE, FL

Crom Engineering and Construction Services (CECS) proposes to provide labor and material for cleaning and inspecting the 6 fiberglass leachate storage tanks in accordance with all applicable codes and standards for compliance of 62-701.400(9), F.A.C.

1. DRAWINGS, SPECIFICATIONS, AND OTHER REQUIRED DATA

Prior to starting work, Crom Engineering and Construction Services will gather all data required for submittal purposes for the inspection and reporting of the aforementioned storage tanks including any available computations, detailed drawings, and specifications.

2. COMMENCEMENT AND COMPLETION

Upon your execution of this proposal, we will be prepared to start work **eight weeks** after approval of our submittal information; and will undertake to furnish sufficient labor, materials, and equipment to complete the work within approximately **four days** working time thereafter.

In the event that we cannot start the job by **June 1, 2015** because of delays of any nature which are caused by the owner or other contractor employed by him or other circumstances over which we have no control, then the contract price may be renegotiated to reflect any increased costs.

3. INSURANCE

We hereby certify that we have complete Workers' Compensation Insurance, and that we carry adequate Liability and Property Damage Insurance as well as Builders' Risk Insurance. A certificate will be furnished by our insuring agency upon request.

CROM ENGINEERING & CONSTRUCTION SERVICES

6801 SW Archer Road • Gainesville, Florida 32608 • 352-548-3349 • Fax: 352-548-3449

A Division of The Crom Corporation

4. SERVICES TO BE FURNISHED BY CROM ENGINEERING AND CONSTRUCTION SERVICES

We propose to furnish all supervision, labor, material, equipment to clean and inspect the four tanks, except as noted in Paragraph 5. The services to be furnished by Crom Engineering and Construction Services are specifically:

- a. Each tank:
 - (1) Wash down the interior wall and floor
 - (2) Vacuum the tank using equipment supplied by Florida JetClean
 - (3) Inspect each tank in accordance with 62-701.400(9), F.A.C.
 - (4) Provide written report for each tank

This work shall be performed on the following tanks:

- 6, 0.045-MG Fiberglass Leachate Storage Tanks
14'-0" ID x 40'-6" SWD

5. MATERIALS AND SERVICES FURNISHED BY OTHERS

It is understood that the following services shall be provided by others without expense to Crom Engineering and Construction Services.

- a. Adequate access to the tank site including open storage space for our vehicles, equipment and materials, conveniently located near the tank to be inspected.
- b. A continuous supply of potable water under minimum pressure for the use of the CECS crew within 100 feet of the tank site.
- c. A continuous supply of electricity during the period of work: one 100-AMP, 110/220-volt service for the operation of our power tools and accessories, located not more than 100 feet from each tank. Please be sure that all circuit breakers are ground-fault protected. If it is necessary for Crom Engineering and Construction Services to supply its own electric power, add \$500.00 per week to the contract amount.
- d. Any permit or other governmental fees as may be required for the work.
- e. Initial drainage and disposal of the tank's contents to include off-loading site for FL JetClean to dispose the washdown contents conveniently located near the tanks.
- f. Removing and replacing side manway cover.
- g. Complete lock out and tag out of the subject tank prior to personnel entering the tank. Owner will be required to provide all materials for this process. Crom

Engineering and Construction Services will review the procedures before entering the tank.

6. BACK CHARGES AND CLAIMS FOR EXTRAS

No claim for extra services rendered or materials furnished will be valid by either party unless written notice thereof is given during the first ten days of the calendar month following that in which the claim originated. Crom Engineering and Construction Services' claims for extras shall carry 30% for overhead and 10% for profit.

7. DELAYS

It is agreed that we shall be permitted to prosecute our work without interruption. If delayed at any time for a period of 24 hours or more by an act or neglect of the owner, his representative, or other contractor employed by him, or by reason of any changes ordered in the work, we shall be reimbursed for our actual additional expense caused by such delay, including loss of use of our equipment, plus 30% for overhead.

8. LABOR

This proposal is predicated on open-shop labor conditions, using our own personnel. If we are required to employ persons of an affiliation desirable to the owner or other contractor employed by him or the general contractor thereby resulting in increased costs to us, the contract price shall be adjusted accordingly. Such requirement shall not provide that Crom Engineering and Construction Services sign a contract with any labor organization. In the event of a labor stoppage, we shall not be in default or be deemed responsible for delay of the progress of this contract or damage to the owner or the contractor so long as Crom Engineering and Construction Services has sufficient qualified employees available to perform the work.

9. QUOTATION

We are prepared to carry out this work in accordance with the foregoing for the lump sum price of:

Clean and Inspect with Report: \$4,200.00 per tank

Total: \$25,200.00 *

*** This price is based on 3 days, if additional time is required to complete the work; each additional day will be billed at a rate of \$5,695.00**

Final payment, including any retention, shall be made within **30 days** from the time work is completed or the billing is received, and is to be received by us in our accounting office at 250 SW 36th Terrace, Gainesville, Florida 32607. Final payment shall not be held up

because of delays in testing. Owner shall pay CECS interest at 12% per annum on any overdue amounts.

10. CONSULTATION AND LIMITATIONS

If the Owner wishes to have CECS to perform any additional repairs or remediation of the tank or accessories, it shall authorize such work in writing and pay CECS its standard charges for such work.

It is agreed that CECS shall not be responsible for any consequential, special or delay damages.

It is agreed that the venue for any litigation under this Agreement shall be in Alachua County, Florida.

If CECS engages an attorney for the collection of the amounts due from the Owner, the Owner shall pay CECS its reasonable attorney's fees and costs through any appeal.

11. GUARANTEE

CECS will guarantee its workmanship and materials on its work covered in this Proposal for a period of one year after completion of its work. Prior to leaving the location, CECS personnel will perform a walk through with the responsible party overseeing our work for the Owner or Contractor. In case any defects in CECS' workmanship or materials appear within the one-year period after completion of CECS' work, CECS shall promptly make repairs at its own expense upon written notice by the Owner or Contractor that such defects have been found. CECS' guaranty is limited to defects in CECS' workmanship and materials and CECS is not responsible for ordinary wear and tear or for damage resulting from negligent or inappropriate use.

Attachment 8

Citrus Leachate Treatment Memorandum



BOARD OF COUNTY COMMISSIONERS
DEPARTMENT OF WATER RESOURCES
DIVISION OF UTILITIES
3600 W Sovereign Path Suit 291
Lecanto, Florida 34461-9014
Telephone: (352) 527-7650 Fax: (352) 527-7644
Citrus Springs/Dunnellon/Inglis/Yankeetown area - Toll Free (352) 489-2120
TTY Telephone: (352) 527-5312
www.bocc.citrus.fl.us

MEMORANDUM

To: Larry Brock, Assistant Public Works Director

Thru: Ken Cheek, Water Resources Director *KJC*
Jeff Rogers, Public Works Director *JR*

From: Gary Loggins, Utilities Operations Division Director *GL*

Date: May 27st, 2015

Re: Memorandum of Understanding

This Memo shall serve as a memorandum of understanding (MOU) between Citrus County Utilities Division (Utilities) and Citrus County Solid Waste Management Division (SWM).

Utilities agrees to secure and treat leachate produced at SWM landfill at a monthly base rate of \$752.98 plus \$8.40 per thousand gallons of leachate treated, not to exceed 100,000 gallons per day on an annual average basis. Flows may be adjusted accordingly by Utilities during extreme wet weather conditions.

SWM agrees to pay a Wastewater Capacity fee of \$56,000.00 for 36.15 Equivalent Residential Units (ERU's) at \$1,550.00 per ERU. SWM also agrees to pay the \$752.98 base rate (6" meter base charge) plus \$8.40 per thousand gallons.

SWM agrees to provide annual influent Toxicity Characteristic Leaching Potential test (TCLP) listed in 40 CFR, Part 261.24, Appendix XI, (at leachate storage tanks).

This MOU shall continue through the duration of SWM, landfill long-term care requirements.

Cc: Randy Oliver, Citrus County Administrator

**Supplement to Memorandum of Understanding
between Citrus County Utilities Division
and Citrus County Solid Waste Management Division**

Dated May 27, 2015

Leachate Force Main Billing

The Utilities Division will read the leachate force main meter at the landfill on a monthly basis and forward the invoicing through the Clerk's Office Finance / Accounts Payable Section for approval of payment by Solid Waste Management.

Leachate Hauling and Disposal Procedure

In the event Solid Waste Management is required to implement contractor hauling and disposal at one of the County's Wastewater Treatment plants, by the 10th of the following month, the Solid Waste Management will provide a monthly summary report to Utilities Division indicating the disposal amount (gallons per day) for each plant and the treatment fee (per day) at the rate of \$8.40 per thousand gallons.

Payment shall be through the Journal Voucher process initiated by the Utilities Division upon receipt of the monthly summary report from Solid Waste Management.

Attachment 9
SCS Fee Schedule

SCS ENGINEERS

EXHIBIT A SCS ENGINEERS FEE SCHEDULE (Effective through June 30, 2016)

	<u>Rate/Hour (\$)</u>
Principal/Office Director.....	230
Project Director.....	205
Senior Project Advisor.....	190
Senior Project Manager.....	175
Project Manager.....	155
Senior Project Professional.....	130
Project Professional.....	115
Construction Superintendent.....	110
Staff Professional.....	95
Drafter Person.....	88
Senior Technician.....	88
Associate Staff Professional.....	85
Technician.....	75
Office Services Manager.....	75
Secretarial/Clerical.....	70
Laborer.....	60

1. The hourly rates are effective through June 30, 2016. Work performed thereafter is subject to a new Fee Schedule issued for the period beginning July 1, 2016.
2. The above rates include salary, overhead, administration, and profit. Other direct expenses, such as analyses of air, water and soil samples, reproduction, travel, subsistence, subcontractors, computers, and other reimbursable fees, are billed in accordance with the attached reimbursable fee schedule or at cost, plus 15 percent for administration.
3. For special situations, such as expert court testimony, hourly rates for principals of the firm will be on an individually-negotiated basis.

Attachment 10
Gas Monitoring Task Order

09210021.19

BOARD OF COUNTY COMMISSIONERS
CITRUS COUNTY, FLORIDA

PURCHASE ORDER NO. 73777

090385213

Sales Tax Exemption # 19-07-011249-53C
Phone 352-341-6462

PAGE NO. 1

10-1-13

V [6118 FAX: 813-623-6757]
E [SCS ENGINEERS INC]
N [4041 PARK OAKS BLVD]
D [SUITE 100]
O [TAMPA FL 33610]
R []

S [SOLID WASTE MANAGEMENT]
H [CITRUS COUNTY CENTRAL LANDFILL]
I [230 W GULF-TO-LAKE HWY]
P [LECANTO FL 34461]
T []
O [ATTN:]

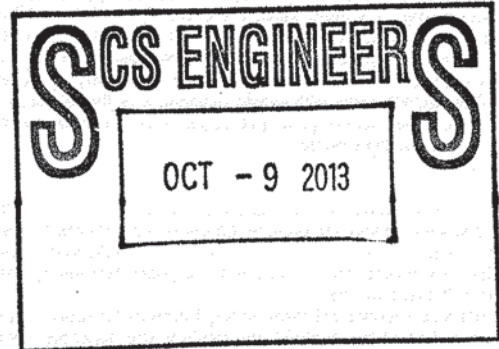
ORDER DATE	10/02/13	BUYER	CATHY WINTER	REQ. NO	0172	REQ. DATE:	
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TERMS:	NET 30 DAYS	F.O.B.:		DESC.:	
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ITEM#	QUANTITY	UOM	DESCRIPTION	UNIT PRICE	EXTENSION
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 BILL TO:
 DIVISION OF SOLID WASTE MANAGEMENT
 110 N APOPKA AVE
 INVERNESS, FL 34450

01	1.00	LS	TASK FOR ROUTINE AND NON-ROUTINE OPERATIONS, MONITORING AND MAINTENANCE FOR THE LANDFILL'S GAS COLLECTION SYSTEM 10/1/13 TO 9/30/14. RFQ 013-10 BOCC APPROVED 9/10/13 ITEM B.5.D.	54700.0000	54,700.00
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ITEM#	ACCOUNT	AMOUNT	PROJECT CODE	PAGE TOTAL \$	54,700.00
01	5216	53100		TOTAL \$	54,700.00

IMPORTANT PLEASE NOTE THE PURCHASE ORDER NUMBER MUST APPEAR ON ALL INVOICES, PACKAGES, PACKING SLIPS, SHIPPING PAPERS AND ON ALL CORRESPONDENCE

SHIPPING INFORMATION ALL DELIVERIES MUST BE MADE BETWEEN 8:00 A.M. & 4:30 P.M.

We will make payment ONLY to the company to which this order is issued unless we have authorization, in writing, to do otherwise.

Subject to Terms and Conditions on reverse.

APPROVED BY:

Finance Department
DIRECTOR OF PURCHASING

Attachment 11
RS Means
(Fill from Stockpile)

Date: 10/09/2015

ACMS Earth Work
Year 2015
Unit Detail Report

Prepared By:
Mike McLaughlin
SCS Engineers

LineNumber	Description	Quantity	Unit	Total Incl. O&P	Ext. Total Incl. O&P
Division 31 Earthwork					
312323170170	Fill, from stockpile, 130 H.P., 2-1/2 C.Y., 300' haul, spread fill, with front-end loader, excludes compaction	1.00	L.C.Y.	\$2.90	\$2.90
312323170190	Fill, from stockpile, 300 H.P. dozer, 2-1/2 C.Y., 300' haul, spread fill, with front-end loader, excludes compaction	1.00	L.C.Y.	\$4.18	\$4.18
312323200014	Cycle hauling(wait, load, travel, unload or dump & return) time per cycle, excavated or borrow, loose cubic yards, 10 min wait/load/unload, 8 C.Y. truck,15 MPH, cycle 0.5 mile, excludes loading equipment	1.00	L.C.Y.	\$2.54	\$2.54
Division 31 Earthwork Subtotal					\$9.62
Subtotal					\$9.62
General Contractor's Markup on Subs			0.00%		\$0.00
Subtotal					\$9.62
General Conditions			0.00%		\$0.00
Subtotal					\$9.62
General Contractor's Overhead and Profit			0.00%		\$0.00
Grand Total					\$9.62

Attachment 12
On-site Soil Calculations

CLIENT Citrus County	PROJECT Operations Permit Renewal	JOB NO. 09210021.26
SUBJECT Closure Soil Calculations	BY IUS	DATE 3/9/2016
	CHECKED CEH	DATE 3/9/2016

Volume of Soil for closure of Phases 1-3

The volume includes 12" of Intermediate Cover addition to in place cover plus 24" protective cover soil over the liner. From the Closure Cost Estimate Calculations sheets the total soil volume required is:

$$3' \times 1,531,581 \text{ sq. ft.} = 4,594,743 \text{ cu. ft.} = 170,176 \text{ cu. yd.}$$

The calculation is based on the surface area of the proposed closure, including side slope consideration.

Immediately following this page, Figure 1 shows the approximate area being set aside for soils covenant area. The area is approximately 148,226 sq. ft. and 80 feet deep at its deepest. This area contains a total volume of 171,875 cu. yd. of soil. Therefore there is enough soil in the soils covenant area for the closure construction.

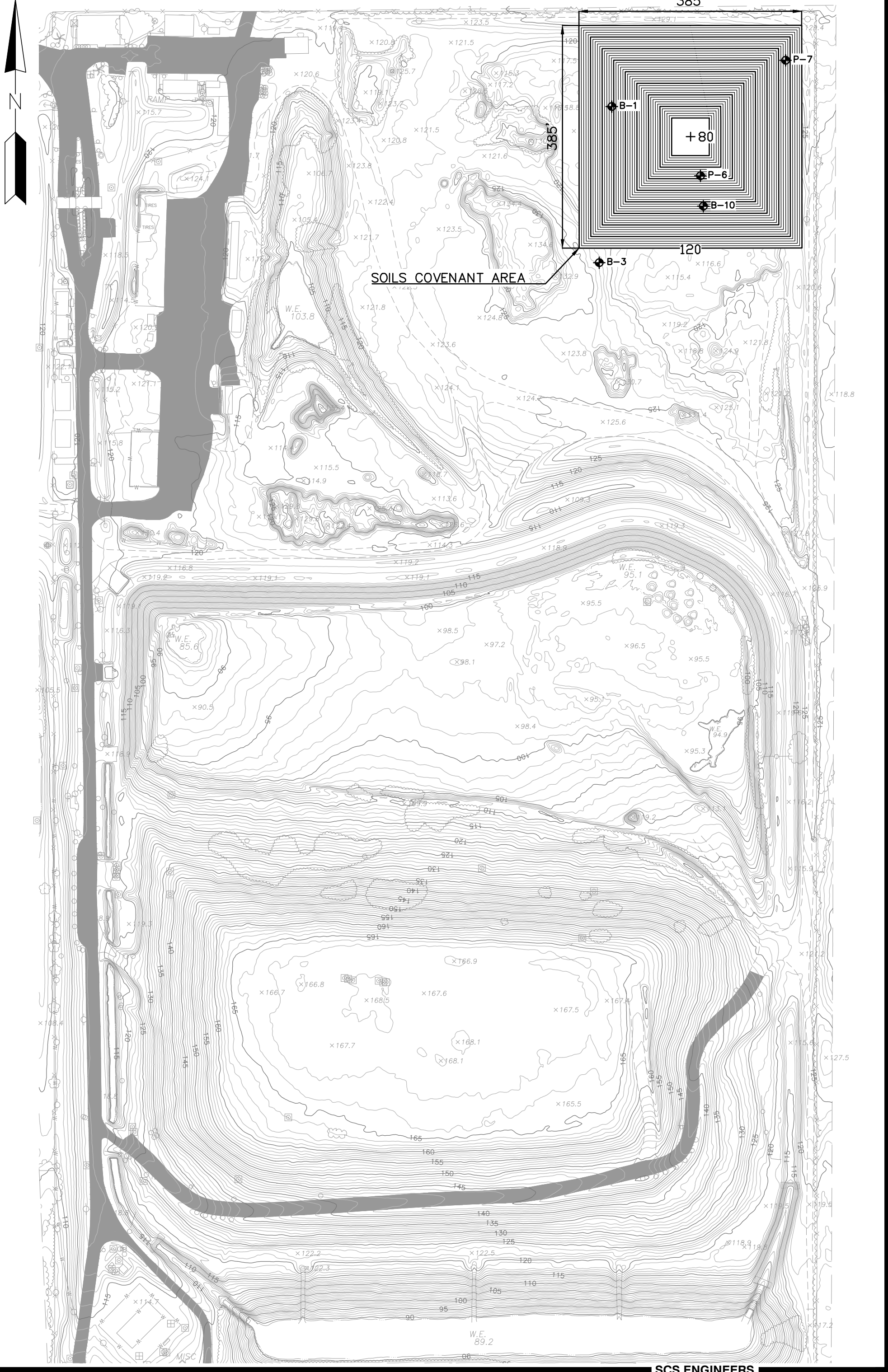
Soil Classifications

Based on the CH2M HILL geotechnical investigation provided to DEP in the Application for Permit, Citrus County Transfer Station, Volume II, received by FDEP on June 11, 2009, the following information is provided.

"The soil boring and soundings generally encountered medium dense to dense sand, silty sand and clayey sand to the maximum borings and sounding depth of 80 feet, except for borings B-1, B-3, B-6 and B-12, which encountered very loose to loose sand from ground surface to approximately 10 feet below the ground surface. The water table was not encountered in any of the borings."

Borings B-1(60'), B-3(60'), B-10(30'), P-6(30') and P-7(25') are near or inside the soils covenant area as seen on Figure 1. The locations of all the borings can be seen on Figure 2 by King Engineering Associates. Based on the Soil classifications from the report the soils are classified as SP, SM, SP-SM, SM-SC and SP-SC. These soil types are acceptable for closures. During the closure project(s) the material excavated will be monitored for unsuitable material and any found will be removed from the application.

Note: The County has decided not to build the Transfer Station and associated improvements shown on the King drawing.



SOILS COVENANT AREA

385'

385'

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SCS ENGINEERS

FIGURE 1 - SOILS COVENANT AREA

Attachment S
Operation Plan



Citrus County Class I Central Landfill Operation Plan



Citrus County, Florida

Prepared for:

Citrus County

Board of County Commissioners

P.O. Box 340

Lecanto, Florida 34460

Prepared by:

SCS ENGINEERS

4041 Park Oaks Blvd, Suite 100

Tampa, FL 33610

(813) 621-0080

File No. 09210021.26

~~October 13, 2015~~

April 18, 2016

Offices Nationwide
www.scsengineers.com

Citrus County Class I Central Landfill Operation Plan



Citrus County, Florida

Prepared for:
Citrus County
Board of County Commissioners
P.O. Box 340
Lecanto, Florida 34460

Prepared by:
SCS ENGINEERS
4041 Park Oaks Blvd, Suite 100
Tampa, FL 33610
(813) 621-0080

File No. 09199033.24
~~October 13, 2015~~
April 18, 2016

Offices Nationwide
www.scsengineers.com

Charles E. Hilton Jr.
Charles E. Hilton, Jr. P.E.
PE 46916 *4/18/16*

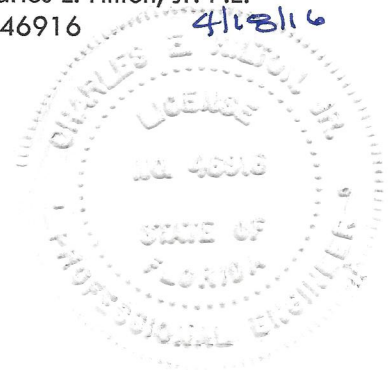


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EXECUTIVE SUMMARY

The purpose of this document is to provide a consolidated manual of operating procedures for the Citrus County Central Landfill. In every case, if there is a conflict between any F.A.C rule and this Operation Plan, the rule will prevail. This operations plan supersedes previous operations plans submitted to the Florida Department of Environmental Protection (FDEP) for this facility. This plan has been prepared and organized in accordance with Florida Rule 62-701, Florida Administrative Code (F.A.C.) and Part K of FDEP's permit application form for solid waste management facilities (Part K).

The Citrus County Landfill is owned and operated by the Citrus County Board of County Commissioners. Vehicles access the Citrus County Landfill via State Road 44. The County disposes of its solid waste in an 80-acre lined area that is subdivided into smaller areas referred to as phases. A site plan of the Citrus County landfill, including the current active area, Phase 3, is included as Figure 1-1.

All waste arriving at the Citrus County landfill is weighed at the scale house. The scale house attendant directs vehicles carrying waste to the areas where the wastes are unloaded. Commercial customers are directed to the landfill if they are disposing of Class I waste or to the materials management area for all other materials. The materials management area provides temporary storage for recyclable materials such as tires, oil, fluorescent bulbs, metal, and yard waste. The County refers to this area as the Citizen's Service Area. In addition, the materials management area provides a facility for citizens to unload their solid waste. Hazardous wastes are temporarily placed in the Hazardous Waste Collection and Storage Facility. Locations for the Citizen's Service Area, Citizens' Solid Waste Drop-Off Facility and the Hazardous Waste Collection and Storage Facility are shown on Figure 1-1.

A ramp to and from the filling area provides access to the working face of the landfill from the west side of the Class I landfill via the central access road. Waste is spread over the working face area of the landfill, placed in 2-foot layers, compacted by a compactor, and covered at the end of the working day.

Leachate generated from the landfill is either pumped to the leachate storage facility prior to being pumped to the Meadowcrest Waste Water Treatment Plant (WWTP) or used as irrigation on the Phases 2 and 3 (a maximum of 4,633 gal per day can be recirculated in those cells during non-rainfall events). The leachate storage facility is located on the west side of the Class I Landfill. If the leachate generated cannot be treated at the Meadowcrest WWTP, the leachate is transported to one of several Citrus County wastewater treatment plants.

Stormwater run-off is directed away from open areas on the active face of the landfill by a means of berms and swales along the side slopes of the landfill. The swales outside the disposal area divert stormwater into the perimeter ditches that are located outside the lined berms and, therefore, isolated from the leachate and solid waste. Within the landfill disposal area, stormwater run-off that has not contacted waste or mixed with leachate is pumped to the

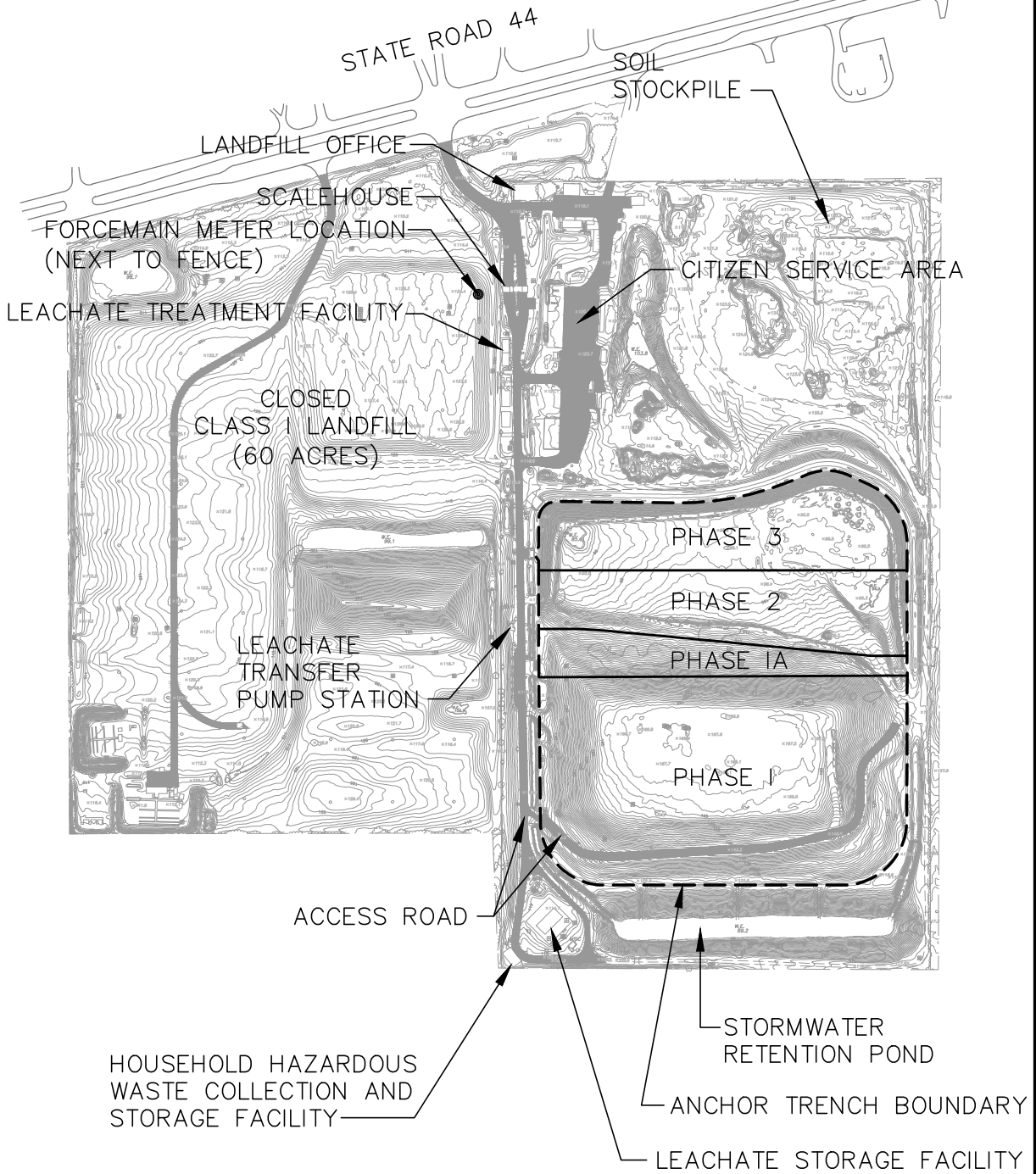
stormwater management system. Stormwater run-off which contacts waste or mixes with leachate is treated as leachate.

Based on field observations by FDEP, the County was directed to address three issues referred to as “Action Items”. These include drainage atop the 7 acre closure, standing water in the active operations area, and secondary liner zone leachate exceedances. The action plans are included herein in Appendix K.

SURVEY SOURCE NOTE:

PHOTOGAMMETRIC SURVEY SHOWN
PERFORMED BY PICKETT & ASSOCIATES,
INC., BARTOW, FLORIDA. BASED ON AERIAL
PHOTOGRAPHY DATED: OCTOBER 04, 2014.

0 250 500
SCALE IN FEET



G:\PROJECT\Citrus\09210021.26\Figures\SITE-PLAN-FIGURES.dwg Feb 08, 2016 - 2:46pm Layout Name: Figure 1-1 By: 3935ius

SCS ENGINEERS

Figure 1-1. Site Plan, Citrus County Central Landfill

Section K

LANDFILL OPERATIONS AND MAINTENANCE (RULE 62-701.500(2), F.A.C.)

K.1 TRAINING AND CERTIFICATION OF OPERATORS AND SPOTTERS RULE 62-701.500(1), F.A.C.)

In accordance with Rule 62-701.500(1), F.A.C., at least one trained operator will be on duty at the Citrus County Central Landfill whenever waste is received at the facility. At least one trained spotter will be present at each landfill active face when waste is received. Operator and spotter training will comply with Rule 62-701.320(15), F.A.C. Operators at the Citrus County Central Landfill shall participate in at least 24 hours of initial training. Every three years landfill operators shall participate in continuing education courses totaling 16 hours. All Operators training will consist of courses conducted by the University of Florida TREEO Center, or other courses presented by other providers that have been approved by the Florida Solid Waste Management Training Committee (SWMTC).

In accordance with Rule 62-701.320.15, F.A.C., Spotters shall participate in 8 hours of initial training that shall include Spotting at Construction and Demolition Sites, Landfills, and Transfer Stations (SWMTC 8 hours) and/or Waste Screening and Identification for Landfill Operators and Spotters (SWMTC 8 hours) conducted by the University of Florida TREEO Center or other SWMTC approved providers. Every three years Spotters shall participate in continuing education courses totaling four hours. The compactor operator will be responsible for evaluating each load visually as it is dumped and serve as the spotter at the working face of the facility. Refer to Appendix E for the Training Certificates.

K.2 LANDFILL OPERATIONS PLAN PROCEDURES

K.2.a DESIGNATING RESPONSIBLE OPERATING AND MAINTENANCE PERSONNEL (Rule 62-701.500(2) (a), F.A.C.)

The persons directly responsible for major components of the landfill follow:

Component	Responsible Party
Operations	Field Crew Leader, Sammy Walker
Maintenance	Maintenance Supervisor, Aaron Lake
Permitting Requirements	Solid Waste Management Division Director, Henry Norris
Water Quality Testing	Solid Waste Management Division Director, Henry Norris
Hazardous Waste Operations	Hazardous Waste Coordinator, Dan Sherlock

The landfill Field Crew Leader has overall responsibility for the operation of the landfill. The landfill Field Crew Leader is responsible for the day-to-day implementation of the Operations Plan and, along with the Solid Waste Management Division (SWMD) Director, is responsible for environmentally safe operations in accordance with state and federal regulations.

**K.2.b EMERGENCY PREPAREDNESS AND RESPONSE AS REQUIRED
IN (Rule 62-701.500(2)(b), F.A.C.)**

The Emergency Incidents and Contingency Plan, in accordance with 62-701.320(16), is included in Appendix B of this Operations Plan. The plan for the facility addresses the following five potential emergencies:

- Equipment failure
- Unusual operating conditions resulting from poor weather conditions
- Accidents
- Fire
- Unavailable landfill capacity

K.2.b.1 Emergency Incidents Plan

In accordance with rule 62-701.320(16), F.A.C., Citrus County has developed a site specific Emergency Incidents and Contingency Plan which is included in Appendix B. This plan includes additional detail for responding to emergency incidents at the Central Landfill.

K.2.b.2 Equipment Failure

Sufficient back-up equipment will be provided on-site for equipment breakdowns and for downtime because of normal routine equipment maintenance. In the case of a major equipment failure, the following procedures will be followed:

- Maintain duplicate equipment capability
- Contact contractors and rental equipment dealers as pre-arranged, to furnish equipment on short-term notice (within 24 hours)

In the event of equipment failure, the Field Crew Leader will contact the Landfill Maintenance Supervisor. Within 24 hours of notification by the Landfill Maintenance Supervisor the equipment will be replaced with back-up capability if necessary, or repaired and placed back in operating condition.

All equipment maintenance will either be performed by Citrus County or will be contracted by Citrus County to a maintenance contractor.

Redundant pumping systems are provided for both the leachate and stormwater transfer system.

An emergency power generator is available for stormwater and leachate facilities.

K.2.b.3 Poor Weather Conditions and Natural Disasters

Unusual operating conditions could result from excessive rainfall and electrical storms. The type and volume of materials to be disposed of after a hurricane or excessive storms will change normal landfill operations. During extremely high wind conditions or electrical storms, disposal

operations will be temporarily suspended to protect the workers. Disposal operations will be suspended immediately before and during a hurricane or tornado.

During rainy weather, access to the working face along on-site roads must be maintained. It may be necessary to grade out ruts more frequently than during normal operations, or it may be necessary to apply additional material to the on-site access roads to counteract the effects of rain.

K.2.b.4 Fire

Waste loads that arrive at the landfill on fire will not be deposited at the working face. They will be deposited away from the working face on an area that has previously been covered with daily soil cover. The load will then be spread out and covered with daily cover soil cover to extinguish the fire. If a fire does occur at the landfill working face, a temporary area will be identified as far away from the fire as possible but still within the limits of the lined disposal area where daily soil cover has previously been placed. Berms will be constructed around the temporary area using on-site equipment and soil materials from the on-site stockpile. Solid waste entering the facility will be placed in the temporary area until the fire is extinguished. Then the waste will be transported from the temporary area to the working face using on-site equipment. The soil berms around the temporary area will then be leveled and spread out over the surface at the temporary area.

K.2.b.5 Temporary Transfer Station

Citrus County will implement a temporary transfer station if any condition prevents normal disposal operations at the landfill for more than 48 hours. This temporary transfer station will be located on top of the existing lined landfill. The transfer station will be constructed as a split-grade facility. Waste collection trucks will unload on the upper level. A front loader will lift the off-loaded waste and place into transfer vehicle located on the lower level. The transfer trucks will be weighed prior to leaving the site to ensure that they are legal for over-the-road transport. Crushed concrete and asphalt will be used as an operating surface. This provides an area for trucks to unload. Sloping the area away from the tipping area to a perimeter berm will provide drainage. This liquid will either be allowed to percolate into waste or be collected. Collected liquid will be pumped to the leachate storage tank. Precipitation that falls outside the perimeter berm will be managed as stormwater. Litter fences will be placed around the facility to reduce the potential for blowing litter. The temporary transfer station will not be operated for more than 30 days unless additional approval is granted from FDEP. The County has a reciprocal agreement with Hernando County for emergency access to the disposal facilities should the need arise. See Appendix J for a copy of that interlocal agreement.

K.2.C CONTROL/INSPECTION OF INCOMING WASTE (Rule 62-701.500(2)(c), F.A.C.)

All solid waste arriving at the landfill is routed through the scale house. Scale house attendants screen visible loads for unacceptable materials including recyclables, hazardous waste, and medical waste. From the scale house, loads are directed to either the Class I disposal area or to the citizen waste drop off management area. The Citizen's Service Area provides temporary

storage for recyclable material, waste oils, yard waste, white goods, batteries, and tires. A spotter will be located at the Citizen's Service Area and at the landfill working face to observe the types of waste actually deposited. If prohibited wastes are discovered, the spotter will direct the vehicle back to the office. If the waste has not yet been unloaded, the person responsible for shipping the waste will be notified. If the waste has been deposited, the area of the waste load should be blocked from public access until the generator or hauler of the waste cleans up the waste. If the generator or hauler of the waste cannot be identified or is unable to remove the waste, Citrus County will be responsible for cleanup, transportation, and disposal of the waste at an appropriate waste management facility.

Special waste shall be managed as follows:

- Used oil and antifreeze are each placed into double-wall containers within the Customer Service Area and collected by a contractor.
- Lawn debris is placed within the registered yard waste processing facility for management.
- Tires are placed into the permitted used tire facility for management.
- Appliances - all Freon containing appliances shall have the Freon removed by County personnel and then placed within the scrap metal recycling container. The container is collected by a contractor.
- Lead acid batteries are placed on pallets and collected by a recycling contractor once several pallets are loaded. (Collections will occur at a minimum of once per month)

The landfill has a permanent household hazardous waste collection and storage facility located at the southwest corner of the existing landfill site as shown in Figure 1-1. The facility is used for the collection and storage of household hazardous waste and Conditionally Exempt Small Quantity Generator (CESQG) waste. The building is engineered to comply with EPA, NFPA, and OSHA standards and regulations for storing hazardous chemicals and wastes. The household hazardous waste collection/storage ("HHW C/S") will be operated in accordance with the guidelines outlined in the Facility Standards and Emergency Incidents Plan (last Revised August 2015), which is on file at the landfill office. The current schedule allows for periodic program days for HHW and CESQG collection. The following is a summary of some HHW C/S guidelines:

- HHW received at the Citizen Drop-off area shall be identified and relocated for storage within the containment area of the HHW C/S Facility at the end of each collection day.
- Spillage shall be removed and properly packaged for disposal. Soils that have been contaminated by spills shall be removed and packaged for proper disposal on the same day as the spill occurred.
- Liquids, including contaminated rainwater, shall not be discharged outside of the containment structures.
- Latex paints shall be stored within a secondary containment area and may be either collected by a contractor or used as an approved alternate daily cover (ADC) process.

- Waste received at the HHW C/S Facility shall be stored within containment areas at all times.
- Records on the quantities of HHW collected and removed for disposal shall be compiled quarterly and maintained at the facility for Department review upon request.

The specific waste handling procedures for this facility is described in the Facility Standards and Emergency Incidents Plan (last Revised August 2015), which is on file in the landfill office.

K.2.d WEIGHING OF INCOMING WASTES (Rule 62-701.500(2)(d), F.A.C.)

Weighing of incoming wastes will be performed at the scale house. Each customer receives a receipt made out by an automatic cash register showing the type of refuse, amount, and fee. These receipts are utilized for financial accountability and to complete the necessary daily, weekly, monthly, and annual activities/materials reports required by the Florida Department of Environmental Protection (FDEP) and Citrus County.

K.2.E VEHICLE TRAFFIC CONTROL AND UNLOADING (Rule 62-701.500(2)(e), F.A.C.)

All traffic entering the landfill must pass through the scale house. Vehicle traffic control and unloading is directed by color-coded signage for unloading areas and the attendant in the scale house. The attendant will direct the vehicle to the point of unloading compatible with the waste. Additional traffic directions will be provided, when needed, by the equipment operator or spotters.

K.2.F METHOD AND SEQUENCING OF FILLING WASTES (Rule 62-701.500(2)(f), F.A.C.)

The Citrus County Landfill will be operated using the area fill method. Waste delivered to landfill will be directed to the working face area of the landfill for unloading. Once unloaded, waste will be spread in layers approximately 2-feet in thickness and compacted to approximately 1 foot in thickness. Refer to Appendix A for the fill sequencing plans for the remainder of Phase 1/1A, Phase 2, and Phase 3.

K.2.G WASTE COMPACTION AND APPLICATION OF COVER (Rule 62-701.500(2)(g), F.A.C.)

K.2.g.1 Method of Filling Wastes/Compaction

The procedure for filling and compacting of the initial waste lifts over areas of exposed liner will be as follows:

- To protect the integrity of the leachate collection system and liner, driving vehicles directly over the liner will be prohibited.
- The liner will be covered with a minimum of 2 feet of protective soil at least one week prior to the placement of waste.

- The protective soil layer is placed on the liner using low ground pressure tracked dozer. The equipment operator is directed by a spotter to ensure that the soil is placed correctly and that the equipment does not come in contact with the liner. The 2-foot minimum in-place thickness of the protective soil layer is verified by the landfill operator.
- The landfill spotter directs equipment away from the side slope liner during normal operations.
- The initial lift of waste will be 4 feet thick and selected for material that will not cause damage to the liner. The initial lift of waste will be spread with equipment that will preserve the integrity of the liner system.

The procedures for filling and compaction of all waste will be as follows:

- Waste will be placed against the working face of the previous days waste, so that the first row will act as a means of access and a berm to guide the placement of waste material for the remaining rows.
- The waste will be spread and completed in 2-foot layers and compacted to approximately 1 foot in thickness by a minimum of five passes using a landfill compactor.

The procedures for protective sand placement are as follows:

- The County will select sand from the cover soil stockpile that is of average consistency; not overly clayey or overly sandy. This allows the material to be applied to the slopes without sloughing or sticking to equipment. The protective cover soil is initially placed at the toe of the slope and pushed up hill. No more than 15 feet vertical of protective cover soil is placed at one time.
- The depth of the protective cover soil is monitored by using plastic traffic cones that have been shortened to 2 feet in height. These cones are secured to the geogrid on the side slope with plastic tie strips. Protective cover soil is applied such that no cones are visible after placement. The protective cover soil is pushed up the slope so that there is always 2 feet of protective cover soil between the liner system components and the equipment.

The procedures for tarp removal will be as follows:

- At the point in progression of the fill sequence plan it becomes necessary to expand the filling into new areas of the cell the County will cut the rain tarp at the location for the new berm to separate the active area from the rain tarp area. A new berm will be constructed into which the end of the remaining tarp will be anchored. The tarp section to be removed will be carefully cut into manageable sizes and rolled up for reuse on erosion control projects.
- The tarp will only be cut using a hook knife that prevents cutting any materials below the tarp material. The tarp will be cut at the location where it enters the anchor trench

so the tarp material located in the anchor trench will remain in place without disturbing the anchor trench.

The procedures for rain tarp repair are as follows:

- Should damage occur to the rain tarp the County will repair it using an adhesive product manufactured by 3M. The County cuts out a patch piece and applies the glue to the section to be repaired.

K.2.g.2 Daily and Intermediate Cover

Cover material will be utilized to minimize vector breeding, animal attraction, and fire potential, as well as to prevent blowing litter and control odors. Daily cover will be composed of soil from the on-site stockpile, a 50/50 mixture of yard waste mulch and soil, synthetic materials such as tarps and geomembranes, or approved ADC material consisting of a spray on slurry of polymer recycled paper fibers, and latex paint, per manufacturer specifications. Daily soil cover will be placed and compacted to a minimum thickness of 6 inches; spray on daily cover will be applied per manufacturer specifications and shall not be used in the rain. The intermediate cover will be comprised of soil from the on-site stockpile or a 50/50 mixture of yard waste mulch and soil. The intermediate soil cover will be placed and compacted to a minimum thickness of 12 inches. Mulch is from on-site recycled yard waste.

If tarps or geomembranes are used as temporary daily cover, the tarps or geomembranes will be spread to cover the waste material. Sand or the tarp spreader bar will be used to minimize wind uplift. When the working face area exceeds the area of available tarp, then six inches of compacted soil will be placed to cover the waste material. A 50/50 mixture of yard waste mulch and soil may be spread over the initial soil cover for stabilization and erosion control measures.

When using ADC material, the waste shall be compacted within the working face before applying the ADC to ensure proper coverage of the waste and applied per manufacturer's specification. If uneven waste surfaces are present, spray-on materials will be applied from at least two different angles to ensure complete coverage of the waste. The landfill operator or designee will receive training in the proper mixing, application and use of the spray-on material from the manufacturer, or its representative. The operator who has received the manufacturer's training will be the one to apply the spray-on cover or provide direct supervision of the landfill staff doing the application to ensure that the material is properly applied.

K.2.g.3 Final Cover

The final cover system will be designed in accordance with Rule 62-701.600(5), F.A.C. The final cover will be placed on the intermediate cover as phases of the facility are closed. The conceptual final cover system for landfill closure, from top to bottom includes the following:

- 24-inch soil layer with the upper 6 inches capable of supporting vegetative growth
- Composite drainage net layer (geosynthetic filter fabric with drainage net)

- 40-mil textured geomembrane

K.2.h OPERATION OF GAS, LEACHATE, AND STORMWATER CONTROLS (Rule 62-701.500(2)(h), F.A.C.)

K.2.h.1 Landfill Gas Controls

The landfill gas (LFG) management system at the site currently consists of passive vents in the closed landfill, which serves to minimize the potential for off-site migration of LFG. A landfill gas collection and control (GCCS) system that includes vertical extraction wells and tie-ins to the existing leachate collection and removal system (LCRS) is operated in the Class I landfill (Phase 1/1A and Phase 2). The system will be expanded into Phase 3 as appropriate utilizing horizontal and vertical collection components. The LFG from this system is routed via header and lateral pipe to a blower/flare station where the gas is combusted in a candlestick flare. The GCCS is a voluntary active LFG collection and control system that proactively reduces methane emissions to the atmosphere. This system is not required by the Federal New Source Performance Standards (NSPS) and therefore the operation, monitoring, reporting, and recordkeeping requirements of the NSPS do not apply.

The operations procedures for the GCCS will be as follows:

1. The vertical extraction wells and LCRS tie-ins should be inspected periodically (i.e., on a monthly or bi-monthly basis) to ensure that all components are functioning properly.
2. As filling operations continue, vertical wells in the active area of the landfill will be raised.
3. The pneumatic pumps should be inspected periodically to ensure proper operation. The frequency of inspection will be determined based on field operations and whether the pumps are maintaining liquid levels in the sumps low enough to not impact vacuum distribution to the wellfield. Pump counters should be checked and cycle counts recorded and reviewed to ensure pump operation.
4. The following is a list of spare parts that may be kept on site:
 - Wellhead components
 - Sample ports
 - Dust caps
 - Orifice plates (assorted diameters; 0.1 inch through 1.4 inch)
 - 2" Fernco quick caps
 - Fernco bushings and couplings (assorted 4 and 6-inch diameter sizes)
 - Worm-gear hose clamps, assorted sizes
 - Kanaflex flexible hoses and clamps

K.2.h.2 Start-up and Shutdown Procedures

The GCCS is designed to operate continuously except for periods of automatic or manual shutdowns. Startup and shutdown events are generally planned events associated with system repair, maintenance, testing, and upgrades. Startup and shutdown procedures are outlined in the blower/flare station O&M manual provided by the flare manufacturer, Shaw LFG Specialties, LLC, which is maintained on site.

GCCS shutdown events generally include shutdown of the gas collection system, the gas control system, and any ancillary equipment that could affect the operations or monitoring of the GCCS. There are two general types of shutdown events, those that are initiated manually by an operator (e.g. for purposes of system maintenance) and those that are initiated automatically by the control system in response to certain monitored conditions.

Some events that may cause the GCCS to shutdown automatically are listed below:

- Loss of gas flow to the flare
- High inlet gas temperature
- Flame sensor detects loss of flame
- Elevated flame arrestor temperature
- High liquid level in knockout pot
- Loss of power from the grid
- Treatment system component shutdowns
- Power generation equipment shutdowns.

K.2.h.3 GCCS Operations and Maintenance

Extraction wells are inspected periodically to ensure that all components and fittings are functioning properly. Loose fittings and couplings can introduce air into the system and cumulatively reduce the collection efficiency of the GCCS. Operation and maintenance procedures for the vertical wellheads include the following:

- Wellhead valves should be exercised across their entire range of operation to confirm their functionality periodically. If the valve does not move or is otherwise broken it should be replaced.
- Wellhead sample ports and dust caps should be checked for leaks, and repaired or replaced if necessary.
- Ensure all joints and mechanical fasteners (unions, Fernco couplings, hose clamps, etc.) are in good condition, secure and provide a proper seal from leaks. Any loose or broken fittings should be tightened or repaired.
- Flexible hoses should be inspected for cracks and breaks that can occur as a result of the hose becoming brittle due to exposure to extreme weather conditions.
- The above ground well casing should be checked for cracks or leaks, and the technician should make note of any voids or settlement which may have occurred on the ground near the well.

- Adjust the wellhead valve as necessary to minimize oxygen concentration to no more than 5 percent by volume. If oxygen levels persist above 5 percent it may be necessary to troubleshoot the well or shut it off until oxygen levels can be lowered.

LCRS tie-ins should be inspected periodically to ensure that all components and fittings are functioning properly. Loose fittings and couplings can introduce air into the system and cumulatively reduce the collection efficiency of the GCCS. Operation and maintenance procedures for the wellheads at the LCRS tie-ins include the following:

- Note any odors or signs of built up pressure at LCRS risers, as this indicates the presence of excess LFG in the area that could potentially be collected.
- Wellhead valves should be exercised across their entire range of operation to confirm their functionality periodically. If the valve does not move or is otherwise broken it should be replaced.
- Wellhead sample ports and dust caps should be checked for leaks, and repaired or replaced if necessary.
- Ensure all joints and mechanical fasteners (unions, Fernco couplings, hose clamps, etc.) are in good condition, secure and provide a proper seal from leaks. Any loose or broken fittings should be tightened or repaired.
- Flexible hoses should be inspected for cracks and breaks that can occur as a result of the hose becoming brittle due to exposure to extreme weather conditions.
- Adjust the wellhead valve as necessary to minimize oxygen concentration to no more than 5 percent by volume. If oxygen levels persist above 5 percent it may be necessary to troubleshoot the well or shut it off until oxygen levels can be lowered.

K.2.h.4 System Monitoring

Each monitoring well will be monitored on a quarterly basis, at a minimum, for static pressure, methane or combustible gases using an instrument calibrated to methane, and oxygen concentration at a minimum. Methane will be measured and recorded in terms of a percent by volume. The monitoring equipment will be calibrated in accordance with the manufacturer's recommendations.

The general procedure for monitoring at each well is as follows:

1. Record meteorological conditions including ambient temperature and barometric pressure, if available.
2. Field calibrate the methane monitoring equipment.
3. Prior to monitoring, note any damage to the wellhead, well casing, or LCRS riser pipe and repair if necessary. Failure to repair damage can affect the validity of the monitoring results.
4. Record the time of monitoring for the well.
5. Connect the monitoring instrument to the sampling hose.
6. Turn on the meter and observe the monitored parameters.
7. Remove the instrument and hose .

8. Repeat steps 3 through 7 for each monitored location.

Any problems encountered during monitoring, observations, or other pertinent information that could impact the interpretation of the data shall be recorded.

The following is a list of parameters typically recorded at the wellheads:

- Temperature
- Vacuum
- Methane concentration
- Carbon dioxide concentration
- Oxygen concentration
- Balance gas concentration

The following is a list of parameters typically recorded at the inlet of the blower/flare station:

- Gas flow rate and temperature
- Methane concentration
- Carbon dioxide concentration
- Oxygen concentration
- Balance gas concentration
- System pressure

K.2.h.5 System Maintenance

The wellheads shall be operated and maintained in accordance with the manufacturer's specifications and operational instructions. If any problems are found at the wellheads, wells or nearby header and lateral piping, repairs shall be initiated at that time, if possible. All repair activities will be recorded and kept onsite.

K.2.h.6 Isolation of Portions of the GCCS

The GCCS is designed with header isolation valves that can be closed to isolate header segments to accommodate troubleshooting and repairs. These butterfly valves are shown on the record drawings that are on file with FDEP and maintained on site.

K.2.h.7 Condensate Management System Monitoring and Maintenance

Condensate is formed as LFG that is extracted from the landfill cools. The rate at which it is generated is dependent on the LFG flow rates and the temperature differential between the warmer gas and the cooler piping.

Condensate traps and sumps are located along the header to remove condensate from the gas stream at engineered low points. Condensate collected in the traps drains back into the waste

mass. Condensate collected in sumps with pumps is pumped to the leachate collection tanks via a forcemain.

Because they are self-draining, no maintenance or monitoring is required for the condensate traps. Sump maintenance includes periodically checking and cleaning the pneumatic pumps as recommended by the manufacturer. In addition, the pumping rate can be estimated based on the cycle counter readings.

K.2.h.8 Subsurface Fire Considerations

Subsurface landfill fires, or subsurface oxidation, can occur when buried waste in the landfill ignites. The natural decomposition of waste can create substantially high temperatures, and in the presence of enough oxygen can lead to combustion or oxidation of the waste. These events can be minimized by limiting the potential for atmospheric oxygen to enter the waste mass by ensuring adequate landfill cover and avoiding over pulling on the landfill by the GCCS. The temperature of the extracted LFG will be measured at wellheads.

If a subsurface oxidation is detected, the technician or other site personnel will immediately notify the Site Manager and actions will be implemented to contain and eliminate the oxidation.

The following symptoms may indicate the presence of a subsurface waste oxidation:

- Deformed well casings
- Carbon monoxide (CO) concentrations in excess of 1,000 ppm in the extracted LFG. Levels of CO between 500 and 1,000 ppm are viewed as indicators of a potential subsurface oxidation and require further investigation.
- Dramatic localized settling
- Sharp increase in LFG temperatures
- Smoke or smoky odor emanating from landfill surface or wellheads
- Stressed vegetation
- Presence of sooty material inside GCCS components

The most effective method of preventing, suppressing, and extinguishing a subsurface oxidation is to eliminate the pathways of oxygen intrusion into the landfill. To accomplish this, potential sources of air intrusion must be sealed as much as practical, and it may be necessary to reduce the rate of LFG extraction. In severe cases the entire GCCS may need to be shut down in the areas adjacent to the affected waste mass.

It is important to note that even after these measures have been taken, subsurface oxidation may continue for days or weeks before it is completely extinguished. Daily CO and temperature monitoring of extraction points within the area of the subsurface oxidation should be performed in order to determine the effectiveness of the implemented control measures.

K.2.h.9 Leachate Controls

For Phases 1/1A, 2 and 3, the leachate management system design includes a system of

collection pipes that lead to a sideslope sump. The sideslope sump is located at the low-point at the west end of each cell. The low-point acts as the sump for both the collection and detection systems. For leachate removal, the collection riser and the leak detection riser include submersible pumps. Leachate from Phase 1/1A will be first pumped to the Master Pump Station (MPS), and then pumped to the existing leachate storage tank along with the leachate currently being collected from the 7-acre closed area. Leachate from Phases 2 and 3 will be pumped to the leachate storage tank.

The main components of the Phases 1/1A, 2 and 3 leachate management system includes the following:

- Geocomposite drainage layer with rock filled leachate collection trenches and perforated pipes leading to a main header pipe.
- Collection sump system including collection riser, leak detection riser, and submersible pumps for leachate removal.
- Control panel including pump controls and remote flow meter head, including telemetry relay to the computer monitoring system at the office.
- Connection to influent line to the existing MPS and underground high-density polyethylene piping force main.

A copy of the leachate treatment agreement is provided in Appendix H of this Operations Plan.

Leachate evaporation will be employed as a supplemental method to dispose of leachate. The supplemental evaporation of leachate involves spraying small quantities of leachate from a spray bar mounted on the rear of a tank truck onto Phase 2 and 3 areas of the landfill. Leachate spray evaporation may be applied under the following conditions:

- Leachate may only be applied on Phases 2 and 3, within the bermed working face area.

Leachate generation will be minimized by only operating a single working face and keeping the working face as small as possible. During special events, such as during initial lift filling of the new cell, more than one working face may be operated. Daily and/or intermediate cover will be placed with slopes to promote stormwater runoff. The mixing of stormwater with leachate will be minimized by grading the daily and/or intermediate cover away from the working face and by using soil berms to direct stormwater runoff away from the working face. Gutters and lined conveyance ditches will also be used to collect and transport stormwater to stormwater management facilities.

K.2.h.10 Stormwater Controls

Operation of the existing stormwater system is discussed in Section 10.0 of this Operations Plan. The stormwater system will be managed as required by Rule 62-701.500(10), F.A.C., to meet applicable standards for Rule 62-302, F.A.C., and Rule 62-330, F.A.C. The system shall minimize stormwater from entering waste filled areas and avoid the mixing of stormwater with leachate. All stormwater conveyances shall be inspected at least weekly to verify adequate

performance. Conveyances not performing adequately will be repaired within 3 working days. Documentation of all inspections and repairs will be kept on file at the landfill office.

K.2.i WATER QUALITY MONITORING (Rule 62-701.500(2)(i), F.A.C.)

Groundwater monitoring will be conducted as described in the Citrus County Central Landfill Groundwater Monitoring Plan. Changes to the monitoring plan were addressed in the “Ground Water Monitoring Plan Evaluation Report” by CDM Smith, submitted to FDEP September 2015. The updated Groundwater Monitoring Plan reflects those changes noted in the CDM Smith Report. The plan will be updated periodically based on current operation permit requirements with a current copy held in the solid waste administration offices at the landfill. See Appendix I for the Groundwater Monitoring Plan.

K.2.j MAINTAINING AND CLEANING THE LEACHATE COLLECTION SYSTEM (Rule 62-701.500(2)(j), F.A.C.)

The leachate system at the landfill consists of collection, storage, pre-treatment by aeration in the existing leachate storage tanks, and pumping to a County operated wastewater treatment facility for ultimate disposal for the closed portion and Phases 1/1A, 2, and 3 active portions of the landfill. Maintenance of the leachate system facilities is performed as specified in the manufacturer’s manuals kept on file in the landfill office. Inspection and cleaning of the system will be performed every 5 years and/or at the time of permit renewal. Inspection of storage tanks will be performed every 3 years.

K.3 OPERATING RECORDS (RULE 62-701.500(3), F.A.C.)

The operating record will consist of all records, reports, analytical results, and all notifications as required by Rule 62-701, F.A.C. These records are considered an integral part of the operations plan and will be kept at or near the facility. The operating records will be available for inspection at reasonable times upon request by FDEP personnel.

The Citrus County Solid Waste Management Division Director will be responsible for the storage and filing of all operational records. The minimum records to be kept as part of the official operating record include the following:

- Current permits and applications
- Monthly waste disposal records (volume, weight, or truckloads, county of origin)
- Random load checking records
- Leachate quantities (Information collected monthly/submitted annually to FDEP)
- On-site rain gauge data
- Annual estimates of remaining capacity (permitted disposal) in cubic yards
- Regulatory agency inspection reports
- Groundwater sampling plan, including well construction information, sampling locations, and water quality sampling results
- All official notifications to or from FDEP regarding the facility
- Training verifications/certifications
- Landfill Operations Plan, including all supplementary material incorporated by reference
- Leachate tank inspection records
- Gas monitoring records
- Maintenance summary forms
- Gas Collection and Control System operating records
- Unauthorized waste disposal manifests
- Conditionally Exempt Small Quantity Generator (CESQG) verification documentation

K.4 WASTE RECORDS(RULE 62-701.500(4), F.A.C.)

Each month a report of the amount of waste received in tons will be compiled. The report will also include estimates of the amounts of the following waste types:

- Household waste
- Commercial waste
- Ash residue
- Incinerator by-pass waste
- Construction and demolition debris
- Treated biomedical waste
- Agricultural waste
- Industrial waste
- Yard trash
- Sewage sludge
- Industrial sludge
- Water/air treatment sludge
- Waste tires
- Citizen's Service Area
- Household Hazardous Waste facility

In accordance with 62-701.500 reports are compiled monthly and copies provided to FDEP annually by February 1st each year. The types of waste received include Class I, Class III, ash residue, and other wastes.

K.5 ACCESS CONTROL (RULE 62-701.500(5), F.A.C.)

The entire Citrus County Landfill facility is fenced, and access is gate controlled at all times. Figure 1-1 is a site plan of the entire landfill and illustrates the landfill access control facilities. The landfill operates and accepts waste from commercial haulers Monday through Saturday, as follows:

Monday - Friday: 6:30 a.m. to 5:00 p.m.

Holidays and Saturday: 6:30 a.m. to 3:00 p.m.

During periods with inadequate daylight after 6:30 am, the County uses portable light plants to illuminate the working face. The facility does not accept waste from citizens until 8:00 am. During Holiday periods, the operating hours may be adjusted.

K.6 LOAD CHECKING PROGRAM (RULE 62-701.500(6), F.A.C.)

An operator must be on duty at the landfill or no access for waste disposal will be available.

K.6.a WASTE INSPECTION (Rule 62-701.500(6)(a), F.A.C.)

Citrus County has implemented a load checking program to detect and discourage attempts to dispose of unauthorized wastes at the landfill. This program includes at least three random checks by landfill personnel each week and inspection of suspicious loads, which are vehicles that have previously been determined to have delivered unauthorized waste, or loads that have unusually physical characteristics.

If any regulated hazardous wastes are identified during load checking the waste will be immediately placed in the household hazardous waste collection and storage facility for sorting and storage. Following is a summary of the load inspection program. The complete load inspection plan is kept on file in the landfill office.

1. Disposal area personnel will direct a minimum of 3 vehicles per week to a separate area within the working disposal area.
2. The driver of the vehicle will be asked the source of the waste by the inspector. The load will be completely discharged and spread uniformly so that all waste is visible.
3. The inspector will proceed to inspect the load for unauthorized waste. These shall include, but are not limited to the following:
 - Restricted materials (tires, yard waste, etc)
 - Regulated hazardous waste
 - Biomedical waste
 - Containers of liquids
 - Compressed gas cylinders
 - PCB wastes (Transformers)
 - Large quantity of household type hazardous waste (Indication of business source)
4. If any unauthorized items are observed, the waste will be relocated by the County to the appropriate disposal/management area. The collection company will be contacted to send a representative to verify the contents of the load with the inspector and the Crew Leader. The payment for disposal of the waste will be the sole responsibility of the person responsible for shipping the waste.
5. The person responsible for shipping the waste will provide a manifest documenting the proper disposal of the unauthorized waste found during inspection. The manifest must indicate the corresponding identification number assigned to the waste during inspection.

6. If any spill or contamination of regulated hazardous waste or biomedical waste is observed, the Crew Leader will notify a hazardous waste staff member and/or implement the Emergency Incidents and Contingency Plans, as provided in Appendix B. This plan may include the notification of FDEP, persons responsible for shipping the wastes, and/or the generator of the wastes.
7. Landfill personnel will relocate all special wastes such as tires, appliances, lead acid batteries, and lawn debris to the proper disposal areas. A separate invoice will be issued to the persons responsible for shipping the waste and made part of the inspection report. See Section K.2.c for procedures for handling special wastes.
8. If any amount of household hazardous waste is identified, the Crew Leader or a Hazardous Waste staff member will be notified and it will be relocated to the household hazardous waste storage facility.
9. Copies of all completed inspection reports will be forwarded to the Administrative Office for the Division of Solid Waste Management, the persons responsible for shipping the waste, and the Citrus County Special Operations Section. These records will be maintained for the life of the landfill.
10. Vehicles that have previously been determined to have delivered unauthorized waste will be considered suspicious and may be subjected to inspection at any time and in the same manner as the random inspections.

K.6.B HAZARDOUS WASTES AND HANDLING PROCEDURES (Rule 62-701.500(6)(b), F.A.C.)

No hazardous wastes will be accepted at the landfill for disposal. If any regulated hazardous wastes are identified by random load checking, or are otherwise discovered to be improperly deposited at the landfill, the landfill operator shall promptly notify the Department, the person responsible for shipping the wastes to the landfill, and the generator of the wastes, if known. The area where the wastes are deposited shall immediately be cordoned off from public access. If the generator or hauler cannot be identified, the landfill operator shall assure the cleanup, transportation, and disposal of the waste at a permitted hazardous waste management facility. Subsequent shipments from sources found or suspected to be previously responsible for shipping regulated hazardous waste shall be subject to precautionary measures prior to the solid waste management facility accepting wastes. The Citrus County Special Operations response team is notified for handling and storage of hazardous materials for disposal in an appropriate off-site facility.

The owner or operator shall make arrangements or shall have equipment for temporary storage, handling and transport to an authorized disposal or recycling facility for unauthorized waste which is inadvertently accepted by the facility. Unless an alternate schedule is included in an operation plan submitted with the permit application, which provides for the control of odors and vectors, putrescible waste shall not be stored for longer than 48 hours and non-putrescible waste

shall not be stored for longer than 30 days.

K.6.c RECORDING INSPECTION RESULTS (Rule 62-701.500(6)(c), F.A.C.)

Results of the load checking inspections described in Section K.6 of this document will be recorded in writing and retained at the landfill for a minimum period of 3 years in accordance with 62-701.500(6)(b)(2)(c). This information will include date and time of inspection, name of hauling firm, vehicle identification number, and observations made by landfill personnel during the inspection. In addition, an effort will be made to record the name of the driver, license plate number, and source of waste as stated by the driver. The inspector will sign the written record. A sample form used to document the inspection results is provided in Appendix C.

K.7

WASTE HANDLING REQUIREMENTS (RULE 62-701.500(7), F.A.C.)

The following description represents waste handling requirements as required by Rule 62-701.500(7), F.A.C. Citrus County will meet or exceed the requirements at all times to minimize the potential adverse impacts to employees or public health or safety.

K.7.a WASTE THICKNESS AND COMPACTION FREQUENCIES (Rule 62-701.500(7)(a), F.A.C.)

The waste material will be spread in layers of approximately two feet in thickness and compacted to approximately one foot in thickness, or as thin as practical, by a landfill compactor before the next layer is applied.

K.7.b FIRST LAYER OF WASTE (Rule 62-701.500(7)(b), F.A.C.)

The first lift of waste placed above the liner and leachate collection system will be a minimum of four feet in compacted thickness. Waste loads in this first lift will be screened for any large, rigid objects or other materials that would damage the liner or leachate collection system.

K.7.c SLOPES OF WORKING FACE (Rule 62-701.500(7)(c), F.A.C.)

The working face and side grades above land surface will be sloped at a maximum of 3 feet horizontal to one-foot vertical rise. The lift depth will typically be a maximum of 10 feet. Lift depths may be deeper than 10 feet depending on specific operations, daily waste volumes, width of the working face, and good safety practices.

K.7.d WIDTH OF WORKING FACE (Rule 62-701.500(7)(d), F.A.C.)

The working face will only be wide enough to safely accommodate vehicles unloading materials, and compacting equipment. Since the waste requires daily cover, the width of the working face will be minimized.

K.7.e INITIAL/DAILY COVER (Rule 62-701.500(7)(e), F.A.C.)

Daily cover will consist of six inches of compacted soils, a yard waste/soil mix, synthetic material such as tarps and geomembranes, or a spray on slurry of polymer and recycled paper fibers, as approved by the FDEP.

K.7.f INITIAL COVER PROCEDURES

Daily cover as described in K.7.e above will be placed over the waste at the end of each working day.

K.7.g INTERMEDIATE COVER (Rule 62-701.500(7)(g), F.A.C.)

An intermediate cover in addition to the six-inch initial cover shall be applied and maintained within seven days of cell completion if additional solid waste will not be deposited within 180 days of cell completion. The landfill operator may remove all or part of the intermediate cover before placing additional waste or installing final cover. The following materials meet the criteria of subsection 62-701.200(55), F.A.C., and they may also use them as intermediate cover:

- Recovered screen material.
- A mixture of soil and ground or chipped yard trash provided that soil makes up at least 50 percent by volume of the mixture.

K.7.h FINAL COVER (Rule 62-701.500(7)(h), F.A.C.)

Areas that have been filled to design dimensions will receive final cover within 180 days after attaining final elevation in accordance with the Closure Plan for the Citrus County Central Landfill. A description of the final cover can be found in Section K.2.g.3 of this plan.

K.7.i SCAVENGING AND SALVAGING CONTROL (Rule 62-701.500(7)(i), F.A.C.)

Scavenging will be strictly prohibited at the working face of the landfill.

K.7.j LITTER POLICING METHODS (Rule 62-701.500(7)(j), F.A.C.)

If any litter escapes the litter controls employed in the working area, such litter will be picked up as soon as possible. Litter policing will occur at least on a daily basis. Any litter located outside the working area will be picked-up within 24-hours.

K.7.k EROSION CONTROL (Rule 62-701.500(7)(k), F.A.C.)

Erosion control measures shall be employed to correct any erosion which exposes waste or causes malfunction of the stormwater management system. Such measures shall be implemented within three days of occurrence. If the erosion cannot be corrected within seven days of occurrence the landfill operator shall notify the Department and propose a correction schedule. These measures are identified and discussed as follows:

- Intermediate soil cover configured to collect and transport stormwater
- 4"-5" of mulch soil cover to prevent erosion
- Regular inspection of intermediate soil cover
- Benches and lined ditches to transport concentrated volumes of stormwater runoff.

K.7.k.1 Intermediate Soil Cover

Temporary berms to direct stormwater away from solid waste placement and compaction activities will surround the active areas of the landfill. Inactive areas will be covered with

intermediate soil cover with a minimum thickness of 1 foot. The intermediate soil cover will be sloped to promote run-off and decrease infiltration of stormwater.

Intermediately covered areas subject to erosion will be mulched or seeded with grass appropriate to the season as needed to control erosion.

K.7.k.2 Down Drains

Stormwater collected in swales and benches will be directed to lined ditches and/or temporary piping. The lined ditches and/or temporary piping will be installed to transport the collected stormwater to the stormwater management system without damaging the intermediate soil cover. Lightweight reinforced polyethylene will be used to line the ditches.

K.7.k.3 Inspections

The intermediate soil cover will be regularly inspected for erosion damage. Any damage that is discovered will be repaired within 3 days.

K.8 LEACHATE MANAGEMENT (RULE 62-701.500(8), F.A.C.)

The design of the leachate management system includes a system of collection pipes that lead to a side slope sump. The side slope sump is located at the low-point on the west side of each cell. The low-point acts as the sump for both the collection and detection systems. For leachate removal, the collection riser and the leak detection riser will include submersible pumps. Leachate from Phases 1/1A and from the 7-acre closed area will be first pumped to the existing master pump station (MPS) then pumped to the leachate storage tank. Leachate is also pumped from Phases 2 and 3 to the leachate storage tank. Effluent from the leachate storage tank will either be pumped to the Meadowcrest WWTP or used as irrigation on the Phases 2 and 3. The agreement with the WWTP is located in Appendix H. Now that the leachate is going to a WWTP for treatment the on-site treatment plant will be decommissioned and demolished. The leachate will be applied in small quantities within the bermed working face area from a spray bar mounted on the rear of a tank truck. Leachate will not be applied during active precipitation, in the presence of ponding or in quantities that may cause runoff, surface seeps, wind-blown spray, or exceedance of limits as the amounts described below:

- Leachate will be applied in Phase 3 once 30 ft of waste is in place. and may be applied at a rate of 3,552 gal/day. . Leachate recirculation will only be applied within the bermed working face area. If this area is already wet due to rainfall, leachate recirculation will not be applied and will not occur during active rainfall or where any standing water is observed within the bermed working face area.
- Leachate will be applied in Phase 2 and 3 at a maximum rate of 4,663 gal/day once 70 ft of waste is in place. Leachate recirculation will only be applied within the bermed working face area. If this area is already wet due to rainfall, leachate recirculation will not be applied and will not occur during active rainfall or where any standing water is observed within the bermed working face area.

The main components of Phases 1/1A, 2 and 3 leachate management systems include the following:

- Rock filled leachate collection trenches with perforated pipes leading to the sump.
- Collection sump system including collection riser, leak detection riser, and submersible pumps for leachate removal.
- Control panel including pump controls and remote flow meter head.
- Connection to influent line to the existing leachate storage tank.

K.8.a LEACHATE LEVEL MONITORING(Rule 62-701.500(8)(a), F.A.C.)

The depth of leachate over the liner in Phases 1/1A, 2 and 3 is monitored with level transducers on the leachate removal pumps. In addition, the leachate pump side slope risers and leachate collection pipe clean out side slope risers provide a mechanism to observe leachate levels through physical measurements.

With the completion of the leachate force main to the Meadowcrest WWTP there is no longer a requirement for leachate sampling and reporting. The onsite leachate treatment plant is no longer in operation, and will likely be removed in the future.

K.8.b OPERATION AND MAINTENANCE OF LEACHATE COLLECTION SYSTEM (Rule 62-701 .500(8)(b), F.A.C.)

The Landfill Operator will be responsible for maintenance of the leachate systems, including the piping, pump stations, and piping to the leachate storage tank. The equipment manufacturer will provide operation and maintenance manuals for each of the system components. Maintenance of each component will be performed in accordance with manufacturer specifications and documented on a Maintenance Summary Form, included in Appendix D. Maintenance documentation may also include a video of the cleaning procedures. Operation and maintenance manuals include the following:

- Description of unit and component parts, including normal operating characteristics and limiting conditions
- Operating procedures
- Maintenance and overhaul procedures
- Installation instructions
- Original manufacturer's parts list, illustrations, and detailed assembly drawings
- Spare parts ordering instructions
- Manufacturer's printed operating and maintenance instructions

During the filling of each cell a rain tarp system will be employed to cover the exposed cell bottom and sideslopes where operations are not occurring. The rain tarp will be placed such that the area not being filled will be protected and stormwater diverted from the leachate system to the existing channels using the County's hydraulic pumps. In addition, a daily cover material will be placed on the working face during non-working hours as required to minimize leachate generation.

Flow will be monitored from the leachate pumps. Facility personnel will record leachate flows each business day. This will allow determination of leachate production as a function of rainfall and provide information to assess the efficiency of leachate and stormwater management practices. Leachate generation/flows will be reported quarterly and the records will be kept at the facility as part of the official operation record.

At least once each business day facility personnel will inspect each leachate pump station and the leachate level indicators to ensure proper operation. Pumping rates and electrical draw will be confirmed semiannually. If these tests indicate significantly reduced performance, the pumps will be pulled for inspection and repair. A replacement pump will be installed while the repairs are being made.

If leachate flow volume is noticeably decreased, the leachate collection system will be inspected. Possible reasons for low or no flow are pump and/or level transducer malfunction or collection pipe collapse or blockage. If pipe blockage is identified, the collection pipe will be power jetted to remove sediment buildup. Power jetting or rodding will be done from either or both ends of the header.

K.8.c LEACHATE HANDLING (IF REGULATED AS HAZARDOUS WASTE (Rule 62-701.500(8)(b), F.A.C.)

If, in the future, the leachate becomes classified as a hazardous waste, it will be managed in accordance with Rule 62-730, F.A.C., or other rules as may be applicable at the time.

K.8.d OFF-SITE TREATMENT (Rule 62-701.500(8)(c), F.A.C.)

Leachate is transported via forcemain west on SR 44 to an existing gravity manhole of CR 491 north of SR 44, from which it is conveyed to the Meadowcrest WWTP via existing gravity and transmission mains. If additional treatment and disposal is necessary, leachate will be transported to one of several Citrus County Utilities wastewater treatment plants.

K.8.e CONTINGENCY PLAN FOR MANAGING LEACHATE (Rule 62-701.500(8)(e), F.A.C.)

If the connection to the Meadowcrest WWTP is interrupted, leachate will be transported to one of several Citrus County Utilities wastewater treatment plants. Because multiple wastewater treatment plants are available for leachate disposal, complete interruption of offsite disposal ability is not anticipated.

K.8.f RECORDING LEACHATE QUANTITIES (Rule 62-701.500(8)(f), F.A.C.)

Quantities of leachate collected by the leachate collection and removal system are recorded in gallons per day from the leachate flow observations. Utilities staff record daily flow amounts on a standard form. Completed forms are compiled monthly with the compiled form sent to the facility manager to be filed in the facility's operating record.

Citrus County uses a number of metering points to measure leachate generation. . The flows generated from each landfill phase of the newer 80-acre area are measured directly by flow meters within the discharge line of each pump. Flows from the closed 7-acre area have been measured in the past with an older mechanical flow meter. It is suspected that this meter is not providing accurate readings due to repeated malfunctions. The County has calibrated flow from the 7-acre pumps against the elapsed time meters (ETMs) for each pump. The ETM readings are now taken and converted to flow in gallons in a spreadsheet.

The flow meter located at the discharge location for the treatment plant discharge recirculates back to the master pump station (MPS). Flow meter number 5 records the flow coming from the 7-acre closed area and the treatment plant. With construction of the new leachate forcemain a new meter has been installed in the vicinity of the scalehouse. See Figure 1-1 for the location of

the new meter.

**K.8.g RECORDING PRECIPITATION (Rule 62-701.500(8)(g),
F.A.C.)**

A rain gauge has been installed and is operated and maintained by Citrus County personnel to record precipitation at the disposal facility. Precipitation records will be maintained in the facility's operating record and will be compared with leachate generation rates.

**K.8.h INSPECTION AND CLEANING (Rule 62-101.500(8)(h),
F.A.C.)**

The existing leachate collection systems at the Citrus County Landfill will be pressure cleaned or inspected by video every 5 years or at the time of permit renewal. Results of the cleanings and inspections are kept on file in the landfill office. A copy of the most recent Inspection Report is included as Appendix F.

K.9 LANDFILL GAS MONITORING (RULE 62-701.500(9), F.A.C.)

This LFG monitoring program for the Central Landfill has been prepared in accordance with Rule 62-701.530, F.A.C. As described below, the plan includes monitoring for subsurface LFG migration at the facility property boundary adjacent to the active landfill (Phases 1/1A, 2 and 3) and the closed 60-acre landfill, and in on-site structures. The LFG monitoring program is designed to confirm compliance with the requirements of Rule 62-701.530(1)(a)1, F.A.C., which requires the following:

- The methane concentration in on- or off-site structures may not exceed 25 percent of the lower explosive limit (LEL). The LEL for methane is five percent by volume in air. Therefore, the maximum allowable concentration in on- or off-site structures is 1.25 percent methane by volume.
- The methane concentration at or beyond the landfill property boundary may not exceed the LEL (i.e., five percent methane by volume).

As explained below, the monitoring plan was prepared based on site-specific conditions.

K.9.a BACKGROUND INFORMATION

In November and December of 2005, eighteen permanent monitoring probes were installed along the new property boundary of the site. A new property boundary agreement has been established with the Florida Division of Forestry and FDEP. The 19 monitoring probes are now the only LFG compliance points at the site. The remaining 62 permanent LFG probes and 13 interim probes have been abandoned in place. Figure 9-1 is a site map showing the LFG monitoring probe locations and Figure 9-2 shows a detail of the gas probes.

K.9.b LANDFILL AREAS

The landfill areas on site include the closed 60-acre landfill, a part of which is approximately seven acres that has a bottom liner as well as a geosynthetic cap liner; and the active Phase 1/1A, Phase 2, and Phase 3 landfill cells. The balance of the closed 60-acre landfill is unlined but has been capped with a geosynthetic membrane and protective soil cover. The depth of waste in the closed 60-acre landfill is approximately 40 feet below ground surface. The Phase 1/1A and Phase 2 landfill areas have a geomembrane bottom liner system, and the bottom depth of refuse is approximately 80 feet below ground surface. Groundwater is present approximately 110 feet below ground surface, and the soil at the site is primarily silty and clayey sand.

The GCCS is designed to provide a means of relieving internal gas pressures within the landfill and prevent fugitive emissions of LFG to the atmosphere through the cover soils and the subsurface migration of LFG to the surrounding areas.

The GCCS for Phases 1/1A and 2 include the following features:

- LFG extraction wells composed of 6-inch PVC pipe, installed in a 30-inch borehole and backfilled with FDOT No. 4 stone. The borehole will be sealed with a hydrated bentonite plug and backfilled to grade with clean soil backfill.
- Tie-ins will be made to the existing LCRS risers and these will be connected to the header/lateral system, routing LFG to the blower/flare station.
- A below grade header/lateral network will be installed. All piping will be HDPE SDR 17.
- A 2" HDPE SDR 9 air supply line will be installed at the blower/flare and compressor location to CS-1 on the east side of the Class I cells.
- A condensate sump with a pneumatic pump will be installed at the blower/flare station. An O&M manual for the pneumatic pump will be submitted to the FDEP with the report of construction completion.
- Self-draining condensate traps will be located at engineered low points in the header system for the collection of condensate. The traps will allow for the drainage of condensate from the header and lateral system back into the landfill.
- Collected LFG will be routed to the blower/flare station for combustion via the candlestick flare.

If it is necessary to perform video inspection or cleanout the LCRS via these risers, this can be accomplished by closing the 2-inch wellhead gate valve, disconnecting the flexible hose, and removing the quick release caps or flanged lids and associated piping. For details of the Phase 3 GCCS please see the Phase 3 Construction documents.

K.9.c MONITORING OF ON-SITE STRUCTURES

In order to ensure the safety of workers inside and around permanent structures on site, ambient air will be monitored on a quarterly basis in on-site structures in accordance with the requirements of Rule 62-701.530(2)(a), F.A.C. As stated above, and in Rule 62-701.530(1)(a), F.A.C., the methane concentration in on- or off-site structures may not exceed 25 percent of the LEL, or 1.25 percent methane by volume. The following gas monitoring will be performed in structures at the facility.

- Explosive gas alarms located in the scale house building and leachate treatment plant electrical room will provide continuous monitoring for unacceptable concentrations of explosive gas. These monitors are designed to sound an alarm when methane concentrations exceed 25 percent of the LEL. The signal remains on as long as gas is present, and a red alarm light stays on after an alarm condition in order to alert personnel that methane was detected during their absence. Log sheets will be kept at each location to record when the alarm has been triggered, and each alarm will be calibrated or replaced on a regular basis according to the schedule recommended by the manufacturer.
- On a quarterly basis the following structures will be monitored:
 - Administration building
 - Scale house
 - Leachate treatment plant

- Gun ranges

Monitoring will consist of using handheld instruments to monitor for combustible gases at all slab penetrations, floor drains, cracks in the slabs, along baseboards, in electrical boxes and outlets, and in enclosed spaces such as closets and ground-level cabinets.

K.9.d GAS MONITORING PROCEDURES

K.9.d.1 Monitoring Procedures for Probes

Each probe will be monitored on a quarterly basis for static pressure and methane concentration, or combustible gases using an instrument calibrated to methane. Methane will be measured and recorded in terms of a percent by volume in air or as a percentage of the LEL. The monitoring equipment will be calibrated each day prior to the monitoring.

The general procedure for monitoring at each probe will be as follows:

1. Record meteorological conditions including ambient temperature and barometric pressure.
2. Calibrate the methane monitoring equipment.
3. Purge any calibration gas or gas from previous probes from the methane monitoring instrument.
4. Zero the pressure gauge.
5. Prior to monitoring, note any damage to the probe, and repair if necessary. Failure to repair damage to the above ground casing, cap, or monitoring probe can affect the validity of the monitoring results.
6. Attach the sampling hose to the pressure meter and the labcock valve on the monitoring probe.
7. Record the time of monitoring for the probe.
8. Open the labcock valve.
9. Measure and record the pressure in the probe.
10. Close the labcock valve.
11. Connect the methane monitoring instrument to the sampling hose.
12. Open the labcock valve.
13. Turn on the meter and observe the gas concentration readings, noting any spikes in concentration.
14. After the gas concentration readings stabilize, record the steady-state reading, making note of any spike that occurred prior to reaching a steady-state reading. Note that per Rule 62-701.530(2)(b), F.A.C., purging of the probe is not allowed.
15. Remove the instrument and hose, and close the labcock valve.
16. Repeat steps 3 through 15 for each probe.

Any problems encountered during monitoring, observations, or other pertinent information that could impact the interpretation of the data shall be recorded.

K.9.d.2 Monitoring Procedures for On-Site Structures

The following on-site structures will be monitored for methane or combustible gas on a quarterly basis using handheld field instruments in accordance with Rule 62-701.530(2)(a), F.A.C.:

- Administration building
- Scale house
- Leachate treatment plant
- Gun ranges

Methane will be monitored and recorded in terms of the percent by volume in air or as a percentage of the LEL, and the monitoring equipment will be calibrated each day prior to the monitoring.

The general locations for monitoring at each structure will be as described below.

Administration Building--

A handheld meter will be used to monitor for methane at each of the following locations:

- Along the baseboards in each of the rooms, closets, and hallways
- In all ground-level cabinets
- At the floor drains in the bathrooms
- At all electrical outlets in each room and hallway
- At electrical panels inside and outside the building
- At outdoor electrical outlets

Scale House--

A handheld meter will be used to monitor for methane in the scale house at each of the following locations:

- Along the baseboards
- At any cracks in the concrete slab or flooring
- In all ground-level cabinets
- At all electrical outlets inside and outside of the building
- At electrical panels inside and outside the building

Leachate Treatment Plant--

Methane concentration will be checked at the following locations at the leachate treatment plant until it is removed:

- At any cracks in the concrete slab or flooring
- In any ground-level cabinets
- At all electrical outlets inside and outside of the building
- At electrical panels inside and outside the building

Gun Ranges--

There are two gun ranges on site that are operated by the Withlacoochee Technical Institute on the closed 60-acre landfill. At both gun ranges, the following locations will be monitored for methane.

- At cracks in the concrete slabs

- At all electrical outlets and switches
- At all slab penetrations, such as support posts for the roofs of the firing platforms

K.9.e REPORTING

Results of the monitoring will be reported to FDEP quarterly. A copy of the monitoring form is included as Appendix G to this plan.

If the results of the monitoring show that combustible gas concentrations exceed the limits specified in Rule 62.701.530(1)(a), F.A.C., Citrus County will take the following actions:

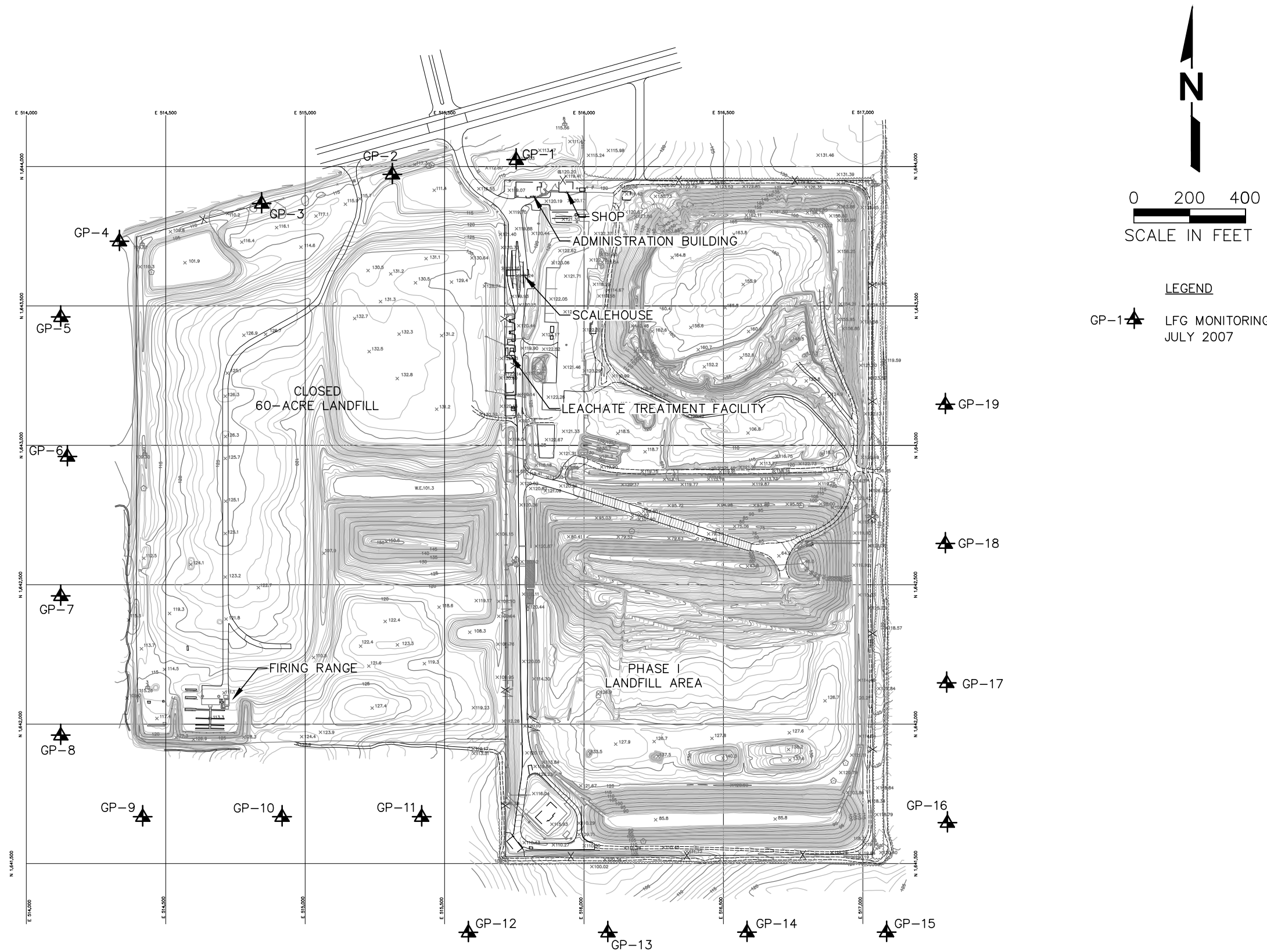
- Immediately take all necessary steps to ensure protection of human health and notify FDEP of the exceedances.
- Within seven days of the detections, submit to FDEP for approval a gas remediation plan. The gas remediation plan must describe the nature and extent of the problem and the proposed remedy. The remedy must be completed within 60 days of detection unless otherwise approved by FDEP.

K.9.f ROUTINE ODOR CONTROL

The site is inspected on a daily basis for odors at the point of compliance. Potential sources for odors include; incoming waste, workface activities, landfill gas, condensate systems, and leachate collection and handling systems. In the event that an odor is detected and a source identified, appropriate steps will be taken to mitigate the incident. The installation of the GCCS should eliminate odors generated by the decomposition of waste.

Deodorants and odor neutralizers will be maintained on site and utilized if soil cover does not mitigate the odor issues at the working face. Daily cover provides an effective seal against the odors. If odors persist daily cover will be increased and cover procedures will be reviewed and altered if necessary.

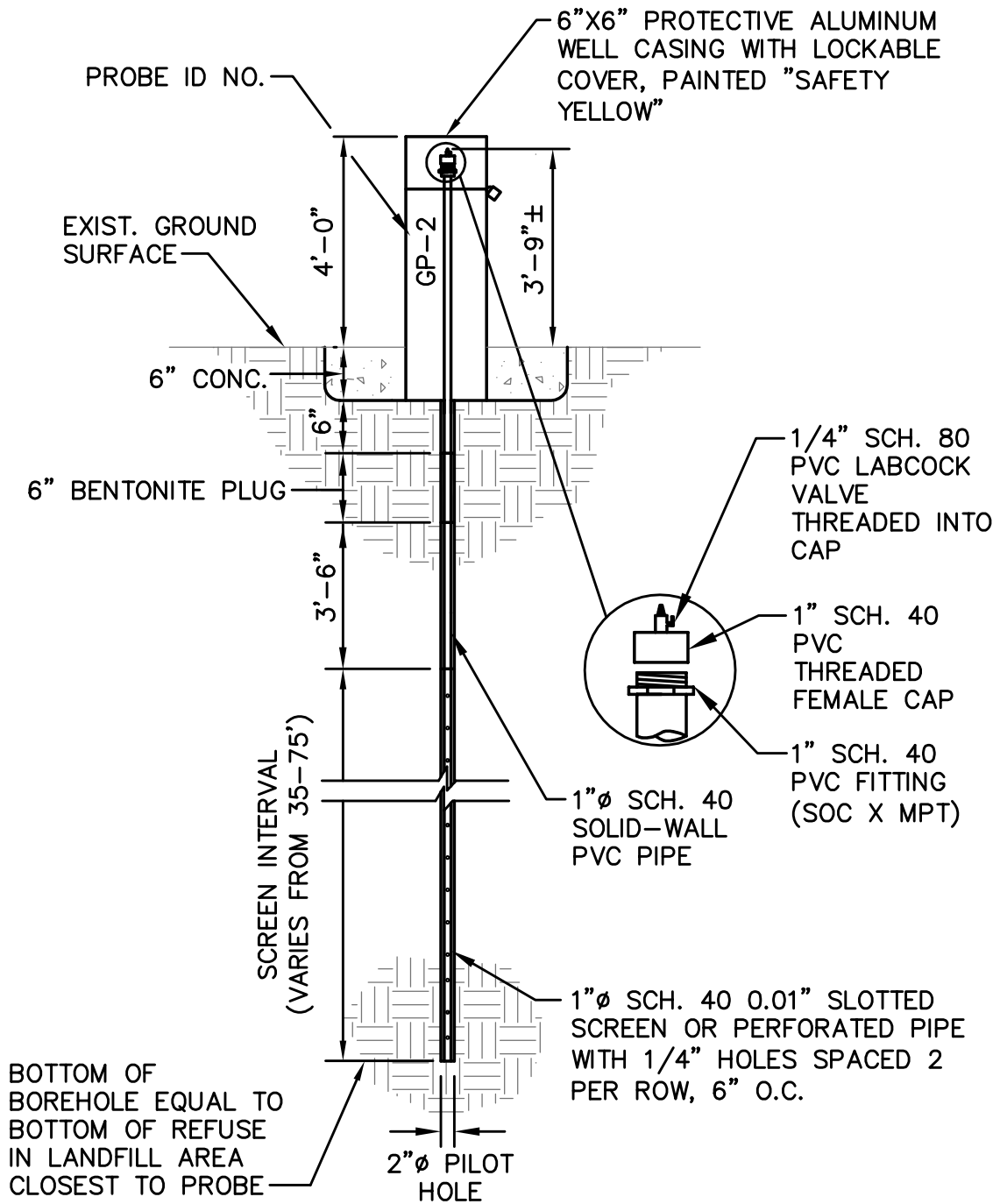
G:\PROJECT\Citrus\09210021.26\Figures\GasMon.dwg Sep. 15, 2015 -- 10:30am Layout Name: GasMonPlan By: 3935ius



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Figure 9-1. Landfill Gas Monitoring Probe Locations, Central Landfill, Citrus County, Florida

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SCS ENGINEERS

Figure 9-2. LFG Monitoring Probe Detail, Citrus County Central Landfill

K.10 STORMWATER MANAGEMENT SYSTEM AND MAINTENANCE (RULE 62-701.500(10), F.A.C.)

The Stormwater Management System will be operated and maintained as necessary to meet the requirements of Rule 62-701.400(9), F.A.C.

K.10.a STORMWATER BEST MANAGEMENT PRACTICES

The landfill will use the following stormwater best management practices (BMPs):

- Side swales
- Grass
- Sod
- Down drains
- Benches
- Dry retention stormwater ponds
- Pumps to transport stormwater
- Lined ditches

Many of these stormwater management systems were constructed during development of Phases 1 and 2 of the Citrus County Central Landfill. Plans and cross sections of these systems, including as-built drawings and modifications, are on file with the FDEP Southwest District office. Additional stormwater management systems were installed as part of the Phase 3 expansion. Record drawings of the Phase 3 expansion were submitted with the construction certification upon completion of the project.

K.10.b STORMWATER MAINTENANCE PROCEDURES

The stormwater management system operation and maintenance will include the following:

- All stormwater conveyance systems will be inspected periodically or after major storm events
- Any damaged systems will be repaired
- Accumulated sediment will be removed as necessary
- All stormwater pumps will be serviced as specified by the pump manufacturer

K.10.c SURFACE DRAINAGE STRUCTURES

During the operation of the facility the County will install portions of the stormwater drainage features as shown on the Operations Drawings, as interim drainage control measures. The interim control measures shall include piping, inlet structures and energy dissipaters as identified on the Operations Drawings. The piping and inlet boxes will be removed and reinstalled as part of final closure construction. The timing for the installation of interim drainage measures shall be as shown on the Filling Sequence Plan of the Operations Drawings.

K.11 EQUIPMENT AND OPERATION FEATURES (RULE 62-701.500(11), F.A.C.)

K.11.a EQUIPMENT (Rule 62-701.500(11)(a), F.A.C.)

Citrus County owns a diverse mix of equipment to spread, compact, and cover the waste in the landfill. While the actual equipment at the landfill may vary, sufficient equipment will be maintained at the site to ensure proper operation of the landfill. A current list of equipment is as follows:

- One landfill compactor
- One excavator
- One bulldozer
- Two wheel loaders
- One water truck
- One fuel truck
- One articulated dump truck
- One skid steer

In addition the site will have auxiliary vehicles including:

- One roll-off truck
- Several pickup trucks
- Several utility vehicles
- Several trailers

Normal maintenance will be performed on site. Major maintenance item repairs (e.g., engine, transmissions, auxiliary drives) will be handled either at the maintenance facilities or at off-site service facilities.

K.11.b RESERVE EQUIPMENT (Rule 62-701.500(11)(b), F.A.C.)

The County has arrangements with suppliers to obtain reserve equipment within 24 hours of equipment breakdown if sufficient equipment is not available to properly operate the landfill.

K.11.c COMMUNICATION EQUIPMENT (Rule 62-701.500(11)(c), F.A.C.)

Landfill employees will be able to communicate by two-way radios, and a telephone is located at the scale house and administrative office.

K.11.d DUST CONTROL (Rule 62-701.500(11)(d), F.A.C.)

Control of dust will be maintained by wetting roads as necessary with a 1,200-gallon water tank truck.

K.11.e FIRE PROTECTION AND FIRE FIGHTING CAPABILITIES (Rule 62-701.500(11)(e), F.A.C.)

The daily soil cover aids in fire prevention at the landfill. The main method of fire extinguishing is to apply soil to the burning waste using a dozer. Ample soil is stockpiled on site if needed for fire extinguishing purposes. The facility is surrounded by a drainage ditch and road that would act as a firebreak protecting the adjacent forest. In addition to soil stockpiles two fire hydrants are located at the site, one in the citizen drop-off area and one near the fill area.

All equipment and vehicles at the landfill will be equipped with fire extinguishers, and all personnel will be trained in their use. All extinguishers will be inspected regularly and repaired or replaced as needed.

Emergency services are notified telephonically using 911.

K.11.f LITTER CONTROL DEVICES (Rule 62-701.500(11)(f), F.A.C.)

Daily cover will provide the main litter control. When the active area of the landfill is below the ground surface, litter is not expected to be a problem. When the active area is above the ground surface, the perimeter ditch and fence will provide a barrier to blowing litter. In addition, portable and/or temporary litter fences will be located adjacent to the working face to prevent litter from being blown away from the working area.

K.11.g SIGNS (Rule 62-701.500 (11)(g), F.A.C.)

Appropriate signs will be utilized and maintained to ensure maximum safety, efficiency, and general information. Signage will include, at a minimum, facility name and operating authority, traffic flow, hours of operation, disposal rates, and restrictions or conditions of disposal.

K.12 ROADS (RULE 62-701.500(12), F.A.C.)

K.12.a ALL-WEATHER ACCESS ROAD (Rule 62-701.500(12)(a), F.A.C.)

All-weather roads, passable and safe under normal operating conditions, will be maintained to prevent dust, rutting or loss of traction. The facility access roads are surfaced with asphaltic concrete. Figure 1-1 shows the locations of the access and perimeter site roads.

K.12.b PERIMETER AND OTHER ON-SITE ROADS (RULE 62-701.500(12)(b), F.A.C.)

Some perimeter roads and internal roads will be constructed of limerock and/or stabilized soils. These roads will be inspected daily and repairs will be made in a timely manner. Limerock roads will be scraped and smoothed with a road grader or dozer as necessary. When needed, roadways will be wetted to control dust and to ensure high visibility. On-site roads will be maintained to allow access to monitoring devices and stormwater controls, for landfill inspections and fire fighting.

K.13 ADDITIONAL RECORDKEEPING AND REPORTING (RULE 62-701.500(13), F.A.C.)

K.13.a PERMIT APPLICATION DOCUMENTATION (Rule 62 -701 .500(13)(a), F.A.C.)

Records of all information used to develop or support the permit applications and any supplemental information submitted to comply with Rule 62-701, F.A.C., pertaining to construction of the facility will be kept throughout the life of the facility. Records pertaining to the operation of the landfill will be kept for the life of the facility.

K.13.b MONITORING INFORMATION (Rule 62-701.500(13)(b), F.A.C.)

Records of all monitoring information, including calibration and maintenance records and copies of all reports required by permit, will be retained for at least 10 years. Background water quality records will be kept for the life of the facility.

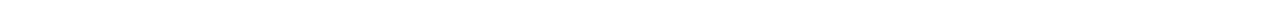
K.13.c REMAINING LIFE AND CAPACITY ESTIMATE (Rule 62-701.500(13)(c), F.A.C.)

The landfill will maintain an annual estimate of the remaining life and capacity (in cubic yards) of the existing constructed landfill and the remaining capacity and site life of other permitted areas not yet constructed. The annual estimate will be based on a summary of the heights, lengths, and widths of solid waste disposal units. The estimate will be made and reported annually to the FDEP as part of the annual update to the closure and long-term care cost estimates.

K.13.d ARCHIVED RECORDS (Rule 62-701.500(13)(d), F.A.C.)

The landfill may archive records that are more than five years, if necessary. Archived records will be available for inspection within seven days of the receipt of the request.

APPENDIX A
OPERATIONS DRAWINGS (REDUCED SIZE)



CITRUS COUNTY SOLID WASTE MANAGEMENT DIVISION

CENTRAL LANDFILL OPERATIONS PERMIT RENEWAL DRAWINGS

CITRUS COUNTY, FLORIDA
SEPTEMBER 2015

**PROJECT
LOCATION**



LOCATION MAP

BOARD OF COUNTY COMMISSIONERS

- Dennis Damato, Commissioner, District 1
- Ron Kitchen, Commissioner, District 2
- Joe Meek, Commissioner, District 3
- Scott Carnahan, Commissioner, District 4
- Scott Adams, Commissioner, District 5

COUNTY ADMINISTRATOR

Randy Oliver

PUBLIC WORKS DEPARTMENT

Jeffery Rogers, Director

SOLID WASTE MANAGEMENT DIRECTOR

Henry Norris

DRAWING NO.	DRAWING TITLE
1	COVER SHEET
2	1-MILE AERIAL PHOTOGRAPH
3	EXISTING FACILITY SITE PLAN (TOPOGRAPHIC SURVEY DATE 04/08/09)
4	FINAL CLOSURE PLAN
5	PHASE 1, 2, AND 3 FILL SEQUENCE CLOSURE PLAN
6	SECTIONS
7	DETAILS
8	DRAINAGE DETAILS - 1
9	DRAINAGE DETAILS - 2

△ REVISED PER B.A.I. NO. 1, APRIL 21, 2010

△ REVISED WITH NEW AERIAL AND TOPO, SEPTEMBER, 2015

SCS ENGINEERS

STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS

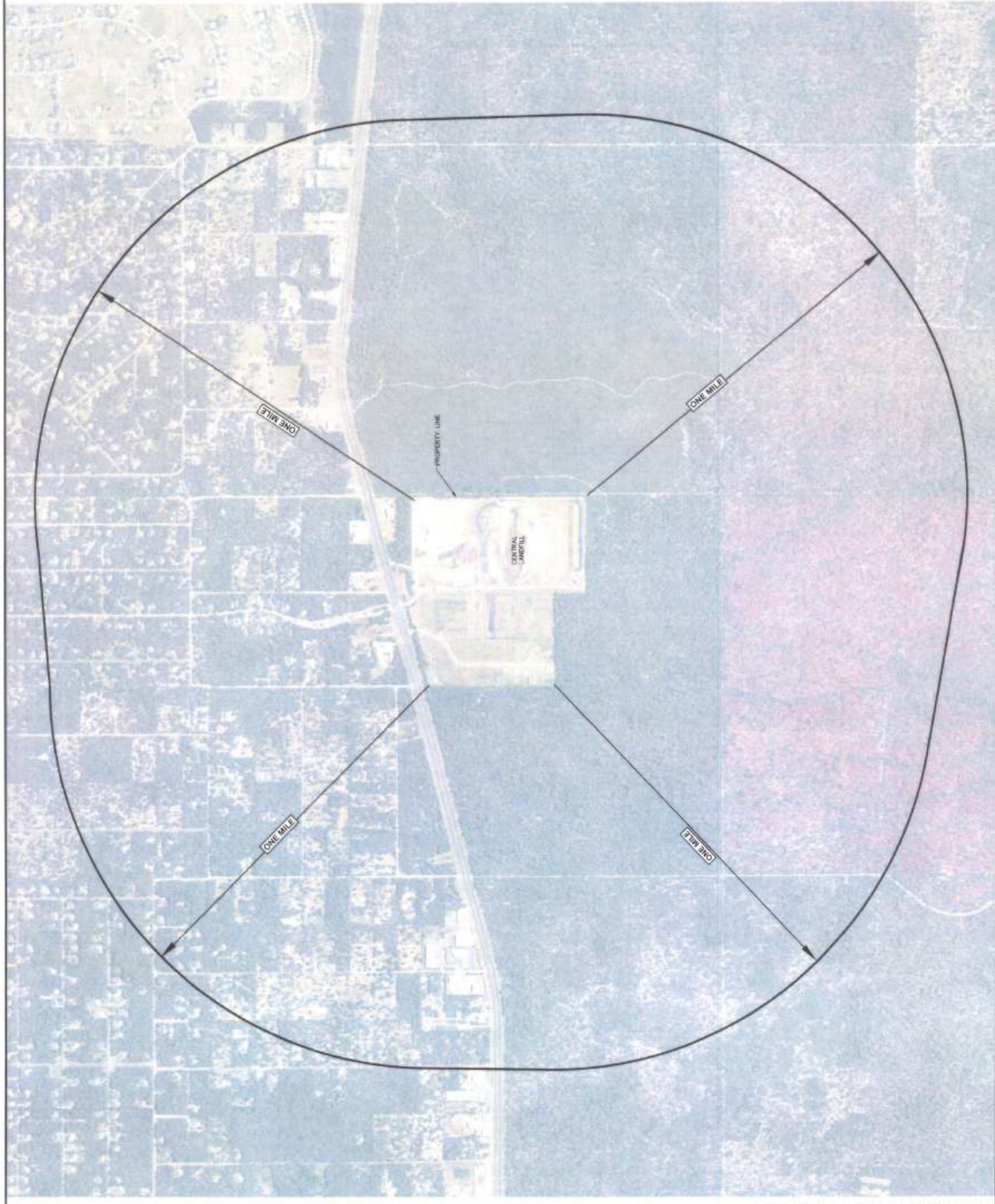
4001 TAMPA, FLORIDA 33610
PH (813) 947-8800 FAX (813) 947-8777
WWW.SCSENGINEERS.COM

FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892

SCS PROJECT NO. 08210921.28

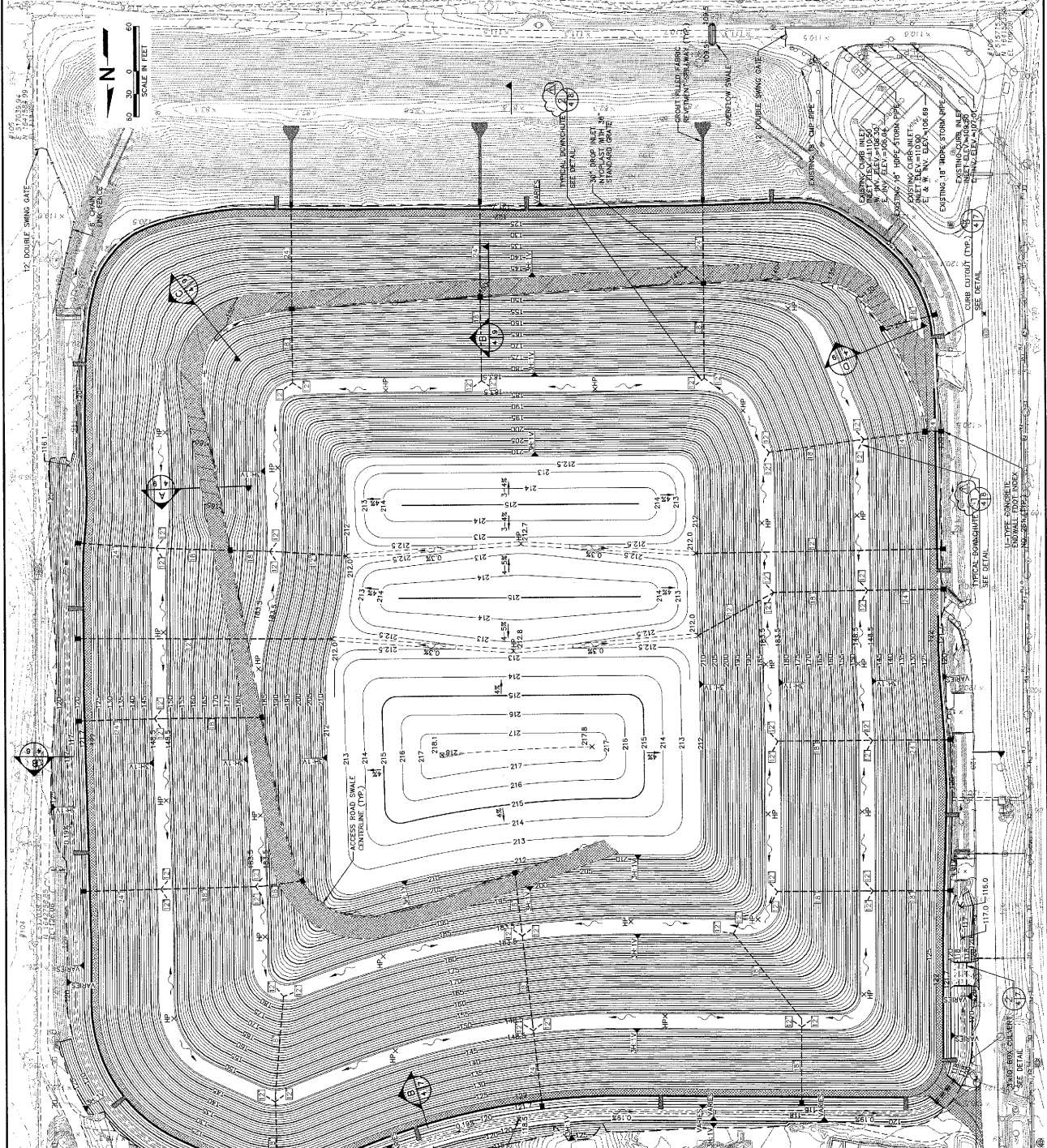


		PROJECT TITLE 1-MILE AERIAL PHOTOGRAPH	REVISIONS DATE: 9/9/15 BY: [Signature] CHECKED: [Signature]	CLIENT CITRUS COUNTY SOLID WASTE MANAGEMENT DIVISION CITRUS COUNTY, FLORIDA	PROJECT NO. 15000000000000000000	DRAWING NO. 2 of 9
LICENSE NO. 46916 C. [Signature] P.E. SCS ENGINEERS		OPERATIONS PERMIT RENEWAL DRAWINGS CENTRAL LANDFILL	DATE: SEPTEMBER 2015 SCALE: AS SHOWN	CITRUS COUNTY SOLID WASTE MANAGEMENT DIVISION 400 N. MAIN ST., SUITE 100, TALLAHASSEE, FL 32301 904.944.1111 WWW.SCSENGINEERS.COM	DATE: OCTOBER 2015 SCALE: AS SHOWN	REVISED DATE: 9/9/2015



LEGEND
 — 1 MILE RADIUS (APPROX.)
 — PROPERTY LINE
 — CENTRAL LANDFILL

REVISED
 DATE: 9/9/2015



LEGEND

- EXISTING ELEVATIONAL CONTOUR (5 FOOT INTERVAL) 04/08/09 SURVEY
- EXISTING ELEVATIONAL CONTOUR (5 FOOT INTERVAL) 04/08/09 SURVEY
- EXISTING SPOT ELEVATION - 04/08/09 SURVEY
- FINAL CLOSURE ELEVATIONAL CONTOUR (1 FOOT INTERVAL)
- FINAL CLOSURE SPOT ELEVATION
- ACCESS ROAD BENCH AND ACCESS ROAD (COMPACTED UNDERLAY)
- STORMWATER PERIMETER SWALE CENTERLINE
- STORMWATER PIPE
- STORMWATER INLET
- U-TYPE CONCRETE ENKWALL (FOOT INDEX NO. 261)
- GROUT FILLED FABRIC RETENTION CURB LOCATION
- LIMITS OF BENCH
- ADS N-12 PIPE SIZE DIAMETER

NOTES:

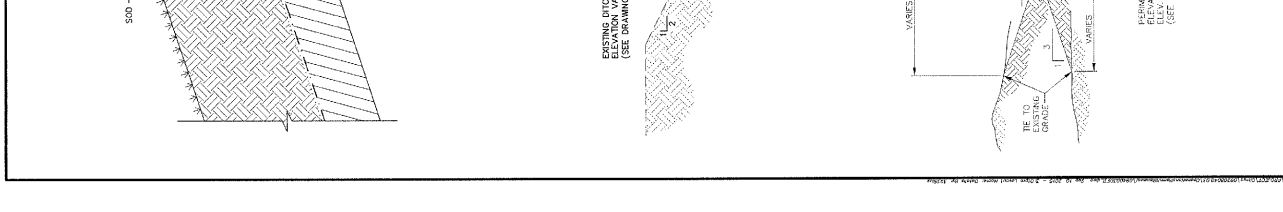
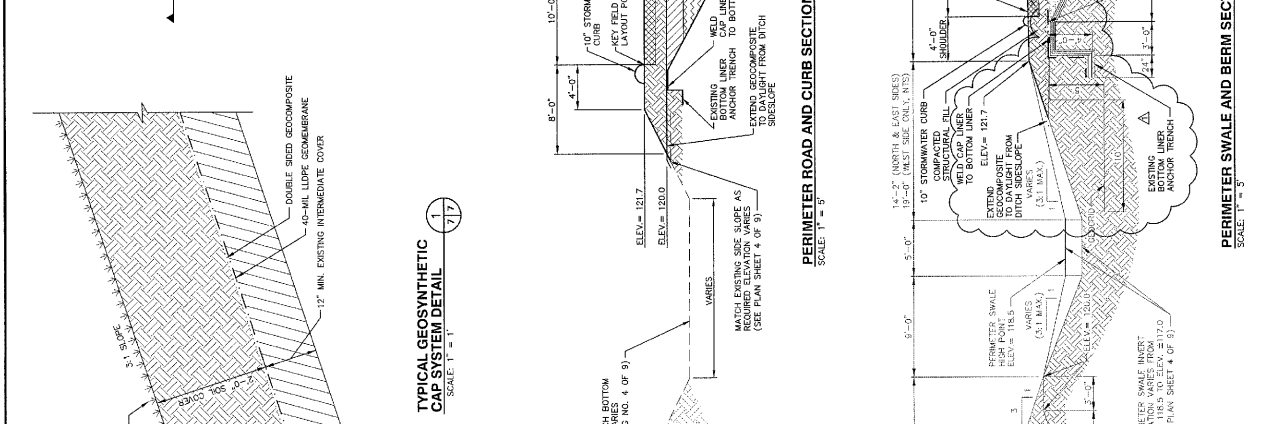
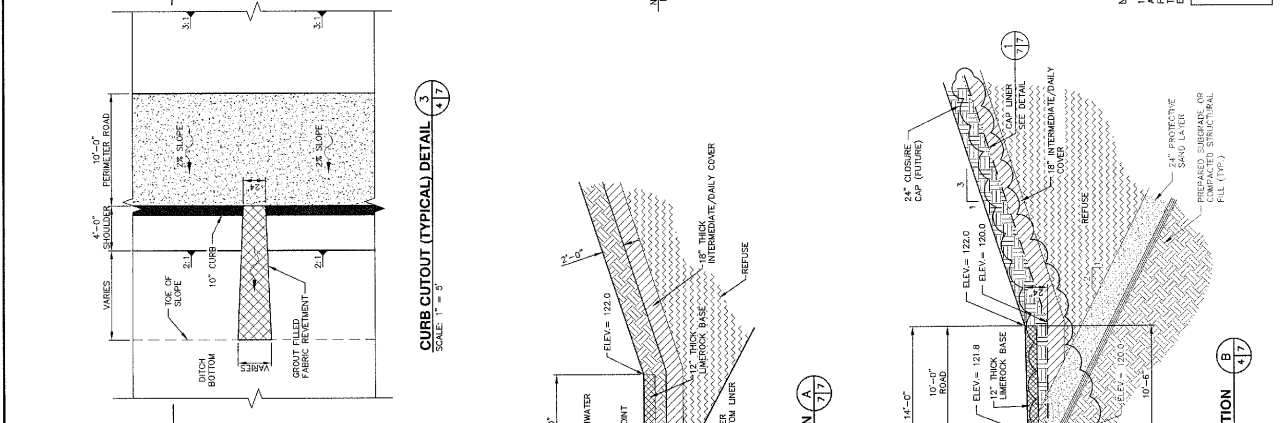
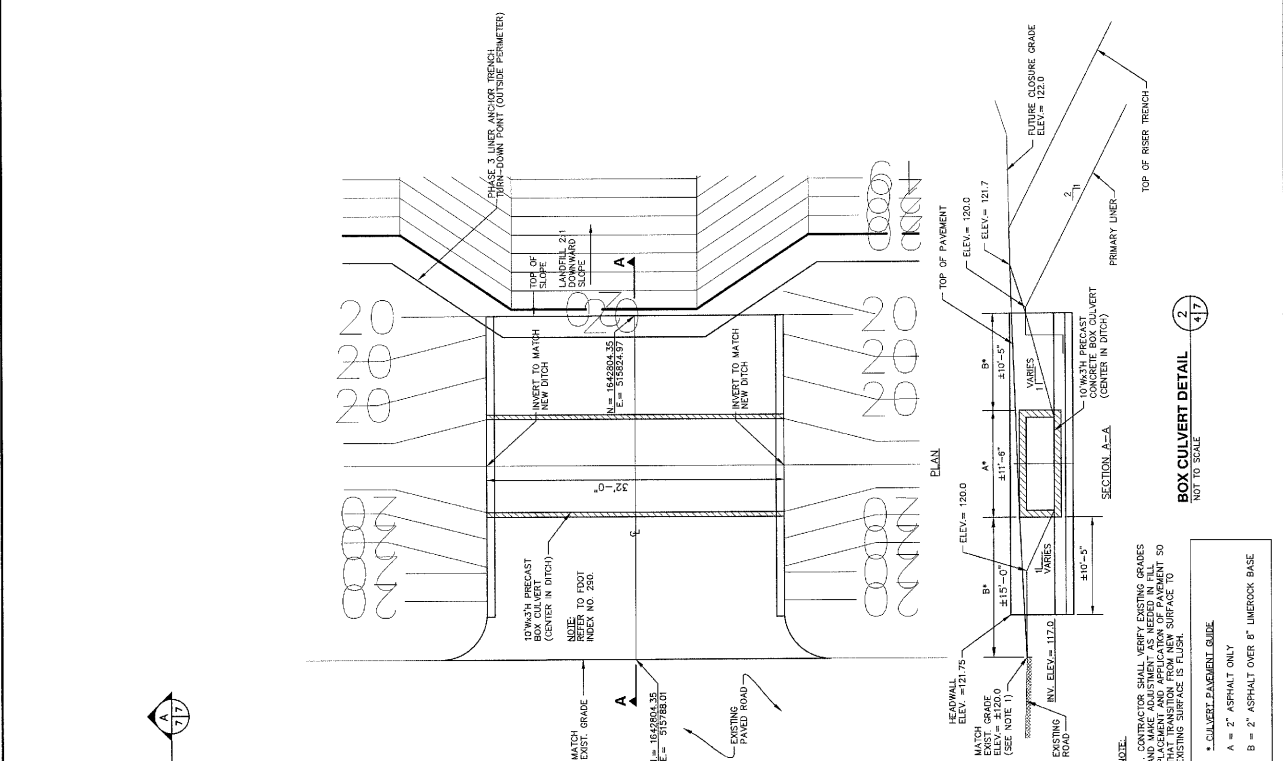
- ALL BENCH SWALES TO BE SLOPED TO HAVE A MINIMUM OF 0.3% TO 2% (MIN).
- ALL BENCH SWALES TO BE SLOPED TO HAVE A MINIMUM OF 0.3% TO 2% (MIN).
- SWALE NEXT TO ACCESS RAMP TO HAVE SLOPE OF 10% (MAX) TO 2% (MIN).

SECTION AND DETAIL DESIGNATION

1 INDICATES DIRECTION OF CUTTING PLANE
 2 INDICATES SECTION NUMBER
 3 INDICATES ELEVATION OF DETAIL
 SHEET NUMBER WHERE SECTION IS SHOWN

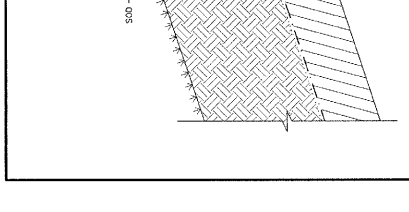
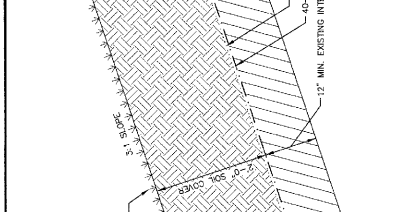
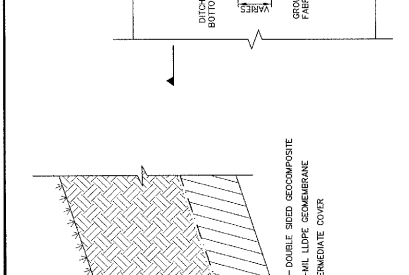
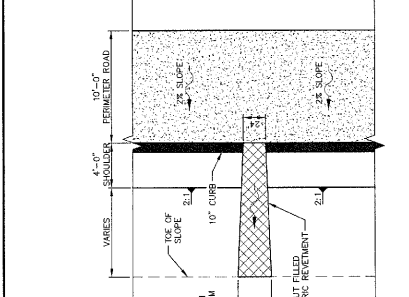
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 3. DATE: 04/27/10
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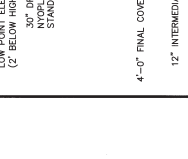
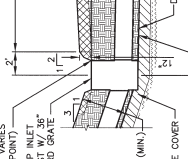
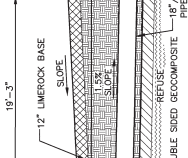
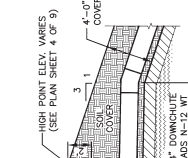
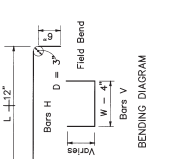
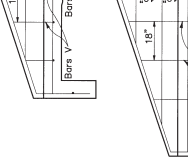
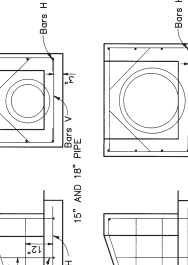
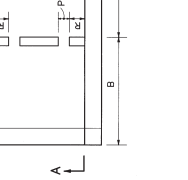
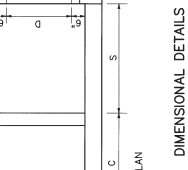
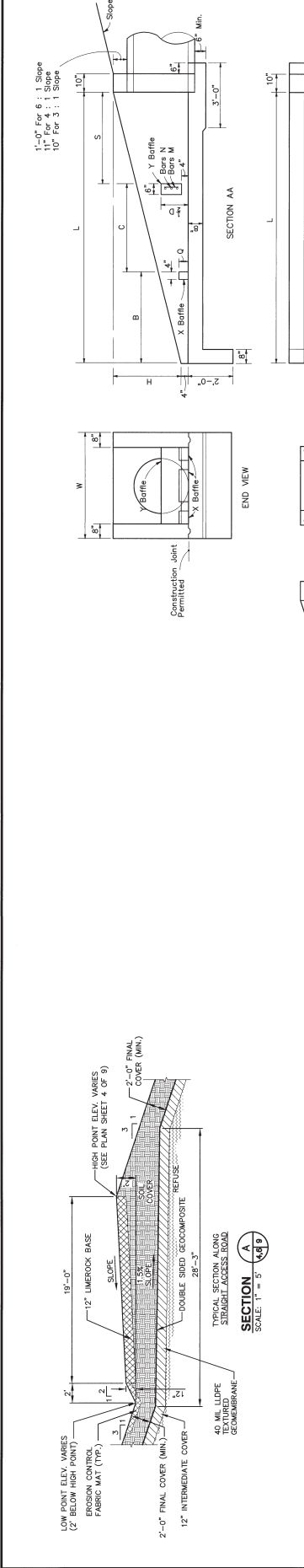
SURVEY SOURCE NOTE:
 TOPOGRAPHIC SURVEY INFORMATION SHOWN WAS DEVELOPED BY SCS ENGINEERS, INC. BARTOW, FLORIDA. ORIGINAL SURVEY DATE: 04/08/09.



NOTE:
 1. CONTRACTOR SHALL VERIFY EXISTING GRADES, ELEVATIONS, AND LOCATIONS OF ALL UTILITIES AND STRUCTURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

1. CULVERT PAVEMENT GUIDE
 A = 2" ASPHALT ONLY
 B = 2" ASPHALT OVER 8" LIMESTONE BASE



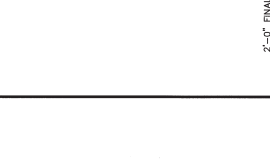
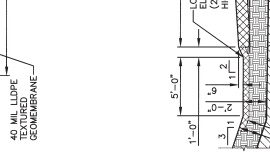
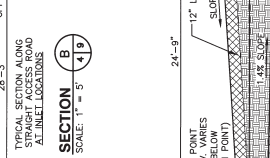
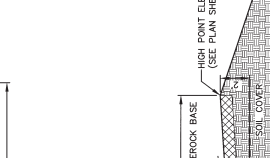
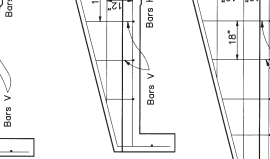
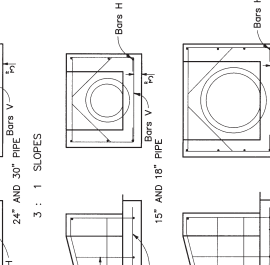


DIMENSIONS AND QUANTITIES FOR ONE U-ENDWALL

Rate Slope	Pipe Size	D	Sp. Fl.	L	H	W	S	B	C	Reinf. (Wt. Required)	Concrete (Cu. Yd.)
3 : 1	15"	1.23	5'-3"	1'-9"	3'-7"	1'-9"	1'-9"	1'-9"	1'-9"	11.9	51
	18"	1.77	6'-0"	2'-0"	3'-10"	2'-0"	2'-0"	2'-0"	2'-0"	14.2	56
	24"	3.14	7'-6"	2'-6"	4'-4"	2'-6"	2'-6"	2'-6"	2'-6"	19.4	77
	30"	4.91	9'-0"	3'-0"	5'-0"	3'-0"	3'-0"	3'-0"	3'-0"	28.1	109
4 : 1	15"	1.23	7'-4"	1'-10"	3'-7"	2'-6"	2'-6"	2'-6"	2'-6"	15.4	64
	18"	1.77	8'-4"	2'-1"	3'-10"	2'-10"	2'-8"	2'-8"	2'-8"	18.4	71
	24"	3.14	10'-4"	2'-7"	4'-4"	3'-6"	3'-4"	3'-4"	3'-4"	25.3	92
	30"	4.91	12'-4"	3'-1"	4'-10"	4'-2"	4'-0"	4'-0"	4'-0"	33.4	124
6 : 1	15"	1.23	13'-0"	3'-0"	5'-0"	3'-0"	3'-0"	3'-0"	3'-0"	21.9	83
	18"	1.77	14'-0"	3'-0"	5'-0"	3'-0"	3'-0"	3'-0"	3'-0"	25.9	99
	24"	3.14	16'-0"	2'-8"	4'-4"	5'-4"	5'-4"	5'-4"	5'-4"	35.9	143
	30"	4.91	19'-0"	3'-2"	4'-10"	6'-4"	6'-4"	6'-4"	6'-4"	48.1	180

DIMENSIONS AND QUANTITIES FOR BAFFLES

Pipe Size	P	Q	R	X	Y	Reinf. (Wt. Required)	Concrete (Cu. Yd.)
15"	4"	4"	4"	4"	4"	1.7	4
18"	4"	4"	4"	4"	4"	2.4	4
24"	5"	5"	5"	5"	5"	4.4	12
30"	5"	5"	5"	5"	5"	6.4	16



ENDWALLS WITH AND WITHOUT BAFFLES FOR 3 : 1, 4 : 1 AND 6 : 1 SLOPES
 U-TYPE CONCRETE ENDWALLS
 BAFFLES AND GRATE OPTIONAL
 15" TO 30" PIPE
 FOOT INDEX NO. 261

SCS ENGINEERS
 4014 PALM CANYON BLVD. SUITE 100 TAMPA, FL 33610
 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 0000866
 813-813-0000 FAX 813-823-0177
 STARS, CONRAD AND SCHMITZ
 ENGINEERS
 1100 W. GORRISON AVE. TAMPA, FL 33606
 813-289-1111 FAX 813-289-1111

DRAWING TITLE: DRAINAGE DETAILS - 2
 PROJECT TITLE: CENTRAL LANDFILL OPERATIONS PERMIT REVENAL DRAWINGS
 CLIENT: CITRUS COUNTY SOLID WASTE MANAGEMENT DIVISION
 DATE: FEBRUARY, 2010
 SCALE: AS SHOWN
 DRAWING NO.: 6 of 9

LICENSE NO. HRA1177, P.E.
 1/1/10

DRAWING TITLE: DRAINAGE DETAILS - 2
 PROJECT TITLE: CENTRAL LANDFILL OPERATIONS PERMIT REVENAL DRAWINGS
 CLIENT: CITRUS COUNTY SOLID WASTE MANAGEMENT DIVISION
 DATE: FEBRUARY, 2010
 SCALE: AS SHOWN
 DRAWING NO.: 6 of 9

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 DRAWING NO.: 6 of 9

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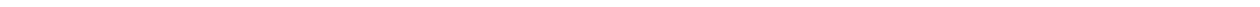
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 SCALE: AS SHOWN
 DRAWING NO.: 6 of 9

APPENDIX B

EMERGENCY INCIDENTS AND CONTINGENCY PLAN



EMERGENCY INCIDENTS AND CONTINGENCY PLAN

for

THE CITRUS COUNTY CENTRAL LANDFILL

and

RELATED FACILITIES

for

CITRUS COUNTY, FLORIDA

COMMISSIONERS

Dennis Damato, County Commission District 1
Ron Kitchen Jr, County Commission District 2
Joe Meek, County Commission District 3
Scott Carnahan, County Commission District 4
Scott Adams, County Commission District 5

ADMINISTRATION

Randy Oliver, County Administrator

COUNTY ATTORNEY

Denise A Dymond Lyn

DEPARTMENT OF PUBLIC WORKS

Jeffery Rogers, Public Works Director

DIVISION OF SOLID WASTE MANAGEMENT

Henry Norris, Director
Citrus County Division of Solid Waste Management
Citrus County Central Landfill
230 West Gulf to Lake Highway
Lecanto, Florida 34461
(352)527-7670

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

Citrus County Division of Solid Waste Management Facilities

- Citrus County Central Landfill Active 80 Acre Site**
- Citrus County Central Landfill Closed 60 Acre Site**
- Citrus County Operations Maintenance Building / Diesel Fuel Facility**
- Citrus County Waste Separation Facility - "Citizen Service Area"**
- Citrus County Hazardous Waste Collection Center and Storage Facility**

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EMERGENCY INCIDENTS AND CONTINGENCY PLAN

A. PURPOSE AND SCOPE

The purpose of these plans are to provide information and guidance for managing emergency incidents which could affect the Citrus County Central Landfill Site(s) and to adopt those contingency plans which would avoid, mitigate, or lessen the severity of the situation.

B. PREPAREDNESS

Local authorities have been notified, and should be kept apprised, of the operations at the Citrus County Central Landfill Sites, located at 230 West Gulf to Lake Highway, Lecanto, Florida. A site diagram should be provided to them, as well as a copy of the contingency plan for all revisions.

A current copy of this plan should be maintained at the Central Landfill Administrative Office and at the Hazardous Waste Collection Center. The Citrus County Fire/Rescue, the Department of Public Works and the Sheriff's Office should be given access to the Solid Waste Management Central Facility.

If it becomes necessary to have contact with an outside agency or department, the following information may be used;

Emergency:	Emergency Response 3425 West Southern Street Lecanto, Florida 34461	Emergency – Dial 911
Emergency Medical:	Nature Coast EMS 3876 W County Hill Dr Lecanto, Fl 34461	Emergency – Dial 911 (352) 249-4700
Law Enforcement:	Citrus County Sheriff's Office 1 South Park Avenue Inverness, Florida 34453	Emergency – Dial 911 (352) 726-4488
Fire and Haz-Mat:	Citrus County Department of Fire/Rescue 3549 Saunders Way Lecanto, Fl. 34461	Emergency – Dial 911 (352) 489-5000
Hospital:	Citrus Memorial Hospital 502 West Highland Boulevard Inverness, Florida 34453	Emergency – Dial 911 (352) 726-1551
Environmental:	Department of Agriculture and Consumer Services Division of Forestry 15019 Broad Street Brooksville, Florida 33512	(352) 796-5650
	Department of Environmental Protection	

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

Division of Waste Management (813) 632-7600
13051 N. Telecom Parkway
Tampa, Florida 33637-0926

Every effort should be made to operate the SWM facilities in a safe manner. All the necessary materials to contain or mitigate small spills, fires or releases should be inspected and maintained on site as outlined in the emergency supplies list. The tools, equipment and materials to clean up all residues should also be available. Daily supplies of material should be utilized to contain and cleanup any de minimus releases during normal operation. Good housekeeping will support a safer work environment.

Florida State Warning Point:

The mission of the State Warning Point Watch Office is to provide the people of the State of Florida and the Division of Emergency Management with efficient and effective communications during normal periods as well as pre-and-post disaster periods and to serve as the contact point in Florida for communications between local Governments and Emergency Agencies, State Government Agencies and the Federal Government.

General Information: 850-226-4329

SPILLS: 800-320-0519 or 850-413-9911

Petroleum Spill - Reportable Quantities:

- Soil: Spills more than 25 gallons.
- Surface Water: All spills, regardless of quantity
- Release Notification Period: Within 24 hours
- Written Report: Yes: *Discharge Report Form*.

C. EMERGENCY RESPONSE COORDINATOR / TEAM

Primary: Henry Norris - Director Solid Waste Management

Address 6583 W Robin Ln
Homosassa, Florida 34448

(Work) (352) 527-7670

(Home) (352) 503-9660

(Work Cell) (352) 302-6980

Secondary: Sammie Walker – Field Crew Leader

Address: 1511 W Henry-Blair Ln
Dunnellon, Florida 34430

Phone: (Work) (352) 527-7670

(Home) (352) 489-8686

(Work Cell) (352) 400-1646

Secondary: Dan Sherlock – Hazardous Waste Coordinator

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

Address: 902 E Cermak St
Hernando, Florida 34442

Phone: (Work) (352) 527-7670
(Home Cell) (352) 586-8567
(Work Cell) (352) 302-3437

Emergency Response Coordinator Operations: In the event that local emergency response agencies are called, the first arriving emergency response company should establish Incident Command. The Incident Commander who has taken charge should implement and expand, as necessary, the incident command structure.

The Solid Waste Management (SWM) Emergency Response Coordinator (ERC) and Secondary Coordinators should make up this Facility's Emergency Response Team (ERT). To the extent necessary, the Coordinators and Team should assist and be under the direction of the existing command structure. During large scale emergency operations, the SWM Emergency Response Coordinator and ERT may serve as or assign an individual to serve as part of a Unified Command Staff.

D. Solid Waste Management Staff List

Administration:

Henry Norris,	Director, SWM
Claire Smith,	Sr. Secretary
Cathy Winter,	Contract Services Specialist

Programs:

Vacant	Program Manger
Caresse Kokosinski,	Customer Service Representative
Owen Carney,	Recycling Coordinator
Dan Sherlock,	Hazardous Waste Coordinator
Michael Holst	Hazardous Waste Specialist
Susan Heglund	Household Hazardous Waste Technician
Gregory Smith,	Litter Compliance Supervisor
Doug Bemus,	Litter Control Worker
David Norris,	Litter Control Worker

Maintenance:

Aaron Lake,	Maintenance Supervisor
John Schaeffer,	Equipment Services Worker

Scale house Facility:

William Gilmore	Solid Waste Supervisor
Tracy Colson,	Solid Waste Technician
Tammy Bagley,	Solid Waste Technician
Neil Maves,	Lead Solid Waste Technician
David Meeks,	Solid Waste Technician
James Driver,	Solid Waste Technician

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

Landfill Operations:

Sammie Walker	Operations Crew Leader
Vacant	Heavy Equipment Operator,
Vacant	Heavy Equipment Operator
Harold Gravely	Lead Heavy Equipment Operator
Eric Pert	Heavy Equipment Operator
Billy Black	Medium Equipment Operator
Mike Morvatz	Medium Equipment Operator

E. PREVENTING EMERGENCY INCIDENTS

Operations should be conducted at the Central Landfill Facilities in a manner, which maximizes both worker and environmental safety while minimizing negative impacts to the environment, this Facility and to fellow workers. No smoking should be permitted in the facility's designated compound areas and access should be restricted to authorized personnel in some areas as needed. NO SMOKING signs should be posted in areas around the facilities. Safety and operation plans should be followed at all times.

(1) Leachate Treatment Facility / Scalehouse Operation Facility

The enclosed portion of the scalehouse is outfitted with a methane gas alarm. The enclosed, electrical building is equipped with a methane gas detector and fire alarm. Fire extinguishers are located at both the above locations. In the event of an alarm, the Emergency Response Coordinator should be contacted. An emergency eyewash and shower facility is located at the leachate treatment facility. See Appendix One for material listing and site capacity.

(2) Maintenance Building, Electronics Building and Diesel Fuel Facility

Fire extinguishers are located at the above locations. See Appendix Two for material listing and maximum site capacity.

(3) Waste Separation Facility - Citizen Service Area (CSA)

Fire extinguishers are located at the Furniture collection site, Rimmed Tire collection site and oil collection site, which is in proximity to the wood waste storage site. The CSA is outfitted with an emergency water shower and eye wash station. See Appendix Three for materials accepted and maximum site capacity.

(4) Methane Gas Collection System

Methane Gas is a natural by-product of municipal solid waste decomposition. The system is designed and operated to collect and destroy flammable gases. The leachate collection system is connected to the gas collection system. The flare system has automatic shut-offs and can also be shut down manually. Appendix Four is a summary of methane gas hazard mitigation.

(5) Hazardous Waste Collection and Storage Facility

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

The Hazardous Waste Collection Center is outfitted with both inside storage and outside storage fusible-link fire extinguishment systems, along with portable BC and ABC extinguishers. The Facility is also outfitted with an emergency water shower and eye wash station. See Appendix Five for specific emergency

F. IDENTIFYING EMERGENCY INCIDENTS

The following situations should be considered emergencies:

- (1) Fire or smoke is detected
- (2) An explosion occurs
- (3) A serious leak or spill is detected
- (4) Personal injury/Medical Emergency
- (5) Approaching Hurricanes or Tornados
- (6) Any other incident which requires immediate attention, such as, but not limited to:
 - (a) vehicle accident
 - (b) vehicle disruption, or
 - (c) incidents which could disrupt the service of this facility

G. CONTINGENCY PLANS

Whenever there is a perceived or actual emergency situation, the person who recognizes the emergency should notify the SWM Administrative Office, via radio or cell phone, who should advise the Emergency Response Coordinator (ERC). In the event the primary ERC is not available, an alternate ERC should be notified. The Emergency Response Coordinator should be responsible for implementing contingency plans. If necessary, the Emergency Response Coordinator should notify all facility personnel and provide for their response, safety and/or evacuation. If necessary, the ERC should implement the notification plan and/or evacuation plan. The Emergency Response Coordinator should direct staff in response procedures as the situation dictates.

The Emergency Response Coordinator should assess possible hazards to human health or the environment that may result from any spill, release, fire or explosion. This assessment should consider both the direct and indirect impact to such entities.

During an emergency, the Emergency Response Coordinator should take all reasonable measures necessary to ensure that fire; explosions, spills and releases do not occur, reoccur or spread to other parts of the facility.

1. Fire

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

The person who recognizes the emergency should also notify the Administrative Office, via radio/cell phone, who should in turn advise the Emergency Response Coordinator. In the event the primary ERC is not available, an alternate ERC should be notified. The Emergency Response Coordinator should determine if outside agencies need to be contacted and if so, dial 911.

In the event of a small fire, the personnel discovering the fire should determine if they have the proper training and if the fire could be extinguished safely and quickly with the available fire extinguishers. The first consideration should be given to the safety of all people within the facility.

If there is a fire within the chemical holding area of the Leachate Treatment Facility or in the area of the Hazardous Waste Collection Facility, an initial determination should be made concerning the safety of responders or response actions. If a fire is inside a building, the doors of the building should not be opened.

Regardless of whether staff or Fire/Rescue has been utilized to extinguish a fire, the Citrus County Fire/Rescue should be called to complete a Florida Fire Incident Report. In the event of a trash fire which requires offsite assistance the Operations Plan shall be implemented and the event shall be reported to FDEP.

2. Explosion

If an explosion occurs, the person who recognizes the emergency should also notify the Administrative Office, via radio / cell phone, who should advise the Emergency Response Coordinator. The Emergency Response Coordinator should determine if the facility should be evacuated and outside agencies should be contacted. Under no circumstances should life or property be put in peril in attempting to handle explosions.

3. Uncontrolled Leaks or Spills

In the event of an uncontrolled leak or spill, the personnel discovering the leak or spill should take the following actions, if it is safe to do so:

- Notify the Administrative Office, via radio/cell phone, who can advise the ERC.
- Ensure the safety of personnel in the area
- Eliminate sources of ignition
- Stop the flow of any material or gas leak at the source
- Contain the leak or spill

The Emergency Response Coordinator should direct facility staff in response procedures as the situation dictates. Actions may include, but not limited to:

Evacuate area, as needed;

- Initiate actions to notify local authorities, emergency response agency, and government agencies, as needed;

Confirm identification of spilled material and check available Material Safety Data Sheets or Safety Data Sheets and consult the Emergency Response Guide procedures;

- Confirm that additional personnel have been assigned to stop the flow of spilling

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

- product and secure leaks, if it can be done safely;
- Assess the spill threat, site safety, and parameters such as spill volume, extent and direction of movement;
- Follow up on containment efforts;
- Establish a Hot Zone and Cold Zone/Safe Work Area;
- Initiate clean up actions, after it has been investigated and if it can be done safely;
- Follow Clean / Decontamination procedures outlined in Item L. of this document.

4. Personal Injuries

The personnel discovering the injured party should take the following actions:

- Notify the Administrative Office, via radio / cell phone, who should advise the Emergency Response Coordinator.
- Determine if the injured party needs assistance
- Apply First Aid in accordance with the care-giver's level of training or willingness to provide "Good Samaritan" treatment.

5. Approaching Hurricanes or Tornados

Florida Division of Emergency Management flood maps show that the SWM facility is above the elevation and outside of the Storm Surge Level of a Category 5 hurricane. If ordered to evacuate, the ERC should notify staff of the actions to take, to where it is safe to evacuate, or the location of an alternative meeting site, if this facility becomes severely damaged or inaccessible.

Prior to Hurricane Season, which is June through November; the Emergency Response Team should survey facility structures to determine if there are any improvements to make the facility safer. Staff should be apprised of what actions they can take to make their workplace more weather-tight and secure from wind and water damage. When it is determined that a hurricane is approaching the facility, staff should:

- Maintain and monitor a NOAA Weather Alert Radio in the office.
- Plan for a means of on-site communication, in case cell towers or portable radios are disrupted.
- Ensure that each employee understands the SWM call-down procedure for warning and post-storm communications.
- Secure buildings, cover windows, move integral equipment to a secured area.
- Secure or move hazardous waste equipment, drums, cubes and PPE to a secure area.
- Clear property or tie down any items that could become flying missiles in high wind, e.g. scrap metal, tires, cubic yard boxes, trash cans.
- Fill portable gas tanks, fleet vehicles and equipment gas tanks and generators; check oil, water and tires. Fuel pumps will not operate without electricity.
- Make plans to work with limited cash, and no water or power for up to two weeks
- Obtain sufficient cash and supplies for operations, recognizing that banks, ATMs and credit cards may be unable to transact business without electricity.
- Ensure important documents, files, backup tapes, emergency contact information, etc. are taken to a safer location.

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

- Ensure each employee has a photo ID and an authorization tag for returning to their residence and to locate to their authorized work location.
- Contact commercial customers and suppliers and share the communications and recovery plan in advance.
- Prepare a list of and make contact with vendors to provide disaster recovery services, before they obtain a prior agreement or contract with other businesses
- If evacuation is advisable, turn off unnecessary electricity, water and gas.
- Unplug all valuable electrical, computerized and electronic devices; elevate to a level not susceptible to water damage.
- Paperwork which will not be moved should be double bagged and elevated.
- Close the facility in sufficient time to allow employees to secure their homes, obtain needed supplies and temporarily evacuate, if necessary.
- After the storm passes, use caution before entering the facility. Check for down power lines, structural damage, and uncontrolled leaks or spills. If any electrical equipment is wet, contact an electrician. Prepare loss information for insurance claims and get independent estimates of damages. Take pictures.
- When power is lost, don't connect a portable generator to building wiring (this could kill or injure neighbors or electrical crews.
- Beware of snakes, insects or animals driven to higher ground by flooding.

6. Lightning Strikes

The chances of being struck by lightning are one in 600,000 but can be reduced by following safety rules. Above all, employees' safety comes first.

- Postpone outdoor activities if thunderstorms or lightning are imminent.
- If an employee, community service worker or other individual is in an area without shelter, staff should check on and assist the member to safety.
- If you hear thunder, seek shelter. Move to a sturdy building or vehicle.
- Do not take shelter in a small shed or under isolated trees.
- Get away from bodies of water or from facility fencing.
- Staff should follow the 30 – 30 Rule:

30 Seconds: Count the seconds between seeing lightning and hearing thunder. If this time is less than 30 seconds, lightning is an imminent threat. Seek shelter immediately.

30 Minutes: After hearing the last thunder, wait 30 minutes before leaving shelter. Half of all lightning deaths occur after the storm passes.

7. Other Miscellaneous Emergency Incidents

For any other perceived, imminent or actual emergency situation, the person who recognizes the emergency should notify the Administrative Office, via radio or cell phone, who should advise the Emergency Response Coordinator (ERC). The ERC should take responsibility for implementing the contingency plans. If necessary, the Emergency Response Coordinator should notify all facility personnel and provide for their evacuation and the notification plan should be implemented. The Emergency Response Coordinator should advise their staff in response procedures, as the situation dictates.

The Emergency Response Coordinator should assess possible hazards to human health or the

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

environment that may have resulted from any release, fire or explosion. This assessment should consider both the direct and indirect impact.

During an emergency, the Emergency Response Coordinator should take all reasonable measures necessary to ensure that fire, explosions, and releases do not occur, reoccur or spread to other parts of the facility.

H. NOTIFICATION PROCEDURE

Whenever there is an imminent or actual emergency situation, the person who recognizes the emergency should notify the Administrative Office, via radio / cell phone, who should advise the Emergency Response Coordinator. In the event the primary Emergency Response Coordinator is not available, an alternate ERC should be notified.

The assigned Emergency Response Coordinator should take responsibility for implementing the contingency plans. If necessary the Emergency Response Coordinator should notify all facility personnel and provide for their evacuation. Generally, the most expedient method of notification should be by two-way radio. The Emergency Response Coordinator should direct the facility staff in response procedures, staging areas or evacuation routes, as the situation dictates.

I. CONTINGENCY EQUIPMENT AND SUPPLIES

Landfill Equipment

- Bulldozer, Caterpillar D6T
- Compactor, Caterpillar 826 G
- Compactor, Caterpillar 826 H
- Excavator, Caterpillar 320EL, w/ 1.56cy bucket
- (2) Front-End Loader(s), Caterpillar, 950(H), w/ 3.75 cu yard multi-purpose bucket
- Fuel Truck, Ford F800 – with 420 gallon, double wall, diesel fuel tank and air compressor
- Water Truck, Freightliner M2106 w/ 2500 gallon tank
- Volvo (A25) Articulated Truck 6-Wheel
- ATV, Kubota RTV1100 CWX-H 4x4
- Toro Workman 1110 Utility Vehicle – Kohler 12 HP engine
- Roll-off truck, Mac with 30 cu yd box
- Multi-Track Loader, Bobcat T630 Skid Steer
- (2) Light Sets, Alamand, with 6kw generator (located in disposal cell and in boneyard)
- Dump Trailer, 8' x 14', Hydraulic
- Fork Lift, Caterpillar P6000, Diesel
- Drum Grabber Attachment for 55 Gal. Drums; to be attached to the Fork Lift
- Generator, 150 Kw Caterpillar (Olympian), Trailer mounted,

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

- Water Transfer Pump, 4" outlet, Mack, Hydraulic drive
- Water Transfer Pump, 4" outlet, Acme, Hydraulic drive
- Water Transfer Pump, 6" outlet, Yanmar, Centrifugal Trash Pump
- Hand Tools and Mechanics Tools, at both the Maintenance Building and HWCC
- Alternative Daily Cover machine, on trailer; 500 gallon tank w/ 18 H.P. pump motor

CONTINGENCY SUPPLIES - AT THE HAZARDOUS WASTE COLLECTION CENTER

Supplies

Shovels	Poly, 65 Gal. Overpack Drum
Brooms	Poly, 30 Gal. Overpack Drum
Squeegee	Metal, 55 Gal. Drums
ABC & BC Fire extinguishers	Poly, 55 Gal. Drums
Bung Wrenches	Poly, 5 Gal. Pails
Hand Tools & Wrenches	Duct Tape
First Aid Kit	Scrub Bushes
PVC Hand Drum Pump (water & corrosives)	Poly Sheeting
Rotary Drum Pump (solvent-safe pump)	Emergency Eye Wash & Shower Station
pH Testing Tape	Drum Wrenches
H ₂ O Testing Tape	Drum Labeling Materials

Materials

Tube Sock Absorbent	General Purpose Absorbent Pads
Vermiculite, Bagged Absorbent	Oil Absorbent Pads and Socks
Abzorbit, Bagged Absorbent	Sodium Bicarbonate neutralizer

Personal Protection Equipment (PPE)

Chemical Resistant Aprons	Personal Respirator
Chemical Resistant Coveralls	Face Shields
Chemical Resistant Shoe Covers	Both Neoprene and Nitrile Gloves
Chemical Resistant Smocks	Leather Work Gloves
Personally-Issued Hardhats	Clear & Sunglass Safety glasses

J. EVACUATION PROCEDURES

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

In the event that the facility needs to be evacuated, the Emergency Response Coordinator should notify the Facility personnel by portable radio. All on-site personnel should be accounted for and verified by contacting each supervisor. Depending on the nature and location of the emergency, the Emergency Response Coordinator should advise facility personnel and citizens which evacuation route and plan to implement. Operations staff should take steps to inform all non-county personnel and citizens on site and assist with their safe exit.

Traffic on roads into the facility should be stopped and re-routed as necessary by Scalehouse personnel. Clear access for response personnel and vehicles to the emergency should be maintained by County personnel.

In the event of a chemical release, bomb threat, fire or other emergency and you are instructed to leave, evacuate immediately. Upon completion of the evacuation of the facility, all personnel are to proceed directly to a rally point, as designated by the Emergency Response Coordinator.

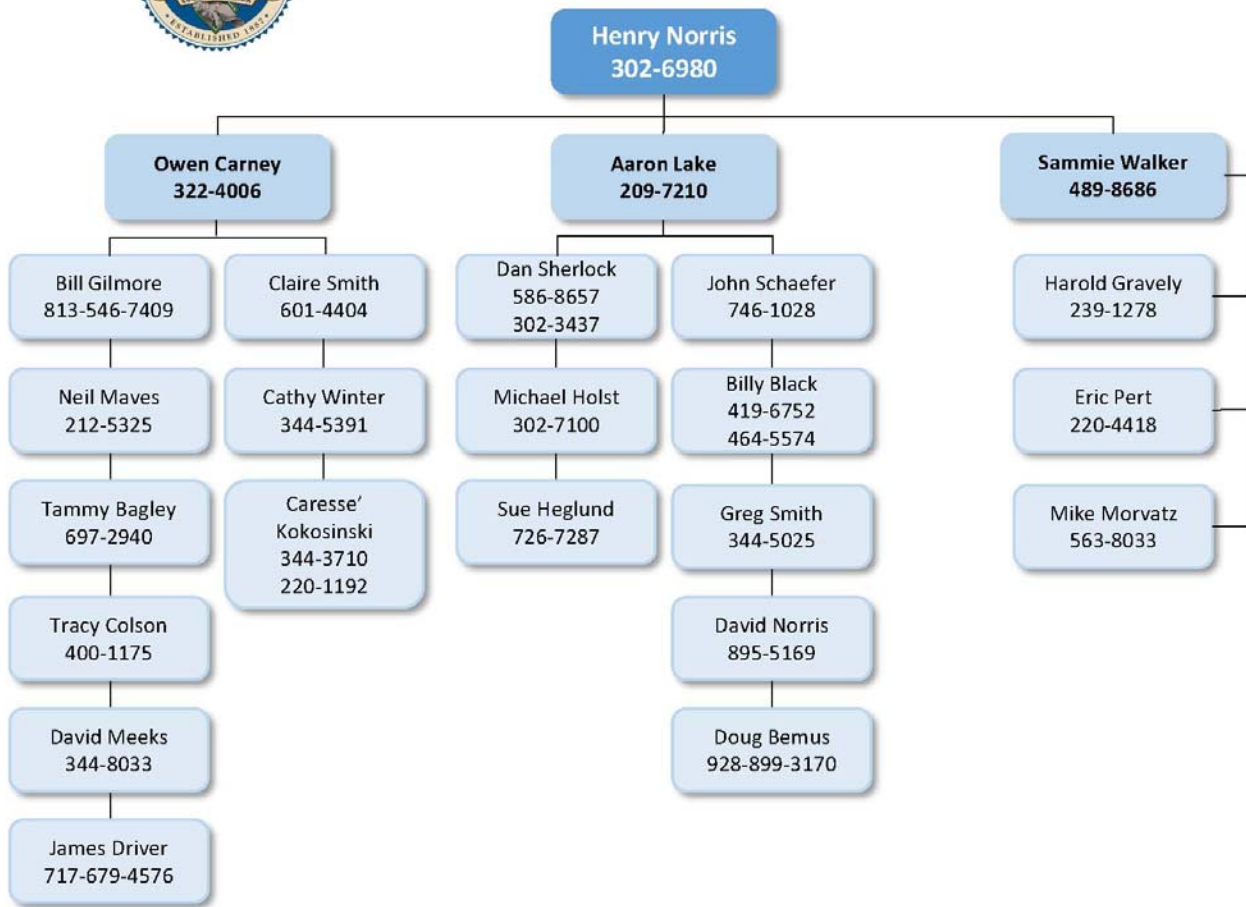
If personnel cannot make it to the primary or secondary rally point, they should evacuate the facility using the nearest up-wind gate.

Primary Rally Point will be the Administrative Office.

Secondary Rally Point will be the Electronics Recycling Building



EMERGENCY CONTACT CHART



Area Code 352 for all phone numbers unless specified

K. CLEANUP AND DECONTAMINATION

All residues from a release, fire or explosion should be contained and cleaned up in a manner consistent with the emergency spill procedure.

Immediately after the emergency, the Emergency Response Coordinator should provide for treating, storing or disposing of recovered waste, contaminated soil or surface water, or any

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

other material that results from a release, fire or explosion at the facility.

The Emergency Response Coordinator should ensure that in the affected areas of the facilities:

- (1) No waste that may be incompatible with the released material is treated, stored or disposed of until clean up procedure are completed; and
- (2) All emergency equipment listed in these contingency plans are cleaned and fit for their intended use before operations are resumed.

Any contaminated equipment should either be cleaned with a suitable solvent, and the discarded solutions handled in an appropriate manner, or discarded with the spill clean up material.

Decontamination should be conducted in accordance with an appropriate decontamination program.

L. FOLLOW UP REPORTING

1. Initially, whenever there is an imminent or actual emergency situation, the Emergency Response Coordinator (or their designee when the Emergency Response Coordinator is on call) should immediately:
 - a. Activate internal facility alarms or communication systems, where applicable, to notify all facility alarms or communication systems.
 - b. Notify appropriate state or local, emergency response agencies with designated response roles, if their help is needed.
2. In addition, whenever there is a spill/release, fire, or explosion, the Emergency Response Coordinator should immediately identify the character, exact source, amount, and the extent of any released materials. He or she may do this by observation or review of facility records, or if necessary, by chemical analysis.
3. Concurrently, the Emergency Response Coordinator should assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment should consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire, or heat-induced explosions).
4. If the Emergency Response Coordinator determines that the facility has had a release, fire, or explosion, which could threaten human health, or the environment, outside the facility, he should report his findings as follows:
 - a. If his assessment indicates that evacuation of local areas may be advisable, he should immediately notify appropriate local authorities. The Emergency Response Coordinator should be available to help appropriate officials decide whether local areas should be evacuated; and
 - b. He/she should immediately notify either the government official designated as the on-scene coordinator for the area or the State Warning Point (using

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

- their 24-hour number 904/488-1320). Include:
- i. Name and telephone number of person reporting;
 - ii. Name and address of facility;
 - iii. Time and type of incident (e.g., release, fire);
 - iv. Name and quantity of material(s) involved, to the extent known;
 - v. The extent of injuries, if any; and
 - vi. The possible hazards to human health, or the environment, outside the facility.
5. During the emergency, the Emergency Response Coordinator should take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other areas of the facility. These measures should include where applicable, stopping processes and operations, collecting and containing release waste, and release waste, and removing or isolating containers.
 6. During an emergency, the Emergency Response Coordinator should monitor for leaks, pressure buildup, gas generation, or ruptures in containers and/or equipment, wherever this is appropriate.
 7. After an emergency, the Emergency Response Coordinator should provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material contaminated by a release, fire, or explosion at the facility.
 8. The Emergency Response Coordinator should ensure that, in the affected area(s) of the facility;
 - a. No waste that may be incompatible with the released material is stored or handled until cleanup procedures are complete; and
 - b. All emergency equipment listed in the EMERGENCY INCIDENTS AND CONTINGENCY PLANS should be cleaned and fit for its intended use before operations are resumed.
 9. The owner or operator of the landfill should notify appropriate State and local authorities, in writing, that the facility is once again functional before operations are resumed in the affected area(s) of the facility.
 10. The owner or operator should note, in the operating record, the time, date, and details of any incident that requires implementation of the EMERGENCY INCIDENTS AND CONTINGENCY PLANS. Within 24 hours after the incident, the situation should be reported to the Department of Environmental Protection (SW District Office Compliance Assurance Supervisor), and a written report on the incident should be submitted within 7 days. The report should include:
 - a. Name, address, and telephone number of the owner or operator;
 - b. Name, address, and telephone number of the facility;
 - c. Date, time and type of incident (e.g., fire, explosion);
 - d. Name and quantity of material(s) involved;
 - e. The extent of injuries, if any;

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

- f. An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
- g. Estimated quantity and disposition of recovered material that resulted from the incident.

M. SITE LAYOUT

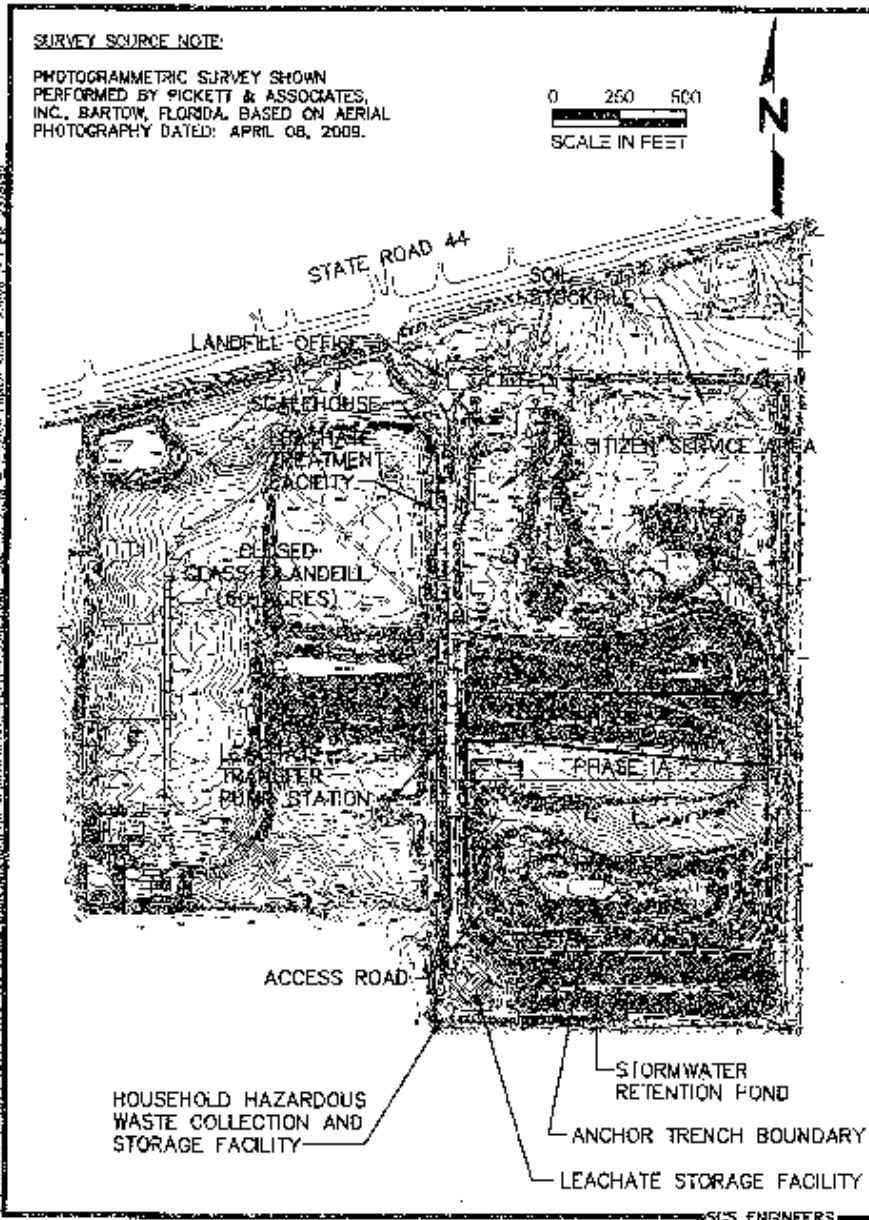


Figure 1-1. Site Plan, Citrus County Central Landfill

APPENDIX ONE

Operations Maintenance Building
and Diesel Fuel Facility

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

MAINTENANCE “OPERATIONS” BUILDING

DIESEL FUEL FACILITY

MAINTENANCE BUILDING

<u>Chemical Listing</u>	<u>Maximum Quantities on Site</u>
Cans of Gasoline	8 – 5 gallon cans
Oil	2 – 55 gallon drums
Hydraulic Oil	2 – 55 gallon drums
Grease	2 – 120 pound drums
Adhesive for plastics	5 – 5 gallon containers
Fuel Truck (parked in building at night)	420 gallons diesel fuel
Diesel Exhaust Fluid (DEF)	1 – 55 gallon drum

DIESEL FUEL FACILITY

Diesel fuel	4 – 500 gallon tanks
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APPENDIX TWO

Citizen Service Area (CSA)

Material List and Maximum Site Capacity

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

Appendix Two – Citizen Service Area (CSA)

<u>Material</u>	<u>Maximum Materials/Capacity</u>
Garbage & Trash Containers	10 – 30 yd Dumpsters
Recyclable Material Containers	3 – 8 yd containers for Single Stream Recycling 1 – 30 yd container for Styrofoam 1 – 20 yd container flower pots
Waste Oil Containers	2 - 385 gallon, double-wall containers
Anti-Freeze Container	2 - 100 gallon, double wall container
Waste Cooking Oil	1 – 100 gallon double wall container
Waste Tires	115 tons
Scrap Metal	50 tons
Wood Waste	Unprocessed 800 tons Processed 2,000 tons
Lead Acid Batteries	2 Pallets (50 – 75 batteries per pallet) within a secondary containment
Propane Tank Container	1 – 20 yard roll-off container, containing: 250 – 20# tanks 20 – 30# tanks 5 – 60# tanks 10 – 100# tanks 1 – 120 gallon tank
Fluorescent Bulbs	100 – 4' fluorescent tubes 30 – 6' and 8' fluorescent tubes 300 – compact fluorescent lights Up to 8 – 55 gallon drums of crushed bulbs kept in the fluorescent bulb building

APPENDIX THREE

Methane Gas

Hazard Data and Management Summary

Appendix Three – Methane Gas, Hazard Data and Management Summary

Landfill Gas Hazards and Management

Introduction

Inside a landfill, waste breaks down and produces gas, consisting mainly of methane and carbon dioxide. Methane is by far the main threat to safety at a landfill because it can occur in large enough concentrations to explode if a spark is present. Carbon dioxide is relatively nonreactive, but can present some risk of asphyxiation. Minor components include ammonia, benzene, and hydrogen sulfide, of which hydrogen sulfide is the most important because it is easy to detect, giving landfills the distinctive “rotten egg” smell. While methane itself is odorless, it usually occurs in the presence of hydrogen sulfide. These minor gasses are all flammable, but are unlikely to occur in sufficient quantities to explode.

Explosion Hazard

Methane is highly explosive when it makes up between 5% and 15% of the air volume. As the gas moves easily through loose soil, it can be a particular concern when it leaches into the confined spaces of a nearby building. Vapors can travel a considerable distance to an ignition source and flash back over the vapor trail. Contact may cause burns to skin and eyes.

Other Health Hazards

Landfill gas has a putrescent, noxious, odor that, in general, is more problematic to people than any real adverse health effects related to exposure. Breathing methane and carbon dioxide is only hazardous when it is present at high enough levels to significantly decrease the amount of oxygen in the air. In the event of a severe gas leak in a confined space, suffocation can occur. Symptoms of being in an oxygen deprived environment include sudden increased respiration (inability to catch one’s breath), racing heartbeat, poor muscular coordination, and rapid fatigue. In more severe cases, nausea and vomiting often precede loss of consciousness which can lead to death.

Incident Response

The landfill maintains a comprehensive gas management system (Attachment A) to continuously burn off methane gas and mitigate the risk of dangerous buildup. If an emergency gas incident occurs, the following procedure should be used to manage the incident.

- Call 911
- Keep unnecessary people away; isolate hazard area and deny entry.
- Stay upwind, out of low areas and ventilate closed spaces before entering.

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

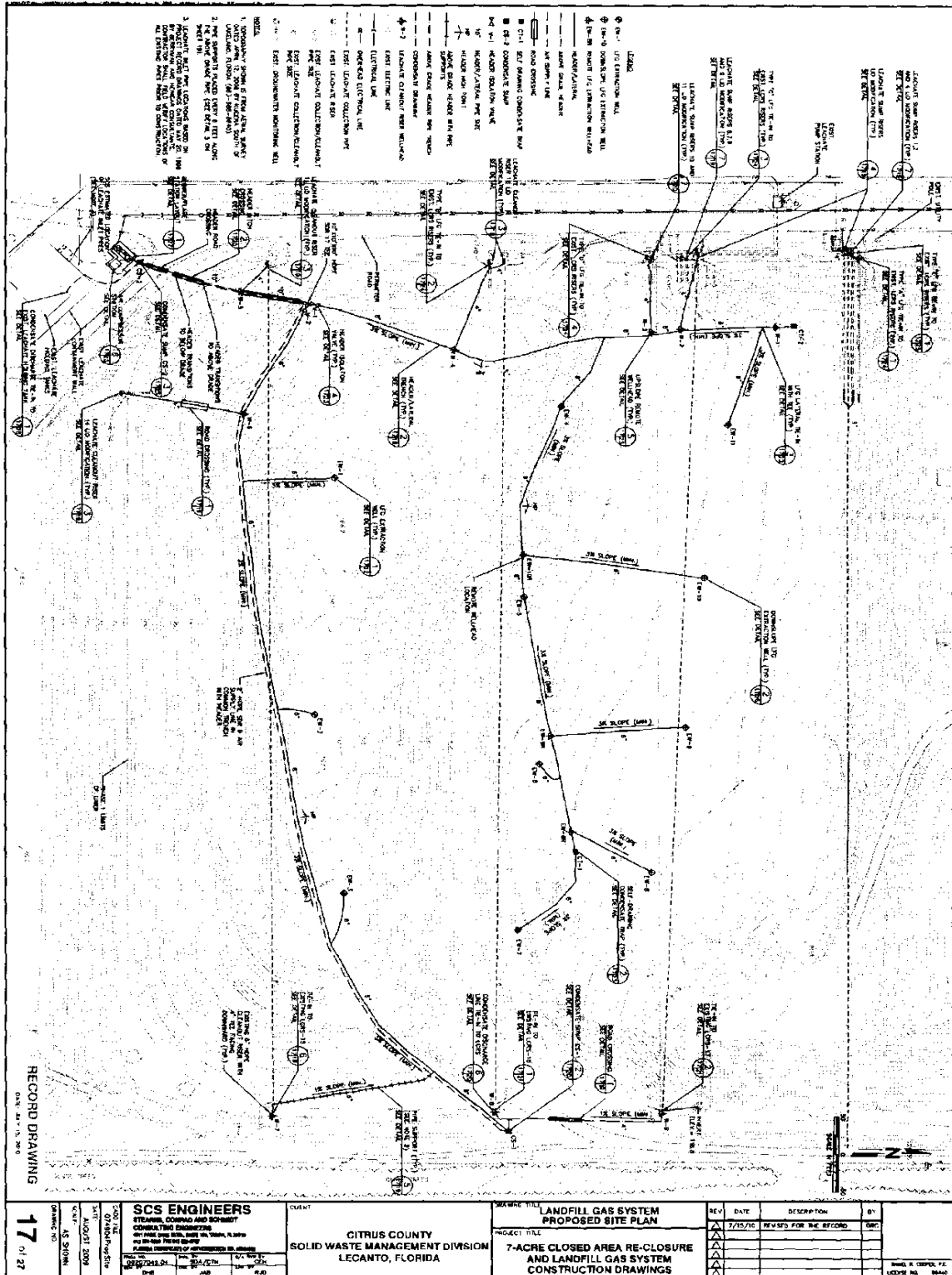
- Fires involving methane should not be extinguished unless the flow of leaking material can be stopped.
- Containers that are exposed to the heat of a fire should be cooled from the side with flooding amounts of water until well after the fire is extinguished.
- Water should be applied from as far away as possible.
- Containers should be moved from the area of the fire and leaks stopped if this can be done without undue risk.
- Water spray may be used to protect personnel attempting to move containers and stop leaks.

Life Support and Treatment

Any Rescuers should wear appropriate respiratory protection.

- Remove victims of inhalation from the toxic environment and monitor for respiratory distress.
- Copiously flush exposed eyes or skin with water.
- Administer 100 percent humidified supplemental oxygen with assisted ventilation as required. If not breathing, give artificial respiration.
- Carefully observe patients with inhalation exposure for the development of any systemic signs or symptoms and administer symptomatic treatment as necessary. Monitor arterial blood gases and chest x-ray in cases with significant exposure.

Attachment A



APPENDIX FOUR

Hazardous Waste Facility
Emergency Incidents and Contingency Plans



Appendix Four

Hazardous Waste Facility Emergency Incidents and Contingency Plans

Contents:

- Introduction
- Regulatory and contractual requirements
- Contingency procedures
- Spill response
- Attachment A: Example Emergency Responder Notification Form
- Attachment B: Emergency Contingency Plan
 - Figure 1: Map to the nearest medical facility

Introduction

This HW Program should maintain a copy of the SWM Facility's *EMERGENCY INCIDENTS AND CONTINGENCY PLANS* at the HW Collection Facility. These contingency plans explain the necessary actions to minimize hazards to human health or the environment from fire, explosion, or unplanned emergencies and chemical releases. To the extent possible, these plans should be followed, when an emergency incident occurs.

Regulatory and contractual requirements

Guidelines used for this Program's emergency contingency plans are established within OSHA standards 29 CFR 1910.38 and 1910.120 (a) and (q), EPA standard 40 CFR 265.50, Subpart D, and the Florida Administrative Code, Chapter 62-730 for Hazardous Waste, Chapter 62-737.400 for Management of Spent Universal Waste, and Chapter 62-710 for Used Oil Management.

Contingency Procedures

The emergency telephone number for response to this Facility is **911**. The designated, Emergency Response Coordinator responsible for implementing the emergency contingency plans is the Director of Solid Waste Management. In the Director's absence, he/she should assign this task to another competent staff, as instructed in the SWM *EMERGENCY INCIDENTS AND CONTINGENCY PLANS*. For timely response, this Program should make emergency information available to local emergency response teams or contractors, who may be called upon in an emergency situation.

Spill Response

In the event of an uncontrolled leak or spill, the personnel discovering the leak or spill should take the following actions, only if it is safe to do so:

- Notify the Administrative Office, via radio / cell phone, who will advise the Emergency Response Coordinator.
- Ensure safety of personnel in area, as necessary
- Eliminate sources of ignition
- Stop flow at the source

EMERGENCY INCIDENTS AND CONTINGENCY PLAN

- Contain the leak or spill

The Emergency Response Coordinator shall direct facility staff in response procedures as the situation dictates. Actions may include, but not limited to:

- Evacuate area, if necessary
- Confirm identification of spilled material and check the Material Safety Data Sheets (MSDS) emergency procedures
- Confirm that additional personnel have been assigned to stop the flow of spilling product and secure leaks, if it can be done safely
- Assess the spill threat, site safety, and parameters such as spill volume, extent and direction of movement
- Follow up containment efforts
- Establish a Hot Zone and Safe Work Area
- Initiate clean up actions, if it can be done safely
- Initiate actions to notify local authorities, emergency response agency, and government agencies, as necessary
- Follow Clean / Decontamination procedures

Hazardous Waste Facility Emergency Incidents and Contingency Plans

Notification for HW Emergency Incidents and Contingency Plans should:

- provide instruction to Program staff on emergency procedures relevant to job duties; see the HW SOG on *Hazard Communications and Employee Right to Know (RTK) Program*;
- provide regular, annual instruction to Program staff on how the contingency Plans should be implemented;
- be easy to assess;
- be placed in the yellow, Emergency Information box at the HW collection Facility;
- contain information which is pertinent to hazardous waste emergencies and contingencies;
- be updated annually, prior to the scheduled, annual training;
- be revised if it fails the desired expectations, after an emergency event; and
- be updated if changes are applicable to contact information, rules or requirements, Facility design, construction, operation, or maintenance
- a form letter including a brief response explaining what should be expected of the emergency responder; see Attachment A Sample, below; and
- a copy of the HW Facility Emergency Incidents and Contingency Plans, with site plan and evacuation maps; see Attachment B with Figures 1 and 2. Figure 1 includes a site map with specific waste type storage locations listed, along with emergency evacuation routes. Figure 2 includes a map indicating the best route to the closest medical facility.



DEPARTMENT OF PUBLIC WORKS
SOLID WASTE MANAGEMENT DIVISION
HAZARDOUS WASTE PROGRAM

P.O. Box 340, Lecanto, FL 34460
230 W Gulf-to-Lake Hwy., Lecanto, FL 34461
Telephone (352) 527-7670, Ext. 4686
Email: hazwasteinfo@bocc.citrus.fl.us
www.bocc.citrus.fl.us/pubworks/swm

June 29, 2015

Fire Chief Jim Goodworth
3600 W. Sovereign Path, Suite 291
Lecanto, Fl. 34461

RE: Emergency Responder Notification Form

Attachment A Sample

Dear Chief Goodworth,

Enclosed is the Citrus County Hazardous Waste Emergency Contingency Plan. Section 29 CFR Part 1910.38 and 40 CFR Part 265.53 require Hazardous Waste Collection Facility operators to create an emergency contingency plan and to make arrangements with nearby police, fire, hospital, and environmental response contractors to provide an expedient and coordinated response to emergencies.

This letter and the enclosed Plan are to clarify our contingency plan and familiarize your agency with our Facility. This is to be used in the event of a Facility fire, explosion, an unplanned release of hazardous materials, or medical emergency. The Plan describes the services for which your agency would be needed and it designates all other authorities and actions. The Plan also details types, maximum quantities and storage locations for hazardous materials or wastes (e.g., floor and plot plans, escape routes).

The Plan should be reviewed annually and be revised if changes are necessary. This Facility will forward revised copies to you when these changes occur. This Program appreciates your assistance and looks forward to any recommendations or suggestions to ensure a comprehensive and complete Plan.

Respectfully,

Dan Sherlock
Hazardous Waste Coordinator
Division of Solid Waste Management

CC: Solid Waste Management Director

Attachment B

Citrus County HW Emergency Contingency Plan

Address: **Citrus County Hazardous Waste Collection Facility**

230 West Gulf to Lake Hwy.
Lecanto, FL 34461

Office:

PO Box 340
Lecanto, FL 34460

EPA ID number FLD 98-210-2741

Last Revision date August, 2015

1. Emergency Response Coordinator (ERC) responsible for implementing this plan

The Designated Facility staff person responsible for implementing this plan is trained to respond to emergencies or has the information necessary to make decisions on how to respond to an emergency.

Name: **Henry Norris**
Position or Job Title: Director, Solid Waste Management
Phone (Work): (352) 527-7670
Cell Phone 24-hour: (352) 302-6980

First Alternate, Designated Facility staff person responsible for implementing this plan

The First Alternate Designated Facility staff person responsible for implementing this plan is contacted in the event the primary designated Facility staff person responsible for implementing this plan is not able to be reached.

Name: **Dan Sherlock**
Position or Job Title: Household Hazardous Waste, Solid Waste Management
Phone (Work): (352) 527-7670
Cell Phone (Cell): (352) 302-3437

Second Alternate, Designated Facility staff person responsible for implementing this plan

The Second Alternate Designated Facility staff person responsible for implementing this plan is contacted in the event the first alternate designated Facility staff person responsible for implementing this plan is not able to be reached.

Name: **Sammie Walker**
Position or Job Title: Field Crew Leader, Solid Waste Management
Phone (Work): (352) 527-7670
Phone (Cell): (352) 400-1646

2. Emergency telephone numbers

All Emergencies	911
Police	911

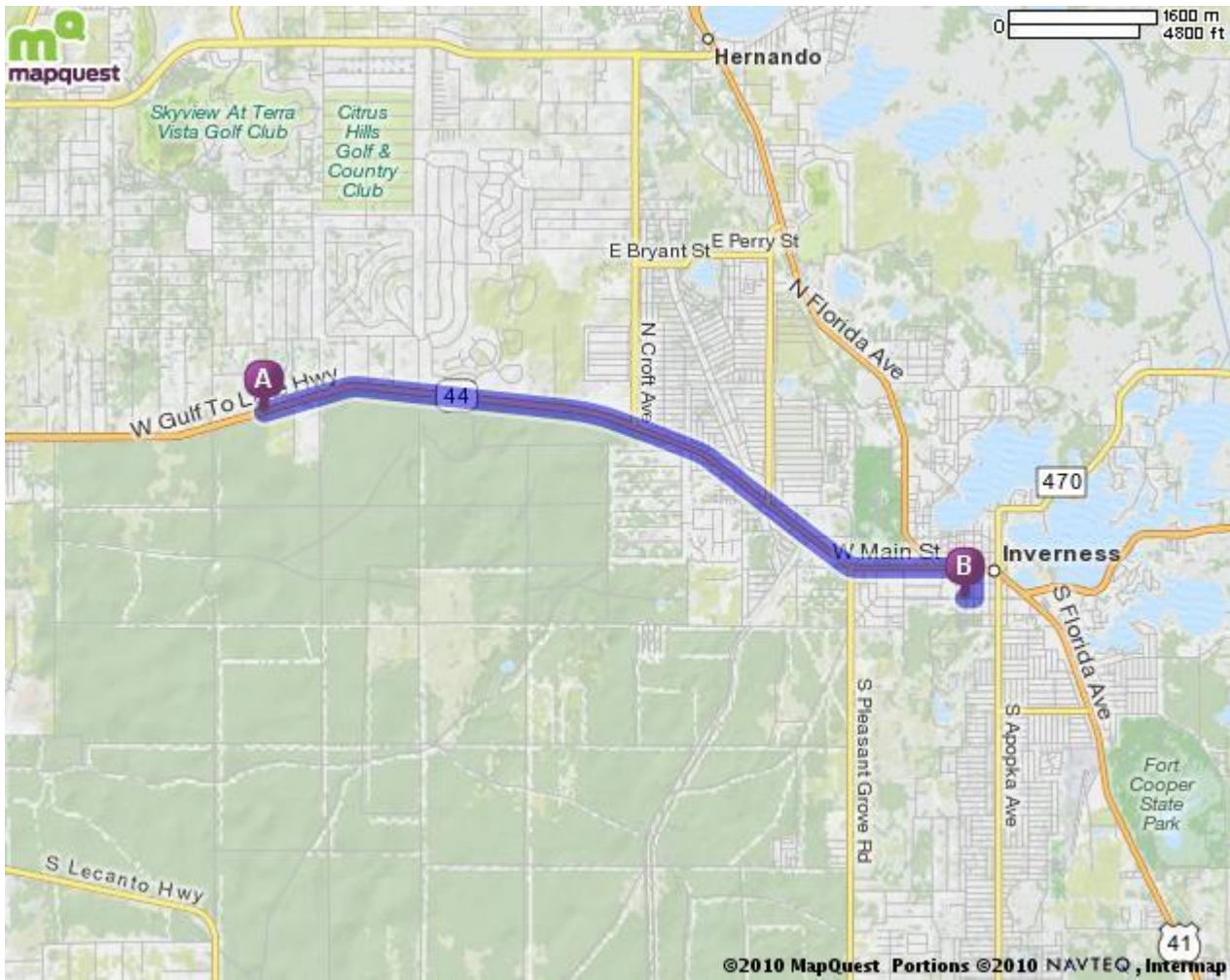
EMERGENCY INCIDENTS AND CONTINGENCY PLAN

Fire	911
Ambulance	911
Florida State Warning Point (to report any emergency)	(800) 320-0519
Bomb squad (go through local County Sheriff's office)	911
Haz-Mat Team (go through local Fire/Rescue)	911

3. Hazardous and Universal Waste stored on site

<u>Waste Category / Products</u>	<u>Hazard Class / Label</u>	<u>Package type and size</u>	<u>Maximum Quantity</u>
Ammunition / Fireworks / Flares	Explosives, Division 1.4	Poly, 5 gallon buckets w/ screw top lid	< 50 lbs.
Paint and mixed aerosols	Flammable Gas, Class 2	(1) 50 gallon cart & (2) 55 gallon drums	< 300 lbs.
Flammable liquids, paints, thinners, fuels	Flammable Liquid, Class 3	1 gallon containers & 55 gallon metal drums	6 drums < 2,500 lbs.
Paint related materials and Tars (in cans)	Flammable Liquid, Class 3	1 and 5 gallon cans in 4' x 4' metal cages	3 Cages < 2,000 lbs.
Paint related materials, (loose packed)	Flammable Liquid, Class 3	Steel, 55 gallon drums w/ open top lids	2 drums < 300 lbs.
Roofing Tars and Adhesives (Bulked)	Flammable Liquid, Class 3	Steel, 55 gallon drums w/ open top lids	2 drums < 1,000 lbs.
Reactive solids	Flammable Solids, Div. 4.1	Poly, 5 gallon w/ screw top lid	1 container < 10 lbs.
Oxidizers	Oxidizer, Division 5.1	Poly, 5 gallon w/ screw top lid	< 50 lbs.
Organic peroxide	Organic Peroxide, Div. 5.2	1 gallon zip-lock bag, labeled	< 1 lb.
Pesticides/Poisons	Poison, Class 6	Segregated by solids & liquids, into categories, Located on shelves for lab packing	< 1,500 lbs.
Acids	Corrosive, Class 8	Poly, 55 gallon, closed-top drum < 800 lbs. Poly, 30 gallon, closed-top drum < 250 lbs. Residential - style containers	2 drums 1 drum < 400 lbs.
Basics (Alkalis)	Corrosive, Class 8	Poly, 55 gallon, closed-top drum < 500 lbs. Poly, 30 gallon, closed-top drum < 250 lbs. Residential - style containers	2 drums 1 drum < 400 lbs.
Mercury	Corrosive, Class 8	Poly, 5 gallon w/ screw top lid	1 container < 50 lbs.
PCB Ballasts / Capacitors	Miscellaneous, Class 9	Poly, 5 gallon w/ screw top lid	2 containers < 100 lbs.
Petroleum or oil wastes w/ dirt or asphalt mix	Miscellaneous, Class 9	Steel, 55 gallon drums w/ open top lids	4 containers < 3,000 lbs.
Used Oil for Recycling	Universal Waste Non-Hazardous Waste	Steel, 55 gallon drums w/ open top lids	1 container < 300 lbs.
Spent Fluorescent Tubes for Recycling – Crushed in Drums	Universal Waste Non-Hazardous Waste	Steel, 55 gallon drums w/ open top lids	1 container < 500 lbs.

Figure 1 – Map to the Closest Hospital



1. Start out going EAST on W GULF TO LAKE HWY/FL-44 E toward S THAYER AVE. Continue to follow FL-44 E. 7.0 mi



2. Turn RIGHT onto S OSCEOLA AVE. 0.3 mi



3. Turn RIGHT onto W HIGHLAND BLVD. 0.1 mi



4. 502 W HIGHLAND BLVD.

END OF DOCUMENT

SWM EMERGENCY INCIDENTS AND CONTINGENCY PLANS

for

THE CITRUS COUNTY CENTRAL LANDFILL

and

RELATED FACILITIES

for

CITRUS COUNTY, FLORIDA

SECTION II

FACILITY STANDARDS

And

EMERGENCY INCIDENTS PLAN

For the

CITRUS COUNTY

HAZARDOUS WASTE COLLECTION AND STORAGE FACILITY

Located at the

**Citrus County Central Landfill
230 West Gulf-to-Lake Highway
Lecanto, FL**

Prepared by

**Department of Public Works
Division of Solid Waste Management**

Updated August 2015

HHW Facility Standards and Emergency Incidents Plan

CITRUS COUNTY

HAZARDOUS WASTE COLLECTION AND STORAGE FACILITY

HISTORY

The Citrus County Board of County Commissioners has sponsored the Household Hazardous Waste (HHW) collection program since the late 1980's. The Florida Department of Environmental Protection assisted Citrus County by initiating Household Hazardous Waste "Amnesty Days", two times per year, utilizing a newly purchased collection and storage facility. The metal, Model 22, storage building was purchased from Safety Storage, Inc., Cupertino, California, including options for force air ventilation, dry chemical fire suppression, and two metal bulkheads creating three separate storage spaces. The building was engineered to comply with EPA, NFPA, and OSHA standards and regulations for storing hazardous chemicals and wastes. The building is also corrosion resistant and features interior, secondary containment for the prevention of spills or leaks.

In December of 1991, the facility was relocated from the 60 Acre Central Landfill site to the 80 Acre Expansion Site. Access to the Household Hazardous Waste Collection Center was provided from the main paved road along the west boundary of the Central Landfill facility. The HHW building was sighted in the southwest portion of the Landfill Facility which had existing groundwater monitoring wells, sampled quarterly for contamination detection. The building was constructed on top of a 12" compacted subgrade and 6 mil vapor barrier. The storage building rests on a 45.5' x 14' transfer/containment slab with a 3% center drain. The transfer/containment slab received a hardener surface treatment of "Lapidolith", or equal upon completion of construction. The transfer/containment slab is sheltered by a 53' x 30' open shed roof, which was added in 1997. Added at the same time was an overhead dry chemical fire suppression system, over the flammable bulking/drum storage area. In the late 1990's, personnel within the Citrus County Hazardous Material Team were used to oversee the HHW and Conditionally Exempt Small Quantity Generators (CESQG) programs. In 2008, the Citrus County Board of County Commissioners hired a Hazardous Waste Coordinator to oversee the HHW and CESQG programs and a Hazardous Waste Specialist to assist the Coordinator and to operate the County CESQG program.

The Citrus County Hazardous Waste Collection Center currently accepts flammable liquids, flammable solids, oxidizers, corrosives, poisonous hazardous waste and a limited amount of Class 1, Division 1.4 materials from households and specific, known, and stable business wastes from Conditionally Exempt Small Quantity Generators which are licensed and situated within Citrus County.

HHW Facility Standards and Emergency Incidents Plan

INTRODUCTION

Citrus County has a permanent Household Hazardous Waste (HHW) program and Conditionally Exempt Small Quantity Generator (CESQG) program for the collection of waste materials at the Household Hazardous Waste Collection Center. Due to the origin of these materials, by statute, they are exempt from many Federal and State Regulations.

Citrus County has adapted/modified the proposed HHW Facility Standards (draft 3 – July 1996), as prepared by Committee Members, State of Florida County Household Hazardous Waste Project Managers, as guidance to a site specific guideline for Citrus County personnel utilization for facility operations, in accordance with section “Applicability”.

“The standards were proposed for facilities which collect HHW with in-house staff, and;

1. also bulk, neutralize or otherwise treat waste; or
2. also collect CESQG waste with in-house staff; or
3. both 1 and 2 above.”

The Citrus County Division of Solid Waste Management, through its Household Hazardous Waste Collection Center, performs both operations 1 and 2 above.

1. FACILITY PERSONNEL

1. Facility Manager shall be the Director for the Division of Solid Waste Management, Department of Public Works.
2. Facility Site Supervisor shall be the Household Hazardous Waste Coordinator, Division of Solid Waste Management, and/or his/her assignee.
3. Facility Site Assistant shall be the Hazardous Waste Specialist, Division of Solid Water Management, and/or his/her assignee.
4. Facility Staff Spotter shall be Solid Waste Management personnel trained in the facility operational and spotting requirements.
5. Facility Site Staff, during times of program operation, shall be personnel trained in the facility operational requirements.

HHW AND CESQG OPERATIONAL CHAIN OF COMMAND:

Division Director	Henry Norris
Operations Manager	Vacant

HHW Facility Standards and Emergency Incidents Plan

Hazardous Waste Coordinator	Daniel Sherlock
Hazardous Waste Specialist	Michael Holst
Hazardous Waste Technician	Susan Heglund

II. PHYSICAL FACILITY – MINIMUM STANDARDS

A. Containment

1. All waste shall be stored in either the HHW storage building, in drums or on the secondary containment pallets at the facility.
2. All liquid waste shall be stored within secondary containment structures capable of containing 110% of the largest two containers in storage.
3. Containers holding liquid shall be placed so that material escaping from a small leak in a non-pressurized container will not fall outside the containment structure.
4. All non-liquid waste shall be stored within secondary containment structures capable on containing all storm water reasonably expected to fall or run onto the structure in a 25 year flood or on a paved and sheltered surface which would be substantially unaffected by a 25 year flood.
5. Storm water shall be prevented from accumulating within in-service containment structures in amounts in excess of 10% of their volume.
6. Containers shall be protected from deterioration due to excessive exposure to storm water or condensation.

B. Required Equipment

During hours of operation, the facility is equipped with the following, unless none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

1. Voice communication from the site supervisor shall be utilized to provide immediate emergency instruction to facility personnel.
2. A device, such as a portable telephone available at the scene of operation, or a hand-held two-way radio, capable of summoning emergency assistance

HHW Facility Standards and Emergency Incidents Plan

from local police department, fire department, or State or local emergency response teams.

3. Portable, Class ABC fire extinguishers
4. Spill control, absorbent pads, socks, materials and equipment, including all necessary and appropriate personal protective equipment (PPE) and clothing and decontamination equipment.
5. If needed, there is equipment at the Landfill capable of providing water at adequate volume and pressure to supply water hose streams, or water spray systems for fire suppression and/or decontamination.
6. Emergency shower and eyewash station

III. WASTE ACCEPTANCE CRITERIA

A. Household Waste

The facility shall only accept household hazardous waste if:

1. It is acceptable material for disposal with the County's Hazardous Waste Contractor;
2. If it is generate from a Citrus County residence; and
3. If it can be safely stored prior to disposal.

B. CESQG Waste

Facility personnel will enforce the following additional criteria with respect to any CESQG waste that they accept. (This section applies to wastes that the facility Accepts, not to waste accepted directly by the disposal contractor):

1. They verify that the source is Citrus County generated and Conditionally Exempt;
2. It is acceptable material for disposal with the County's Hazardous Waste Contractor;
3. They do not accept unknown chemicals or compounds from CESQG's. The generator is required to identify the process generating the waste and all materials that were used in the process. From that information, the generator or the facility supervisor should be able to determine which EPA

HHW Facility Standards and Emergency Incidents Plan

waste codes are applicable to that waste;

4. They only accept waste if they can verify that it is what the generator says it is; and
5. If it can be safely stored prior to disposal.
6. Whenever possible, businesses needing to dispose of their CESQG waste will be directed to and provided a listing of the various, available, hazardous waste collection contractors serving the Citrus County area.

C. Acceptance of Materials During Normal Operating Hours

1. Household Hazardous Waste shall be accepted from county residents on Tuesday, Thursday, and Friday, from 9:00 am till 1:00 pm.
2. Upon arrival at the HHW Collection Center (HHWCC), participants will be informed of the NO SMOKING requirement, if necessary, and asked to unload their vehicle and place items on the carts (staff will assist, as needed).
3. HHWCC staff, wearing appropriate PPE, will unload and process the participant's waste, as follows:
 - Identifies chemicals by label information and/or inquiries of the participant.
 - Verifies acceptability of chemicals using acceptable and non-acceptable materials charts and standards.
 - Refers participant for disposal of non-acceptable materials
 - Directs and assists in removing materials from vehicle
 - Upon removal of leaking or open containers, places such into poly bags or over-packs, in appropriate containers, using absorbent
 - Places materials onto cart(s)
 - Labels any materials which are insufficiently labeled
 - Assists participant on exiting the site
 - Following segregation procedures, sorts and segregates materials by:

HHW Facility Standards and Emergency Incidents Plan

1. DOT Hazard Class
2. Chemical compatibility

D. Acceptance of Materials Outside of Normal Collection Hours:

1. If the resident is unable to be at the HHW Collection Center during normal collection periods, household hazardous waste may be accepted from Citrus County residents, preferably, by appointment only.
2. The scale house operator will first screen incoming waste. If a citizen cannot dispose of their HHW during normal acceptance times, the scale house operator shall direct the participant to a Citizen Service Area (CSA) staff spotter. Before taking possession of the waste, the CSA staff spotter shall question the person delivering the hazardous waste, to ascertain that it is only from a residential source and to the exact nature of its contents.
3. If the material is paint or a paint related material, staff will ascertain whether or not the can is empty and shall dispose of empty containers as solid waste. If the material is a latex and solid, staff may dispose of the container as solid waste.
4. All paint-related wastes collected in this manner will be relocated daily to the HHW Collection Center. Whenever the materials are being relocated to the HHW Collection Center area, staff shall be equipped with a two-way radio.
5. At the end of every work day, the CSA staff spotter will check the used oil Collection site, anti-freeze/battery collection site, and the citizen's service area drop-off site for any household hazardous waste that may have been left. If the CSA staff spotter discovers questionable, unknown or non-paint material, the Household Hazardous Waste Coordinator or their designee shall be contacted for guidance and disposal assistance.

IV. PERSONNEL

A. Training

HHW facility personnel and staff spotter(s) shall successfully complete training program(s) that teach them to perform their duties in a way that ensures the facility is operated in a manner that protects them and the public from potential health and safety hazards at the site and is protective of the environment.

1. Each individual involved with the HHW program shall receive training and certification according to their job description and scope of responsibility. Each

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training program shall be taught by a person who is certified to train others in hazardous waste management procedures, including instruction in regard to personnel hazardous waste management procedures. The person providing the training shall have no less than 40 hours training in appropriate aspects of hazardous waste/material management including selection of protective clothing and equipment and emergency response.

2. At a minimum, the initial training program is designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with HHW material acceptance procedures, emergency procedures, including Emergency Incidents Plan implementation, emergency equipment, and emergency systems, including where applicable:
 - a. Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
 - b. Communications or alarm systems;
 - c. Response to fires or explosions;
 - d. Response to discharges to the land surface; incidents; and
 - e. Shutdown of operations.
3. All personnel who handle hazardous waste (or items, which would be hazardous waste if regulated) are trained in sorting materials by hazard class and compatibility group.
4. Facility personnel shall successfully complete their initial training program within six months after the date of their employment or assignment to a facility. New employees shall not work in unsupervised positions until they have completed the training requirements.
5. The Hazardous Waste Coordinator shall perform an annual review of the minimum, initial training requirement and of each member's needs and progress toward achieving such training.
6. Facility personnel who receive CESQG waste, bulks or otherwise treats any waste material, should have on staff and on duty, at least one person who has no less than 40 hours training in appropriate aspects of hazardous waste/material management including selection of protective clothing and equipment and emergency response.

B. Personnel Records

The following documents and records shall be maintained at the facility manager's office:

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1. The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;
2. A written job description for each position. This description may be consistent with its degree of specificity with descriptions for other similar positions at the same site, but should include the requisite skill, education, or other qualifications, and duties of facility personnel assigned to each position;
3. A written description of the type and amount of both introductory and continuing Training that will be given to each person filling a position; and
4. Record that documents the training or job experience required for each position has been completed by facility personnel.

V. OPERATIONS

A. Maintenance and Operation of HHW Facility

1. The facility shall be maintained and operated to minimize the possibility of a fire, Explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface water that could threaten human health or the environment.
2. All facility communications or alarm system, fire protection equipment, spill control equipment, and decontamination equipment, where required, shall be tested and maintained in accordance with manufacturer's recommendations and as necessary to assure its proper operation in time of emergency.
3. Facility personnel shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.
4. Whenever hazardous waste is being poured, mixed, bulked, or otherwise handled, all personnel involved in the operation shall have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not necessary.
5. Normal operational procedures require two personnel on site at all times, but, if there is ever just one employee on the premises while the facility is in operation, he shall have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning emergency assistance. (Telephones and radios shall not be placed

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in areas where the atmosphere may become explosive due to the presence of flammable vapors, dusts, or gases.)

B. Accumulation Time

1. The HHW collection facility will be accumulating household hazardous waste and CESQG waste on-site, and shall store the material as follows:
 - a. The waste will be placed in containers; a container may be considered a storage building or a DOT approved drum.
 - b. The amount of waste accumulated will not place the facility in violation of any part of section II.A,V.D, or V.E; and
 - c. While accumulated on-site, each container is labeled with the appropriate DOT label and a description of the contents. A proper label on the storage building door describes the hazardous properties of the materials stored inside.
2. The household hazardous waste and CESQG waste collected for treatment or disposal shall not be accumulated on site for more than 210 days. Once the capacity limit or accumulation time limit is reached, all hazardous waste collected shall be shipped to a permitted hazardous waste facility for treatment or disposal. The operator may request DEP approval of a longer accumulation time period for specific wastes which are accumulated slowly.

C. Management of Containers

1. If a container holding hazardous waste is not in good condition or if it begins to leak, the operator shall pack the container and its contents in a larger container that is in good condition, or manage the waste in some other way that complies with the requirements of this part.
2. The operator shall use containers made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired and is in compliance with that material's packing code.
3. A container holding hazardous waste should always be closed during storage, except when it is necessary to add or remove waste.
4. A container holding hazardous waste should not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.
5. HHW staff shall inspect areas where containers are stored, at least weekly, looking for leaks and for deterioration caused by corrosion or other factors.

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The operator shall keep records and results of these weekly inspections.

D. Special Requirements for Ignitable or Reactive Waste

1. Containers holding ignitable or reactive waste shall be located within the transfer/containment slab, with a secondary containment area and grounded to minimize static electricity.
2. HHW shall take precautions to prevent accidental ignition of ignitable waste. This waste will be separated and protected from sources of ignition, including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks, (static, electrical, or mechanical), spontaneous ignition (e.g. from heat-producing chemical reactions), and radiant heat. While ignitable waste is being handled, the owner or operator should confine smoking and open flame to a specialty designated location. "No Smoking" signs are conspicuously placed wherever there is a hazard from ignitable waste.
3. Reactive wastes shall receive such special handling and storage as needed to prevent unintentional reactions.

E. Special Requirements for Incompatible Wastes

The following are guidelines for prevention of fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible waste or if a container break or leaks.

1. Incompatible waste, or incompatible waste and materials should not be placed in the same container;
2. Hazardous waste should not be placed in an unwashed container that previously held an incompatible waste or material; and
3. Incompatible wastes should be stored separately. They should be separated by a minimum of two impervious barriers such that, should any one container fail, no waste or vapors will come into contact with incompatible material or containers.

F. Handling Requirements for Ignitable, Reactive, or Incompatible Wastes

Repackaging or treatment, including bulking or neutralizing of ignitable, reactive, or incompatible waste, shall be conducted so that it does not:

1. Generate extreme heat or pressure, fire or explosion, or violent reaction;
2. Produce uncontrolled toxic vapors, dusts, or gases in sufficient quantities to

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threaten human health;

3. Produce uncontrolled flammable vapors, dusts, or gases in sufficient quantities to pose a risk of fire or explosion;
4. Damage the structural integrity of the device or facility containing the waste; or
5. Threaten human health or the environment.

VI. PREPARADNESS AND PREVENTION

A. Arrangements with Local Authorities

1. The Facility Manager shall make the following arrangements, through distribution of an Emergency Incidents Plan, outlining the type of waste handled at the facility and the potential need for the services of these organizations:
 - a. Arrangements to familiarize police, fire department, and emergency response teams with the layout of the facility, properties of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;
 - b. Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any other to provide support to the primary emergency authority;
 - c. Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and
 - d. Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses that could result from fires, explosions, or release at the facility.

B. HHW COLLECTION CENTER EMERGENCY EQUIPMENT LIST

Equipment:

Shovels	Poly, 65 Gal. Overpack Drum
Brooms	Poly, 30 Gal. Overpack Drum
Squeegee	Metal, 55 Gal. Drums

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ABC Fire Extinguishers	Poly, 55 Gal. Drums
Bung Wrench	Poly, 5 Gal. Pails
Hand Tools & Wrenches	Duct Tape
First Aid Kit	Scrub Brushes
PVC Hand Drum Pump (water & corrosives)	Poly Sheeting
Rotary Drum Pump (ignitable solvent pump)	Emergency Eye Wash & Shower Station
pH Testing Tape	Drum Wrenches
H ₂ O Testing Tape	Drum Placard Labeling Materials

Materials:

Mercury Absorbent	Absorbent Pads
Vermiculite, Bagged Absorbent	Absorbent Socks
Abzorit, Bagged Absorbent	Sodium Bicarbonate Neutralizer

Personal Protection Equipment (PPE) – located at the HHW Collection Center;

Chemical Resistant Aprons	Personal Respirator
Chemical Resistant Coveralls	Face Shields
Chemical Resistant Shoe Covers	Both Neoprene and Nitrile Gloves
Chemical Resistant Smocks	Leather Work Gloves
Hardhats	Clear & Sunglass Safety Glasses

C. ADJUNCT EQUIPMENT AVAILABLE ON SWM SITE

Bulldozer, Caterpillar D6T
Compactor, Caterpillar 826(G)
Compactor, Caterpillar 826(H)
Excavator, Caterpillar 320EL
Front-End Loader(s) (2), Caterpillar, 950(H) w/Balderson Quick Attach Tire Grapple & Broom
Fuel Truck, Ford F350 w/400 gallon diesel fuel tank and air compressor
Water Truck, Freightliner M2106, w/2500 gallon tank
Articulated Dump Truck, Volvo, (A25) 315 HP, 19.6 yds.
Roll-off Truck, Mack, w/30 cubic yard box
Track Loader, Bobcat T630 (Skid Steer)
Fork Lift, Caterpillar P6000, Diesel
Lite Sets (2), Alamand w/6kw generator (located in disposal cell and the CSA)
Dump Trailer, Tandem Axle 8' x 14'
Grabber Attachment for 55 Gal. Drums, Attached to Fork Lift
Generator, 150 Kw Caterpillar (Olympian), Trailer Mounted
Water Pump on Construction Trailer, 100 g.p.m., w/1000 gallon water capacity
Water Transfer Pump, 4" outlet, Mack, Hydraulic Drive
Water Transfer Pump, 4" outlet, Acme, Hydraulic Drive
Hand Tools and Mechanics Tools, at both the Landfill Maintenance Building and HHWCC

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VII. EMERGENCY INCIDENTS PLAN AND PROCEDURES

A. EMERGENCY RESPONSE COORDINATOR

Primary: Henry Norris - Director Solid Waste Management

Address: 6583 W Robin Ln
Homosassa, FL 34448

Phone: (Work) (352) 527-7670
(Direct) (352) 527-7671
(Home) (352) 503-9660
(Work Cell) (352) 302-6980

Secondary: Daniel Sherlock – Hazardous Waste Coordinator

Address: 902 E. Cermak St
Hernando, FL 34442

Phone: (Work) (352) 527-7670
(Direct) (352) 527-5570
(Work Cell) (352) 302-3437
(Home) (352) 586-8657

Secondary Operations Sammie Walker Jr. – Operations Crew Leader

Address: 1511 W Henry Blair Ln
Dunnellon, FL 34430

Phone: (Work) (352) 527-7670
(Direct) (352) 527-5572
(Home) (352) 489-8686
(Work Cell) (352) 400-1646

Emergency Response Coordinator Operations: In the event that local emergency response agencies are called, the first arriving company shall establish Incident Command. The command structure for that responding agency shall then be put into effect. The Solid Waste Management (SWM) Emergency Response Coordinator and response team shall follow the Incident Commander's direction. In large operations, the SWM Emergency Response Coordinator may serve as or assign an individual to serve as part of a Unified Command Staff.

B. EMERGENCY RESPONSE PROCEDURES

1. Whenever there is a perceived, imminent or actual emergency situation, the

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Emergency Response Coordinator (or their designee when the Emergency Response Coordinator is on call) should immediately:

- a. Activate internal facility alarms or communication systems, where applicable, to notify all facility staff personnel.
 - b. Notify appropriate state or local emergency response agencies with designated response roles if their help is needed.
2. Whenever there is a release, fire or explosion, the Emergency Response Coordinator should immediately identify the character, exact source, amount and the extent of any released materials. He or she may do this by observation or review of facility records; or if necessary, by chemical analysis.
 3. Concurrently, the Emergency Response Coordinator should assess possible Hazards to human health or the environment that may result from the release, fire, or explosion. This assessment should consider both direct and indirect effects of the release, fire or explosion (e.g., the effects of any toxic, irritating or asphyxiating gases that are generated, or the effects of any Hazardous surface water run-off from water or chemical agents used to control fire, or heat-induced explosions).
 4. If the Emergency Response Coordinator determines that the facility has had a release fire or explosion, which could threaten human health or the environment, outside the facility, he should report his findings as follows:
 - a. If his assessment indicates that evacuation of local areas may be advisable, he should immediately notify appropriate local authorities. The Emergency Response Coordinator should be available to help appropriate officials decide whether local areas should be evacuated; and
 - b. He/she should immediately notify either for government official designated as the on-scene coordinator for the area or the State Warning Point (using their 24-hour number (904) 488-1320. The report should Include:
 - i. Name and telephone number of person reporting;
 - ii. Name and address of facility;
 - iii. Time and type of incident (e.g., release, fire);
 - iv. Name and quantity of material(s) involved, to the extent known;
 - v. The extent of injuries, if any; and
 - vi. The possible hazards to human health, or the environment outside the facility.
 5. During the emergency, the Emergency Response Coordinator should take all

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

6. During an emergency, the Emergency Response Coordinator should monitor for leaks, pressure buildup, gas generation, or ruptures in containers and/or equipment, wherever this is appropriate.
7. Immediately after an emergency, the Emergency Response Coordinator should provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material contaminated by a release, fire, or explosion at the facility.
8. The Emergency Response Coordinator should ensure that, in the affected area(s) of the facility;
 - a. No waste that may be incompatible with the released material is stored or handled until cleanup procedures are complete; and
 - b. All emergency equipment listed in the Emergency Incidents Plan is cleaned and fit for its intended use before operations are resumed.
9. The owner or operator should notify appropriate State and local authorities in writing, that the facility is once again functional before operations are resumed in the affected area(s) of the facility.
10. The owner or operator should note in the operating record the time, date, and details of any incident that requires implementing the Emergency Incidents Plan. Within 24 hours after the incident, the situation shall be reported to the Department of Environmental Protection (District Office Hazardous Waste Supervisor), and a written report on the incident should be submitted within 15 Days. The report should include:
 - a. Name, address, and telephone number of the owner or operator;
 - b. Name, address and telephone number of the facility;
 - c. Date, time and type of incident (e.g. fire, explosion);
 - d. Name and quantity of material(s) involved;
 - e. The extent of injuries, if any;
 - f. An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
 - g. Estimated quantity and disposition of recovered material that resulted from the incident.

APPENDIX C

SAMPLE LOAD CHECKING INSPECTION FORMS



CITRUS COUNTY CENTRAL LANDFILL

WEEKLY MONITORING OF WASTE – INSPECTION RESULTS

HAULING COMPANY: _____ **DATE:** _____ **TIME:** _____

DRIVER NAME: FIRST _____ **LAST:** _____

CO. ID# OF VEHICLE: _____ **(VEHICLE TAG NO.** _____ **)**

SOURCE OF WASTE AS STATED BY DRIVER: _____ **RESIDENTIAL ROUTE []**

COMMERCIAL ROUTE [] _____ **OTHER []** _____

OBSERVATIONS OF THE INSPECTOR INDICATES THE FOLLOWING RESTRICTED MATERIAL WAS LOCATED IN THE VEHICLE LOAD WHEN DISCHARGED INTO THE LANDFILL DISPOSAL AREA OR AT THE YARD WASTE FACILITY: _____ **YES ()** _____ **NO ()** _____

TIRES: _____ **WHITE GOODS:** _____ **BAGGED LAWN DEBRIS:** _____ **LOOSE LAWN DEBRIS:** _____

GARBAGE IN YARD WASTE AREA: _____ **SLUDGE (WITH > 12% LIQUID):** _____

DRUMS OVER 20 GAL WITHOUT HOLES: _____ **OTHER:** _____

RELOCATION ACTION: _____

RED BAGS (BIOMEDICAL): _____ **HOUSEHOLD HAZARDOUS WASTE SUCH AS:**

PAINTS: _____ **PAINT RELATED – (THINNERS):** _____ **AEROSALS:** _____

POISONS: _____ **REACTIVES:** _____ **CORROSIVES:** _____ **FLAMMABLES:** _____

OIL/FILTERS: _____ **BATTERIES:** _____ **OTHER(S):** _____

ACTION TAKEN FOR HW MATERIALS: _____

INSPECTOR SIGNATURE AND TITLE

FOLLOW UP

PICTURE OF LOAD TAKEN _____ **YES()** _____ **NO()** _____ **BY:** _____

SCALEHOUSE ADVISED TO ADD WRC: _____ **YES ()** _____ **NO ()** _____ **NUMBER OF CHARGES**
(971C= WASTE RELOCATION CHARGE @ \$90 PER EVERY HOUR TO RELOCATE MATERIAL

ADM. FOLLOW-UP: WRC VERIFIED IN SYSTEM _____ **YES ()** _____ **NO ()** _____ **By:** _____

ADM. FOLLOW-UP - PICTURE ATTACHED TO REPORT: _____

APPENDIX D

MAINTENANCE SUMMARY FORM



Instructions for completing the Equipment Operator Service Report

It is the responsibility of each equipment operator to ensure that this form is correctly and completely filled out. It is to be used by each operator to monitor the condition of the equipment.

It is designed to be used by atleast two operators a day but can be used by more if need be.

Information on this form is used to track data such as hours used, fuel usage, oil consumption and to notify the supervisor and other operators of the condition of the equipment.

Safety items must be reported immediately to the supervisor on duty

Explanation of entries to be made: Refer to the operators manual for further instructions.

Daily Walk Around Inspection:

Each operator will do a thorough walk around inspection as prescribed in the operators manual before operation.

Beginning Hours:

Record the hours that you started operating the equipment.

Refuel Hours:

Record the hours that you filled the fuel tank. This will differ depending on when fuel is added.

Ending Hours:

Record the hours when you leave the equipment.

Fuel Added, Gallons:

Record the total amount of fuel added to the fuel tank.

Check/Top-off Engine Oil:

Check the oil and if needed record the amount added.

Check Coolant Level:

Look at the sight glass, do not remove radiator cap if engine is hot.

Check Hydraulic Oil Level:

Check the oil and if needed record the amount added.

Check Transmission Oil Level:

Check the oil and if needed record the amount added.

Lubricate per Operators Manual:

Lubricate the points specified in the manual as prescribed in the manual.

Check Drive train for leaks:

Look under and around the equipment for leaks.

Remove debris:

Remove anything that is not part of the machine. Pay attention to pinch areas.

Drain Fuel Filter Water Separator:

Refer to operators manual for procedure.

Backup Alarm & Fire Extinguisher:

These are critical safety items and must be serviceable at all times.

Clean Windows and Cab Interior:

Wash the windows and sweep out the cab. Remove your trash.

Quick Coupler and Tire Pressure:

Ensure that the coupler has no obvious cracks and that the tire pressure is correct.

Check/Clean Cab fresh air filters:

Check and clean both external and internal cab fresh air filters.

Clean Primary Engine Air Cleaner

Clean when necessary. Observe indicator.

Initials:

Place you initials in the space provided to show that you completed the form

Operator Comments:

Space provided for comments relating to machine operation and safety issues.

This form needs to be turned-in to the field crew leader no later than 10:00 AM every Monday for the previous week. He then will review all entries for accuracy and corrective action if necessary.

**CITRUS COUNTY SOLID WASTE MANAGEMENT
EQUIPMENT OPERA SERVICE REPORT**

Equipment Number: Circle Machine Number	1040	Bomag	9314	Pan Scraper	20154	Roll-off Milledge	20186	Recycle Alley Loader
	9279	Dump Truck	20064	John Deere Dozer	20164	Caterpillar Compactor	20187	Cell Loader
WEEK OF: _____ TO: _____ Monday Tuesday Wednesday Thursday Friday Saturday Sunday								
OPERATOR DAILY CHECKS & SERVICES								
Daily Walk Around Inspection								
Beginning Hours								
Refuel Hours								
Ending Hours								
Fuel Added, Gallons								
Check / Top-off Engine Oil								
Check Coolant Level								
Check Hydraulic Oil Level								
Check Transmission Oil Level								
Lubricate per Operator Manual								
Check Drivetrain For Leaks								
Remove Debris From Pinch Areas								
Drain Fuel Filter Water Separator								
Backup Alarm & Fire Extinguisher								
Clean Windows and Cab Interior								
Quick Coupler and Tire Pressure								
Check / Clean Cab Fresh Air Filter								
Clean Primary Engine Air Cleaner								
Initials								

"Equipment failure is not an option"

Operator Comments:

Total Hours Operated _____
 Total Fuel Used _____
 Gallons Per Hour _____

Insert Service Due

Printed

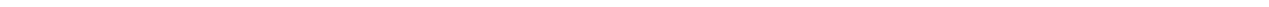


Must be given to Prime



02/18/2017 Updated

APPENDIX E
TRAINING CERTIFICATES



Florida DEP Solid Waste Management Facility Operator Courses

Name: Bagley, Tammy

Title:

Company: Citrus County Solid Waste Management

Address: PO Box 340
Lecanto, FL 34460-0340

Phone: Phone: (352) 527-7670 ext. 4690

Spotter / Waste Screener					Status: Current
<ul style="list-style-type: none"> Initial Date: 04/27/2012 Current period: 04/27/2015 - 04/26/2018 Hours needed before 04/26/2018: 4 					
Period: 04/27/2012 - 04/26/2015 - (Initial Period)					
Course	Course Name	Provider	Completion Date	Hours	
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	04/27/2012	Initial	
718	4-Hour Refresher Course for Spotters at Landfills, C&D Sites and Transfer Stations	University of Florida - TREEO	01/28/2015	4	
Total:				4	
Hours Needed:				0	
Period: 04/27/2015 - 04/26/2018					
Course	Course Name	Provider	Completion Date	Hours	
No courses have been taken yet during this time period.					
Total:				0	
Hours Needed:				4	
Status: Current					

- Continuing Education (CE) Minimum 3 Year Requirements:
 - 16 hours Class I II III Landfill / Construction and Demolition Debris
 - 8 hours Transfer Station / Material Recovery Facility
 - 4 hours Spotter
- Expired:** If you have exceeded the 3 year training period without achieving the minimum continuing education, you must start over by taking an approved initial course and pass exam. There is not a grace period.
- Initial hours are not counted toward continuing education.
- An Initial course can be taken as a continuing education course only if it was not taken as the operator's or spotter's initial training. No CE credit will be given for the same course taken within the same 3-year period.
- If you have any questions, please contact djenkins@treeo.ufl.edu or mkeilhauer@treeo.ufl.edu or call (352) 392-9570 extensions 227 or 230.

Florida DEP Solid Waste Management Facility Operator Courses

Name: Bemus, Doug
Title:
Company: Citrus County Solid Waste Management
Address: PO Box 340
 Lecanto, FL 34460-0340
Phone: Phone: (352) 527-7670 ext. 4690

Spotter / Waste Screener		Status: Current	
<ul style="list-style-type: none"> Initial Date: 01/28/2015 Current period: 01/28/2015 - 01/27/2018 - (Initial Period) Hours needed before 01/27/2018: 4 			
Period: 01/28/2015 - 01/27/2018 - (Initial Period)			
Course	Course Name	Provider	Completion Date
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	01/28/2015
			Hours
			Initial
			Total:
			0
			Hours Needed:
			4
			Status: Current

- Continuing Education (CE) Minimum 3 Year Requirements:
 - 16 hours Class I II III Landfill / Construction and Demolition Debris
 - 8 hours Transfer Station / Material Recovery Facility
 - 4 hours Spotter
- Expired:** If you have exceeded the 3 year training period without achieving the minimum continuing education, you must start over by taking an approved initial course and pass exam. There is not a grace period.
- Initial hours are not counted toward continuing education.
- An Initial course can be taken as a continuing education course only if it was not taken as the operator's or spotter's initial training. No CE credit will be given for the same course taken within the same 3-year period.
- If you have any questions, please contact djenkins@treeo.ufl.edu or mkeilhauer@treeo.ufl.edu or call (352) 392-9570 extensions 227 or 230.

Florida DEP Solid Waste Management Facility Operator Courses

Name: Black, Billy M.

Title:

Company: Citrus County Solid Waste

Address: PO Box 340
Lecanto, FL 34460

Phone: Phone: (352) 527-7670 ext: 4693

Spotter / Waste Screener					Status: Current
<ul style="list-style-type: none"> Initial Date: 11/30/2010 Current period: 11/30/2013 - 11/29/2016 Hours needed before 11/29/2016: 4 					
Period: 11/30/2010 - 11/29/2013 - (Initial Period)					
Course	Course Name	Provider	Completion Date	Hours	
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	11/30/2010	Initial	
718	4-Hour Refresher Course for Spotters at Landfills, C&D Sites and Transfer Stations	University of Florida - TREEO	10/30/2013	4	
				Total:	4
				Hours Needed:	0
Period: 11/30/2013 - 11/29/2016					
Course	Course Name	Provider	Completion Date	Hours	
No courses have been taken yet during this time period.					
				Total:	0
				Hours Needed:	4
Status: Current					

- Continuing Education (CE) Minimum 3 Year Requirements:
 - 16 hours Class I II III Landfill / Construction and Demolition Debris
 - 8 hours Transfer Station / Material Recovery Facility
 - 4 hours Spotter
- Expired:** If you have exceeded the 3 year training period without achieving the minimum continuing education, you must start over by taking an approved initial course and pass exam. There is not a grace period.
- Initial hours are not counted toward continuing education.
- An Initial course can be taken as a continuing education course only if it was not taken as the operator's or spotter's initial training. No CE credit will be given for the same course taken within the same 3-year period.
- If you have any questions, please contact djenkins@treeo.ufl.edu or mkeilhauer@treeo.ufl.edu or call (352) 392-9570 extensions 227 or 230.

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Carney, Owen D.
Title:	Recycling Coordinator
Company:	Citrus County Solid Waste Management
Address:	230 W. Gulf to Lake Hwy. Lecanto, FL 34460
Phone:	Phone: (352) 527-7670 ext: 4692

Class I, III Landfill Operator				Status: Current
<ul style="list-style-type: none"> Initial Date: 05/11/2007 Current period: 05/11/2013 - 05/10/2016 Hours needed before 05/10/2016: 16 				
Period: 05/11/2007 - 05/10/2010 - (Initial Period)				
Course	Course Name	Provider	Completion Date	Hours
442	Initial Training Course for Landfill Operators and C&D Sites - 24 Hour	University of Florida - TREEO	05/11/2007	Initial
443	Initial Training Course for Transfer Station Operators and Materials Recovery Facilities - 16 Hour	University of Florida - TREEO	09/19/2007	12
424	National Incident Management System [NIMS] and Introduction IS-00700	Emergency Management Institute	11/20/2007	4
281	Health and Safety for Solid Waste Workers-8 Hours	University of Florida - TREEO	12/13/2007	8
512	Recycle Florida Today 2008 Annual Conference	Recycle Florida Today, Inc	06/04/2008	4
554	Recycle Florida Today 2009 Annual Conference	Recycle Florida Today, Inc	06/09/2009	2
Total:				30
Hours Needed:				0
Period: 05/11/2010 - 05/10/2013				
Course	Course Name	Provider	Completion Date	Hours
603	Recycle Florida Today - 2010 Annual Conference	Recycle Florida Today, Inc	05/15/2010	2
730	Heavy Equipment Safety	University of Florida - TREEO	03/06/2012	4
494	Permit Required Confined Space Awareness	University of Florida - TREEO	03/06/2012	4
697	Recycle Florida Today 2012 Annual Conference	Recycle Florida Today, Inc	06/05/2012	2
718	4-Hour Refresher Course for Spotters at Landfills, C&D Sites and Transfer Stations	University of Florida - TREEO	04/24/2013	4
Total:				16
Hours Needed:				0
Period: 05/11/2013 - 05/10/2016				
Course	Course Name	Provider	Completion Date	Hours
No courses have been taken yet during this time period.				
Total:				0
Hours Needed:				16
Status: Current				

- Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name: Carney, Owen D.
Title: Recycling Coordinator
Company: Citrus County Solid Waste Management
Address: 230 W. Gulf to Lake Hwy.
 Lecanto, FL 34460
Phone: Phone: (352) 527-7670 ext: 4692

Spotter / Waste Screener **Status: Current**
 • Initial Date: 10/19/2006
 • Current period: 10/19/2012 - 10/18/2015 Hours needed before 10/18/2015: 0

Period: 10/19/2006 - 10/18/2009 - (Initial Period)

Course	Course Name	Provider	Completion Date	Hours
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	10/19/2006	Initial
186	Pedestrian, Vehicles, and Equipment Safety in Landfills	University of Florida - TREEO	03/13/2007	2
286	Hazardous Materials Chemistry for the Non-Chemist	University of Florida - TREEO	04/23/2007	4
442	Initial Training Course for Landfill Operators and C&D Sites - 24 Hour	University of Florida - TREEO	05/11/2007	4
443	Initial Training Course for Transfer Station Operators and Materials Recovery Facilities - 16 Hour	University of Florida - TREEO	09/19/2007	4
281	Health and Safety for Solid Waste Workers-8 Hours	University of Florida - TREEO	12/13/2007	4
Total:				18
Hours Needed:				0

Period: 10/19/2009 - 10/18/2012

Course	Course Name	Provider	Completion Date	Hours
730	Heavy Equipment Safety	University of Florida - TREEO	03/06/2012	4
494	Permit Required Confined Space Awareness	University of Florida - TREEO	03/06/2012	4
697	Recycle Florida Today 2012 Annual Conference	Recycle Florida Today, Inc	06/05/2012	2
Total:				10
Hours Needed:				0

Period: 10/19/2012 - 10/18/2015

Course	Course Name	Provider	Completion Date	Hours
718	4-Hour Refresher Course for Spotters at Landfills, C&D Sites and Transfer Stations	University of Florida - TREEO	04/24/2013	4
Total:				4
Hours Needed:				0

Status: Current

- Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Colson, Tracy
Title:	
Company:	Citrus County Solid Waste Management
Address:	PO Box 340 Lecanto, FL 34460-0340
Phone:	Phone: (352) 527-7670

Spotter / Waste Screener		Status: Current
<ul style="list-style-type: none"> Initial Date: 10/30/2013 Current period: 10/30/2013 - 10/29/2016 - (Initial Period) Hours needed before 10/29/2016: 4 		
Period: 10/30/2013 - 10/29/2016 - (Initial Period)		
Course	Course Name	Provider
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO
		Completion Date
		10/30/2013
		Hours
		Initial
		Total:
		0
		Hours Needed:
		4
		Status: Current

- Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Driver, James
Title:	
Company:	Citrus County Solid Waste Management
Address:	PO Box 340 Lecanto, FL 34460-0340
Phone:	Phone: (352) 527-7670 ext. 4690

Spotter / Waste Screener		Status: Current		
<ul style="list-style-type: none"> Initial Date: 01/28/2015 Current period: 01/28/2015 - 01/27/2018 - (Initial Period) Hours needed before 01/27/2018: 4 				
Period: 01/28/2015 - 01/27/2018 - (Initial Period)				
Course	Course Name	Provider	Completion Date	Hours
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	01/28/2015	Initial
			Total:	0
			Hours Needed:	4
		Status: Current		

- Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Gilmore, William M.
Title:	Lead Solid Waste Technician
Company:	Citrus County Solid Waste Management
Address:	PO Box 340 Lecanto, FL 34460-0340
Phone:	Phone: (352) 527-7670

Class I, III Landfill Operator				Status: Current
<ul style="list-style-type: none"> Initial Date: 11/15/2007 Current period: 11/15/2013 - 11/14/2016 Hours needed before 11/14/2016: 16 				
Period: 11/15/2007 - 11/14/2010 - (Initial Period)				
Course	Course Name	Provider	Completion Date	Hours
195	24-Hour Initial Training Course for Landfill Operators (Class I, II, III and C&D Sites)	University of Florida - TREEO	11/15/2007	Initial
281	Health and Safety for Solid Waste Workers-8 Hours	University of Florida - TREEO	09/25/2008	8
443	Initial Training Course for Transfer Station Operators and Materials Recovery Facilities - 16 Hour	University of Florida - TREEO	09/28/2010	12
Total:				20
Hours Needed:				0
Period: 11/15/2010 - 11/14/2013				
Course	Course Name	Provider	Completion Date	Hours
730	Heavy Equipment Safety	University of Florida - TREEO	03/06/2012	4
494	Permit Required Confined Space Awareness	University of Florida - TREEO	03/06/2012	4
782	Globally Harmonized System [GHS] of Hazard Communication - The New Requirement	University of Florida - TREEO	07/23/2013	2
740	Introduction to Debris Operations IS-632.a - Online	FEMA / National Emergency Training Center	09/27/2013	2
803	Leachate Management Fundamentals for Solid Waste Management Facilities - Online	Waste University	10/11/2013	2
809	What's that Smell? Odor Evaluation, Management, and Documentation for Waste Facility Personnel - Online	Waste University	10/14/2013	2
Total:				16
Hours Needed:				0
Period: 11/15/2013 - 11/14/2016				
Course	Course Name	Provider	Completion Date	Hours
No courses have been taken yet during this time period.				
Total:				0
Hours Needed:				16
Status: Current				

- Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Gilmore, William M.
Title:	Lead Solid Waste Technician
Company:	Citrus County Solid Waste Management
Address:	PO Box 340 Lecanto, FL 34460-0340
Phone:	Phone: (352) 527-7670

Spotter / Waste Screener				Status: Current
<ul style="list-style-type: none"> Initial Date: 07/25/2007 Current period: 07/25/2013 - 07/24/2016 Hours needed before 07/24/2016: 0 				
Period: 07/25/2007 - 07/24/2010 - (Initial Period)				
Course	Course Name	Provider	Completion Date	Hours
248	Spotter Training for Solid Waste Facilities		07/25/2007	Initial
281	Health and Safety for Solid Waste Workers-8 Hours	University of Florida - TREEO	09/25/2008	4
Total:				4
Hours Needed:				0
Period: 07/25/2010 - 07/24/2013				
Course	Course Name	Provider	Completion Date	Hours
443	Initial Training Course for Transfer Station Operators and Materials Recovery Facilities - 16 Hour	University of Florida - TREEO	09/28/2010	4
730	Heavy Equipment Safety	University of Florida - TREEO	03/06/2012	4
494	Permit Required Confined Space Awareness	University of Florida - TREEO	03/06/2012	4
782	Globally Harmonized System [GHS] of Hazard Communication - The New Requirement	University of Florida - TREEO	07/23/2013	2
Total:				14
Hours Needed:				0
Period: 07/25/2013 - 07/24/2016				
Course	Course Name	Provider	Completion Date	Hours
740	Introduction to Debris Operations IS-632.a - Online	FEMA / National Emergency Training Center	09/27/2013	2
803	Leachate Management Fundamentals for Solid Waste Management Facilities - Online	Waste University	10/11/2013	2
809	What's that Smell? Odor Evaluation, Management, and Documentation for Waste Facility Personnel - Online	Waste University	10/14/2013	2
Total:				6
Hours Needed:				0
				Status: Current

- Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Gravely, Harold
Title:	Heavy Equipment Operator
Company:	Citrus County Solid Waste Management
Address:	PO Box 340 Lecanto, FL 34460-0340
Phone:	Phone: (352) 527-7670

Spotter / Waste Screener					Status: Current
<ul style="list-style-type: none"> Initial Date: 09/25/2000 Current period: 09/25/2012 - 09/24/2015 Hours needed before 09/24/2015: 0 					
Period: 09/25/2000 - 09/24/2003 - (Initial Period)					
Course	Course Name	Provider	Completion Date	Hours	
111	Landfill Operations and Waste Screening for Class I, II, III Sites	Kohl Consulting, Inc.	09/25/2000		Initial
256	Waste Screening & Identification for Landfill Operations and Spotters Refresher	Citrus County - Hazardous Material Section	08/29/2002	4	
				Total:	4
				Hours Needed:	0
Period: 09/25/2003 - 09/24/2006					
Course	Course Name	Provider	Completion Date	Hours	
295	Heavy Equipment Operator Training - 4 Hours	Fleet Solutions	04/16/2004	4	
				Total:	4
				Hours Needed:	0
Period: 09/25/2006 - 09/24/2009					
Course	Course Name	Provider	Completion Date	Hours	
248	Spotter Training for Solid Waste Facilities		07/25/2007	8	
396	SWANA-FL Chapter Annual Road-e-o Safety Training	Solid Waste Association of North America (SWANA - Florida Chapter)	04/05/2008	2	
				Total:	10
				Hours Needed:	0
Period: 09/25/2009 - 09/24/2012					
Course	Course Name	Provider	Completion Date	Hours	
463	4-Hour Refresher Course for Spotters at Landfills, C&D Sites and Transfer Stations	University of Florida - TREEO	04/27/2012	4	
				Total:	4
				Hours Needed:	0
Period: 09/25/2012 - 09/24/2015					
Course	Course Name	Provider	Completion Date	Hours	
718	4-Hour Refresher Course for Spotters at Landfills, C&D Sites and Transfer Stations	University of Florida - TREEO	01/28/2015	4	
				Total:	4
				Hours Needed:	0
Status: Current					

- Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name: Heglund, Susan
Title: Hazardous Waste Technician
Company: Citrus County Solid Waste Mgt
Address: PO Box 340
 Lecanto, FL 34460
Phone: Phone: (352) 527-7670

Spotter / Waste Screener **Status: Current**
 • Initial Date: 11/29/2005
 • Current period: 11/29/2014 - 11/28/2017 Hours needed before 11/28/2017: 4

Period: 11/29/2005 - 11/28/2008 - (Initial Period)

Course	Course Name	Provider	Completion Date	Hours
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	11/29/2005	Initial
186	Pedestrian, Vehicles, and Equipment Safety in Landfills	University of Florida - TREEO	03/13/2007	2
463	4-Hour Refresher Course for Spotters at Landfills, C&D Sites and Transfer Stations	University of Florida - TREEO	11/20/2008	4
Total:				6
Hours Needed:				0

Period: 11/29/2008 - 11/28/2011

Course	Course Name	Provider	Completion Date	Hours
281	Health and Safety for Solid Waste Workers-8 Hours	University of Florida - TREEO	09/23/2010	4
286	Hazardous Materials Chemistry for the Non-Chemist	University of Florida - TREEO	04/04/2011	4
285	Chemical Compatibility and Storage	University of Florida - TREEO	04/05/2011	4
Total:				12
Hours Needed:				0

Period: 11/29/2011 - 11/28/2014

Course	Course Name	Provider	Completion Date	Hours
717	4-hour OSHA Hazardous Materials Awareness Level Course		11/14/2012	4
718	4-Hour Refresher Course for Spotters at Landfills, C&D Sites and Transfer Stations	University of Florida - TREEO	02/19/2014	4
Total:				8
Hours Needed:				0

Period: 11/29/2014 - 11/28/2017

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

Status: Current

- Continuing Education (CE) Minimum 3 Year Requirements:
 16 hours Class I II III Landfill / Construction and Demolition Debris

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

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Holst, Michael Richard
Title:	Hazardous Waste Specialist
Company:	Citrus County Solid Waste
Address:	230 W. Gulf to Lake Hwy. Lecanto, FL 34460
Phone:	Phone: (352) 527-7670

Class I, III Landfill Operator				Status: Current
<ul style="list-style-type: none"> Initial Date: 02/25/2011 Current period: 02/25/2014 - 02/24/2017 Hours needed before 02/24/2017: 0 				
Period: 02/25/2011 - 02/24/2014 - (Initial Period)				
Course	Course Name	Provider	Completion Date	Hours
442	Initial Training Course for Landfill Operators and C&D Sites - 24 Hour	University of Florida - TREEO	02/25/2011	Initial
730	Heavy Equipment Safety	University of Florida - TREEO	03/06/2012	4
494	Permit Required Confined Space Awareness	University of Florida - TREEO	03/06/2012	4
717	4-hour OSHA Hazardous Materials Awareness Level Course		11/14/2012	4
799	The Anatomy of MSW - Online	Waste University	01/24/2014	2
801	The Anatomy of C&D Debris - Online	Waste University	01/24/2014	2
Total:				16
Hours Needed:				0
Period: 02/25/2014 - 02/24/2017				
Course	Course Name	Provider	Completion Date	Hours
69	U.S. DOT Hazardous Materials/Waste Transportation	University of Florida - TREEO	03/03/2014	6
63	Hazardous Waste Regulations for Generators	University of Florida - TREEO	03/04/2014	4
845	NAHMMA 2014 National Conference	FDEP/NAHMMA - Florida Chapter	08/21/2014	8
720	Understanding Hazardous Waste Regulations in Solid Waste Operations and Recycling	University of Florida - TREEO	01/14/2015	8
Total:				26
Hours Needed:				0
				Status: Current

- Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Holst, Michael Richard
Title:	Hazardous Waste Specialist
Company:	Citrus County Solid Waste
Address:	230 W. Gulf to Lake Hwy. Lecanto, FL 34460
Phone:	Phone: (352) 527-7670

Spotter / Waste Screener					Status: Current
<ul style="list-style-type: none"> Initial Date: 11/29/2005 Current period: 11/29/2014 - 11/28/2017 Hours needed before 11/28/2017: 0 					
Period: 11/29/2005 - 11/28/2008 - (Initial Period)					
Course	Course Name	Provider	Completion Date	Hours	
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	11/29/2005	Initial	
396	SWANA-FL Chapter Annual Road-e-o Safety Training	Solid Waste Association of North America (SWANA - Florida Chapter)	03/24/2006	2	
186	Pedestrian, Vehicles, and Equipment Safety in Landfills	University of Florida - TREEO	03/13/2007	2	
396	SWANA-FL Chapter Annual Road-e-o Safety Training	Solid Waste Association of North America (SWANA - Florida Chapter)	05/12/2007	2	
				Total:	6
				Hours Needed:	0
Period: 11/29/2008 - 11/28/2011					
Course	Course Name	Provider	Completion Date	Hours	
396	SWANA-FL Chapter Annual Road-e-o Safety Training	Solid Waste Association of North America (SWANA - Florida Chapter)	05/02/2009	2	
442	Initial Training Course for Landfill Operators and C&D Sites - 24 Hour	University of Florida - TREEO	02/25/2011	4	
				Total:	6
				Hours Needed:	0
Period: 11/29/2011 - 11/28/2014					
Course	Course Name	Provider	Completion Date	Hours	
494	Permit Required Confined Space Awareness	University of Florida - TREEO	03/06/2012	4	
730	Heavy Equipment Safety	University of Florida - TREEO	03/06/2012	4	
717	4-hour OSHA Hazardous Materials Awareness Level Course		11/14/2012	4	
799	The Anatomy of MSW - Online	Waste University	01/24/2014	2	
801	The Anatomy of C&D Debris - Online	Waste University	01/24/2014	2	
63	Hazardous Waste Regulations for Generators	University of Florida - TREEO	03/04/2014	4	
845	NAHMMA 2014 National Conference	FDEP/NAHMMA - Florida Chapter	08/21/2014	2	
				Total:	22
				Hours Needed:	0
Period: 11/29/2014 - 11/28/2017					
Course	Course Name	Provider	Completion Date	Hours	
720	Understanding Hazardous Waste Regulations in Solid Waste Operations and Recycling	University of Florida - TREEO	01/14/2015	4	
				Total:	4

Hours Needed: 0

Status: **Current**

- Continuing Education (CE) Minimum 3 Year Requirements:

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

Florida DEP Solid Waste Management Facility Operator Courses

Name: Kokosinski, Caresse E.
Title:
Company: Citrus County Solid Waste Management
Address: PO Box 340 Lecanto, FL 34460
Phone: Phone: (352) 527-7670

Spotter / Waste Screener		Status: Current		
<ul style="list-style-type: none"> Initial Date: 05/10/2011 Current period: 05/10/2014 - 05/09/2017 Hours needed before 05/09/2017: 4 				
Period: 05/10/2011 - 05/09/2014 - (Initial Period)				
Course	Course Name	Provider	Completion Date	Hours
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	05/10/2011	Initial
718	4-Hour Refresher Course for Spotters at Landfills, C&D Sites and Transfer Stations	University of Florida - TREEO	02/19/2014	4
Total:				4
Hours Needed:				0
Period: 05/10/2014 - 05/09/2017				
Course	Course Name	Provider	Completion Date	Hours
No courses have been taken yet during this time period.				
Total:				0
Hours Needed:				4
		Status: Current		

- Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Lake, Aaron W.
Title:	Landfill Maintenance Coordinator
Company:	Citrus County Solid Waste Management
Address:	PO Box 340 Lecanto, FL 34460
Phone:	Phone: (352) 527-7670

Class I, III Landfill Operator				Status: Current
<ul style="list-style-type: none"> Initial Date: 05/11/2007 Current period: 05/11/2013 - 05/10/2016 Hours needed before 05/10/2016: 14 				
Period: 05/11/2007 - 05/10/2010 - (Initial Period)				
Course	Course Name	Provider	Completion Date	Hours
442	Initial Training Course for Landfill Operators and C&D Sites - 24 Hour	University of Florida - TREEO	05/11/2007	Initial
424	National Incident Management System [NIMS] and Introduction IS-00700	Emergency Management Institute	11/19/2007	4
281	Health and Safety for Solid Waste Workers-8 Hours	University of Florida - TREEO	12/13/2007	8
522	Spill Prevention Control and Countermeasure (SPCC) Training and Development Course	University of Florida - TREEO	12/04/2008	6
Total:				18
Hours Needed:				0
Period: 05/11/2010 - 05/10/2013				
Course	Course Name	Provider	Completion Date	Hours
494	Permit Required Confined Space Awareness	University of Florida - TREEO	03/06/2012	4
730	Heavy Equipment Safety	University of Florida - TREEO	03/06/2012	4
717	4-hour OSHA Hazardous Materials Awareness Level Course		11/14/2012	4
718	4-Hour Refresher Course for Spotters at Landfills, C&D Sites and Transfer Stations	University of Florida - TREEO	04/24/2013	4
Total:				16
Hours Needed:				0
Period: 05/11/2013 - 05/10/2016				
Course	Course Name	Provider	Completion Date	Hours
782	Globally Harmonized System [GHS] of Hazard Communication - The New Requirement	University of Florida - TREEO	07/23/2013	2
Total:				2
Hours Needed:				14
				Status: Current

- Continuing Education (CE) Minimum 3 Year Requirements:

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

- Expired:** If you have exceeded the 3 year training period without achieving the minimum continuing education, you must start over by taking an approved initial course and pass exam. There is not a grace period.

- Initial hours are not counted toward continuing education.
- An Initial course can be taken as a continuing education course only if it was not taken as the operator's or spotter's initial training. No CE credit will be given for the same course taken within the same 3-year period.
- If you have any questions, please contact djenkins@treeo.ufl.edu or mkeilhauer@treeo.ufl.edu or call (352) 392-9570 extensions 227 or 230.

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Lake, Aaron W.
Title:	Landfill Maintenance Coordinator
Company:	Citrus County Solid Waste Management
Address:	PO Box 340 Lecanto, FL 34460
Phone:	Phone: (352) 527-7670

Spotter / Waste Screener					Status: Current
<ul style="list-style-type: none"> Initial Date: 08/24/2004 Current period: 08/24/2013 - 08/23/2016 Hours needed before 08/23/2016: 4 					
Period: 08/24/2004 - 08/23/2007 - (Initial Period)					
Course	Course Name	Provider	Completion Date	Hours	
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	08/24/2004		Initial
396	SWANA-FL Chapter Annual Road-e-o Safety Training	Solid Waste Association of North America (SWANA - Florida Chapter)	05/08/2005	2	
186	Pedestrian, Vehicles, and Equipment Safety in Landfills	University of Florida - TREEO	03/13/2007	2	
442	Initial Training Course for Landfill Operators and C&D Sites - 24 Hour	University of Florida - TREEO	05/11/2007	4	
				Total:	8
				Hours Needed:	0
Period: 08/24/2007 - 08/23/2010					
Course	Course Name	Provider	Completion Date	Hours	
281	Health and Safety for Solid Waste Workers-8 Hours	University of Florida - TREEO	12/13/2007	4	
				Total:	4
				Hours Needed:	0
Period: 08/24/2010 - 08/23/2013					
Course	Course Name	Provider	Completion Date	Hours	
730	Heavy Equipment Safety	University of Florida - TREEO	03/06/2012	4	
494	Permit Required Confined Space Awareness	University of Florida - TREEO	03/06/2012	4	
717	4-hour OSHA Hazardous Materials Awareness Level Course		11/14/2012	4	
718	4-Hour Refresher Course for Spotters at Landfills, C&D Sites and Transfer Stations	University of Florida - TREEO	04/24/2013	4	
782	Globally Harmonized System [GHS] of Hazard Communication - The New Requirement	University of Florida - TREEO	07/23/2013	2	
				Total:	18
				Hours Needed:	0
Period: 08/24/2013 - 08/23/2016					
Course	Course Name	Provider	Completion Date	Hours	
No courses have been taken yet during this time period.					
				Total:	0
				Hours Needed:	4
Status: Current					

- Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Maves, Neil Austin
Title:	Lead Solid Waste Technician
Company:	Citrus County BOCC-Solid Waste Management
Address:	265 S Leona Ave Lecanto, FL 34461
Phone:	Phone: (352) 212-5325

Class I, III Landfill Operator		Status: Current		
<ul style="list-style-type: none"> Initial Date: 11/20/2014 Current period: 11/20/2014 - 11/19/2017 - (Initial Period) Hours needed before 11/19/2017: 16 				
Period: 11/20/2014 - 11/19/2017 - (Initial Period)				
Course	Course Name	Provider	Completion Date	Hours
820	Initial Training for Operators of Landfills and Waste Processing Facilities	University of Florida - TREEO	11/20/2014	Initial
Total:				0
Hours Needed:				16
Status: Current				

- Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Maves, Neil Austin
Title:	Lead Solid Waste Technician
Company:	Citrus County BOCC-Solid Waste Management
Address:	265 S Leona Ave Lecanto, FL 34461
Phone:	Phone: (352) 212-5325

Spotter / Waste Screener				Status: Current
<ul style="list-style-type: none"> Initial Date: 11/30/2010 Current period: 11/30/2013 - 11/29/2016 Hours needed before 11/29/2016: 4 				
Period: 11/30/2010 - 11/29/2013 - (Initial Period)				
Course	Course Name	Provider	Completion Date	Hours
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	11/30/2010	Initial
717	4-hour OSHA Hazardous Materials Awareness Level Course		11/14/2012	4
				Total:
				4
				Hours Needed:
				0
Period: 11/30/2013 - 11/29/2016				
Course	Course Name	Provider	Completion Date	Hours
No courses have been taken yet during this time period.				
				Total:
				0
				Hours Needed:
				4
				Status: Current

- Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name: Meeks, David
Title:
Company: Citrus County Solid Waste Management
Address: PO Box 340 Lecanto, FL 34460-0340
Phone: Phone: (352) 527-7670

Spotter / Waste Screener		Status: Current		
<ul style="list-style-type: none"> Initial Date: 10/30/2013 Current period: 10/30/2013 - 10/29/2016 - (Initial Period) Hours needed before 10/29/2016: 4 				
Period: 10/30/2013 - 10/29/2016 - (Initial Period)				
Course	Course Name	Provider	Completion Date	Hours
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	10/30/2013	Initial
Total:				0
Hours Needed:				4
Status: Current				

- Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Morvatz, Mike
Title:	
Company:	Citrus County Solid Waste
Address:	PO Box 340 Lecanto, FL 34461
Phone:	Phone: (352) 527-7670

Spotter / Waste Screener		Status: Current		
<ul style="list-style-type: none"> Initial Date: 02/06/2013 Current period: 02/06/2013 - 02/05/2016 - (Initial Period) Hours needed before 02/05/2016: 4 				
Period: 02/06/2013 - 02/05/2016 - (Initial Period)				
Course	Course Name	Provider	Completion Date	Hours
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	02/06/2013	Initial
Total:				0
Hours Needed:				4
Status: Current				

- Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Pert, Eric
Title:	
Company:	Citrus County Solid Waste Management
Address:	PO Box 340 Lecanto, FL 34460-0340
Phone:	Phone: (352) 527-7670 ext. 4690

Spotter / Waste Screener		Status: Current		
<ul style="list-style-type: none"> Initial Date: 04/27/2012 Current period: 04/27/2015 - 04/26/2018 Hours needed before 04/26/2018: 4 				
Period: 04/27/2012 - 04/26/2015 - (Initial Period)				
Course	Course Name	Provider	Completion Date	Hours
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	04/27/2012	Initial
717	4-hour OSHA Hazardous Materials Awareness Level Course		11/14/2012	4
718	4-Hour Refresher Course for Spotters at Landfills, C&D Sites and Transfer Stations	University of Florida - TREEO	01/28/2015	4
Total:				8
Hours Needed:				0
Period: 04/27/2015 - 04/26/2018				
Course	Course Name	Provider	Completion Date	Hours
No courses have been taken yet during this time period.				
Total:				0
Hours Needed:				4
Status: Current				

- Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Schaeffer, John
Title:	
Company:	Citrus County Solid Waste
Address:	PO Box 340 Lecanto, FL 34460
Phone:	Phone: (352) 527-7670

Spotter / Waste Screener				Status: Current
<ul style="list-style-type: none"> Initial Date: 10/20/2011 Current period: 10/20/2014 - 10/19/2017 Hours needed before 10/19/2017: 4 				
Period: 10/20/2011 - 10/19/2014 - (Initial Period)				
Course	Course Name	Provider	Completion Date	Hours
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	10/20/2011	Initial
717	4-hour OSHA Hazardous Materials Awareness Level Course		11/14/2012	4
				Total:
				4
				Hours Needed:
				0
Period: 10/20/2014 - 10/19/2017				
Course	Course Name	Provider	Completion Date	Hours
No courses have been taken yet during this time period.				
				Total:
				0
				Hours Needed:
				4
				Status: Current

- Continuing Education (CE) Minimum 3 Year Requirements:

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

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Sherlock, Dan S.
Title:	Hazardous Waste Coordinator
Company:	Citrus County Solid Waste
Address:	230 W. Gulf to Lake Hwy. Lecanto, FL 34461
Phone:	Phone: (352) 527-7670 ext. 4682

Class I, III Landfill Operator Status: **Current**

- Initial Date: 11/18/2011
- Current period: 11/18/2014 - 11/17/2017 Hours needed before 11/17/2017: 8

Period: **11/18/2011 - 11/17/2014 - (Initial Period)**

Course	Course Name	Provider	Completion Date	Hours
442	Initial Training Course for Landfill Operators and C&D Sites - 24 Hour	University of Florida - TREEO	11/18/2011	Initial
730	Heavy Equipment Safety	University of Florida - TREEO	03/06/2012	4
494	Permit Required Confined Space Awareness	University of Florida - TREEO	03/06/2012	4
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	04/27/2012	8
708	Train the Trainer: How to Design & Deliver Effective Training	University of Florida - TREEO	06/28/2012	7
717	4-hour OSHA Hazardous Materials Awareness Level Course		11/14/2012	4
782	Globally Harmonized System [GHS] of Hazard Communication - The New Requirement	University of Florida - TREEO	07/23/2013	2
Total:				29
Hours Needed:				0

Period: **11/18/2014 - 11/17/2017**

Course	Course Name	Provider	Completion Date	Hours
720	Understanding Hazardous Waste Regulations in Solid Waste Operations and Recycling	University of Florida - TREEO	01/14/2015	8
Total:				8
Hours Needed:				8

Status: **Current**

- Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name: Sherlock, Dan S.
Title: Hazardous Waste Coordinator
Company: Citrus County Solid Waste
Address: 230 W. Gulf to Lake Hwy.
 Lecanto, FL 34461
Phone: Phone: (352) 527-7670 ext. 4682

Spotter / Waste Screener **Status: Current**

- Initial Date: 02/07/2008
- Current period: 02/07/2014 - 02/06/2017 Hours needed before 02/06/2017: 0

Period: 02/07/2008 - 02/06/2011 - (Initial Period)

Course	Course Name	Provider	Completion Date	Hours
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	02/07/2008	Initial
286	Hazardous Materials Chemistry for the Non-Chemist	University of Florida - TREEO	03/12/2009	4
285	Chemical Compatibility and Storage	University of Florida - TREEO	03/13/2009	4
63	Hazardous Waste Regulations for Generators	University of Florida - TREEO	10/06/2009	4
623	8 Hour HazWoper Refresher Training	Trident Consulting Group	03/31/2010	4
609	NAHMMA 2010 Annual Conference	FDEP/NAHMMA - Florida Chapter	07/29/2010	4
Total:				20
Hours Needed:				0

Period: 02/07/2011 - 02/06/2014

Course	Course Name	Provider	Completion Date	Hours
653	NAHMMA 2011 Florida Chapter Annual Conference	University of Florida - TREEO	05/05/2011	4
442	Initial Training Course for Landfill Operators and C&D Sites - 24 Hour	University of Florida - TREEO	11/18/2011	4
730	Heavy Equipment Safety	University of Florida - TREEO	03/06/2012	4
494	Permit Required Confined Space Awareness	University of Florida - TREEO	03/06/2012	4
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	04/27/2012	8
717	4-hour OSHA Hazardous Materials Awareness Level Course		11/14/2012	4
782	Globally Harmonized System [GHS] of Hazard Communication - The New Requirement	University of Florida - TREEO	07/23/2013	2
Total:				30
Hours Needed:				0

Period: 02/07/2014 - 02/06/2017

Course	Course Name	Provider	Completion Date	Hours
720	Understanding Hazardous Waste Regulations in Solid Waste Operations and Recycling	University of Florida - TREEO	01/14/2015	4
Total:				4
Hours Needed:				0

Status: Current

- Continuing Education (CE) Minimum 3 Year Requirements:

16 hours Class I II III Landfill / Construction and Demolition Debris

8 hours Transfer Station / Material Recovery Facility

4 hours Spotter

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

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Walker, Sammie
Title:	Operations Crew Leader
Company:	Citrus County Solid Waste Management
Address:	PO Box 340 Lecanto, FL 34460-0340
Phone:	Phone: (352) 527-7670 ext. 4690

Class I, III Landfill Operator				Status: Current
<ul style="list-style-type: none"> Initial Date: 11/18/2011 Current period: 11/18/2014 - 11/17/2017 Hours needed before 11/17/2017: 0 				
Period: 11/18/2011 - 11/17/2014 - (Initial Period)				
Course	Course Name	Provider	Completion Date	Hours
442	Initial Training Course for Landfill Operators and C&D Sites - 24 Hour	University of Florida - TREEO	11/18/2011	Initial
730	Heavy Equipment Safety	University of Florida - TREEO	03/06/2012	4
494	Permit Required Confined Space Awareness	University of Florida - TREEO	03/06/2012	4
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	04/27/2012	8
782	Globally Harmonized System [GHS] of Hazard Communication - The New Requirement	University of Florida - TREEO	07/23/2013	2
765	SWANA-FL Road-E-O (Heavy Equipment Safety Training)	Solid Waste Association of North America (SWANA - Florida Chapter)	05/31/2014	4
Total:				22
Hours Needed:				0
Period: 11/18/2014 - 11/17/2017				
Course	Course Name	Provider	Completion Date	Hours
765	SWANA-FL Road-E-O (Heavy Equipment Safety Training)	Solid Waste Association of North America (SWANA - Florida Chapter)	04/11/2015	4
443	Initial Training Course for Transfer Station Operators and Materials Recovery Facilities - 16 Hour	University of Florida - TREEO	04/15/2015	12
Total:				16
Hours Needed:				0
				Status: Current

• Continuing Education (CE) Minimum 3 Year Requirements:

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

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

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Walker, Sammie
Title:	Operations Crew Leader
Company:	Citrus County Solid Waste Management
Address:	PO Box 340 Lecanto, FL 34460-0340
Phone:	Phone: (352) 527-7670 ext. 4690

Spotter / Waste Screener				Status: Current
<ul style="list-style-type: none"> Initial Date: 04/27/2012 Current period: 04/27/2015 - 04/26/2018 Hours needed before 04/26/2018: 4 				
Period: 04/27/2012 - 04/26/2015 - (Initial Period)				
Course	Course Name	Provider	Completion Date	Hours
248	Spotter Training for Solid Waste Facilities	University of Florida - TREEO	04/27/2012	Initial
782	Globally Harmonized System [GHS] of Hazard Communication - The New Requirement	University of Florida - TREEO	07/23/2013	2
765	SWANA-FL Road-E-O (Heavy Equipment Safety Training)	Solid Waste Association of North America (SWANA - Florida Chapter)	05/31/2014	2
765	SWANA-FL Road-E-O (Heavy Equipment Safety Training)	Solid Waste Association of North America (SWANA - Florida Chapter)	04/11/2015	2
443	Initial Training Course for Transfer Station Operators and Materials Recovery Facilities - 16 Hour	University of Florida - TREEO	04/15/2015	4
Total:				10
Hours Needed:				0
Period: 04/27/2015 - 04/26/2018				
Course	Course Name	Provider	Completion Date	Hours
No courses have been taken yet during this time period.				
Total:				0
Hours Needed:				4
Status: Current				

• Continuing Education (CE) Minimum 3 Year Requirements:

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

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

APPENDIX F

LEACHATE COLLECTION SYSTEM INSPECTION REPORT



FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
PIPELINE VIDEO INSPECTION (EX)
VACUUM TRUCK SERVICES
LASER PROFILING / NO DIG REPAIRS

7538 DUNBRIDGE DR., ODESSA, FL 33556
TEL: 800-226-8013 FAX: 813-926-4616
WEB: WWW.FLORIDAJETCLEAN.COM
EMAIL: FLORIDAJETCLEAN@YAHOO.COM

SCS Engineers Citrus County Landfill 2015 Leachate Pipe Maintenance

Work Performed April 2015 - July 2015

**Conducted By:
Florida Jetclean
800-226-8013**

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
 PIPELINE VIDEO INSPECTION (EX)
 VACUUM TRUCK SERVICES
 LASER PROFILING / NO DIG REPAIRS

7538 DUNBRIDGE DR., ODESSA, FL 33556
 TEL: 800-226-8013 FAX: 813-926-4616
 WEB: WWW.FLORIDAJETCLEAN.COM
 EMAIL: FLORIDAJETCLEAN@YAHOO.COM

REPORT

DATE : 7/16/2015
 TO : Ed Hilton – SCS Engineers
 FROM : Ralph Calistri (floridajetclean@yahoo.com)
 SUBJECT : Citrus County Landfill - Existing Leachate Pipes - 2015 Maintenance

Florida Jetclean completed the high-pressure water-jetting and explosion-proof video-inspection of the existing leachate collection piping at the Citrus County Landfill on 7/8/2015. Included with this report are the applicable Jetting logs, Pipe Graphic Reports, and the inspection footage in DVD format.

High-pressure Water-jetting:

As the below jetting log indicates, all existing leachate piping was jetcleaned as far as possible via high-pressure water-jetting nozzle and was blockage free upon completion.

<u>JETTING LOCATION</u>	<u>ACHIEVED DISTANCE (ft)</u>	<u>COMMENTS</u>
P3 - West to East	500.0'	Entire Pipe Jetcleaned Through Overlap
P3 - East to West	1,000.0'	Entire Pipe Jetcleaned Through Overlap
P2 - West to East	500.0'	Entire Pipe Jetcleaned Through Overlap
P2 - East to West	1,000.0'	Entire Pipe Jetcleaned Through Overlap
P1A - West to East	132.0'	Entire Pipe Jetcleaned Through Overlap
P1A - East to West	1,000.0'	Entire Pipe Jetcleaned Through Overlap
10 - West to East	1,300.0'	Jet Stops
11 - West to East	210.0'	Jet Stops
12A - West to East	210.0'	Jet Stops
12B to 15E	1,300.0'	Entire Pipe Jetcleaned Through Overlap
15E to 12B	1,000.0'	Entire Pipe Jetcleaned Through Overlap
13 - West to East	170.0'	Jet Stops
14 - West to East	180.0'	Jet Stops

Explosion-proof Video-inspection:

After jetcleaning was completed the above piping was video-inspected as far as possible using explosion-proof video-inspection equipment (see included Pipe Graphic Reports and DVD's). A summary of the video-inspections are provided below for quick reference. The Pipe Graphic Reports and DVD's should be referenced for complete details.

<u>VIDEO LOCATION</u>	<u>ACHIEVED DISTANCE (ft)</u>	<u>COMMENTS</u>
Phase 3 - East to West	988.4'	Phase 3 Sump Reached

		No Defects Noted
Phase 1A - West to East	89.9'	Impassable Partially Crushed / Oval Pipe
Phase 2 - West to East	455.9'	Camera Can Not Be Pushed Further Dislodged Bead / Ring at 121.7'
Phase 2 - East to West	454.9'	Camera Can Not Be Pushed Further No Defects Noted
Phase 1A - East to West	380.7'	Camera Can Not Be Pushed Further No Defects Noted

All areas of the existing piping viewed with the inspection-camera were in good condition, with no defects noted or visible. All areas of the pipes accessed with the jet nozzle were clean and blockage free as of the completion of our mobilization.

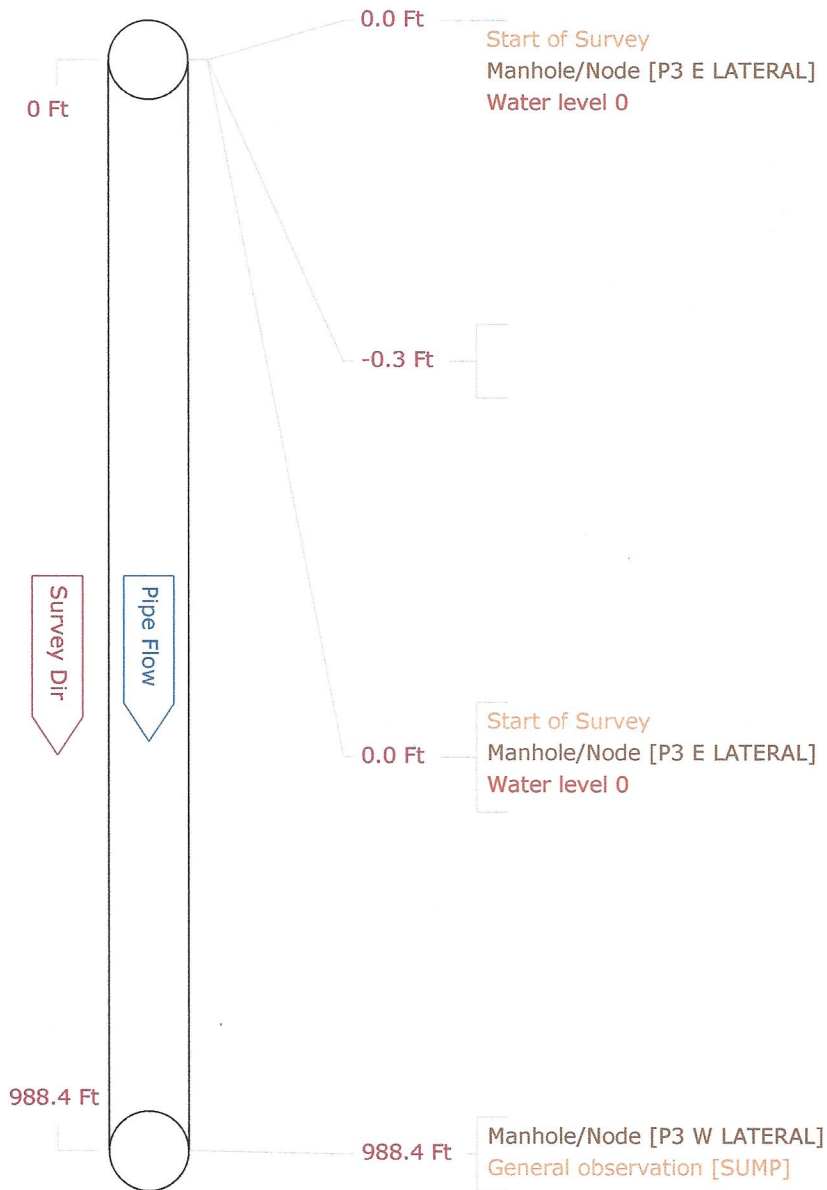
Please call us with questions or concerns.

Regards,


Ralph Calistri - Florida Jetclean - 800-226-8013

Pipe Graphic Report of PLR **P3 E LATERAL A** for **CITRUS COUNTY SOLID WASTE**

Work Order	Contract		Video 1	Setup 1
Facility	Operator BMN	Van Ref 4	Surveyed On 07/07/2015	
Street Name	PHASE 3 LATERAL	City	EAST SIDE LAT 3	
Location type	Berm			
Surface				
Survey purpose	Other (state in comments)		Weather	Dry
Pipe Use	Other (state in comments)		Schedule length	Ft
Shape	Circular	Size 8 by	ins	From P3 E LATERAL
Material	Other (state in comments)		Joint spacing	Ft
Lining			Year laid	
			To P3 W LATERAL	Depth
			Direction	Downstream
			Pre-clean Y	Last cleaned 7/7/2015
General note	HDPE LEACHATE COLLECTION		Structural	Service
Location note			Miscellaneous	Hydraulic
			Constructional	

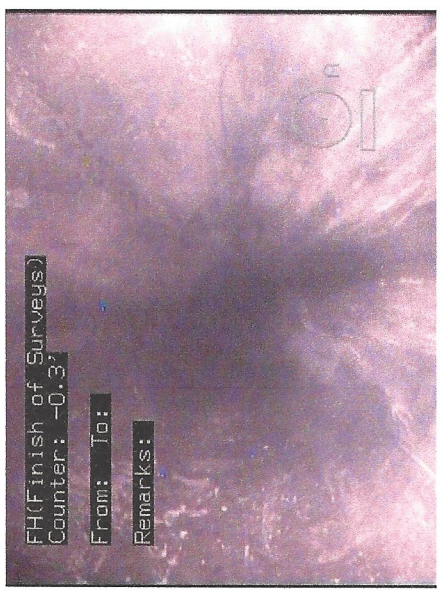


FLORIDA JETCLEAN
Phone: 800-226-8013

CCTV pictures of P3 E LATERAL A for CITRUS COUNTY SOLID WASTE

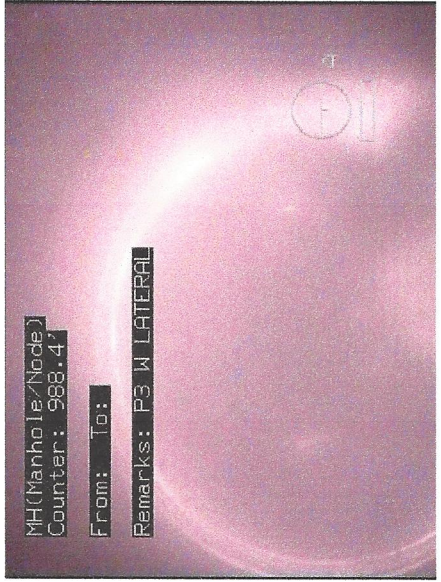
Work Order	Video 1	Surveyed On 07/07/2015	Direction Downstream	Setup 1
Street Name PHASE 3 LATERAL	City Name EAST SIDE LAT 3	Weather Dry		
Location Berm	From Manhole P3 E LATERAL	To Manhole P3 W LATERAL		

Date: 07/07/2015
 Distance: -0.3 Ft
 Obs: Finish of Surveys
 Comments:



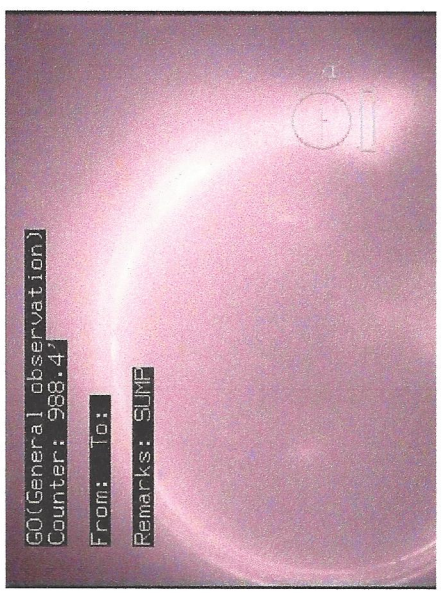
FH(Finish of Surveys)
 Counter: -0.3
 From: To:
 Remarks:

Date: 07/07/2015
 Distance: 988.4 Ft
 Obs: Manhole/Node
 Comments:
 P3 W LATERAL



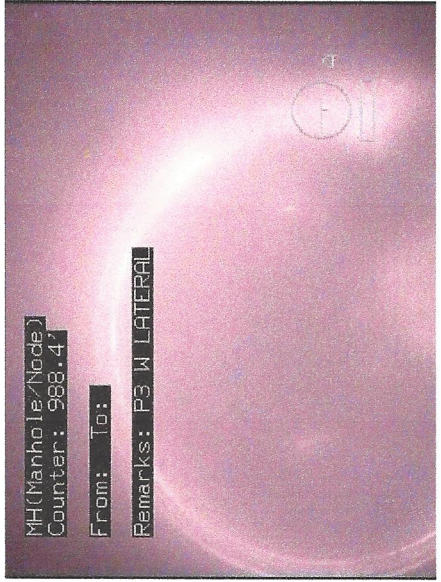
MH(Manhole/Node)
 Counter: 988.4
 From: To:
 Remarks: P3 W LATERAL

Date: 07/07/2015
 Distance: 988.4 Ft
 Obs: General observation
 Comments:
 ;UMP



GO(General observation)
 Counter: 988.4
 From: To:
 Remarks: SUNF

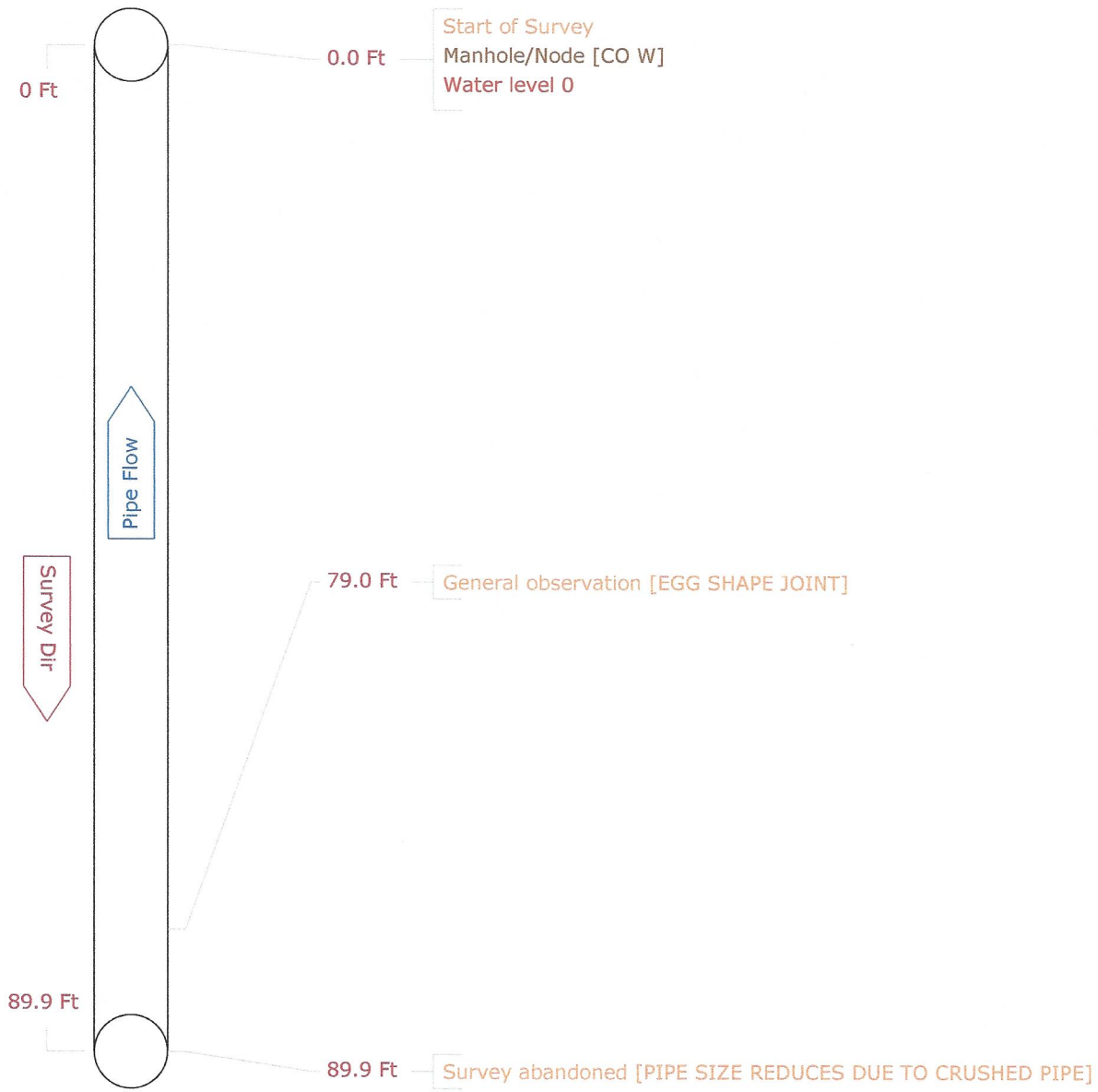
Date: 07/07/2015
 Distance: 988.4 Ft
 Obs: Manhole/Node
 Comments:
 P3 W LATERAL



MH(Manhole/Node)
 Counter: 988.4
 From: To:
 Remarks: P3 W LATERAL

Pipe Graphic Report of PLR CO E C for CITRUS COUNTY SOLID WASTE

Work Order	Contract		Video	1	Setup	3				
Facility	Operator		Van Ref	Surveyed On		04/28/2015				
Street Name	CITRUS COUNTY PHASE 1A		City	CITRUS COUNTY LF						
Location type	Berm									
Surface										
Survey purpose	Other (state in comments)		Weather	Light rainfall						
Pipe Use	Other (state in comments)		Schedule length	Ft	From	CO W	Depth	F t f t		
Shape	Circular		Size	8 by	ins	To	CO E		Depth	
Material	Other (state in comments)		Joint spacing	Ft		Direction	Upstream			
Lining			Year laid			Pre-clean	Y		Last cleaned	4/27/2015
General note	JETTING=132 POSSIBLE CRUSHED PIPE				Structural	Service	Constructional			
Location note	VIDEO IN REVERSE VIDEO SHOWS PHASE 1				Miscellaneous	Hydraulic				

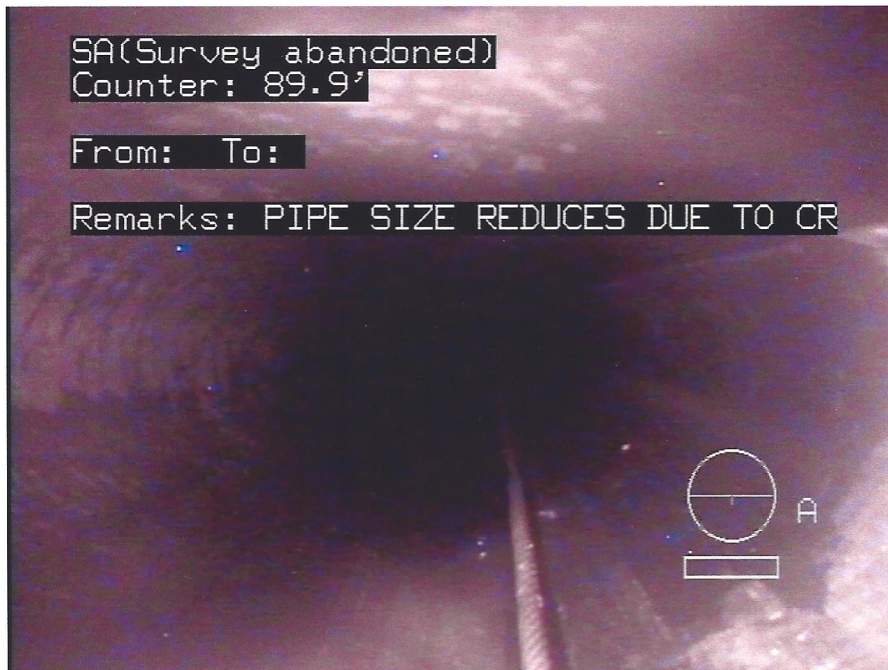


FLORIDA JETCLEAN
Phone: 800-226-8013

Work Order	Surveyed On 04/28/2015	Setup 3
Street Name CITRUS COUNTY PHASE 1		Video 1
City Name CITRUS COUNTY LF	Weather Light rainfall	
Location Berm		
From Manhole CO W	To Manhole CO E	Direction Upstream



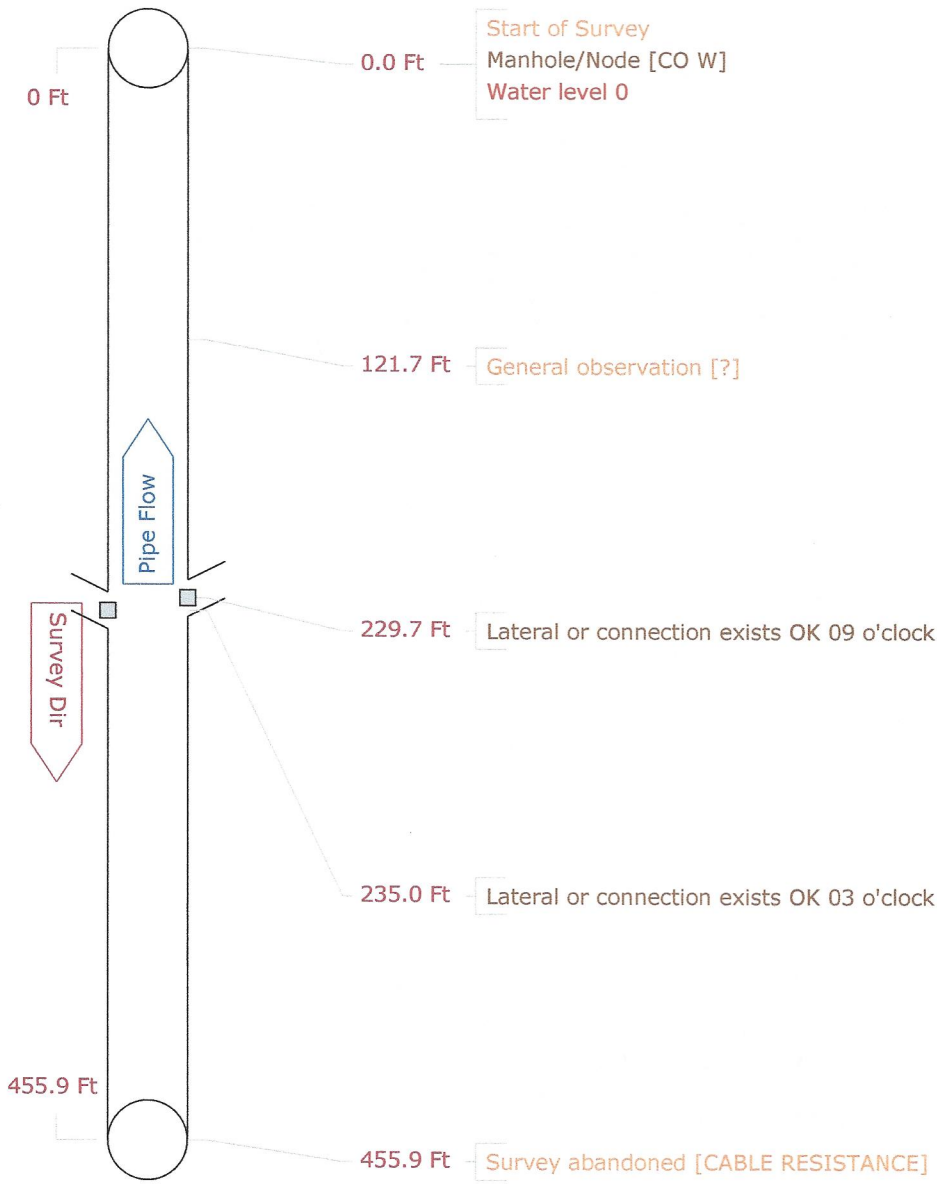
Date: 04/28/2015 **Distance:** 79.0 Ft **Obs:** General observation
Comments: EGG SHAPE JOINT



Date: 04/28/2015 **Distance:** 89.9 Ft **Obs:** Survey abandoned
Comments: PIPE SIZE REDUCES DUE TO CRUSHED PIPE

Pipe Graphic Report of PLR CO E D for CITRUS COUNTY SOLID WASTE

Work Order	Contract		Video	1	Setup	4			
Facility	Operator		Van Ref	Surveyed On 04/28/2015					
Street Name	CITRUS COUNTY PHASE 2		City	CITRUS COUNTY LF					
Location type	Berm								
Surface									
Survey purpose	Other (state in comments)		Weather	Light rainfall					
Pipe Use	Other (state in comments)		Schedule length	Ft	From	CO W	Depth	F	
Shape	Circular		Size	8 by	ins	To	CO E	Depth	f
Material	Other (state in comments)		Joint spacing	Ft		Direction	Upstream		
Lining			Year laid			Pre-clean	Y	Last cleaned	4/27/2015
General note	JETTING=500 OVERLAP					Structural	Service	Constructional	
Location note						Miscellaneous	Hydraulic		

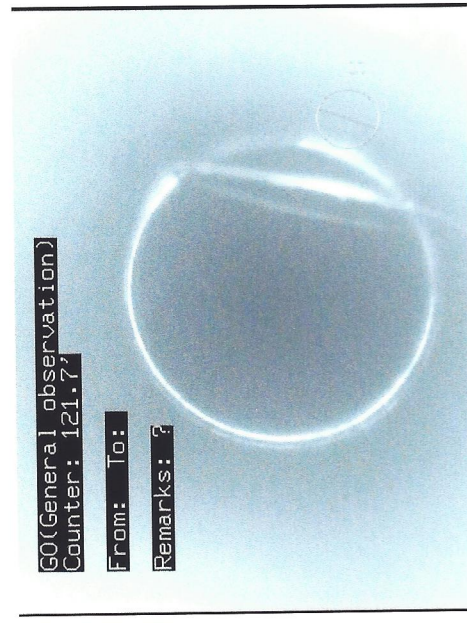


FLORIDA JETCLEAN
Phone: 800-226-8013

CCTV pictures of CO E D for CITRUS COUNTY SOLID WASTE

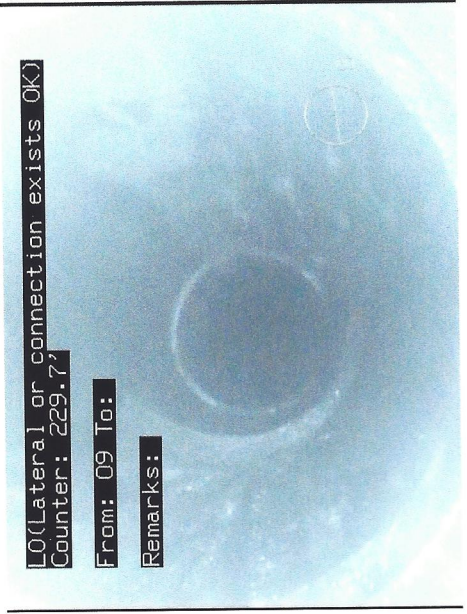
Work Order	Video 1	Surveyed On 04/28/2015	Direction Upstream	Setup 4
Street Name CITRUS COUNTY PHASE 2	City Name CITRUS COUNTY LF	Weather Light rainfall	To Manhole CO E	
Location Berm	From Manhole CO W			

Date: 04/28/2015
 Distance: 121.7 Ft
 Obs: General observation
 Comments:
 ?



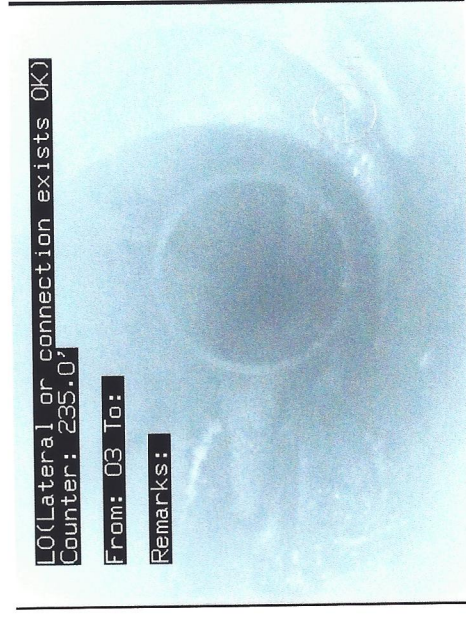
G0(General observation)
 Counter: 121.7'
 From: To:
 Remarks: ?

Date: 04/28/2015
 Distance: 229.7 Ft
 Obs: Lateral or connection exists OK
 Comments:



L0(Lateral or connection exists OK)
 Counter: 229.7'
 From: 09 To:
 Remarks:

Date: 04/28/2015
 Distance: 235.0 Ft
 Obs: Lateral or connection exists OK
 Comments:



L0(Lateral or connection exists OK)
 Counter: 235.0'
 From: 03 To:
 Remarks:

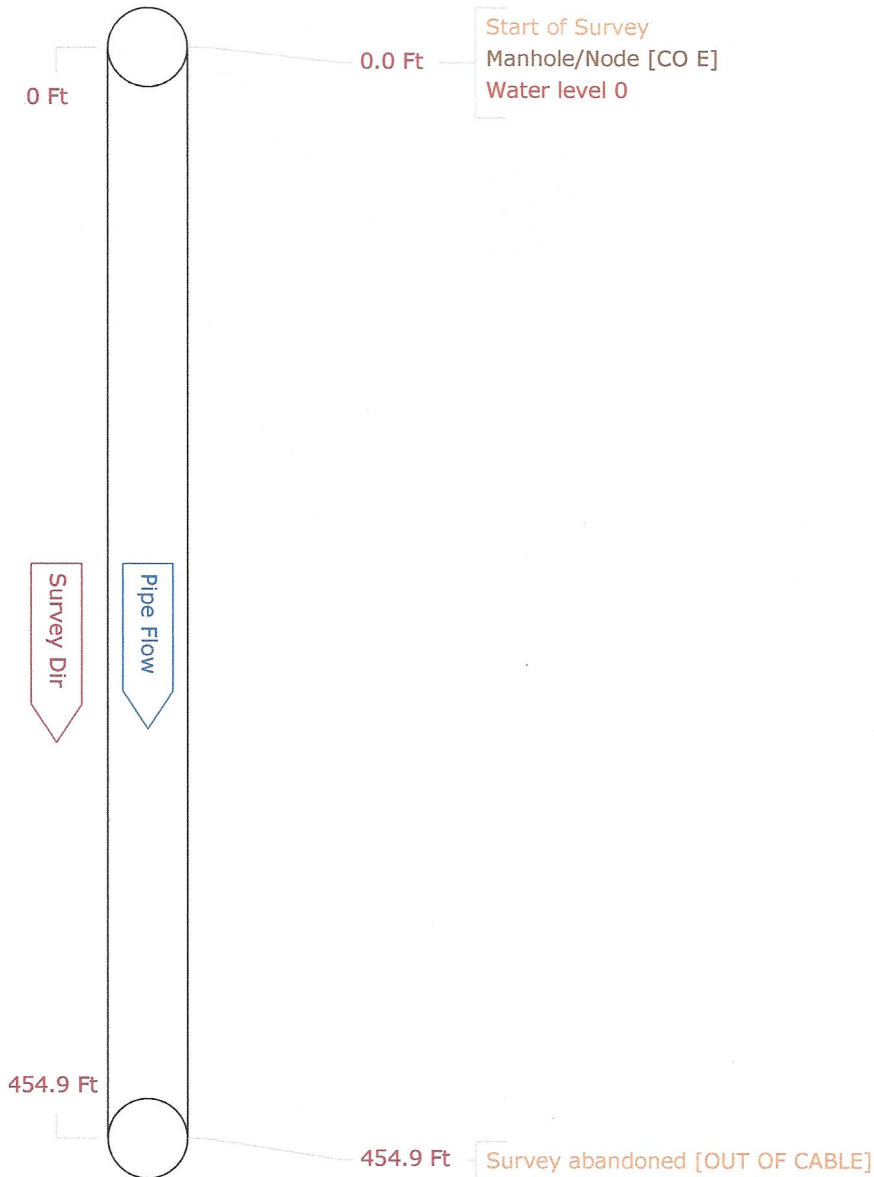
Date: 04/28/2015
 Distance: 455.9 Ft
 Obs: Survey abandoned
 Comments:
 CABLE RESISTANCE



SA(Survey abandoned)
 Counter: 455.9'
 From: To:
 Remarks: CABLE RESISTANCE

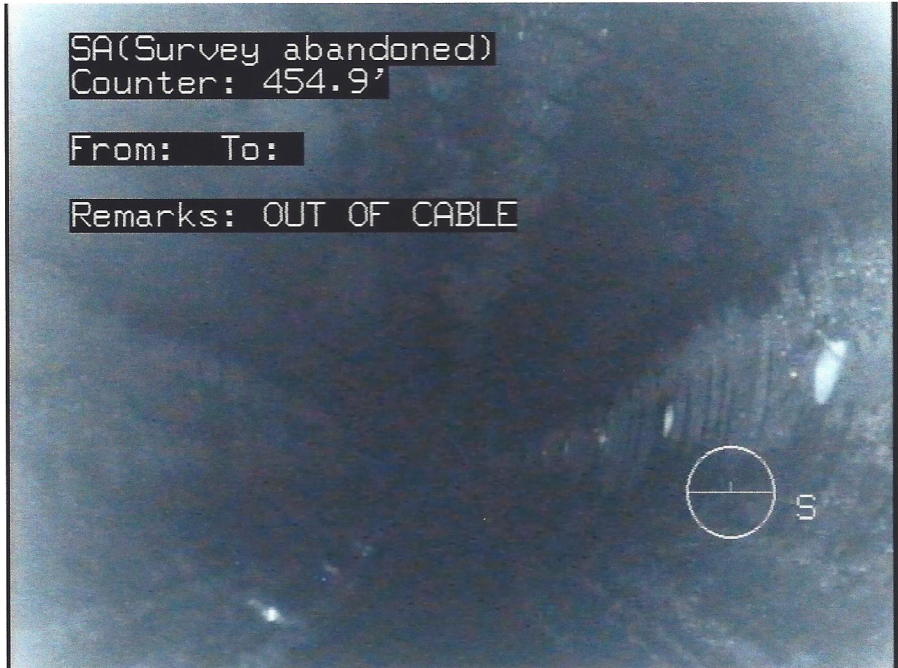
Pipe Graphic Report of PLR CO E G for CITRUS COUNTY SOLID WASTE

Work Order	Contract		Video	1	Setup	8			
Facility	Operator		Van Ref	Surveyed On		04/28/2015			
Street Name	CITRUS COUNTY PHASE 2		City	CITRUS COUNTY LF					
Location type	Berm								
Surface									
Survey purpose	Other (state in comments)		Weather	Light rainfall					
Pipe Use	Other (state in comments)		Schedule length	Ft	From	CO E	Depth	F	
Shape	Circular		Size	8 by	ins	To	CO W	Depth	f
Material	Other (state in comments)		Joint spacing	Ft		Direction	Downstream		
Lining			Year laid			Pre-clean	Y	Last cleaned	4/27/2015
General note	JETTING=1000				Structural	Service	Constructional		
Location note					Miscellaneous	Hydraulic			



FLORIDA JETCLEAN
Phone: 800-226-8013

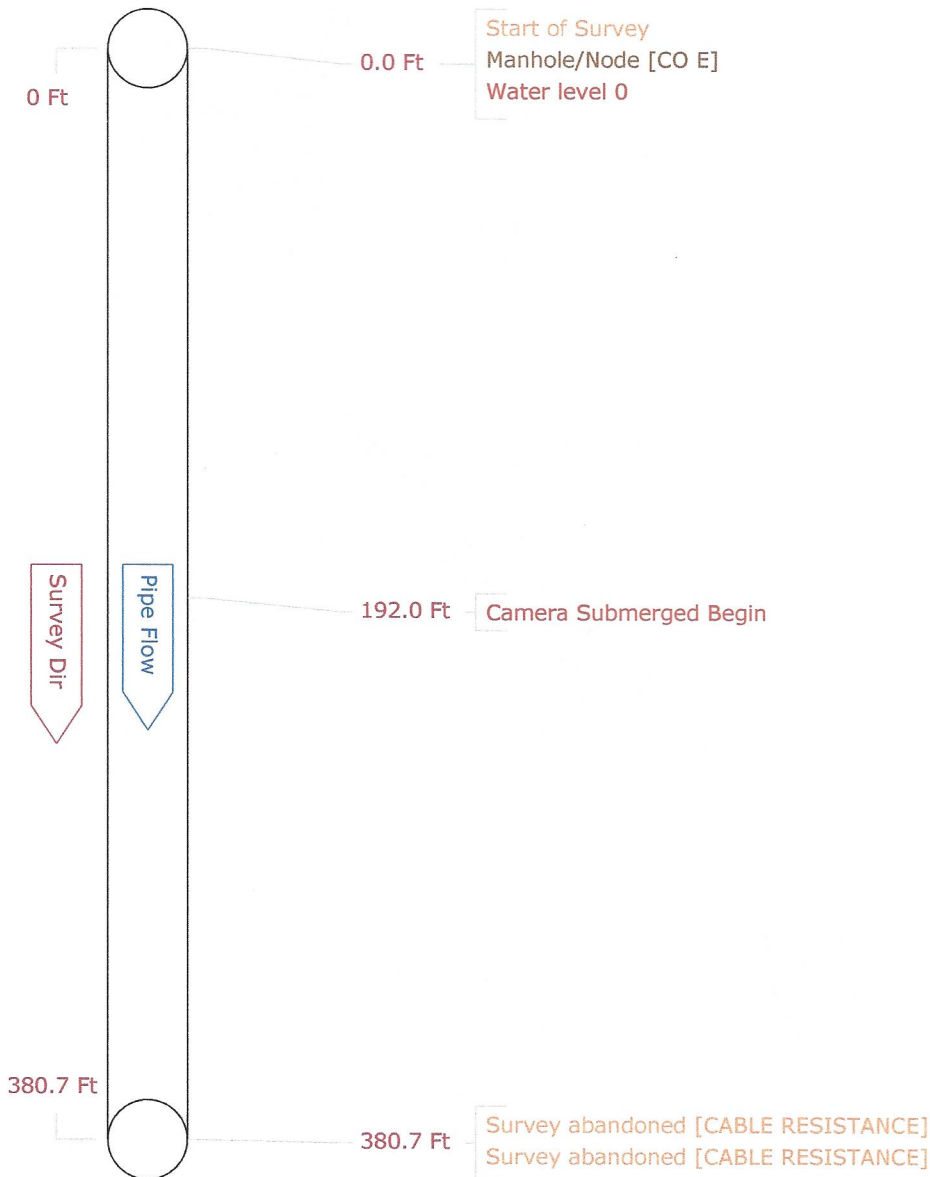
Work Order	Surveyed On 04/28/2015	Setup 8
Street Name CITRUS COUNTY PHASE 2		Video 1
City Name CITRUS COUNTY LF	Weather Light rainfall	
Location Berm		
From Manhole CO E	To Manhole CO W	Direction Downstream



Date: 04/28/2015 **Distance:** 454.9 Ft **Obs:** Survey abandoned
Comments: OUT OF CABLE

Pipe Graphic Report of PLR CO E H for CITRUS COUNTY SOLID WASTE

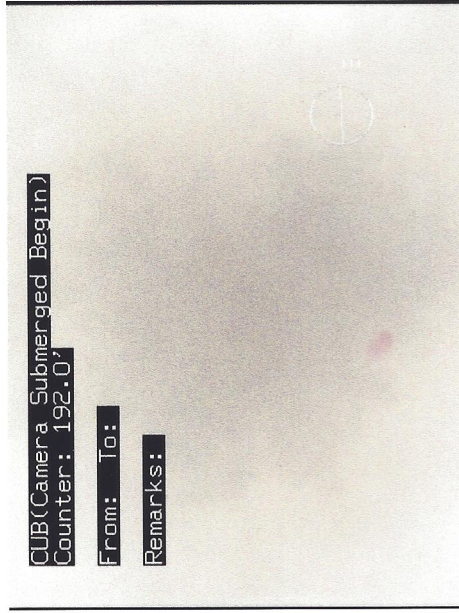
Work Order	Contract		Video	1	Setup	9			
Facility	Operator		Van Ref	Surveyed On		04/28/2015			
Street Name	CITRUS COUNTY PHASE 1A		City	CITRUS COUNTY LF					
Location type	Berm								
Surface									
Survey purpose	Other (state in comments)		Weather	Light rainfall					
Pipe Use	Other (state in comments)		Schedule length	Ft	From	CO E	Depth	F	
Shape	Circular		Size	8 by	ins	To	CO W	Depth	F
Material	Other (state in comments)		Joint spacing	Ft		Direction	Downstream		
Lining			Year laid			Pre-clean	Y	Last cleaned	4/27/2015
General note	JETTING=1000				Structural	Service	Constructional		
Location note	VIDEO SHOWS PHASE 1				Miscellaneous	Hydraulic			



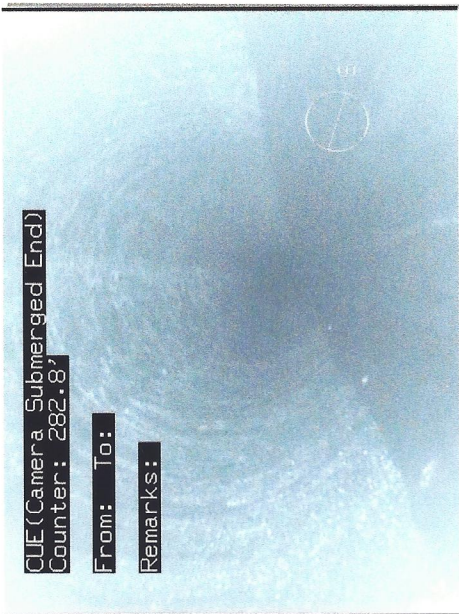
CCTV pictures of CO E H for CITRUS COUNTY SOLID WASTE

Work Order	Video 1	Surveyed On 04/28/2015	Direction Downstream	Setup 9
Street Name	CITRUS COUNTY PHASE 1	City Name	CITRUS COUNTY LF	Weather
Location	Berm		From Manhole CO E	To Manhole CO W

Date: 04/28/2015
 Distance: 192.0 Ft
 Obs: Camera Submerged Begin
 Comments:



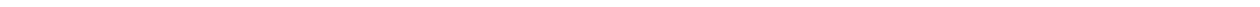
Date: 04/28/2015
 Distance: 380.7 Ft
 Obs: Survey abandoned
 Comments: CABLE RESISTANCE



Date: 04/28/2015
 Distance: 380.7 Ft
 Obs: Survey abandoned
 Comments: CABLE RESISTANCE



APPENDIX G
LFG MONITORING FORM



**APPENDIX F
LANDFILL GAS MONITORING FORM
CENTRAL LANDFILL, CITRUS COUNTY**

Project Name Citrus County Central Landfill Date _____
 Project No _____ Weather _____
 Personnel _____ Comments _____
 Method of Calibration _____

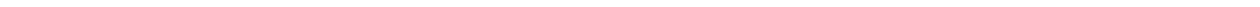
Probe ID No.	CH ₄ (%)	CO ₂ (%)	O ₂ (%)	Balance (%)	Pressure (in-w.c.)	Comments
GP-1						
GP-2						
GP-3						
GP-4						
GP-5						
GP-6						
GP-7						
GP-8						
GP-9						
GP-10						
GP-11						
GP-12						
GP-13						
GP-14						
GP-15						
GP-16						
GP-17						
GP-18						
GP-19						

On-Site Structures	CH ₄ (%)	% LEL ¹	Comments
Scale House			
Admin Building			
Gun Range North			
Gun Range South			
Leachate Treatment Plant			

Notes

- 1 % Lower Explosive Limit (LEL) of methane (CH₄) is 5%
- 2 On-site structures can not exceed 25% LEL (25% LEL = 1 25% CH₄) per Rule 62-701 530(1)(a), F A C
- 3 CH₄ at the landfill property boundary can not exceed the LEL of 5% CH₄ per Rule 62-701 530(1)(b), F A C

APPENDIX H
LEACHATE TREATMENT AGREEMENT





BOARD OF COUNTY COMMISSIONERS
DEPARTMENT OF WATER RESOURCES
DIVISION OF UTILITIES
3600 W Sovereign Path Suit 291
Lecanto, Florida 34461-9014
Telephone: (352) 527-7650 Fax: (352) 527-7644
Citrus Springs/Dunnellon/Inglis/Yankeetown area - Toll Free (352) 489-2120
TTY Telephone: (352) 527-5312
www.bocc.citrus.fl.us

MEMORANDUM

To: Larry Brock, Assistant Public Works Director

Thru: Ken Cheek, Water Resources Director *KJC*
Jeff Rogers, Public Works Director *JR*

From: Gary Loggins, Utilities Operations Division Director *GL*

Date: May 27st, 2015

Re: Memorandum of Understanding

This Memo shall serve as a memorandum of understanding (MOU) between Citrus County Utilities Division (Utilities) and Citrus County Solid Waste Management Division (SWM).

Utilities agrees to secure and treat leachate produced at SWM landfill at a monthly base rate of \$752.98 plus \$8.40 per thousand gallons of leachate treated, not to exceed 100,000 gallons per day on an annual average basis. Flows may be adjusted accordingly by Utilities during extreme wet weather conditions.

SWM agrees to pay a Wastewater Capacity fee of \$56,000.00 for 36.15 Equivalent Residential Units (ERU's) at \$1,550.00 per ERU. SWM also agrees to pay the \$752.98 base rate (6" meter base charge) plus \$8.40 per thousand gallons.

SWM agrees to provide annual influent Toxicity Characteristic Leaching Potential test (TCLP) listed in 40 CFR, Part 261.24, Appendix XI, (at leachate storage tanks).

This MOU shall continue through the duration of SWM, landfill long-term care requirements.

Cc: Randy Oliver, Citrus County Administrator

**Supplement to Memorandum of Understanding
between Citrus County Utilities Division
and Citrus County Solid Waste Management Division**

Dated May 27, 2015

Leachate Force Main Billing

The Utilities Division will read the leachate force main meter at the landfill on a monthly basis and forward the invoicing through the Clerk's Office Finance / Accounts Payable Section for approval of payment by Solid Waste Management.

Leachate Hauling and Disposal Procedure

In the event Solid Waste Management is required to implement contractor hauling and disposal at one of the County's Wastewater Treatment plants, by the 10th of the following month, the Solid Waste Management will provide a monthly summary report to Utilities Division indicating the disposal amount (gallons per day) for each plant and the treatment fee (per day) at the rate of \$8.40 per thousand gallons.

Payment shall be through the Journal Voucher process initiated by the Utilities Division upon receipt of the monthly summary report from Solid Waste Management.

APPENDIX I
GROUNDWATER MONITORING PLAN



**CITRUS COUNTY CENTRAL LANDFILL
WATER QUALITY MONITORING PLAN
WACS FACILITY NO. SWD/09/39859**

Prepared for:

Citrus County
230 W. Gulf to Lake Highway
Lecanto, Florida 34461



Prepared by:

Jones Edmunds & Associates, Inc.
730 NE Waldo Road
Gainesville, Florida 32641-5699

PE Certificate of Authorization #1841
PG Certificate of Authorization #133

March 2016



Troy D. Hays, PG
Florida License No. 2679

WATER QUALITY MONITORING PLAN FOR THE CITRUS COUNTY CENTRAL LANDFILL

This Water Quality Monitoring Plan has been prepared to update the monitoring program for the Citrus Central Landfill as proposed in the Water Quality Monitoring Plan Evaluation Report, Semester 01 2013 – Semester 1 2015 (CDM Smith). This monitoring plan follows the format of Part L—Water Quality Monitoring Requirements—of the State of Florida Application for a Permit to Construct, Operate, Modify, or Close a Solid Waste Management Facility. Proposed modifications to the previous monitoring plan—as outlined in Permit # 21375-018-SO/01—are:

- The Zone of Discharge (ZOD) is proposed to be extended to the property boundary. In accordance with Chapter 62-520.465(1), the ZOD for G-II groundwater at an existing facility can extend to the property boundary.
- Leachate monitoring will no longer be performed in accordance with the revisions to 62-701.510. Additionally, leachate effluent sampling is no longer necessary because the facility began piping leachate to the County owned treatment works in May 2015 and leachate is no longer treated and disposed at the site.
- Intermediate well MW-6 has been sampled semi-annually in accordance with condition E.4.c. of the current permit. MW-6 was monitored to evaluate potential impacts to groundwater quality within the ZOD due to the disposal of treated leachate via the percolation ponds. Since leachate is no longer discharged into the percolation ponds at the site, MW-6 is proposed to be re-designated as a piezometer. Water levels will be collected semiannually in conjunction with the compliance monitoring events.
- Additionally, FDEP stated in the 2015 Permit Renewal Request for Additional Information letter to reconcile the water quality plan with Consent Order #05-1078. This updated water quality plan already incorporates the revisions required by the Consent Order and the monitoring of the contamination in the northwest corner of the property. Specifically, the 2015 Permit Renewal Request for Additional Information letter had two questions about the water quality at the site. Those questions are addressed in attachment 3 to this water quality monitoring plan.

A site map that shows the groundwater monitoring network with the proposed changes is provided as Attachment 1.

1. WATER QUALITY MONITORING PLAN

a. Sign and Seal

The water quality monitoring plan has been signed, dated, and sealed in accordance with Chapter 62-701.510(2)(a), FAC.

b. Sampling and Analysis

All sampling and analysis have been performed in accordance with Chapter 62-160, FAC; 62-701.510(2)(b), FAC; the FDEP Standard Operating Procedures 001/01; and the current Permit No. 21375-018-SO/01.

c. Groundwater Monitoring Requirements

- (1) There are no detection wells in the existing monitoring network. Existing compliance wells MW-20 and MW-21 are less than 50 feet from the edge of waste and are proposed to be re-designated as detection wells in accordance with Chapter 62-701.510 (3)(a).
- (2) There are nine compliance wells—MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-17, MW-20, MW-21—in the existing monitoring network. Compliance wells MW-20 and MW-21 are proposed to be re-designated as detection wells. No additional compliance wells are proposed.
- (3) Two background wells—MW-3 and MW-7—are included in the existing monitoring network. Monitoring results indicate that the groundwater near MW-7 has been affected by landfill gas; however, MW-7 remains suitable as a background well with respect to monitoring for a potential discharge of leachate. No changes are proposed to the background wells.
- (4) A site map showing the locations of each groundwater monitoring well in the proposed monitoring network is presented as Attachment 1. Attachment 2 is a table that includes well construction information for all wells—existing and proposed.

One intermediate well—MW-6—is included in the existing monitoring network. MW-6 monitors for groundwater quality impacts due to the disposal of treated leachate via the percolation ponds. Since effluent is no longer discharged into the percolation ponds at the site, MW-6 is proposed to be re-designated as a piezometer.

Two assessment wells—MW-18 and MW-19—are included in the existing monitoring network. The assessment wells are downgradient of MW-10. MW-18 is used as a horizontal assessment well and MW-19 is used as a vertical assessment well.

Table 1.c compares the current monitoring network outlined in Permit # 21375-018-SO/01 and the proposed monitoring network.

- (5) Well spacing is less than 500 feet across the downgradient direction of groundwater flow and approximately 1,500 feet apart across the

upgradient direction of groundwater flow in the uppermost aquifer—the Floridan aquifer—within the zone of discharge.

- (6) The screened intervals of the monitoring wells were positioned to encounter the water table of the unconfined Floridan aquifer throughout normal seasonal fluctuation.
- (7) The wells are constructed to provide representative groundwater samples from the zones monitored. Attachment 2 is a table that includes well construction information for all wells.
- (8) Unused wells and piezometers will be abandoned properly, as specified in Rule 40D-3.531, FAC, and the rules of the Southwest Florida Water Management District.
- (9) There are no detection sensors at the Citrus Central Landfill.

Table 1.c. Existing and Proposed Monitoring Networks.

<u>Existing Network</u>	<u>Proposed Network</u>
<i>Background wells</i>	
MW-3	MW-3
MW-7	MW-7
<i>Detection wells</i>	
–	MW-20
–	MW-21
<i>Compliance Wells</i>	
MW-10	MW-10
MW-11	MW-11
MW-12	MW-12
MW-13	MW-13
MW-14	MW-14
MW-15	MW-15
MW-17	MW-17
MW-20	–
MW-21	–
<i>Assessment Wells</i>	
MW-18	MW-18
MW-19	MW-19
<i>Intermediate Well</i>	
MW-6	–
<i>Piezometers</i>	
MW-1R	MW-1R
MW-2	MW-2
MW-5	MW-5
–	MW-6
MW-8R	MW-8R
MW-9	MW-9
MW-16	MW-16
MW-AA	MW-AA
MW-B	MW-B
MW-E	MW-E
PZ-1 A	PZ-1 A
PZ-2 A	PZ-2 A

d. Surface Water Monitoring Requirements

Surface water is only required to be sampled if there is a discharge off of the Citrus County Central Landfill Property as required by Specific Condition Part E.8 of the Current Permit. The sample will be collected from the body of water from which the discharge occurred.

e. Sampling Frequency and Requirements

- (1) Newly installed wells and replacement wells will be sampled for the parameters listed in Rules 62-701.510(7)(a) and (7)(c), FAC, within 2 weeks of well completion and development.
- (2) Routine monitoring well sampling and analysis requirements:
 - (a) Water samples from all monitoring wells (background, detection, and compliance) will be sampled semiannually for the parameters listed in Rule 62-701.510(7)(a), as tabulated in Table e(2)(a).

Table e(2)(a) Monitoring Well 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 (by observation)	Total Dissolved Solids (TDS)
	Those parameters listed in 40 CFR Part 258, Appendix I

- (b) Assessment wells—MW-18 and MW-19—will be sampled semiannually for the parameters listed in Table e(2)(b).

Table e(2)(b) Assessment Well Sampling Parameters	
Field Parameters	Laboratory Parameters
Static Water Levels	Benzene
Specific Conductivity	Methylene Chloride
pH	Vinyl Chloride
Dissolved Oxygen	
Turbidity	
Temperature	
Colors and Sheens (by observation)	

- (3) Surface water is only required to be sampled if there is a discharge off of the Citrus County Central Landfill Property as required by Specific Condition Part E.8 of the Current Permit. If discharge off of the property occurs, samples will be collected for the parameters listed in Rule 62-701.510(7)(b), as tabulated in Table e(3).

Table e(3). Surface Water Sampling Parameters	
Field Parameters	Laboratory Parameters
Specific Conductivity	Unionized Ammonia
pH	Total Hardness
	Biochemical Oxygen Demand (BOD5)
Dissolved Oxygen	Iron
Turbidity	Mercury
Temperature	Nitrate
Colors and Sheens (by observation)	Total Dissolved Solids (TDS)
	Total Organic Carbon (TOC)
	Fecal Coliform
	Total Phosphorus
	Chlorophyll A
	Total Nitrogen
	Chemical Oxygen Demand (COD)
	Total Suspended Solids (TSS)
	Those parameters listed in 40 CFR Part 258, Appendix I

f. Evaluation Monitoring, Prevention Measures, and Corrective Action

(1) Groundwater Corrective Actions

If at any time analyses from the groundwater detect parameters which are significantly above the background water quality or which are at levels above the Department's water quality standards or criteria specified in Chapter 62-520, FAC at the edge of the Zone of Discharge, the well will be resampled within 30 days after the sampling data are received to confirm the data. If the data are confirmed over the background or groundwater criteria or the well is not resampled, FDEP will be notified in writing within 14 days of this finding. Upon notification by the FDEP, evaluation monitoring will be initiated in accordance with Rule 62-701.510(6) FAC.

(2) Surface Water Corrective Actions

Surface Water is only sampled on a per discharge event. The Department will be notified within 24 hours of discovery of a discharge event.

g. Water Quality Monitoring Report Requirements

Groundwater monitoring reporting is required and has been completed in accordance with Rule 62-701.510(8), FAC.

- (1) Groundwater compliance monitoring reports are submitted to FDEP semi-annually in accordance with the current permit (FDEP Permit No.21375-018-SO/01). Additionally, these reports are submitted in accordance with the requirements of Chapter 62-701.510(8) (a), FAC. Compliance monitoring reporting due dates are outlined in Table g.

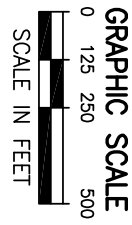
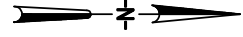
Table g. FDEP Reporting Deadlines	
<i>Groundwater Sampling</i>	
July-December Semiannual Event	60 days from receipt of results and no later than January 15th
January-June Semiannual Event	60 days from receipt of results and no later than July 15th
<i>Surface Water</i>	
Discharge Event	within 60 days of receipt of results

- (2) Water quality data will be provided electronically in a format consistent with requirements for importing into FDEP databases and in compliance with the permit.
- (3) A technical report signed, sealed, and dated by a P.G. or P.E. will be submitted to the FDEP every 2.5 years in accordance with the requirements of Chapter 62-701.510(8) (b), FAC. The most recent report summarized data from the First Semiannual 2013 through the First Semiannual 2015 sampling events. The report will summarize and interpret the water quality and water level measurements collected during the past 2.5 years. The report will include at least the following:
- a) Tabular display of data showing all detected parameters.
 - b) Graphical display of any leachate key indicator parameters.
 - c) Hydrographs for all monitoring wells.
 - d) Trend analysis of any monitoring parameter consistently detected.
 - e) Comparisons between shallow-, medium-, and deep-zone wells.

- f) Comparisons between background water quality and the water quality in detection and compliance wells.
- g) Correlations between related parameters such as total dissolved solids and specific conductance.
- h) Discussions of erratic and/or poorly correlated data.
- i) Interpretation of groundwater contour maps including an evaluation of groundwater flow rates.
- j) An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based on site conditions.

ATTACHMENT 1

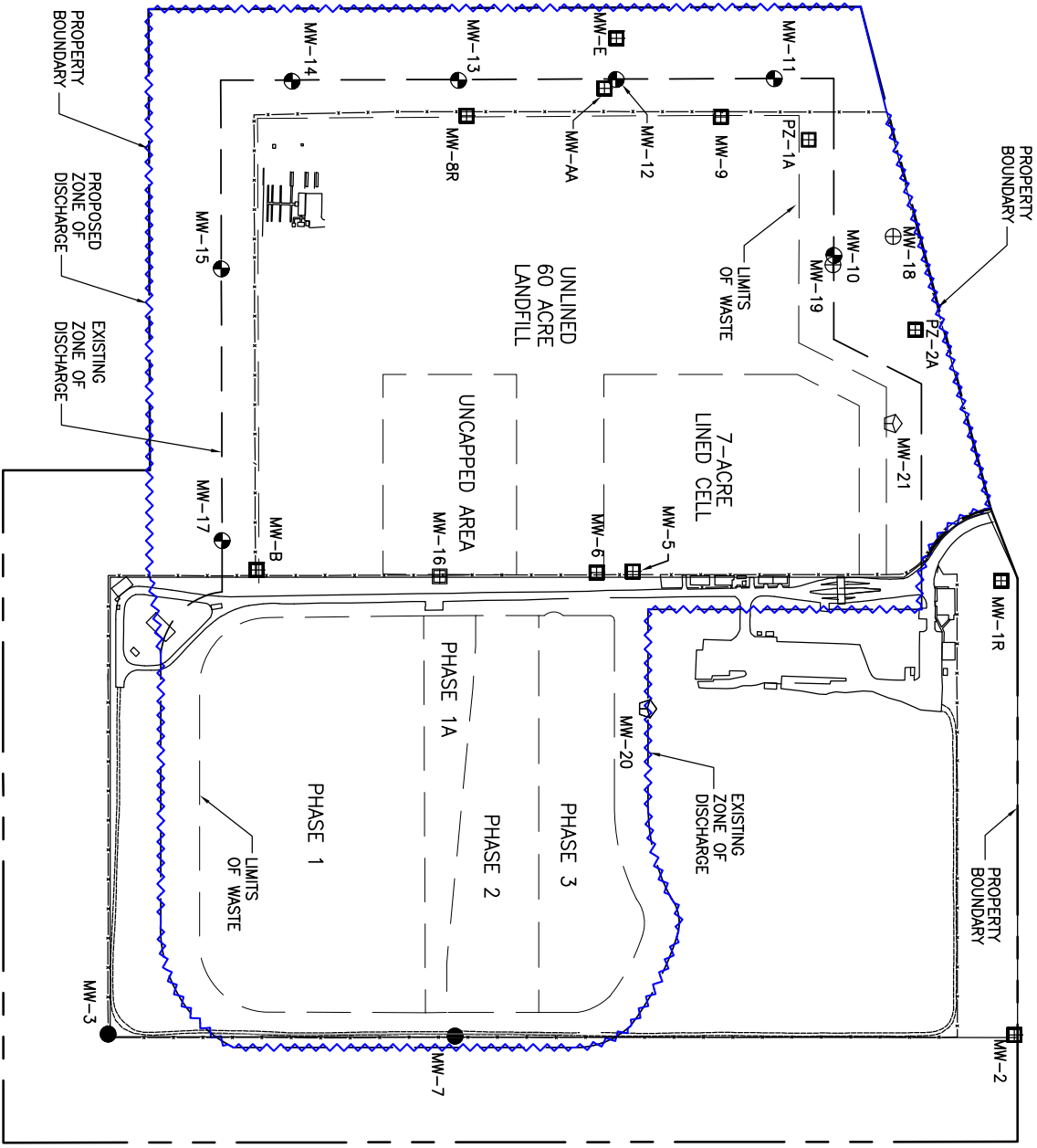
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LEGEND

- BACKGROUND WELLS
- ⊙ COMPLIANCE MONITORING WELL
- ◇ PROPOSED DETECTION WELL
- ⊕ ASSESSMENT MONITORING WELL
- ⊞ PIEZOMETERS
- LIMITS OF WASTE
- ~ PROPOSED ZONE OF DISCHARGE
- - - EXISTING ZONE OF DISCHARGE
- PROPERTY BOUNDARY
- - - FENCE

NOTE: THIS MAP REFLECTS THE PROPOSED CHANGES TO THE MONITORING NETWORK



ATTACHMENT 1 SITE PLAN
CITRUS COUNTY CENTRAL LANDFILL



ATTACHMENT 2

**ATTACHMENT 2
CITRUS COUNTY CENTRAL LANDFILL
WELL CONSTRUCTION DETAILS**

Well Name	Well Designation	Date Installed	Top of Casing Elevation (Ft. NGVD)	Total Depth (Ft. BLS)	Total Depth (Ft. BTOC)	Screen Details				Filter Pack (Silica Sand)	Well Location		
						Length (Ft.)	Depth (Ft. BLS)		Elevation (Ft. NGVD)		Easting (Ft.)	Northing (Ft.)	
							Top	Bottom	Top				Bottom
MW-AA	Piezometer	NR	105.85	116	117.4	10	106	116	-1.6	-11.6	NR	514330.1915	1642944.6946
MW-B	Piezometer	NR	113.30	128	128.8	20	108	128	4.5	-15.5	NR	515703.188	1641952.201
MW-E	Piezometer	NR	109.36	118	120.9	20	98	118	8.5	-11.5	NR	514187.411	1642978.872
MW-1R	Piezometer	NR	118.07	125	127.8	10	115	125	0.3	-9.7	NR	515734.4675	1644075.0314
MW-2	Piezometer	NR	136.05	161	163.8	15	146	161	-12.8	-27.8	NR	517016.947	1644134.012
MW-3	Background	NR	120.31	119	119.8	15	104	119	15.5	0.5	NR	517026.689	1641528.493
MW-5	Piezometer	NR	120.98	120	122.5	10	110	120	8.5	-1.5	NR	515706.7199	1643027.5870
MW-6	Piezometer ¹	NR	118.27	122	124.7	10	112	122	3.6	-6.4	NR	515710.8712	1642921.8127
MW-7	Background	NR	128.47	137	139.06	20	117	137	9.4	-10.6	NR	517032.495	1642518.150
MW-8R	Piezometer	NR	117.96	128	127.98	20	108	128	10.0	-10.0	NR	514408.379	1642551.088
MW-9	Piezometer	NR	113.29	121	120.96	20	101	121	12.3	-7.7	NR	514411.959	1643276.437
MW-10	Compliance	11/2/05	113.37	120.5	120.0	20	100.5	120.5	13.4	-6.6	20/30	514808.4751	1643659.0352
MW-11	Compliance	11/2/05	104.69	112.0	111.7	20	92.0	112.0	13.0	-7.0	Gravel	514299.5523	1643424.8999
MW-12	Compliance	11/2/05	103.36	110.0	109.5	20	90.0	110.0	13.9	-6.1	20/30	514306.5574	1642972.8677
MW-13	Compliance	11/10/05	111.92	120.0	119.5	20	100.0	120.0	12.4	-7.6	20/30	514299.7062	1642543.8233
MW-14	Compliance	11/10/05	108.50	116.0	115.5	20	96.0	116.0	13.0	-7.0	20/30	514845.7153	1641844.4367
MW-15	Compliance	11/10/05	123.58	130.0	129.6	20	110.0	130.0	14.0	-6.0	20/30	515765.2792	1642292.6040
MW-16	Piezometer	10/31/05	119.64	127.0	126.6	20	107.0	127.0	13.0	-7.0	20/30	515619.9611	1641846.2474
MW-17	Compliance	11/3/05	110.85	118.0	117.5	20	98.0	118.0	13.4	-6.7	20/30	514730.9420	1643746.0676
MW-18	Assessment	1/23/07	115.82	120.0	119.7	20	100.0	120.0	16.1	-3.9	20/30	514816.3731	1643660.2048
MW-19	Assessment	1/22/07	113.50	140.0	139.6	10	130.0	140.0	-16.1	-26.1	20/30	516104.004	1642999.189
MW-20	Detection ²	1/12/11	119.76	NR	125.7	20	105.0	125.0	NR	NR	20/30	515259.800	1643743.909
MW-21	Detection ²	1/12/11	115.63	NR	125.9	20	105.0	125.0	NR	NR	20/30	514454.2759	1643505.5893
PZ-1 A	Piezometer	1/26/07	110.97	120.0	119.7	20	100.0	120.0	11.3	-8.7	20/30	515020.7612	1643833.4593
PZ-2 A	Piezometer	1/24/07	116.82	120.0	119.8	20	100.0	120.0	17.0	-3.0	20/30		

Notes: ¹ Well MW-6 proposed to be re-designated as a piezometer.

² Wells MW-20 and MW-21 are proposed to be re-designated as detection wells.

BLS = Below Land Surface
 BTOC = Below Top of Casing
 NR = Not recorded
 Ft. = Feet
 Top of Casing elevations and survey data (Northing and Easting) from Citrus County Boundary Survey dated 09/02/2015.

NGVD = National Geodetic Vertical Datum

Total depths (ft btoC) of MW-20 and MW-21 measured on 01/14/2011 by CDM Smith.
 Total depths (ft bts) and Filter Pack information from Attachment 2 of the Water Quality and Leachate Monitoring Plan dated 09/22/10.

ATTACHMENT 3

RAI Comment:

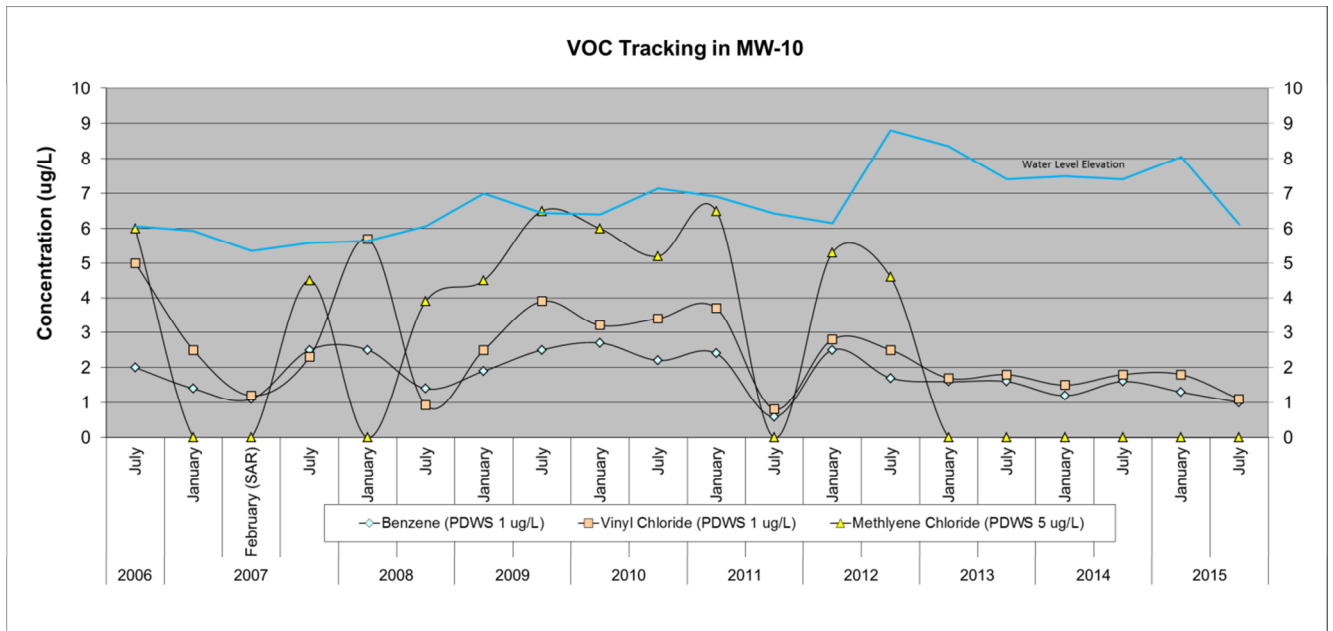
Please reconcile your proposed Water Quality Monitoring Plan with Consent Order #05-1078. The specific areas of concern are:

a. Groundwater Quality – Northwest Corner of Facility

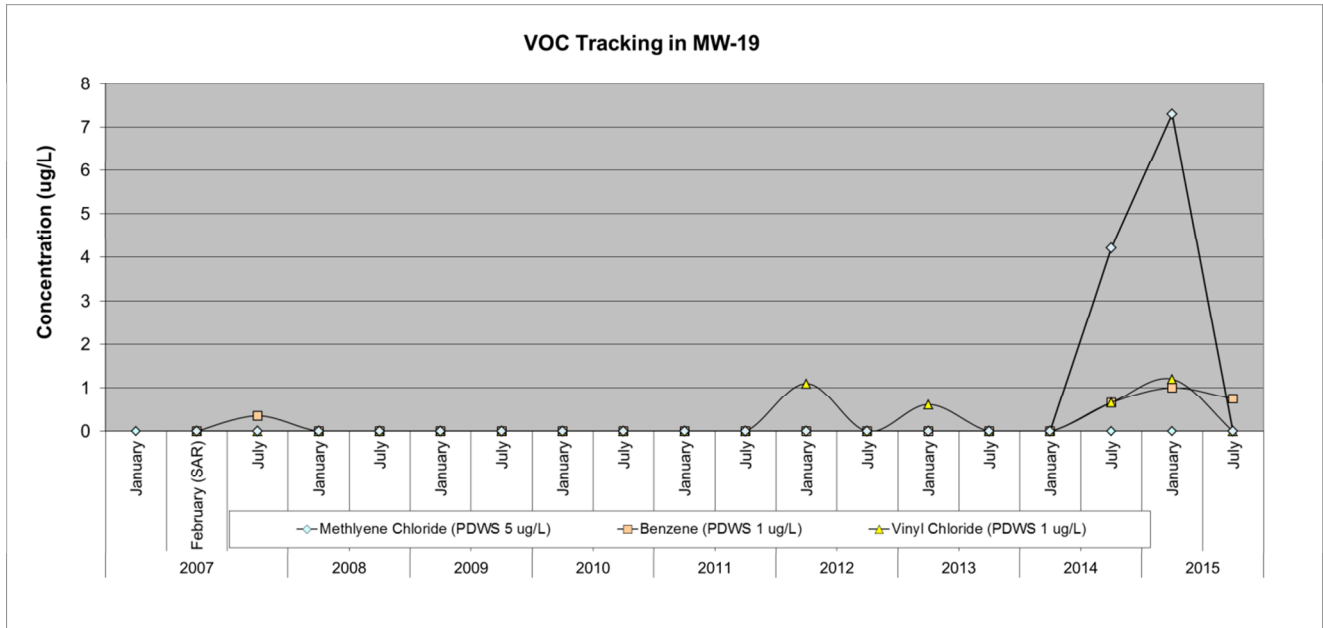
Impacts to groundwater quality on the west side of the landfill (closed disposal areas) were addressed as part of CO #05-1078. Results reported for recent routine groundwater sampling events show persistent low-level exceedances of Benzene, Methylene Chloride, and Vinyl Chloride at well MW-10 with a downward trend of concentrations. No exceedances have been reported for the lateral extent well (MW-18); however, the vertical extent well (MW-19) has reported a recent and increasing trend of Methylene Chloride concentrations. Please address the increase of Methylene Chloride concentrations detected in vertical extent well MW-19.

Response:

The landfill gas extraction groundwater remediation system was installed in response to elevated VOCs in MW-10. Since the systems installation and optimization in March 2011, the concentrations of the parameters of concern (Benzene, Vinyl Chloride, and Methylene Chloride) have slowly decreased in MW-10.



Concentrations of the parameters of concern have not been detected in downgradient assessment well MW-18; however, recently, Methylene Chloride has been detected in the vertical extent assessment well MW-19. The chart below shows the trends of the parameters of concern in MW-19 since the well was installed.



There have been low level hits of both Benzene and Vinyl Chloride in MW-19 in the past; however, just recently has the well had detections of all 3 parameters at elevated concentrations. Of the parameters of concern, Methylene Chloride is the most soluble in water; therefore it will dissolve into water at the highest concentrations. Methylene Chloride also has the highest Vapor Pressure; therefore, Methylene Chloride will volatilize out of water first due to changes in pressure. Reviewing the first chart, which shows the VOC tracking in MW-10, Methylene Chloride had the greatest concentration and was the first to fall out after implementation of the gas extraction remediation. Since Methylene Chloride has not shown back up in MW-10 it indicates that the gas extraction system is still effecting the VOC concentrations in the groundwater.

The VOC Tracking in MW-19 chart shows a spike in Methylene Chloride associated with smaller spikes of both Benzene and Vinyl Chloride. All of the parameters in MW-19 have decreased during the July 2015 sampling event. The pattern observed in MW-19 is indicative of a plume migrating through the aquifer; however, there was no Methylene Chloride observed in shallow well MW-10. This indicates that the VOCs dissolved into the groundwater in one of two methods.

1. Landfill gas built up inside MW-19 causing condensate to develop inside the well riser, and the condensate dripped down into the groundwater.
 - a. Landfill gas will be measured in MW-19 to verify if it is infiltrating into the well. However, if the exceedances were caused by condensate dripping in the well we would expect a more prolonged time of exceedances.
2. The concentrations indicate that a plume of VOCs dissolved into the aquifer and has migrated deeper than the effects of the remediation system and MW-10's screen interval.

- a. The low levels observed in the July 2015 sampling event indicate that, if this was the case, the plume has passed and continued exceedances are not expected to occur. Since MW-19 is screened deeper than MW-10 and there has been no associated hits of Methylene Chloride in MW-10, the landfill gas that caused this plume never made it to the landfill gas extraction system to be removed and the landfill gas extraction system did not have sufficient vacuum to pull the VOCs from deeper in the aquifer.

The County is exploring options to optimize the groundwater treatment system over the coming year to prevent further migration of contaminants. Options under consideration include:

1. Shutting down the deeper gas vents and pulling only from the intermediate vent screens might degas without pulling additional gas into contact with the groundwater.
2. Shutting down GEW-1 and GEW-5 would increase the pull from GEW-2, GEW-3, and GEW-4 where more Carbon Dioxide has been detected. Additionally, the County may install solar powered turbines on GEW-1 and GEW-5 and isolate them from the rest of the system.
3. Reversing the air flow in GEW-1 and GEW-5 would channel landfill gas toward GEW-2, GEW-3, and GEW-4. This would require an additional blower fan.
4. Reversing the flow in the deeper wells, pushing subsurface air upward toward the shallower extraction wells. This would require an additional fan.
5. Installing a blower with more capacity to remove more landfill gas from the subsurface.

Consent Order Reconciliation:

Consent Order Status of Compliance

The Consent Order (OGC File No. 05-1078) was specific to the closed unlined 60 acre landfill groundwater exceedances beginning in 2002 in downgradient wells and Landfill gas above the LEL beginning in 2003 at the property boundary.

In a Status of Compliance letter from Deborah Getzoff (FDEP Southwest District Director) dated October 27, 2009, FDEP stated that the Landfill has completed, or is in compliance with, all of the Orders in the Consent Order except for Order 6 and Order 11b. Order 6 and 11b are discussed below:

Order 6: The approved Groundwater Investigation Plan is incorporated into the Consent Order and must be implemented.

- Compliance with Item 6 was considered 'pending conclusion of Rule 62-780.600 Site Assessment activities.' As part of the original Site Assessment, a lease agreement with the Department of Forestry expanded the property boundary and zone of discharge. New wells were installed at the new zone of discharge: MW-10, MW-11, MW-12, MW-13, MW-14, MW-15 and MW-17. While this would conclude the specific Site Assessment cited by the Consent Order, through Order 11b the exceedances in MW-10 were made subject to an additional Rule 62-780.600 FAC Site Assessment.

- FDEP issued a “does not object” e-mail dated April 26, 2010 to the proposed corrective actions outlined in the 62-780 Site Assessment Report (SAR) for the exceedances in MW-10. While the e-mail did not expressly state that the SAR was approved, the construction of the remedial system was approved.
- The remedial system for MW-10 was installed and has been in operation since October 2010 and the constituents of concern are slowly decreasing. Based on this, the Site Assessment is complete and the remedial process is now under Rule 62-780.700 FAC – Active Remediation.

The County implemented the approved Groundwater Investigation Plan and now considers Order 6 complete as the assessment sampling of the delineation wells installed around MW-10 are part of the permit.

Order 11b: *If exceedances are found in the initial sampling event of MW-10, MW-11, MW-12, MW-13, MW-14, MW-15 and MW-17, the landfill must conduct a site assessment under Rule 62-780-600.* The October 2009 Status of Compliance letter stated that if these new wells report exceedances in the future, the additional wells will be included in the assessment activities.

- MW-15 detected Vinyl Chloride at 2 µg/L in the initial event, but it was not confirmed in subsequent sampling. MW-10 detected elevated Vinyl Chloride at 5 µg/L and Benzene at 2 µg/L in the second sampling event (not in the initial event), and they were confirmed in subsequent sampling, initiating the 62-780 site assessment.
- A SAR was submitted for MW-10 on October 22, 2007 in accordance with this Order due to VOC exceedances.
- Additional VOC contamination was detected in MW-13 and MW-15 in October 2009. However, concentrations in MW-15 are currently below the standard and occasional detections in MW-13 have been (as defined by the FDEP ‘rounding rule’) at, but not above the standard. More recent detections in MW-18 through 21 do not apply to the OGC Order.

By the letter of the OGC Consent Order, the contaminants in MW-10 do not apply since they were not detected in the initial sampling event as specified in Order 11. However, they have been treated as though they apply and the requirements of Rule 62-780.600 FAC have been followed. Regarding the contamination in MW-10, the Consent Order has been redundant because the permit also requires the sampling.

No other significant contamination has been detected in the wells listed in the Consent Order, though if contamination is found in the future, the permit would require the initiation of an assessment in accordance with Rule 62-780 FAC. Therefore Order Nos# 6 and # 11b are considered completed.

By the requirements in the site permit, Rule 62-780.700 FAC will continue to be followed for the issues in MW-10 and additional assessment will be initiated if required by FDEP from additional exceedances observed in any of the other wells at the zone of discharge. Therefore, the County concludes that OGC Consent Agreement No. 05-1078, executed on September 20, 2005, is complete and requests that it be closed.

RAI Comment:

Groundwater Quality—Background Well MW-7

The last 4 routine sampling events have reported exceedances of the benzene standard with no apparent trend. It appears unlikely that the adjacent property to the east in the up gradient direction (State Forest) would be a source of benzene in groundwater. Please address potential sources of benzene in background well MW-7.

Response:

Degradation of the groundwater quality in the vicinity of MW-7 is not attributed to a discharge of leachate from the nearby lined Phase I, Phase II, or Phase III landfill cells. Many of the typical indicator parameters for landfill leachate are not present in samples collected from well MW-7 in concentrations that would be expected if the source was landfill leachate. Additionally, there does not appear to be an up gradient off-site source for the VOCs observed in MW-7.

The most likely source of the Benzene observed in the groundwater at MW-7 is attributed to the presence of landfill gas. Gas will migrate in the unsaturated pore space following the path of least resistance. The most likely source is that the liners of the newly installed landfill cells are preventing the dissipation of the landfill gas that emanates from the closed unlined landfill. The gas is migrating under the new landfill liner in contact with the groundwater causing changes in the local geochemistry and exchange of organic contaminants from the gas to the groundwater in the vicinity of well MW-7. The observed increasing parameters in MW-7 are similar to those observed in wells MW-10 and MW-19. The contamination in these wells has been shown to be from landfill gas not from leachate.

Hydraulically, MW-7 is on the up gradient boundary of the landfill and is appropriately positioned for a background well. The parameters observed in this well are expected to be from migrating landfill gas and not from off-site contamination.

APPENDIX J

CITRUS/HERNANDO COUNTIES INTERLOCAL AGREEMENT



**INTERLOCAL AGREEMENT
BETWEEN HERNANDO COUNTY AND CITRUS COUNTY FOR
MUTUAL EXCHANGE OF SERVICES FOR
SOLID WASTE DISPOSAL DURING EMERGENCY EVENTS**

THIS AGREEMENT is made and entered into by and between HERNANDO COUNTY, a political subdivision of the State of Florida, by and through its Board of County Commissioners, hereinafter called "HERNANDO," and CITRUS COUNTY, a political subdivision of the State of Florida, acting by and through its Board of County Commissioners, hereinafter called "CITRUS."

WITNESSETH:

WHEREAS, In the event of an emergency, CITRUS or HERNANDO may have waste that it wishes to dispose of in the other County's solid waste disposal system; and

WHEREAS, both Counties have additional disposal capacity in its integrated solid waste management system and is willing to accept and dispose of additional solid waste from the other County during an emergency event; and

WHEREAS, CITRUS and HERNANDO, pursuant to Section 163.01, Florida Statutes, wish to enter into this Interlocal Agreement to provide for a mutual exchange of services for the disposal of solid waste at either waste disposal system during an emergency event; and

WHEREAS, through this cooperative agreement, CITRUS and HERNANDO wish to initiate successful and environmentally sound emergency Solid Waste Disposal options for the benefit of both County's residents.

NOW, THEREFORE, in consideration of the foregoing premises, which shall be deemed an integral part of this Interlocal Agreement, and of the mutual covenants and conditions hereinafter set forth, CITRUS and HERNANDO, intending to be legally bound, hereby agree as follows:

SECTION 1. PURPOSES

The WHEREAS clauses set forth above are incorporated herein by reference and made a part of this agreement. Based thereon, it is the purpose and intent of this Agreement to define the terms and conditions of mutual provisions of solid waste disposal services between the Counties. This Agreement is intended to provide a mutual exchange of services for the disposal of solid waste at either County's Solid Waste Management facility during an emergency event. All terms and conditions of this Agreement shall be interpreted in a manner consistent with, and in furtherance of, the purposes as set forth above.

SECTION II. AUTHORITY FOR AGREEMENT

This Agreement is entered into pursuant to the authority set forth in Chapter 87-441, Laws of Florida, Section 163.01, Florida Statutes, as amended, Section 252.38 Florida Statutes, and Chapter 403 Part IV, Florida Statutes. Either County warrants and represents to the other county that the execution and delivery of this Agreement has been duly authorized by all appropriate actions of the Governing Body of either County, and this Agreement has been executed and delivered by an authorized officer of either County, and this Agreement constitutes the legal, valid and binding obligation of either County enforceable against it in accordance with its terms (except as enforceability may be limited by applicable bankruptcy or similar laws affecting creditors' rights, and by application of equitable principles if equitable remedies are sought).

SECTION III. DEFINITIONS

Certain terms having specific definitions are used in this Agreement, and these terms and definitions, unless the context clearly indicates to the contrary, are as follows:

- A. CITRUS – shall mean CITRUS County, Florida, a political subdivision of the State of Florida.
- B. HERNANDO – means HERNANDO County, Florida, a political subdivision of the State of Florida.
- C. Governing Body of CITRUS – means the Board of County Commissioners of CITRUS County.
- D. Governing Body of HERNANDO – means the Board of County Commissioners of HERNANDO County.
- E. Emergency Event – shall mean locally declared state of emergency, failure of the landfill's normal and backup power supply, scales, scalehouse building and / or computers for scalehouse management system.
- F. Hazardous Waste – means a waste material, or a combination of waste materials, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or may pose a substantial present or potential hazard to human health or the environment when improperly transported, disposed of, stored, treated, or otherwise managed. The term "hazardous waste" includes, but is not limited to, volatile, chemical, biological, explosive, flammable, radioactive, and toxic materials. "Hazardous Waste" shall also mean waste which is defined as harmful, toxic, dangerous or hazardous at any time during the term of this Agreement pursuant to i. Chapter 82-730 F.A.C ii. Any other Federal, State, HERNANDO County or local codes, statutes or laws; and iii. Any regulations, orders or other actions promulgate or taken with respect to the terms listed in (1) through (iii) above; provided, however, that any such materials which are later determined not to be harmful, toxic, dangerous or hazardous by any governmental agency or unit having appropriate jurisdiction shall not be considered "Hazardous Waste" unless a contrary determination has been made or is made by any other governmental agency or unit having appropriate jurisdiction.
- G. Non-processable Waste – means ashes, foundry sand, cesspool and other human wastes, human remains and animal carcasses, tree trunk sections, branches and stumps, matter or material or material longer than six feet, motor vehicles (including major parts such as transmissions, rear ends, springs, and fenders), agriculture machinery and equipment, marine vessels and their major parts, any other large machinery or equipment, liquid waste, any matter or material of which in the Solid Waste Disposal System is prohibited by any law, ordinance, rule, or regulation of any government or public agency having jurisdiction over the project and its operations, ordinance materials, Hazardous Waste and Special Waste.
- H. Solid Waste – shall have the same meaning as defined in Rule 62-701.200(13) F.A.C. ("Class I Waste" means solid waste that is not hazardous waste, and this is not prohibited from disposal in a lined landfill under Rule 62-701.300, F.A.C.)
- I. Solid Waste Disposal System – means any and all facilities used and useful by the Counties in collection, transportation, and disposal of solid waste, including as applicable, but not limited to, volume reductions, plants, sanitary landfills or other disposal means, resource recovery facilities, including transfer stations to the extent the transfer stations are provided or operated to carry out the provisions of proper disposal.
- J. Special Wastes – means any waste that require extraordinary management and includes, but is not limited to: abandoned automobiles; inoperative and discarded refrigerators, ranges, washers, water heaters, and other similar domestic and commercial appliances; used tires; waste oil; sludges; dead animals; septic tank pumpings; and infectious waste.
- K. Transfer Station – means a facility where solid waste is placed before being transferred to a solid waste processing or disposal facility.

SECTION IV. COUNTIES OBLIGATION TO PROVIDE DISPOSAL DURING EMERGENCY EVENTS

- A. **Disposal Obligation** – During the term of this Agreement, either County shall provide solid waste disposal services to the other party upon notification of their intent to implement emergency operations. Such disposal services shall consist of either County accepting the waste from the other County for disposal in their respective Solid Waste Facility. The respective Counties shall be fully responsible for the control and ultimate disposition of the same.
- B. **Disposal Quantities** – Such disposal services shall consist of CITRUS accepting the waste from HERNANDO in the maximum amount of 150 tons per day during emergency operations and HERNANDO accepting the waste from CITRUS in the maximum amount of 400 tons per day during emergency operations. Emergency Operations shall be considered a 60 day period, which period may be extended in writing upon mutual agreement between the Counties.
- C. **Status of CITRUS Collectors** – HERNANDO agrees, subject to the tonnage limitations that licensed collectors from CITRUS which are authorized by CITRUS to utilize HERNANDO County's Solid Waste Facility shall be authorized to use said facility upon implementation of emergency operations by CITRUS.
 - a. **Authorized Disposal** – HERNANDO agrees that CITRUS shall not be charged for disposal under the terms of this Agreement for collectors or persons which have not been authorized by CITRUS to utilize the HERNANDO Solid Waste Facility. Any such unauthorized collector or person disposing of solid waste from CITRUS shall be charged by HERNANDO directly for the applicable tipping fee in the event HERNANDO elects to accept such waste.
- D. **Status of HERNANDO Collectors** – CITRUS agrees, subject to the tonnage limitations that licensed collectors from HERNANDO which are authorized by HERNANDO to utilize CITRUS County's Solid Waste Facility shall be authorized to use said facility upon implementation of emergency operations by HERNANDO.
 - a. **Authorized Disposal** – CITRUS agrees that HERNANDO shall not be charged for disposal under the terms of this Agreement for collectors or persons which have not been authorized by HERNANDO to utilize the CITRUS Solid Waste Facility. Any such unauthorized collector or person disposing of solid waste from CITRUS shall be charged by CITRUS directly for the applicable tipping fee in the event CITRUS elects to accept such waste.
- E. **Reports** – The Counties agrees to provide reports indicating the amount of waste received from either County under the terms of this Agreement.
- F. **Hours of Operations** – Both Counties agree that their Solid Waste Disposal Facilities shall be available to accept disposal of waste from the other County for not less than forty (40) hours per week, excluding weeks with legal holidays.

SECTION V: PAYMENT OBLIGATIONS

- A. **Service Fee** – Both Counties agree to pay the other County a service charge on a per tonnage basis based upon the actual number of tons delivered at either facility during the emergency period as follows:
 - a. Service fee charged to CITRUS for use of HERNANDO'S facility shall be \$54.50 per ton.
 - b. Service fee charged to HERNANDO for use of CITRUS'S facility shall be \$55.00 per ton.
- B. **Source of Payments by Counties** – The obligation of either County to pay any monies due under the Agreement does not constitute a general indebtedness of either County within the meaning of any statutory or constitutional provision limiting the amount and nature of indebtedness that may be incurred by either County. The obligations and liabilities of either County under this Agreement are payable solely from operating and maintenance accounts or funds from either County's solid waste collection or disposal operations.
- C. **Irrevocable Commitment to Pay** – CITRUS and HERNANDO shall pay the billings submitted by either County throughout the term of this Agreement and said payment shall be without notice or demand and without set-off, counterclaim, suspension or deduction.

- D. **Collector Identification** – Both Counties shall provide to the other County specific information identifying the licensed collectors within their respective County, that are authorized to deliver waste to the respective County's Solid Waste Facility under the terms of this Agreement. Such identification shall include, but not be limited to, the collector's name, permit number, vehicle types and registration numbers, and such other information useful in the identification of authorized collectors.
- E. **Collector Responsibilities** – Both Counties agree that its' licensed collectors utilizing either County's Solid Waste Disposal Facility shall be responsible for the proper removal, transport and disposal of any non-processable waste, hazardous waste or special waste delivered to the County's Solid Waste Disposal Facility. Said collectors shall also be responsible for compliance with any applicable federal, state or local laws, including the respective Counties ordinances, governing the transportation and disposal of solid waste.

SECTION VI: COLLECTION OF SOLID WASTE

CITRUS and HERNANDO agree that both Counties shall be solely responsible for the collection of solid waste within either County. Furthermore, the Counties agree that they will take all necessary steps to require the collection services permitted or licensed by the respective Counties to deliver the waste at such location and during such times as either County shall direct during emergency events. It is affirmatively understood that neither County shall be obligated to accept waste under the terms of this Agreement from individual residents or other persons from the other County.

SECTION VII: TERM OF AGREEMENT

This Agreement shall have a term of one (1) year, which shall automatically renew for succeeding year periods, unless terminated by either party via the provision of sixty (60) days written notice prior to the expiration of that term year. Notice shall be provided to the administrator of the county being notified of termination. The Counties obligation to deliver and pay for the agreed upon delivered waste tonnage and obligation to accept such waste under the terms of this Agreement shall commence upon mutual agreement of both parties. This agreement is not a put or pay type of agreement.

SECTION VIII: COVENANT OF FURTHER ASSURANCES

The Counties agree that from and after the date of execution hereof, each will, upon the request of the other, execute and deliver such other documents and instruments and take such other action as may be reasonably required to carry out the purpose and intent of this Agreement.

SECTION IX: PRIOR AGREEMENTS

This Agreement shall supersede any or all other agreements between CITRUS and HERNANDO, if any, to the extent that the terms and provisions of any such agreement conflict with the terms and provisions of this Agreement.

SECTION X: ASSIGNMENT

No assignment, delegation, transfer, of this Agreement or part hereof, shall be made, unless approved by both Counties.

SECTION XI: NOTICE

Any notices or other rights permitted or required to be delivered pursuant to the Agreement, shall be delivered to HERNANDO, at the Office of the HERNANDO County Administrator and to CITRUS, at the Office of CITRUS County Administrator.


SECTION XII: AMENDMENT

This Agreement may only be amended by writing duly executed by CITRUS and HERNANDO.

SECTION XIII: FORCE MAJEURE

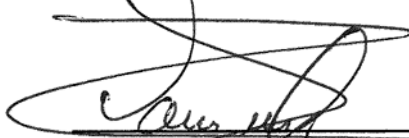
In the event either County's performance of this Agreement is prevented or interrupted by consequence of an act of God, or of the public enemy, or national emergency, allocation or other governmental restrictions upon the use or availability of labor or materials, rationing, civil insurrection, riot, racial or civil rights disorder or demonstration, strike, embargo, flood, tidal wave, fire, explosion, bomb detonation, nuclear fallout, windstorm, hurricane, sinkholes, earthquake, or other casualty or disaster or catastrophe, or an order, judgment or injunction of any court, or state or deferral administrative agency exercising jurisdiction over the subject matter of this Agreement, or a federal or state statute, or the incorporation of previously unincorporated areas within either County, that the parties shall not be liable for such nonperformance, and the time of performance shall be extended for such time period that such party is diligently attempting to perform.


IN WITNESS WHEREOF, the parties hereto have executed the foregoing agreement on this 19th day of November, 2013 (date of last party's execution).

ATTEST:

Don Barbee, Clerk





HERNANDO COUNTY, a political subdivision of the State of Florida:

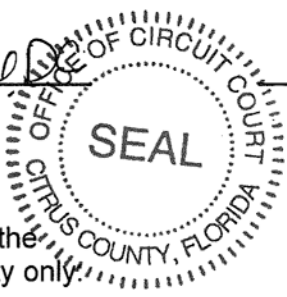

David D. Russell, Jr., Chairman

APPROVED AS TO FORM AND LEGAL SUFFICIENCY
BY 
County Attorney's Office

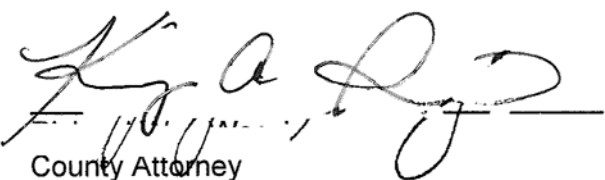
CITRUS COUNTY, a political subdivision of the State of Florida:


Chairman

ATTEST:

Angela Vick, Clerk



Approved as to form for the Reliance of Citrus County only.


County Attorney

APPENDIX K

ACTION ITEM SUMMARYS



ACTION PLAN FOR DRAINAGE FROM THE TOP OF THE SEVEN ACRE CLOSED AREA

Some settlement has occurred in the seven-acre area that was reclosed in 2010. This created a ponding condition on the top of the landfill. Additionally, traffic on the top area created a rutted condition that increased the problem.

To address the traffic control situation a limitation of access to the top of that area was instituted by the County. Access is only allowed for maintenance of the hill. No other traffic will be allowed. Signage and/or physical barriers such as cones will provide for a method to redirect traffic from the access.

To address the settlement, the County will bring in soil material to recreate the flow grades in the swales as per the original construction documents. Once regraded, sodding will be placed to control erosion.

The County will monitor the area on a quarterly basis by observing the flow patterns during a storm event. If necessary, adjustments will be made to the grades to provide for the intended runoff.

ACTION PLAN FOR PHASE 3 SECONDARY CONTAINMENT

In April 2014 SCS Engineers in conjunction with Citrus County had presented a report to FDEP outlining a review of the higher than projected liquid quantities in the Secondary Containment. This effort was instituted due to the higher than anticipated pumping rates/quantity from the secondary containment sump of Phase 3. This seemed to generally occur as a result of rainfall events exceeding approximately 1.5 inches.

The lined landfill areas of the active landfill include Phases 1, 1A, 2, and 3. Phases 1 and 1A are near capacity while Phase 2 is still active as is Phase 3. Prior to the construction of Phase 3, that area was used to collect the stormwater runoff from the north slope of Phase 2. Since Phase 3 is the last disposal area that is currently permitted to be constructed, the runoff now runs into the Phase 3 footprint. This means that the actual acreage of runoff exceeds the 6.8 acre area of Phase 3. Additionally, the phasing plan for the filling of Phase 3 piggy-backs against the north slope of Area 2 so the runoff flows from Phase 2 into Phase 3.

An aerial topography flown in 2014, which is in Appendix A, indicates a potential contributing area of approximately 16.8 acres inclusive of Phase 3. The drainage area will be consistent until the Phase 3 waste is filled above the outer berm around the disposal area. At that time, the stormwater will be shed from all phases of the landfill as surface runoff.

Taking this into consideration the total potential Action Leakage Rate at 100 gallons per acre would be a value between 680 gallons per day and 1680 gallons per day based on the contributing areas. This is a somewhat unique condition for the State of Florida in that at approximately 80 feet deep, it is significantly deeper than most others in Florida. Because of that depth combined with the volume of waste disposed on an annual basis being relatively low, it will take years before the waste level reaches the berm height around the disposal unit. Once it

does, most of the stormwater that now falls in the active area will become surface runoff into the swale that is located at the top of the embankments of the disposal areas. Therefore, the amount of water that could potentially enter the secondary containment will be dramatically reduced unless the water is entering the geocomposite from the outer berm swale, which is considered unlikely.

In the interim to reduce the potential amount of water that could enter the secondary system, the County proposes to establish new stormwater swales by constructing a berm system along the face of the Phase 2 north slope. The swale will have a liner provide for management of the flow of surface water to avoid percolation into the waste and to divert the runoff to the perimeter stormwater conveyance system away from Phase 3. Additionally, any other stormwater that falls directly into Phase 3 will be collected in the west end of Phase 3. In a corner of that area, the County will prepare a sump that will serve as the stormwater collection and pumping station. This effort will divert a significant stormwater volume away from percolating into the waste. As the waste is filled the system will be modified to accommodate the concept.

Associated with this approach the County will operate the waste fill area to allow the stormwater control to remain in the west end of Phase 3 until the waste fill is developed above the outer berms of the disposal area. At that point the surface runoff will be directly discharged into the perimeter ditches. Reducing the amount of stormwater that reaches the liner system by diverting the water away from Phase 3 will avoid opportunity for exceedances in the secondary system.
