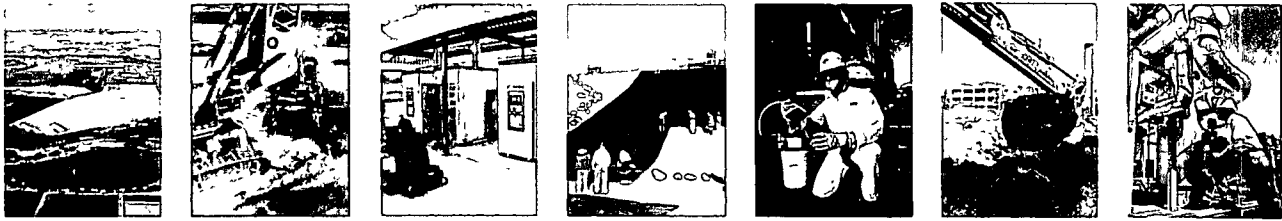


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SCS ENGINEERS



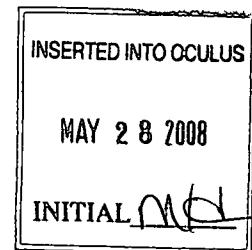
**CITRUS COUNTY CENTRAL
~~CLOSED LANDFILL RE-CLOSURE~~
OPERATION PERMIT MINOR
MODIFICATION**

Dept. Of Environmental Protection
MAY 13 2008
Southwest District

Presented to:
**Citrus County
Board of County Commissioners**



P.O. Box 340
Lecanto, Florida 34460



Presented by:

SCS ENGINEERS
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Tampa, Florida 33610
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May 13, 2008
File No. 09207049.01

Offices Nationwide
www.scsengineers.com

Revised
7/24/08
9/29/08
11/25/08

SCS ENGINEERS

November 25, 2008
File No. 09207049.01

Mr. Steve Morgan
Florida Department of Environmental Resources
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Subject: Response to Request for Additional Information (RAI)
Citrus County Central Class I Landfill Operation Permit Modification
Pending Permit No.: 21375-012-S0/MM, Citrus County
WACS No.: SWD/09/39859

Dear Mr. Morgan,

On behalf of the Citrus County Solid Waste Division, SCS Engineers (SCS) submits the following responses to your request for additional information in a letter dated October 28, 2008. For ease of review, each Florida Department of Environmental Protection (FDEP) comments are reiterated in bold type, followed by our response.

The following information is needed in support of the solid waste application [Chapter 62-701, Florida Administrative Code (F.A.C.)]:

Attachment A - Modified Engineering Report Sections:

- It does not appear that a narrative description of the temporary soil stockpile operation was incorporated into an appropriate section of the Engineering Report. It would appear that Section Q.6. (Use of Closed Landfill Areas) would be the appropriate section for this narrative. Based on the information provided for this proposed operation please revise Section Q.6 accordingly. Please also include the anticipated timeframe that the "temporary" stockpile will be in-place on the proposed 5-acre area, a description of how soil stockpile operation will be conducted to maintain the integrity of the PVC cap system, and a description of the procedures for the restoring the 5-acre area to long-term care conditions after the "temporary" soil stockpile is removed.**

Response: Attachment 1 contains revised engineering report section Q.6 outlining the anticipated timeframe for the storage of soils in this area as well as information on operations regarding the stockpile, PVC cap preservation and area restoration following soil removal.

- Section O: Section O was revised throughout to either indicate that there were no changes to a subsection as part of the permit modification or that the subsection was**



not applicable to this permit modification. However the plan sheets provided in Attachments B and E appear to indicate that eight existing passive gas vents in the proposed 5-acre stockpile area may be impacted by the soil stockpile operation. Please verify whether these passive gas vents will remain in place during temporary soil stockpile operation and as applicable, revise the appropriate subsections of Section O and the plan sheets in Attachment B and E to provide the following information:

3. **1) The procedures for protecting the existing passive gas vents during soil stockpile operations.**

Response: Attachment 1 contains revised engineering report section O that discussed the procedure for protecting the existing gas vents during soil stockpile operations. Attachment 2 contains a revised site plan indicating a gas vent protection detail.

- 2) **The procedures and details for temporary capping or permanently abandoning the existing passive gas vents in the proposed temporary soil stockpile area;**

Response: The passive gas vents will be preserved throughout the soil stockpile placement and removal process and will not require capping or abandoning procedures. Attachment 1 contains revised engineering report section O that discusses the procedure for protecting the existing gas vents during soil stockpile operations.

- 3) **The procedures and details for restoration or replacement of the existing passive gas vents in the 5-acre area once the temporary soil stockpile is removed.**

Response: Attachment 1 contains revised engineering report section O that discusses the preservation of the gas vents and also discusses how the passive gas vents will be restored to their existing condition once the temporary soil stockpile is removed. Any vents that have sustained damage or that have been slip lined with another PVC pipe during the soil stockpiling process will be replaced with new gas vents once the temporary soil stockpile is removed.

- 4) **A description of the modification and impact to the gas control and odor management system for the closed 60-acre landfill as a result of the temporary capping or abandonment of the existing passive gas vents in the 5-acre soil stockpile area.**

Response: The modifications to the current gas control and odor management system for the closed 60-acre landfill are described in Attachment 1 which, contains a revised engineering report section O outlining how the gas vents will be preserved during soil storage. As a result there will be no effect on the

performance of the system as gas generated in the area will still vent to the atmosphere through the extended gas vents, therefore the system will continue to perform as it does today.

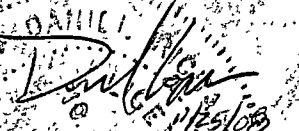
Attachment B & Attachment E - Design Drawings:

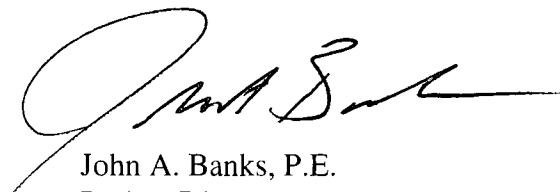
4. **Details 1 and 2:** Please either revise the notes on these details to describe how the integrity of the PVC cap system will be maintained during road crossing and access roads construction or include this information in the narrative to be provided in response to Comment #1 above.

Response: Attachment 1 contains a revised engineering report section Q which outlines how the PVC cap will be preserved during the construction of the access roads.

As requested we are providing you with four copies of all requested information.

Sincerely,


Daniel R. Cooper, P.E.
Project Manager
SCS ENGINEERS
Attachments


John A. Banks, P.E.
Project Director
SCS ENGINEERS

cc: Susan Pelz, P.E., FDEP Tampa
Susan Metcalfe, P.G., Citrus County, P.O. Box 340, Lecanto, FL 34460-0340

SCS ENGINEERS

September 29, 2008
File No. 09207049.01

Mr. Steve Morgan
Florida Department of Environmental Resources
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Subject: Response to Request for Additional Information (RAI #2)
Citrus County Central Class I Landfill Operation Permit Modification Closed 7-
Acre Landfill
Permit No.: 21375-012-S0/MM, Citrus County

Dear Mr. Morgan:

On behalf of the Citrus County Solid Waste Division, SCS Engineers (SCS) submits the following responses to your request for additional information in a letter dated August 22, 2008. For ease of review, each Florida Department of Environmental Protection (FDEP) comments are reiterated in bold type, followed by our response.

The following information is needed in support of the solid waste application [Chapter 62-701, Florida Administrative Code (F.A.C.)].

APPLICATION FORM #62-701.900(1)

Please address the following comments regarding the permit application supporting documentation and provide the following revised information, where applicable:

- Sections A, E-7, E-9, L, M, and O: Please revise the narrative in these sections based on the revised modifications proposed as part of this permit modification application.**

Response: Attachment A contains the requested sections of the engineering report, modified to reflect the changes in the permit request. Mainly all references to the adding of additional waste have been removed. The construction drawings required per E-9 are being withdrawn as previously submitted and new construction drawings will be submitted with a closure construction permit application. Attachment B contains the site plan drawing showing the soil storage area and access roads, which are now the only features addressed in this permit application.

Attachment 5:

- Please provide a site plan that shows the specific 5-acre area of the Closed 60-Acre landfill where the stockpiling of soil is proposed.**



Response: Attachment B contains the site map drawing indicating the specific 5-acre area where the proposed soil stock pile would be stored. The area will be accessed by two roads, one from the west and one from the east which are shown on the drawing and tie-in to existing on-site roads.

3. Please provide the supporting information relied upon in determining the assumed existing site conditions in the proposed soil stockpile area presented in Attachment 5.

Response: The existing conditions regarding estimated depth of waste, dates of waste placement, and presence of PVC cap were obtained through a personal interview of County employee Prime Vaughn that has been one of the operators at the site since 1975, and witnessed the filling of the proposed soil storage area first hand.

The estimated waste density of 45 pounds per cubic foot (lbs./ft³) or 1215 pounds per cubic yard (lbs./yd³) is typical based upon SCS experience in performing life of site analyses and is consistent with published densities for well compacted waste. Attachment D is one such publication that gives a specific weight range of 995-1250 lbs./yd³ for well compacted waste.

The ground water table depth was established when borings for Phase II construction were conducted by Universal Engineering Sciences, November 2001 as part of the design of the currently operating waste cell. The entire report can be found in Attachment C with the boring log for boring B-4 and B-6 indicating that the ground water is located 100-115 feet below ground surface in the area, thus the water table is roughly 80 feet below the waste as stated. Although these borings were not conducted in the exact soil storage location they are representative of the soil conditions on site.

The average soil density of 120 lb/cu.ft was used based upon the Universal Engineering Sciences, November 2001 in Attachment C for the sand encountered in this area, which will be consistent with the fill material that will be stored in the stockpile area.

4. The settlement calculations provided in Attachment 5 conclude that the proposed soil stockpile could result in up to 5 feet of total settlement of the underlying waste. Please provide supporting references, information, calculations, and/or assumptions that demonstrate that 5 feet of settlement will not adversely impact or damage the existing PVC final cover.

Response: Because the waste is relatively old (last filling in 1990) the assumption that the majority of the waste consolidation has occurred is valid. The placement of the soils on the storage pile area will be conducted such that all areas of the soil-storage area will be equally burdened over time. The soil will be spread out with no one area receiving a large amount on soil at any one time. This type soil placement will allow for each area of the soil storage area to settle to an equilibrium point before additional soils

are placed. Thus, the settlement will be slow and equally dispersed along with the placed soils. Therefore the burden on the PVC cap and underlying soils will be relatively equal so the cap will essentially settle in conjunction with the soils surround it and not be adversely impacted or damaged. It will simply stay in its current state under these conditions.

5. **Please provide the calculations conducted and/or copies of the references or information relied upon in support of the conclusions regarding leachate migration potential presented in Attachment 5.**

Response: Understanding that the solid waste in the area where the soil stockpile is proposed is at least 18 years old SCS assumed that the permeability of the waste has decreased over time but is still higher than the surrounding native soils. Landfilled solid waste is typically viewed as having a hydraulic conductivity on the order of 1×10^{-3} cm/sec (HELP Model See Attachment E page 6). With this in mind the amount of potential leachate currently stored in the waste mass under the proposed storage area would be very small as any leachate that was in the waste mass from the beginning should have leached out by now. As the soil stockpile burdens the waste the potential for leachate migration would be small as previously stated in Attachment 5 of RAI #1 due to the fact that the surrounding soils have a lower permeability and the any remaining leachate would not freely flow into any of the surrounding soils. Additionally, should any small amount of leachate reach the surrounding sandy soils these soils would naturally filter the leachate prior to reaching the water table, which is located approximately 80 feet below the waste mass.

6. **Please provide the calculations conducted and/or copies of references or information relied upon in support of the conclusions regarding gas migration potential presented in Attachment 5.**

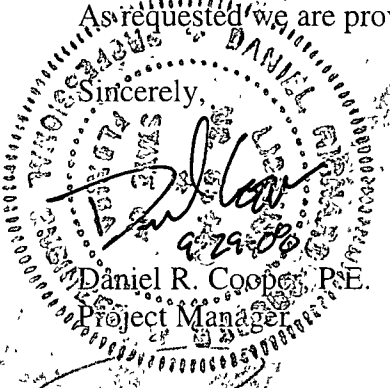
Response: The calculations regarding potential gas migration appear in Attachment E Based upon the amount of waste in place, the potential settlement and the pore volumes of the surrounding soils the worse case gas migration calculations concluded that gas would be dispersed only 28 feet from the current waste mass edge, thus not effecting any area outside the existing area fence line.

7. **The cover letter for the July 24, 2008 submittal indicates that the County has decided to reshape the 7-acre cell utilizing soil rather than Class III waste. Considering that the 7-acre cell has a liner and leachate collection system that would capture any leachate that may migrate as the result of the stockpiling of soils over waste and the need to relocate soils from the proposed soil stockpile area to reshape the 7-acre cell would be eliminated, the 7-acre cell footprint would appear to be a more appropriate location on the closed 60-acre landfill site for stockpiling soil. If the County elected to stockpile soil within the 7-acre cell footprint, adequate protection of the existing leachate manholes in the 7-acre cell would need to be provided. Please discuss if the County has considered (and rejected) this option.**

Response: The County has reviewed and considered this option. One significant source of soil that requires stockpiling is the soil that will be generated as a result of the reclosure project. Therefore a stockpile location other than the reclosure project area will be needed. In addition, the potential additional stress from the soil loading that would be placed on the leachate risers and leachate collection pipes located at the bottom of the landfill may adversely affect their performance and longevity. Finally, the amount of soil storage that is required from the excavation on this project as well as potential other onsite and offsite projects would exceed the possible capacity available at the closed landfill location. These factors and the presence of a suitable alternative location are the reasons that the closed landfill footprint was not pursued.

As requested we are providing you with four copies of all requested information.

Sincerely,



Daniel R. Cooper, P.E.
Project Manager



John A. Banks, P.E.
Project Director
SCS ENGINEERS

DRC/JAB:jlh

cc: Fred Wick, FDEP, Tallahassee
Susan Pelz, P.E., FDEP Tampa
Susan Metcalfe, P.G., Citrus County, P.O. Box 340, Lecanto, FL 34460-0340

SCS ENGINEERS

July 24, 2008
File No. 09207049.01

Mr. Steve Morgan
Florida Department of Environmental Resources
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Subject: Response to Request for Additional Information (RAI #1)
Citrus County Central Class I Landfill Operation Permit Modification Closed
10-Acre Landfill Proposed New Class III Disposal operation Pending Permit
No.: 21375-012-S0/MM, Citrus County

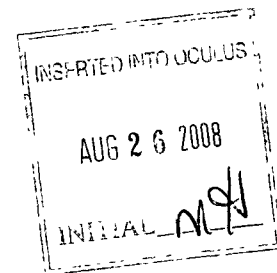
Dear Mr. Morgan:

On behalf of the Citrus County Solid Waste Division, SCS Engineers (SCS) submits the following responses to your request for additional information in a letter dated June 12, 2008. For ease of review, each Florida Department of Environmental Protection (FDEP) comments are reiterated in bold type, followed by our response.

The following information is needed in support of the solid waste application [Chapter 62-701, Florida Administrative Code (F.A.C.)].

The following items are included as Attachments to this letter:

1. Revised Application Form
2. Updated Operations Plan
3. Manufacturer's Information for the proposed ADC
4. Email correspondence regarding sampling frequencies
5. Analysis of Soil Stockpile Impacts



RESPONSES TO RAI QUESTIONS

APPLICATION FORM #62-701.900(1)

Please address the following comments regarding the permit application form and supporting documentation and provide a revised application form with the revised information, where applicable:

1. **Parts B.1 & B.3: These sections and other sections throughout this permit modification application identify the project area as being a 10-acre closed cell. However the previous operation and-closure permitting information for this area**



indicates that it was a 7-acre lined cell. Please verify this apparent discrepancy and if applicable, please revise the references and information generated based on an assumed 10-acre disposal cell.

Response: The correct size of the cell is 7 acres. All information included herein contains the correct cell size. Part B.1 has also been updated to reflect the recent decision of the County to reshape the landfill with soil rather than utilizing Class III waste. Since there will be no new waste placed in the cell the County is therefore withdrawing this aspect of the permit application and is seeking a minor modification of the permit for the following items: 1. The use of an alternate daily cover material; 2. An extension of the allowable storage time for lead acid batteries on site from 1 week to 1 month (Specific condition C.9.a.(7); 3. Modification of the sampling frequency for three leachate analysis parameters required in Specific Condition E.9.b.(2); 4. Temporary storage of soil materials removed during Phase III construction and the 7 acre cell regrading to be located on the southeast corner of the 60-acre closed site. An updated application form 62-701.900(1) has been included in Attachment 1, which reflects the changes described above and modifies many of the previously submitted sections to No Change (N/C). A separate closure construction permit application will be submitted to address the regrading and recapping of the 7-acre cell.

2. **Section E.7: Please revise the appropriate sections of the current facility Operation Plan (aka Attachment L-1) to include the construction and operational procedures for the Class III operation outlined in this section and Section L.**

Response: An updated version of the current facility operations plan is included as Attachment 2 of this response. The new operations plan revisions include the addition of language in section 2.4 regarding the collection of lead acid batteries and modifications to Section 2.8.2, and 7.5 describing the new Alternate Daily Cover (ADC) material.

3. **Section F.5.d: Please provide specific information (e.g. manufacturer's information, MSDS sheets, etc.) on the spray-on cover material proposed to be used as an alternate initial cover. Please revise the appropriate section of the facility operations Plan to describe the procedures for use of this material as initial cover.**

Response: Attachment 3 of this letter contains the manufactures cut sheet for the proposed spray on cover material as well as the MSDS for the product. Section 2.8.2 and 7.5 of the operation plan have been modified as required and can be found in Attachment 2 of this response.

5. **Section H.8: Please provide a copy of the ERP permit, including approved design drawings, upon issuance.**

Response: The ERP permit application is in process and a copy of the permit will be submitted upon receipt. The ERP permit will be applied for in conjunction with the submission of the closure construction permit. At this time the modifications now requested in this application will not affect the current stormwater collection system.

6. **Part K & Section K:** Although the "N/A" column is marked on the application form for all the items in Part K and Section K indicates that a vertical expansion is not planned as part of this permit application, the fill sequence and closure design proposes a final maximum elevation of 132-135 ft. NGVD, which appears to be above the permitted and constructed maximum final closure elevation of 131 ft. NGVD for the ~7-Acre Lined Cell", and therefore appears to represent a vertical expansion of the facility. Please verify this apparent inconsistency, revise Part K and Section K accordingly, and provide the supporting information to address the proposed vertical "expansion of the facility, as applicable.

Response: Due to the withdrawal of the aspect of this permit regarding the placement of new Class III waste this section is no longer required. Any elevation changes will be addressed in a closure construction permit application that will be submitted for the project.

7. **Part L.1 & Section L.1:** Although the "N/C" column is marked on the application form and Section L.1 indicates that there has been no change to this section, the facility will be required to provide an adequate number of trained spotters at the working face of the proposed Class III disposal area while waste is being received. Please revise Part L.1 and Section L.1 and the appropriate sections of the facility operations Plan accordingly.

Response: Due to the withdrawal of the aspect of this permit regarding the placement of new Class III waste this section is no longer required.

8. **Section L.2.c:** The tipping of an incoming Class III waste stream and the removal of unacceptable waste from the Class III waste prior to disposal is typically conducted at the working face of the Class III landfill and/or within a leachate containment system at a Class III waste processing facility, in order to prevent leachate from discharging to the environment. The customer service area at your facility does not provide leachate containment. Please either explain how a leachate containment system will be provided at the customer service area to prevent the discharge of leachate into the environment or revise this section accordingly to indicate that removal of unacceptable waste from the Class III waste stream will occur within an area with leachate containment (e.g. the working face of the Class III disposal area).

Response: Due to the withdrawal of the aspect of this permit regarding the placement of new Class III waste this section is no longer required.

9. **Part L.2.e & Section L.2.e:** Although the "N/C" column is marked on the application form and Section L.2.e indicates that there has been no change to this section, the diversion of loads of Class III waste to the proposed Class III disposal area appears to be a change in vehicle traffic control and unloading at the facility. Please revise Part L.2.e and Section L.2.e and the appropriate sections of the facility operations Plan accordingly.

Response: Due to the withdrawal of the aspect of this permit regarding the placement of new Class III waste this section is no longer required. A revised operations plan outlining the currently proposed modifications can be found in Attachment 2.

10. **Section L.2.f:** Please revise the appropriate sections of the current facility Operations Plan (aka Attachment L-1) to include the proposed method and sequence of fill procedures for the Class III operation.

Response: Due to the withdrawal of the aspect of this permit regarding the placement of new Class III waste this section is no longer required. A revised operations plan outlining currently proposed modifications can be found in Attachment 2.

11. **Section L.2.g:** Please revise the appropriate sections of the current facility Operations Plan (aka Attachment L-1) to include the waste compaction and application of cover procedures for the Class III operation.

Response: Due to the withdrawal of the aspect of this permit regarding the placement of new Class III waste this section is no longer required. A revised operations plan outlining currently proposed modifications can be found in Attachment 2.

12. **Part L.5. & Section L.6:** Although the "N/C" column is marked on the application form and Section L.6 indicates that there has been no change to this section, a separate load checking program is required for the proposed Class III disposal operation. Please revise Part L.6 and Section L.6 and the appropriate sections of the facility Operations Plan accordingly.

Response: Due to the withdrawal of the aspect of this permit regarding the placement of new Class III waste this section is no longer required. A revised operations plan outlining currently proposed modifications can be found in Attachment 2.

13. **Parts L.7. & Section L.7:**

- a. Although the "NC" column is marked on the application form for each subpart of Part L.7 and each of the subsections of Section L.7 indicate that there has been no change to these sections, the existing information for each of these subsections refer to procedures associated with the Class I operation. Please verify whether or not the Class I operation procedures for each of these subsections will be implemented for the proposed Class III disposal operation and/or as appropriate, revise Part L.7 and Section L.7 and the appropriate sections of the facility Operations Plan accordingly to describe the procedures for the Class III operation.

Response: Due to the withdrawal of the aspect of this permit regarding the placement of new Class III waste this section is no longer required. A revised operations plan outlining currently proposed modifications can be found in Attachment 2.

- b. **Section L.7.e:** Please revise this section and the appropriate sections of the facility Operations Plan to describe the proposed spray-on alternate initial cover proposed for this facility.

Response: An updated version of the current facility operations plan is included as Attachment 2 of this response. The new operations plan revisions to Section 2.8.2, and 7.5 describe the use of the proposed spray-on alternate initial cover material.

14. **Part S.I & Section S:** Although the "N/A" column is marked on the application form for Part S.I and Section S indicates that this section is not applicable, the financial assurance closure cost estimates and financial assurance funding mechanisms for the facility shall be revised to include the costs for re-closing the "7-Acre Lined Cell." Approved revised estimates and proof of adequate funding consistent with the approved estimates shall be required prior to operation of the Class III Area. Please provide revised cost estimate accordingly. Please note that these estimates shall include the information, calculations and assumptions utilized in support of each unit quantity and supporting current (within the last year) third-party quotes for each unit cost provided. These cost estimates cannot be based on inflation adjustment of previously approved third-party quotes.

Response: The currently requested minor operation modification outlined in response 1 will not affect the current financial assurance estimates for closure and long term care. A separate closure construction permit application will be submitted to address the regrading and recapping of the 7-acre cell and at that time the financial assurance requirements will be submitted.

ATTACHMENT E-1 - PERMIT DRAWINGS TITLED - CITRUS COUNTY SOLID WASTE MANAGEMENT DIVISION 10-ACRE CLOSED LANDFILL RE-CLOSURE OPERATIONS PERMIT MODIFICATIONS - MAY 200B (RULE 62-701.320(7) (f), F.A.C.)

15. Rules 62-701.320(5) (b) and 62-701.320(7), F.A.C. Department permits are issued for the specific processes and operations applied for and indicated on the approved drawing or exhibits. Therefore drawings provided with an application shall be "construction-level" drawings, being of sufficient detail to show how the facility is designed and will be constructed and operated. As applicable, please revise the plan set to remove the "Permit Application Only Not For Construction" notation on each plan sheet and/or provide plans and drawings that are "construction-level" drawings.

Response: These drawings will be modified to remove all filling of the cell with Class III waste and will be submitted at construction level in a separate closure construction permit application that will address the regrading and recapping of the 7-acre cell.

16. **Drawings 4 of 13 through 8 of 13:** Please revise the cross-sections on these sheets to show the approximate location of the bottom liner system side slopes and the proposed setback of Class III waste disposal from the edge of the bottom liner.

Response: These drawings will be modified to remove all filling of the cell with Class III waste and will be submitted at construction level in a separate closure construction permit application that will address the regrading and recapping of the 7-acre cell.

ADDITIONAL PERMIT MODIFICATION REQUESTS

The Citrus County Solid Waste Division would also like to request the following modification to the current operation permit:

1. The County would like specific condition E.9.b (2) to reflect the FDEP approved changes to the sampling frequency of CBOD5, TSS and Nitrate-N from weekly to monthly. This revision has been previously approved via e-mail correspondence, which can be found in Attachment 4 along with a copy of the revised permit page.
2. The County is interested in temporarily stockpiling soil removed from the 7-acre reclosure project and possibly material excavated from the Phase III expansion project in the closed 60-acre area and would like to get the departments concurrence with this proposal.

Mr. Steve Morgan
July 24, 2008
Page 7

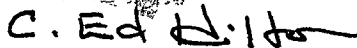
Below is a description of the proposed activity. Attachment 5 contains a letter generated by SCS along with an evaluation of the effects on the waste in place of the proposed activity by a professional geologist.

The proposal is to place approximately 150,000 cubic yards of soil in the southeast corner of the 60-acre closed landfill site. The proposed stockpile will occupy about 5 acres and be 20 ft deep in the center with 3 to 1 side slopes.

As requested we are providing you with four copies of all requested information.

Sincerely,


Daniel A. Goops, P.E.
Project Manager


C. Ed Banks

for John A. Banks, P.E.
Project Director
SCS ENGINEERS

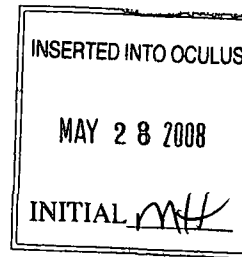
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cc: Fred Wick, FDEP, Tallahassee
Susan Pelz, P.E., FDEP Tampa
Susan Metcalfe, P.G., Citrus County, P.O. Box 340, Lecanto, FL 34460-0340

SCS ENGINEERS

May 13, 2008
File No. 09207049.01

Ms. Susan J. Pelz, P.E.
FDEP, Southwest District
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926



Dept. Of Environmental Protection

MAY 13 2008
Southwest District

Subject: Application for Minor Operations Modification for Central Landfill
Citrus County, Florida
Permit Number 21375-008-SO/01.

Dear Susan:

SCS Engineers (SCS) is submitting this application on behalf of the Citrus County Solid Waste Management Division for a minor operations modification permit.

This request is for a minor permit modification to allow the refilling of the 10-acre closed cell with Class III waste except yard waste and land clearing debris and to allow for the use of an alternative cover for this area as well as for the Class I area consisting of a spray on paper based aqueous slurry product.

Enclosed are four copies of the application. Each copy has been signed by a responsible official and signed and sealed by a Florida Professional Engineer.

Please call us if you have any questions related to this issue.

Very truly yours,

Daniel R. Cooper, P.E.
Senior Project Engineer
SCS ENGINEERS

John A. Banks, P.E.
Project Director
SCS ENGINEERS

cc: Susan J. Metcalfe, P.G., Citrus County

Enclosures



**CITRUS COUNTY CENTRAL
CLOSED LANDFILL RE-CLOSURE
OPERATION PERMIT MINOR MODIFICATION**

Prepared for:

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

**FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION**

SEP 29 2008

**SOUTHWEST DISTRICT
TAMPA**

Prepared by:

SCS ENGINEERS
4041 Park Oaks Blvd.
Suite 100
Tampa, Florida 33610
Certification No. 00004892

File No. 09207049.01
September 29, 2008

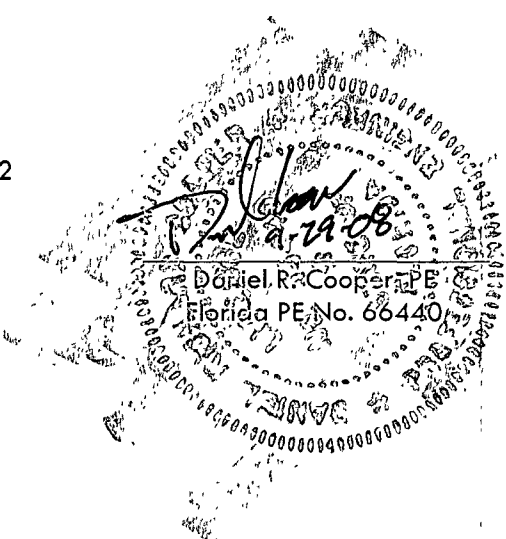


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FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
JUL 24 2008
SOUTHWEST DISTRICT
TAMPA

ATTACHMENT 1
REVISED PERMIT APPLICATION
FDEP FORM 62-701.900(1)



Florida Department of Environmental Protection
Twin Towers Office Bldg • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

DEP Form # <u>62-701.900(1)</u>
Form Title <u>Solid Waste Management Facility Permit</u>
Effective Date <u>05-27-01</u>
DEP Application No _____ (Filled by DEP)

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
JUL 24 2008
SOUTHWEST DISTRICT
TAMPA

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

APPLICATION INSTRUCTIONS AND FORMS

Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste B200
Jacksonville, FL 32256-7590
904-448-4300

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

Southwest District
3804 Coconut Palm Dr
Tampa, FL 33619
813-744-6100

South District
2295 Victoria Ave., Ste 364
Fort Myers, FL 33901-3881
941-332-6975

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

INSTRUCTIONS TO APPLY FOR A SOLID WASTE MANAGEMENT FACILITY PERMIT

I. General

Solid Waste Management Facilities shall be permitted pursuant to Section 403.707, Florida Statutes, (FS) and in accordance with Florida Administrative Code (FAC) Chapter 62-701. A minimum of four copies of the application shall be submitted to the Department's District Office having jurisdiction over the facility. The appropriate fee in accordance with Rule 62-701.315, FAC, shall be submitted with the application by check made payable to the Department of Environmental Protection (DEP).

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

II. Application Parts Required for Construction and Operation Permits

- A. Landfills and Ash Monofills - Submit parts A,B, D through T
- B. Asbestos Monofills - Submit parts A,B,D,E,F,G,J,L,N, P through S, and T
- C. Industrial Solid Waste Facilities - Submit parts A,B, D through T
- D. Non-Disposal Facilities - Submit parts A,C,D,E,J,N,S and T

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,C and D 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,M, O through T
- B. Asbestos Monofills - Submit parts A,B,N, P through T
- C. Industrial Solid Waste Facilities - Submit parts A,B, M through T
- D. Non-Disposal Facilities - Submit parts A,C,N,S and T

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:	NON-DISPOSAL FACILITY GENERAL INFORMATION
PART D:	PROHIBITIONS
PART E:	SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL
PART F:	LANDFILL PERMIT REQUIREMENTS
PART G:	GENERAL CRITERIA FOR LANDFILLS
PART H:	LANDFILL CONSTRUCTION REQUIREMENTS
PART I:	HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS
PART J:	GEOTECHNICAL INVESTIGATION REQUIREMENTS
PART K:	VERTICAL EXPANSION OF LANDFILLS
PART L:	LANDFILL OPERATION REQUIREMENTS
PART M:	WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS
PART N:	SPECIAL WASTE HANDLING REQUIREMENTS
PART O:	GAS MANAGEMENT SYSTEM REQUIREMENTS
PART P:	LANDFILL CLOSURE REQUIREMENTS
PART Q:	CLOSURE PROCEDURES
PART R:	LONG TERM CARE REQUIREMENTS
PART S:	FINANCIAL RESPONSIBILITY REQUIREMENTS
PART T:	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

A. GENERAL INFORMATION

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

☒ Disposal

☒ Class I Landfill

☐ Ash Monofill

☐ Class II Landfill

☐ Asbestos Monofill

☐ Class III Landfill

☐ Industrial Solid Waste

☐ Other Describe _____

☐ Non-Disposal

☐ Incinerator For Non-biomedical Waste

☐ Waste to Energy Without Power Plant Certification

☐ Other Describe _____

NOTE: Waste Processing Facilities should apply on Form 62-701.900(4), FAC;
Land Clearing Disposal Facilities should notify on Form 62-701.900(3), FAC,
Compost Facilities should apply on Form 62-701.900(10), FAC; and
C&D Disposal Facilities should apply on Form 62-701 900(6), FAC

2. Type of application:

☐ Construction

☒ Operation

☐ Construction/Operation

☐ Closure

3. Classification of application:

☐ New

☐ Substantial Modification

☐ Renewal

☐ Intermediate Modification

☒ Minor Modification

4 Facility name. Citrus County Central Landfill

5 DEP ID number: 4009C00086 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 ' 08 " Longitude: 82 ° 26 ' 38 "

8. Applicant name (operating authority) Citrus County Board of County Commissioners
Mailing address: P O. Box 340 Lecanto FL 34460
Street or P O. Box City State Zip
Contact person: Ms Susan Metcalfe, P G Telephone: (352) 527-7671
Title: Solid Waste Management Division Director
susan.metcalfe@bocc citrus fl.us
E-Mail address (if available)
9. Authorized agent/Consultant. SCS Engineers
Mailing address: 4041 Park Oaks Blvd, Suite 100 Tampa FL 33610
Street or P O. Box City State Zip
Contact person: Dan Cooper, P E Telephone: (813) 621-0080
Title: Project Manager
dcooper@scsengineers.com
E-Mail address (if available)
10. Landowner (if different than applicant). Citrus County BOCC
Mailing address: 110 North Apopka Avenue Inverness FL 34450
Street or P.O. Box City State Zip
Contact person: Susie Metcalfe, P G Telephone: (352) 341-6560
E-Mail address (if available)
11. Cities, towns and areas to be served: Citrus County, including, but not limited to towns of
Inverness, Lecanto & Crystal River
12. Population to be served:
Current 138,280 (2008 Census) Five-Year Projection: 150,340 (FY 2013)
13. Date site will be ready to be inspected for completion: Q4/2010
14. Expected life of the facility: _____ years
15. Estimated costs:
Total Construction: \$ _____ Closing Costs: \$ _____
16. Anticipated construction starting and completion dates
From: _____ To: _____
17. Expected volume or weight of waste to be received: (Re-closure Area)
_____ yds³/day _____ tons/day _____ gallons/day

B. DISPOSAL FACILITY GENERAL INFORMATION

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

The purpose of this permit application is for minor operational changes including on site soil storage along, the use of an ADC, a modification to the frequency that batteries are removed from site, and the frequency of sampling for three leachate analysis parameters are the modifications requested in the application

2. Facility site supervisor: Susan Metcalfe, P G
Title: Solid Waste Management Div Director Telephone: (352) 527-7671
E-Mail address (if available) susan.metcalfe@bocc.citrus.fl.us

3. Disposal area: Total 7 acres, Used 7 acres; Available 7 acres.

4. Weighing scales used: ☒ Yes ☐ No

5. Security to prevent unauthorized use ☒ Yes ☐ No

6. Charge for waste received: N/A \$/yds³ N/A \$/ton

7. Surrounding land use, zoning:

☒ Residential ☐ Industrial
☐ Agricultural ☐ None
☒ Commercial ☐ Other Describe: Conservation

8. Types of waste received

☐ Residential ☐ 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: Closed Cell

9. Salvaging permitted ☐ Yes ☒ No

10. Attendant ☒ Yes ☐ No Trained operator ☒ Yes ☐ No

11. Spotters Yes ☐ No ☒ Number of spotters used: _____

12. Site located in: ☐ Floodplain ☐ Wetlands ☒ Other Upland

13. Property recorded as a Disposal Site in County Land Records: ☒ Yes ☐ No
14. Days of operation: Monday - Saturday (Open landfill only)
15. Hours of operation: Monday-Friday 8 00 am - 4.30 pm Holidays and Saturdays: 8 00 am - 2 30 pm
16. Days Working Face covered: Monday-Saturday
17. Elevation of water table: 7 Ft. (NGVD 1929)
18. Number of monitoring wells: 14
19. Number of surface monitoring points: 0
20. Gas controls used: ☒ Yes ☐ No Type controls: ☐ Active ☒ Passive
Gas flaring: ☐ Yes ☒ No Gas recovery: ☐ Yes ☒ No
21. Landfill unit liner type:
☐ Natural soils ☐ Double geomembrane
☐ Single clay liner ☐ Geomembrane & composite
☒ Single geomembrane ☐ Double composite
☐ Single composite ☐ None
☐ Slurry wall
☐ Other Describe: _____
22. Leachate collection method.
☒ Collection pipes ☒ Sand layer
☐ Geonets ☐ Gravel layer
☐ Well points ☐ Interceptor trench
☐ Perimeter ditch ☐ None
☒ Other Describe: Existing
23. Leachate storage method.
☒ Tanks
☐ Surface impoundments
☐ Other Describe: _____
24. Leachate treatment method.
☐ Oxidation ☒ Chemical treatment
☐ Secondary ☐ Settling
☒ Advanced
☐ None
☐ Other _____

25. Leachate disposal method:

<input type="checkbox"/> Recirculated	<input type="checkbox"/> Pumped to WWTP
<input type="checkbox"/> Transported to WWTP	<input type="checkbox"/> Discharged to surface water
<input type="checkbox"/> Injection well	<input type="checkbox"/> Percolation ponds
<input type="checkbox"/> Evaporation	
<input checked="" type="checkbox"/> Other	Dry Percolation Basin

26. For leachate discharged to surface waters:

Name and Class of receiving water: _____

27. Storm Water:

Collected: ☒ Yes ☐ No

Type of treatment: _____ Dry Retention/percolation

Name and Class of receiving water: _____ None

28. Environmental Resources Permit (ERP) number or status: _____

Water Management District #402023 03

C. NON-DISPOSAL FACILITY GENERAL INFORMATION

1 Provide brief description of the non-disposal facility design and operations planned under this application:

Part C is not applicable to this permit application.

2. Facility site supervisor: _____

Title _____ Telephone. (____) _____

_____ E-Mail address (if available)

3 Site area: Facility 7 acres; Property _____ acres

4. Security to prevent unauthorized use ☐ Yes ☐ No

5 Site located in: ☐ Floodplain ☐ Wetlands ☐ Other _____

6. Days of operation. _____

7 Hours of operation: _____

8. Number of operating staff: _____

9. Expected useful life. _____ Years

10. Weighing scales used: ☐ Yes ☐ No

11 Normal processing rate: _____ yd³/day _____ tons/day _____ gal/day

12. Maximum processing rate: _____ yd³/day _____ tons/day _____ gal/day

13. Charge for waste received: _____

14. Storm Water Collected: ☐ Yes ☐ No

Type of treatment: _____

Name and Class of receiving water: _____

15. Environmental Resources Permit (ERP) number or status: _____

16. Final residue produced:

_____ % of normal processing rate _____ % of maximum processing rate

_____ Tons/day _____ Tons/day

Disposed of at:

Facility name _____ County: _____

17. Estimated operating costs: \$ _____
- Total cost/ton: \$ _____ Net cost/ton: \$ _____
18. Provide a site plan, at a scale not greater than 200 feet to the inch, which shows the facility location and identifies the proposed waste and final residue storage areas, total acreage of the site, and any other features which are relevant to the prohibitions or location restrictions in Rule 62-701.300, FAC, such as water bodies or wetlands on or within 200 feet of the site, and potable water wells on or within 500 feet of the site.
19. Provide a description of how the waste and final residue will be managed to not be expected to cause violations of the Department's ground water, surface water or air standards or criteria
20. Provide an estimate of the maximum amount of waste and final residue that will be store on-site
21. Provide a detailed description of the technology use at the facility and the functions of all processing equipment that will be utilized. The descriptions shall explain the flow of waste and residue through all the proposed unit operations and shall include: (1) regular facility operations as they are expected to occur; (2) procedures for start up operations, and scheduled and unscheduled shut down operations; (3) potential safety hazards and control methods, including fire detection and control, (4) a description of any expected air emissions and wastewater discharges from the facility which may be potential pollution sources; (5) a description and usage rate of any chemical or biological additives that will be used in the process; and (6) process flow diagrams for the facility operations.
22. Provide a description of the loading, unloading and processing areas.
23. Provide a description of the leachate control system that will be used to prevent discharge of leachate to the environment and mixing of leachate with stormwater. Note: Ground water monitoring may be required for the facility depending on the method of leachate control used.
24. Provide an operation plan for the facility which includes: (1) a description of general facility operations, the number of personnel responsible for the operations including their respective job descriptions, and the types of equipment that will be used at the facility, (2) procedures to ensure any unauthorized wastes received at the site will be properly managed; (3) a contingency plan to cover operation interruptions and emergencies such as fires, explosions, or natural disasters, (4) procedures to ensure operational records needed for the facility will be adequately prepared and maintained; and (5) procedures to ensure that the wastes and final residue will be managed to not be expected to cause pollution.
25. Provide a closure plan that describes the procedures that will be implemented when the facility closes including: (1) estimated time to complete closure; (2) procedures for removing and properly managing or disposing of all wastes and final residues; (3) notification of the Department upon ceasing operations and completion of final closure.

D. PROHIBITIONS (62-701 300, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
—	—	—	<u>✓</u>	1. Provide documentation that each of the siting criteria will be satisfied for the facility; (62-701 300(2), FAC)
—	—	—	<u>✓</u>	2. If the facility qualifies for any of the exemptions contained in Rules 62-701.300(12) through (16), FAC, then document this qualification(s).
—	—	—	<u>✓</u>	3. Provide documentation that the facility will be in compliance with the burning restrictions; (62-701 300(3), FAC)
—	—	—	<u>✓</u>	4. Provide documentation that the facility will be in compliance with the hazardous waste restrictions; (62-701.300(4), FAC)
—	—	—	<u>✓</u>	5. Provide documentation that the facility will be in compliance with the PCB disposal restrictions; (62-701 300(5), FAC)
—	—	—	<u>✓</u>	6. Provide documentation that the facility will be in compliance with the biomedical waste restrictions; (62-701.300(6), FAC)
—	—	—	<u>✓</u>	7. Provide documentation that the facility will be in compliance with the Class I surface water restrictions; (62-701.300(7), FAC)
—	—	—	<u>✓</u>	8. Provide documentation that the facility will be in compliance with the special waste for landfills restrictions; (62-701 300(8), FAC)
—	—	—	<u>✓</u>	9. Provide documentation that the facility will be in compliance with the special waste for waste-to-energy facilities restrictions, (62-701.300(9), FAC)
—	—	—	<u>✓</u>	10. Provide documentation that the facility will be in compliance with the liquid restrictions; (62-701.300(10), FAC)
—	—	—	<u>✓</u>	11. Provide documentation that the facility will be in compliance with the used oil restrictions; (62-701 300(11), FAC)

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

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
✓	Section E 1	—	—	1. Four copies, at minimum, of the completed application form, all supporting data and reports, (62-701.320(5)(a), FAC)
✓	Section E 2	—	—	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)
✓	Section E 3	—	—	3. A letter of transmittal to the Department; (62-701.320(7)(a), FAC)
✓	Section E 4	—	—	4. A completed application form dated and signed by the applicant; (62-701.320(7)(b), FAC)
✓	Section E 5	—	—	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)
✓	Section E 6	—	—	6. An engineering report addressing the requirements of this rule and with the following format. a cover sheet, text printed on 8 1/2 inch by 11 inch consecutively numbered pages, a table of contents or index, the body of the report and all appendices including an operation plan, contingency plan, illustrative charts and graphs, records or logs of tests and investigations, engineering calculations; (62-701.320(7)(d), FAC)
✓	Section E 7	—	—	7. Operation Plan and Closure Plan; (62-701.320(7)(e)1, FAC)
—	—	—	✓	8. Contingency Plan; (62-701.320(7)(e)2, FAC)
—	—	—	—	9. Plans or drawings for the solid waste management facilities in appropriate format (including sheet size restrictions, cover sheet, legends, north arrow, horizontal and vertical scales, elevations referenced to NGVD 1929) showing; (62-702.320(7)(f), FAC)
—	—	—	✓	a A regional map or plan with the project location,
—	—	—	✓	b A vicinity map or aerial photograph no more than 1 year old;
—	—	—	✓	c. A site plan showing all property boundaries certified by a registered Florida land surveyor;

S LOCATION N/A N/C

PART E CONTINUED

- | | | | | |
|-------|-------|----------|----------|---|
| _____ | _____ | <u>✓</u> | _____ | d. Other necessary details to support the engineering report. |
| _____ | _____ | _____ | <u>✓</u> | 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) |
| _____ | _____ | _____ | <u>✓</u> | 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) |
| _____ | _____ | _____ | <u>✓</u> | 12. Provide a history and description of any enforcement actions taken by the Department against the applicant for violations of applicable statutes, rules, orders or permit conditions relating to the operation of any solid waste management facility in this state; (62-701.320(7)(i),FAC) |
| _____ | _____ | <u>✓</u> | _____ | 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) |
| _____ | _____ | _____ | <u>✓</u> | 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) |
| _____ | _____ | _____ | <u>✓</u> | 15. Explain how the operator training requirements will be satisfied for the facility; (62-701.320(15), FAC) |

F. LANDFILL PERMIT REQUIREMENTS (62-701 330, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
_____	_____	_____	<u>✓</u>	1. Vicinity map or aerial photograph no more than 1 year old and of appropriate scale showing land use and local zoning within one mile of the landfill and of sufficient scale to show all homes or other structures, water bodies, and roads other significant features of the vicinity. All significant features shall be labeled; (62-701 330(3) (a), FAC)
_____	_____	_____	<u>✓</u>	2. Vicinity map or aerial photograph no more than 1 year old showing all airports that are located within five miles of the proposed landfill; (62-701.330(3) (b), FAC)
_____	_____	_____	<u>✓</u>	3. Plot plan with a scale not greater than 200 feet to the inch showing; (62-701 330(3) (c), FAC)
_____	_____	_____	<u>✓</u>	a Dimensions;
_____	_____	_____	<u>✓</u>	b. Locations of proposed and existing water quality monitoring wells;
_____	_____	_____	<u>✓</u>	c. Locations of soil borings;
_____	_____	_____	<u>✓</u>	d. Proposed plan of trenching or disposal areas,
_____	_____	_____	<u>✓</u>	e. Cross sections showing original elevations and proposed final contours which shall be included either on the plot plan or on separate sheets;
_____	_____	_____	<u>✓</u>	f Any previously filled waste disposal areas;
_____	_____	_____	<u>✓</u>	g Fencing or other measures to restrict access.
_____	_____	_____		4. Topographic maps with a scale not greater than 200 feet to the inch with 5-foot contour intervals showing; (62-701.330(3) (d), FAC) :
_____	_____	_____	<u>✓</u>	a. Proposed fill areas,
_____	_____	_____	<u>✓</u>	b Borrow areas;
_____	_____	_____	<u>✓</u>	c Access roads,
_____	_____	_____	<u>✓</u>	d Grades required for proper drainage,
_____	_____	_____	<u>✓</u>	e. Cross sections of lifts;

S LOCATION N/A N/C

PART F CONTINUED

✓ Section F 4

f. Special drainage devices if necessary,

 ✓

g. Fencing;

 ✓

h. Equipment facilities.

5 A report on the landfill describing the following;
(62-701.330(3) (e), FAC)

 ✓

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

 ✓

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

 ✓

c. The anticipated facility life;

✓ Section F 5 d

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

 ✓

6 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) (h), FAC)

 ✓

7. 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) (i), FAC)

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

 ✓

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(4) (b), FAC)

 ✓

2. Describe how the minimum horizontal separation between waste deposits in the landfill and the landfill property boundary shall be 100 feet, measured from the toe of the proposed final cover slope;
(62-701 340(4) (c), FAC)

 ✓

3 Describe what methods shall be taken to screen the landfill from public view where such screening can practically be provided; (62-701.340(4) (d), FAC)

H. LANDFILL CONSTRUCTION REQUIREMENTS (62-701.400, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
_____	_____	✓	_____	1. Describe how the landfill shall be designed so that solid waste disposal units will be constructed and closed at planned intervals throughout the design period of the landfill; (62-701.400(2), FAC)
				2. Landfill liner requirements; (62-701.400(3), FAC)
				a. General construction requirements; (62-701 400(3) (a), FAC)
_____	_____	✓	_____	(1) Provide test information and documentation to ensure the liner will be constructed of materials that have appropriate physical, chemical, and mechanical properties to prevent failure;
_____	_____	✓	_____	(2) Document foundation is adequate to prevent liner failure;
_____	_____	✓	_____	(3) Constructed so bottom liner will not be adversely impacted by fluctuations of the ground water;
_____	_____	✓	_____	(4) Designed to resist hydrostatic uplift if bottom liner located below seasonal high ground water table;
_____	_____	✓	_____	(5) Installed to cover all surrounding earth which could come into contact with the waste or leachate
				b Composite liners; (62-701.400(3) (b), FAC)
_____	_____	✓	_____	(1) Upper geomembrane thickness and properties;
_____	_____	✓	_____	(2) Design leachate head for primary LCRS including leachate recirculation if appropriate;
_____	_____	✓	_____	(3) Design thickness in accordance with Table A and number of lifts planned for lower soil component.

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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PART H CONTINUED

c. Double liners; (62-701 400(3)(c),FAC)

- (1) Upper and lower geomembrane thicknesses and properties;
- (2) Design leachate head for primary LCRS to limit the head to one foot above the liner,
- (3) Lower geomembrane sub-base design;
- (4) Leak detection and secondary leachate collection system minimum design criteria ($k \geq 10$ cm/sec, head on lower liner ≤ 1 inch, head not to exceed thickness of drainage layer),

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

_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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- (1) Field seam test methods to ensure all field seams are at least 90 percent of the yield strength for the lining material;
- (2) Geomembranes to be used shall pass a continuous spark test by the manufacturer;
- (3) Design of 24-inch-thick protective layer above upper geomembrane liner;
- (4) Describe operational plans to protect the liner and leachate collection system when placing the first layer of waste above 24-inch-thick protective layer.
- (5) HDPE geomembranes, if used, meet the specifications in GRI GM13;
- (6) PVC geomembranes, if used, meet the specifications in PGI 1197;
- (7) Interface shear strength testing results of the actual components which will be used in the liner system;
- (8) Transmissivity testing results of geonets if they are used in the liner system,
- (9) Hydraulic conductivity testing results of geosynthetic clay liners if they are used in the liner system;

S LOCATION N/A N/C

PART H CONTINUED

e. Geosynthetic specification requirements;
 (62-701 400(3) (e), FAC)

_____ _____ ✓ _____

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

_____ _____ ✓ _____

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

_____ _____ ✓ _____

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

_____ _____ ✓ _____

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

_____ _____ ✓ _____

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

_____ _____ ✓ _____

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

_____ _____ ✓ _____

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

f. Standards for soil components
 (62-710.400(3) (f), FAC):

_____ _____ ✓ _____

(1) Description of construction procedures including overexcavation and backfilling to preclude structural inconsistencies and procedures for placing and compacting soil component in layers;

S LOCATION N/A N/C

PART H CONTINUED

_____	_____	✓	_____
_____	_____	✓	_____
_____	_____	✓	_____
_____	_____	✓	_____
_____	_____	✓	_____
_____	_____	✓	_____
_____	_____	✓	_____
_____	_____	✓	_____
_____	_____	✓	_____

- (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, Atterberg limits, 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.

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 method for testing and cleaning clogged pipes or contingent designs for rerouting leachate around failed areas;

S LOCATION N/A N/C

____ _____ ✓ _____

____ _____ ✓ _____

____ _____ ✓ _____

____ _____ ✓ _____

PART H CONTINUED

b. Primary LCRS requirements;
(62-701.400(4)(b), 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 accomodate for predicted settlement;
- (4) Demonstration that synthetic drainage material, if used, is equivalent or better than granular material in chemical compatibility, flow under load and protection of geomembrane liner.

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

____ _____ ✓ _____

____ _____ ✓ _____

____ _____ ✓ _____

____ _____ ✓ _____

____ _____ ✓ _____

____ _____ ✓ _____

- a Describe general procedures for recirculating leachate,
- b Describe procedures for controlling leachate runoff and minimizing mixing of leachate runoff with storm water;
- c Describe procedures for preventing perched water conditions and gas buildup,
- d. Describe alternate methods for leachate management when it cannot be recirculated due to weather or runoff conditions, surface seeps, wind-blown spray, or elevated levels of leachate head on the liner;
- e Describe methods of gas management in accordance with Rule 62-701.530, FAC;
- 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 LOCATION N/A N/C

PART H CONTINUED

5. Leachate storage tanks and leachate surface impoundments; (62-701 400 (6), FAC)

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

____ _____ ✓ _____

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

____ _____ ✓ _____

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

(3) General design requirements;

____ _____ ✓ _____

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

____ _____ ✓ _____

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

____ _____ ✓ _____

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

____ _____ ✓ _____

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

____ _____ ✓ _____

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

____ _____ ✓ _____

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

____ _____ ✓ _____

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

____ _____ ✓ _____

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

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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_____	_____	✓	_____
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PART H CONTINUED

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

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

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

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

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

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

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

(7) Inspections, corrective action and reporting requirements;

(a) Overfill prevention system weekly,

(b) Exposed tank exteriors weekly,

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

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

(e) Inspection reports available for department review

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

(1) Describe materials of construction,

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

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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PART H CONTINUED

		✓	
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(a) Interstitial space monitoring at least weekly,

		✓	
--	--	---	--

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

		✓	
--	--	---	--

(c) Interior tank coatings compatible with stored leachate;

		✓	
--	--	---	--

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

		✓	
--	--	---	--

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

		✓	
--	--	---	--

(4) Inspection reports available for department review

		✓	
--	--	---	--

d Schedule provided for routine maintenance of LCRS; (62-701.400 (6) (e), FAC)

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

		✓	
--	--	---	--

a. Provide CQA Plan including:

		✓	
--	--	---	--

(1) Specifications and construction requirements for liner system;

		✓	
--	--	---	--

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

		✓	
--	--	---	--

(3) Identification of supervising professional engineer;

		✓	
--	--	---	--

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

		✓	
--	--	---	--

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

		✓	
--	--	---	--

(6) Description of CQA reporting forms and documents,

S LOCATION N/A N/C

PART H CONTINUED

_____ _____ ✓ _____

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

7. Soil Liner CQA (62-701 400(8)FAC)

_____ _____ ✓ _____

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

_____ _____ ✓ _____

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

_____ _____ ✓ _____

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

8 Surface water management systems; (62-701.400(9),FAC)

_____ _____ _____ ✓

- a. Provide a copy of a Department permit for stormwater control or documentation that no such permit is required;

_____ _____ _____ ✓

- b. Design of surface water management system to isolate surface water from waste filled areas and to control stormwater run-off;

_____ _____ _____ ✓

- c. Details of stormwater control design including retention ponds, detention ponds, and drainage ways;

9 Gas control systems; (62-701 400(10),FAC)

_____ _____ _____ ✓

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

_____ _____ ✓ _____

10. For landfills designed in ground water, provide documentation that the landfill will provide a degree of protection equivalent to landfills designed with bottom liners not in contact with ground water; (62-701 400(11),FAC)

I. HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS (62-701 410(1), FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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1. Submit a hydrogeological investigation and site report including at least the following information:

- | | | | | |
|-------|-------|-------|---|---|
| _____ | _____ | _____ | ✓ | a. Regional and site specific geology and hydrogeology; |
| _____ | _____ | _____ | ✓ | b. Direction and rate of ground water and surface water flow including seasonal variations; |
| _____ | _____ | _____ | ✓ | c. Background quality of ground water and surface water; |
| _____ | _____ | _____ | ✓ | d. Any on-site hydraulic connections between aquifers; |
| _____ | _____ | _____ | ✓ | e. Site stratigraphy and aquifer characteristics for confining layers, semi-confining layers, and all aquifers below the landfill site that may be affected by the landfill; |
| _____ | _____ | _____ | ✓ | f. Description of topography, soil types and surface water drainage systems; |
| _____ | _____ | _____ | ✓ | g. Inventory of all public and private water wells within a one-mile radius of the landfill including, where available, well top of casing and bottom elevations, name of owner, age and usage of each well, stratigraphic unit screened, well construction technique and static water level; |
| _____ | _____ | _____ | ✓ | h. Identify and locate any existing contaminated areas on the site; |
| _____ | _____ | _____ | ✓ | i. Include a map showing the locations of all potable wells within 500 feet, and all community water supply wells within 1000 feet, of the waste storage and disposal areas; |
| _____ | _____ | _____ | ✓ | 2. Report signed, sealed and dated by PE or PG |

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

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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1. Submit a geotechnical site investigation report defining the engineering properties of the site including at least the following:

_____	_____	_____	<u>✓</u>
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a. Description of subsurface conditions including soil stratigraphy and ground water table conditions;

_____	_____	_____	<u>✓</u>
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b. Investigate for the presence of muck, previously filled areas, soft ground, lineaments and sink holes;

_____	_____	_____	<u>✓</u>
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c. Estimates of average and maximum high water table across the site;

d. Foundation analysis including:

_____	_____	_____	<u>✓</u>
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(1) Foundation bearing capacity analysis;

_____	_____	_____	<u>✓</u>
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(2) Total and differential subgrade settlement analysis;

_____	_____	_____	<u>✓</u>
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(3) Slope stability analysis,

_____	_____	_____	<u>✓</u>
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e. Description of methods used in the investigation and includes soil boring logs, laboratory results, analytical calculations, cross sections, interpretations and conclusions;

_____	_____	_____	<u>✓</u>
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f. An evaluation of fault areas, seismic impact zones, and unstable areas as described in 40 CFR 258.13, 40 CFR 258.14 and 40 CFR 258.15.

_____	_____	_____	<u>✓</u>
-------	-------	-------	----------

2. Report signed, sealed and dated by PE or PG.

K. VERTICAL EXPANSION OF LANDFILLS (62-701 430, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
—	—	✓	—	1. Describe how the vertical expansion shall not cause or contribute to leachate leakage from the existing landfill or adversely affect the closure design of the existing landfill;
—	—	✓	—	2. Describe how the vertical expansion over unlined landfills will meet the requirements of Rule 62-701.400, FAC with the exceptions of Rule 62-701 430(1)(c), FAC,
—	—	✓	—	3. Provide foundation and settlement analysis for the vertical expansion,
—	—	✓	—	4. Provide total settlement calculations demonstrating that the final elevations of the lining system, that gravity drainage, and that no other component of the design will be adversely affected,
—	—	✓	—	5. Minimum stability safety factor of 1.5 for the lining system component interface stability and deep stability;
—	—	✓	—	6. Provide documentation to show the surface water management system will not be adversely affected by the vertical expansion;
—	—	✓	—	7. Provide gas control designs to prevent accumulation of gas under the new liner for the vertical expansion.

L. LANDFILL OPERATION REQUIREMENTS (62-701.500, FAC)

- | | | | | | |
|-------|-------|-------|---|----|--|
| _____ | _____ | _____ | ✓ | 1 | Provide documentation that landfill will have at least one trained operator during operation and at least one trained spotter at each working face, (62-701.500(1), FAC) |
| _____ | _____ | _____ | ✓ | 2. | Provide a landfill operation plan including procedures for: (62-701 500(2), FAC) |
| _____ | _____ | _____ | ✓ | a. | Designating responsible operating and maintenance personnel; |
| _____ | _____ | _____ | ✓ | b. | Contingency operations for emergencies; |
| _____ | _____ | _____ | ✓ | c. | Controlling types of waste received at the landfill; |
| _____ | _____ | _____ | ✓ | d | Weighing incoming waste; |
| _____ | _____ | _____ | ✓ | e | Vehicle traffic control and unloading; |
| _____ | _____ | _____ | ✓ | f. | Method and sequence of filling waste; |
| _____ | _____ | _____ | ✓ | g. | Waste compaction and application of cover; |
| _____ | _____ | _____ | ✓ | h | Operations of gas, leachate, and stormwater controls; |
| _____ | _____ | _____ | ✓ | i | Water quality monitoring. |
| _____ | _____ | _____ | ✓ | j. | Maintaining and cleaning the leachate collection system; |
| _____ | _____ | _____ | ✓ | 3 | Provide a description of the landfill operation record to be used at the landfill; details as to location of where various operational records will be kept (i.e. FDEP permit, engineering drawings, water quality records, etc) (62-701.500(3), FAC) |
| _____ | _____ | _____ | ✓ | 4. | Describe the waste records that will be compiled monthly and provided to the Department quarterly; (62-701.500(4), FAC) |
| _____ | _____ | _____ | ✓ | 5 | Describe methods of access control; (62-701.500(5), FAC) |
| _____ | _____ | _____ | ✓ | 6. | Describe load checking program to be implemented at the landfill to discourage disposal of unauthorized wastes at the landfill, (62-701.500(6), FAC) |
| _____ | _____ | _____ | ✓ | 7. | Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7), FAC) |
| _____ | _____ | _____ | ✓ | a. | Waste layer thickness and compaction frequencies; |

S LOCATION N/A N/C

PART L CONTINUED

_____ _____ _____ ✓

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

_____ _____ _____ ✓

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

_____ _____ _____ ✓

d. Maximum width of working face;

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

_____ _____ _____ ✓

(1) Disease 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.

8. Describe operational procedures for leachate management including, (62-701 500(8),FAC)

_____ _____ _____ ✓

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

_____ _____ _____ ✓

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

_____ _____ _____ ✓

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

_____ _____ _____ ✓

d. Agreements for off-site discharge and treatment of leachate;

_____ _____ _____ ✓

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

S LOCATION N/A N/C

PART L CONTINUED

- | | | | | | |
|-------|-------|-------|---|-----|--|
| _____ | _____ | _____ | ✓ | f | Procedures for recording quantities of leachate generated in gal/day and including this in the operating record; |
| _____ | _____ | _____ | ✓ | g | Procedures for comparing precipitation experienced at the landfill with leachate generation rates and including this information in the operating record; |
| _____ | _____ | _____ | ✓ | h. | Procedures for water pressure cleaning or video inspecting leachate collection systems. |
| _____ | _____ | _____ | ✓ | 9. | Describe how the landfill receiving degradable wastes shall implement a gas management system meeting the requirements of Rule 62-701.530, FAC, (62-701.500(9),FAC) |
| _____ | _____ | _____ | ✓ | 10. | Describe procedures for operating and maintaining the landfill stormwater management system to comply with the requirements of Rule 62-701 400(9); (62-701.500(10),FAC) |
| _____ | _____ | _____ | ✓ | 11. | Equipment and operation feature requirements, (62-701.500(11),FAC) |
| _____ | _____ | _____ | ✓ | a. | Sufficient equipment for excavating, spreading, compacting and covering waste; |
| _____ | _____ | _____ | ✓ | b | Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown, |
| _____ | _____ | _____ | ✓ | c | Communications equipment; |
| _____ | _____ | _____ | ✓ | d. | Dust control methods, |
| _____ | _____ | _____ | ✓ | e. | Fire protection capabilities and procedures for notifying local fire department authorities in emergencies; |
| _____ | _____ | _____ | ✓ | f | Litter control devices; |
| _____ | _____ | _____ | ✓ | g. | Signs indicating operating authority, traffic flow, hours of operation, disposal restrictions. |
| _____ | _____ | _____ | ✓ | 12 | Provide a description of all-weather access road, inside perimeter road and other roads necessary for access which shall be provided at the landfill; (62-701.500(12),FAC) |
| _____ | _____ | _____ | ✓ | 13. | Additional record keeping and reporting requirements, (62-701 500(13),FAC) |

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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PART L CONTINUED

_____	_____	_____	✓
_____	_____	_____	✓
_____	_____	_____	✓
_____	_____	_____	✓

- a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill,
- b. Monitoring information, calibration and maintenance records, copies of reports required by permit maintained for at least 10 years;
- c. Maintain annual estimates of the remaining life of constructed landfills and of other permitted areas not yet constructed and submit this estimate annually to the Department;
- d. Procedures for archiving and retrieving records which are more than five year old

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

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>		
_____	_____	_____	✓	1	Water quality and leachate monitoring plan shall be submitted describing the proposed ground water, surface water and leachate monitoring systems and shall meet at least the following requirements;
_____	_____	_____	✓		a. Based on the information obtained in the hydrogeological investigation and signed, dated and sealed by the PG or PE who prepared it; (62-701.510(2)(a), FAC)
_____	_____	_____	✓		b. All sampling and analysis preformed in accordance with Chapter 62-160, FAC; (62-701.510(2)(b), FAC)
_____	_____	_____	✓		c. Ground water monitoring requirements; (62-701.510(3), FAC)
_____	_____	_____	✓		(1) Detection wells located downgradient from and within 50 feet of disposal units;
_____	_____	_____	✓		(2) Downgradient compliance wells as required,
_____	_____	_____	✓		(3) Background wells screened in all aquifers below the landfill that may be affected by the landfill;
_____	_____	_____	✓		(4) Location information for each monitoring well;
_____	_____	_____	✓		(5) Well spacing no greater than 500 feet apart for downgradient wells and no greater than 1500 feet apart for upgradient wells unless site specific conditions justify alternate well spacings;
_____	_____	_____	✓		(6) Well screen locations properly selected,
_____	_____	_____	✓		(7) Procedures for properly abandoning monitoring wells;
_____	_____	_____	✓		(8) Detailed description of detection sensors if proposed

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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_____	_____	_____	✓
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_____	_____	_____	✓
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_____	_____	_____	✓
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_____	_____	_____	✓
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_____	_____	_____	✓
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_____	_____	_____	✓
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_____	_____	_____	✓
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_____	_____	_____	✓
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_____	_____	_____	✓
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_____	_____	_____	✓
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_____	_____	_____	✓
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PART M CONTINUED

d. Surface water monitoring requirements;
(62-701 510(4), FAC)

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

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

e Leachate sampling locations proposed;
(62-701.510(5), FAC)

f Initial and routine sampling frequency and requirements; (62-701 510(6), FAC)

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

(2) Routine leachate sampling and analysis requirements;

(3) Routine monitoring well sampling and analysis requirements;

(4) Routine surface water sampling and analysis requirements.

g. Describe procedures for implementing evaluation, monitoring, prevention measures and corrective action as required; (62-701 510(7), FAC)

h. Water quality monitoring report requirements,
(62-701.510(9), FAC)

(1) Semi-annual report requirements;

(2) Bi-annual report requirements signed, dated and sealed by PG or PE.

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

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

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

				1. Provide the design for a gas management systems that will (62-701.530(1), FAC):
—	—	—	✓	a. Be designed to prevent concentrations of combustible gases from exceeding 25% the LEL in structures and 100% the LEL at the property boundary,
—	—	—	✓	b. Be designed for site-specific conditions;
—	—	—	✓	c. Be designed to reduce gas pressure in the interior of the landfill;
—	—	—	✓	d. Be designed to not interfere with the liner, leachate control system or final cover
—	—	—	✓	2. Provide documentation that will describe locations, construction details and procedures for monitoring gas at ambient monitoring points and with soil monitoring probes; (62-701.530(2), FAC):
—	—	—	✓	3. Provide documentation describing how the gas remediation plan and odor remediation plan will be implemented; (62-701.530(3), FAC):
				4. Landfill gas recovery facilities; (62-701.530(5), FAC):
—	—	✓	—	a. Information required in Rules 62-701.320(7) and 62-701.330(3), FAC supplied;
—	—	✓	—	b. Information required in Rule 62-701.600(4), FAC supplied where relevant and practical;
—	—	✓	—	c. Estimate of current and expected gas generation rates and description of condensate disposal methods provided,
<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART O CONTINUED
—	—	✓	—	d. Description of procedures for condensate sampling, analyzing and data reporting provided;

_____ ✓ _____

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

_____ ✓ _____

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

P. LANDFILL FINAL CLOSURE REQUIREMENTS (62-701 600, FAC)

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

_____ ✓ _____

a. Documentation that a written notice including a schedule for closure will be provided to the Department at least one year prior to final receipt of wastes;

_____ ✓ _____

b. Notice to user requirements within 120 days of final receipt of wastes;

_____ ✓ _____

c. Notice to public requirements within 10 days of final receipt of wastes.

2. Closure permit general requirements; (62-701 600(3), FAC)

_____ ✓ _____

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

b. Closure plan shall include the following.

_____ ✓ _____

(1) Closure report;

_____ ✓ _____

(2) Closure design plan;

_____ ✓ _____

(3) Closure operation plan,

_____ ✓ _____

(4) Closure procedures;

_____ ✓ _____

(5) Plan for long term care;

_____ ✓ _____

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

3. Closure report requirements, (62-701.600(4), FAC)

a. General information requirements,

_____ ✓ _____

(1) Identification of landfill;

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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PART P CONTINUED

_____	_____	✓	_____
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(2) Schedule for installing final cover after final receipt of waste;

_____	_____	✓	_____
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(3) Description of drought-resistant species to be used in the vegetative cover;

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

_____	_____	✓	_____
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(5) Provisions for cover material to be used for final cover maintenance.

g. Final cover design requirements.

_____	_____	✓	_____
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(1) Protective soil layer design,

_____	_____	✓	_____
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(2) Barrier soil layer design,

_____	_____	✓	_____
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(3) Erosion control vegetation,

_____	_____	✓	_____
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(4) Geomembrane barrier layer design,

_____	_____	✓	_____
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(5) Geosynthetic clay liner design if used,

_____	_____	✓	_____
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(6) Stability analysis of the cover system and the disposed waste.

_____	_____	✓	_____
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h. Proposed method of stormwater control;

_____	_____	✓	_____
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i. Proposed method of access control;

_____	_____	✓	_____
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j. Description of proposed final use of the closed landfill, if any;

_____	_____	✓	_____
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k. Description of the proposed or existing gas management system which complies with Rule 62-701 530, FAC.

5 Closure operation plan shall include:
(62-701.600(6), FAC)

_____	_____	✓	_____
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a. Detailed description of actions which will be taken to close the landfill,

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

_____	_____	✓	_____
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c. Describe proposed method for demonstrating financial responsibility;

_____	_____	✓	_____
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d. Indicate any additional equipment and personnel needed to complete closure.

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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PART P CONTINUED

_____	_____	✓	_____
_____	_____	✓	_____
_____	_____	✓	_____

e Development and implementation of the water quality monitoring plan required in Rule 62-701.510, FAC.

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

6. Justification for and detailed description of procedures to be followed for temporary closure of the landfill, if desired; (62-701.600(7),FAC)

Q. CLOSURE PROCEDURES (62-701.610, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
_____	_____	✓	_____	1. Survey monuments; (62-701.610(2), FAC)
_____	_____	✓	_____	2. Final survey report; (62-701.610(3), FAC)
_____	_____	✓	_____	3. Certification of closure construction completion, (62-701.610(4), FAC)
_____	_____	✓	_____	4. Declaration to the public, (62-701.610(5), FAC)
_____	_____	✓	_____	5. Official date of closing, (62-701.610(6), FAC)
_____	_____	✓	_____	6. Use of closed landfill areas; (62-701.610(7), FAC)
_____	_____	✓	_____	7. Relocation of wastes; (62-701.610(8), FAC)

R. LONG TERM CARE REQUIREMENTS (62-701.620, FAC)

_____	_____	_____	✓	1. Maintaining the gas collection and monitoring system; (62-701.620(5), FAC)
_____	_____	_____	✓	2. Right of property access requirements; (62-701.620(6), FAC)
_____	_____	_____	✓	3. Successors of interest requirements; (62-701.620(7), FAC)
_____	_____	_____	✓	4. Requirements for replacement of monitoring devices; (62-701.620(9), FAC)
_____	_____	_____	✓	5. Completion of long term care signed and sealed by professional engineer (62-701.620(10), FAC)

S. FINANCIAL RESPONSIBILITY REQUIREMENTS (62-701.630, FAC)

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

T. 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 Operations Minor Modification 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.

Susan J Metcalfe

Signature of Applicant or Agent

Susan J Metcalfe, Director, Division of S W. Mgmt

Name and Title (please type)

susan metcalfe@bocc.citrus fl us

E-Mail address (if available)

P.O. Box 340

Mailing Address

Lecanto, Florida 34460

City, State, Zip Code

(352) 527-7671

Telephone Number

Date:

7/24/08

Attach letter of authorization if agent is not a governmental 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.

SCS Engineers

4041 Park Oaks Blvd, Suite 100

Mailing Address

Tampa, FL 33610

City, State, Zip Code

dcooper@scsengineers.com

E-Mail address (if available)

(813) 621-0080

Telephone Number

Date:

7/24/08

Daniel R Cooper

Professional Engineer

Name and Title (please type)

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SECTION A

GENERAL INFORMATION

This report presents information supporting the application to modify operations ~~reopen and landfill Class III waste in at~~ an existing closed landfill at the Citrus County Central Landfill in Citrus County, Florida. The Citrus County Central Landfill is owned/leased and operated by the Citrus County Board of County Commissioners (BOCC) under Florida Department of Environmental Protection (FDEP) Permit Number 21375-008-SO/01.

SCS Engineers (SCS) prepared this Operations Permit Application in accordance with applicable sections of Rule 62-701 Florida Administrative Code (F.A.C.) on behalf of Citrus County Board of County Commissioners (County). This Operations Permit 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).

The information required for Section A - General Information and Section B - Disposal Facility General Information of the State of Florida Department of Environmental Protection Application for a Permit to Construction, 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 permit application report. Section C - Non-Disposal Facility General Information of the State of Florida Department of Environmental Protection Application for a Permit to Construction, Operate, Modify or Close a Solid Waste Management Facility Application Form 62-701.900(1) is not applicable to this Operations ~~e-Construction~~ Permit Application. ~~to operate this area as a Class III landfill and has been indicated on the Form.~~

A.1 SITE LOCATION

The Citrus County Central Landfill is located near 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", longitude 82° 26' 12".

SECTION B

DISPOSAL FACILITY GENERAL INFORMATION

Section B - Disposal Facility General Information of the State of Florida Department of Environmental Protection Application for a Permit to Construction, 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 permit application report.

Dept. Of Environmental Protection

MAY 13 2008

Southwest District

SECTION C

NON-DISPOSAL FACILITY GENERAL INFORMATION

Section C does not apply to the Citrus County Central Landfill Operation Permit Application and is designated as "Not Applicable" 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), which is attached at the beginning of this permit application report.

Dept. Of Environmental Protection

MAY 13 2000

Southwest District

SECTION D

PROHIBITIONS

There has been no change to this section.

Dept. Of Environmental Protection

MAY 13 2006

Southwest District

SECTION E

GENERAL REQUIREMENTS

E.1 APPLICATION FORM AND SUPPORTING DOCUMENTS

In accordance with Rule 62-701.320(5)(a), F.A.C. four sets of the 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), along with this permit application report, including all supporting data are included as part of this Operations Modification (Minor) Permit Application.

E.2 ENGINEERING CERTIFICATION

Part T 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 Daniel R. Cooper, P.E., a registered Professional Engineer in the State of Florida (License No. 66440) together with all other applicable engineering plans, reports and supporting information for the application herein as required by Rule 62-701.320(6), F.A.C.

E.3 TRANSMITTAL LETTER

A transmittal letter is included at the front of this application as required by Rule 62-701.320(7)(a), F.A.C.

E.4 APPLICATION FORMS

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) DEP Form No. 62-701.900(1) is included in this submittal as required by Rule 62-701.320(7)(b), F.A.C.

E.5 PERMIT FEE

In accordance with Rule 62-701.320(7)(c), F.A.C., a check in the amount of \$250.00 for the permit application fee for the Minor Operations Permit, payable to FDEP, is included with this permit application.

E.6 ENGINEERING REPORT

This document meets the requirement of an engineering report required by Rule 62-701.320(7)(d).

E.7 OPERATION PLAN AND CLOSURE PLAN

The operational plan changes for the re-closure of the exiting 107-acre closed portion of the Citrus Central landfill are presented below.

The only operation changes are those that were presented in RAI #1 as follows:

- An extension of the allowable storage time for lead acid batteries on site from one week to one month.
- The frequency of leachate sampling for analytes CBOD5, TSS and Nitrate-N was modified from weekly to monthly.
- The alternate daily cover options were modified to now include a spray on slurry as an option.

These change have all been added to the site operations plan which was submitted as Attachment 4 of RAI #1.

~~This portion of the closed landfill was previously capped with a PVC membrane approximately 17 years ago. After closure construction was completed the area began to settle and the owner, Citrus County was directed by the Florida Department of Environmental Protection to add additional soil cover in areas that have settled in order to promote stormwater runoff. Over time this process was repeated where additional soils were added each time settling occurred. In 2006 the County conducted a ground penetrating radar survey of the area to determine the amount of soil on top of the cap and found that there was as much as 8 feet of fill over the liner in parts of the closed area. This permit modification is being requested so that these excess soils can be removed and recovered and the landfill cap reshaped to promote drainage then reclosed with a Class I type cap. The final cap profile will include 12 inches of base soil, a 40 mil thick linear low density polyethylene (LLDPE) geomembrane liner and 2 feet of soil, then vegetated cover (sod).~~

~~The County will excavate the existing cover soils down to the a level which in all cases shall be located above the existing PVC cap. This excavation will be performed by the County to a level where a new cap can be welded to the existing bottom liner to seal the cell as part of a closure construction. in sections with each section refilled with waste to form the base of the new final grading plan. The closed landfill top surface has been divided into eight sections of roughly 1.25 acres each for operational purposes. The work described below will begin in Cell # 1 as indicated on the fill sequencing drawings in Attachment E-1. The operational activities in the subsequent cells will be very similar; therefore each cell will not be described independently. Upon nearing completion of each cell, excavation of the next cell will commence to allow for continuous landfilling of Class III waste until all cells are completed. The filling of the cells will proceed in order from one to eight.~~

~~The soil removed from above the new cap location each cell will be stored onsite for use as daily cover material on the active portion of the landfill or for use in the final cover system, intermediate cover or for use in final cap reconstruction on this portion of the site. No waste will be removed from the closed landfill area. The excavation will be such that the new elevations obtained will closely match those proposed in the new cap design, which will be~~

~~presented in a separate closure permit application, constructed with a maximum 4 to 1 horizontal to vertical slopes from the location of the existing bottom liner to the bottom of the excavation (elevation to be determined by actual depth of original cap). Should the location of the existing cap require that the slopes be less than 4 to 1 then the county will adjust the slope as required.~~

~~Once the liner has been reached the existing cap will be pierced by the excavation equipment. This will be the bottom of the excavation. None of the existing 2 feet of soil cover underneath the existing cap will be excavated so as to assure that there will be no exposed old waste at any time. If required some of the excavated soils will be reapplied to reestablish the required cover.~~

~~The section will now have a relatively flat bottom with approximate dimensions of 130 x 250 feet. This amount of area will allow for vehicles and equipment to enter the cell and maneuver without impeding the landfill equipment, which will be compacting and placing the waste. An access road will be constructed from the existing grade down into the cell to allow for hauling equipment to enter the cell and unload.~~

~~Each cell will now begin to be refilled to the new design grade minus 3 feet with Class III waste. The waste will be filled in each cell starting on the west side and working backwards to the east with the exception of 7 and 8 which will be filled east to west. The fill sequencing drawings in Attachment E-1 outline this process. Each cell will receive one lift of waste with a total lift depth of roughly 10 feet depending upon the cell. During the filling of each cell a rain tarp system will be employed to cover the exposed cell bottom with a separate daily cover material placed on the working face as needed during non working hours. 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 stormwater ponds using portable pumps. In addition to the tarp system soil berms will be constructed around the perimeter of the open cell to divert stormwater from the open cell and minimize leachate generation. Once the waste elevation in the cells approaches the new final grade elevation it will have 12 inches of intermediate cover added on top of the waste and be graded to roughly 2 feet below the final cap design elevations. This surface will be mulched, allowed to revegetate and will be graded to promote stormwater run off thus minimizing leachate generation. The stormwater will now be directed to the ponds to the north via the new swales constructed to the north of the filling area.~~

~~Each cell will be excavated and refilled in this manner working from north to south. Once all cells have been completed a new final cap will be constructed over the existing elevations which will bring the cap to its final closure design elevations. A separate closure construction permit application will be submitted for the final closure construction.~~

E.8 CONTINGENCY PLAN

There has been no change to this section.

E.9 DRAWINGS

Attachment E-1 contains the proposed new cap design drawings. This area is the only portion of this site that will undergo changes; otherwise the site remains the same as previously

permitted. The construction drawings required per section E-9 are being withdrawn as previously submitted and new construction drawings will be submitted with a closure construction permit application. Attachment B contains the site plan drawing showing the soil storage area and access roads, which are now the only features addressed in this permit application.

E.10 PROOF OF OWNERSHIP

There has been no change to this section.

E.11 RECYCLING GOALS

There has been no change to this section.

E.12 ENFORCEMENT HISTORY

There has been no change to this section.

E.13 PROOF OF PUBLICATION

This subsection is not applicable. Rule 62-701.320*8)(a) states that proof of publication is required for "a permit to construct or substantially modify a solid waste management facility" This application is for a minor modification permit only.

E.14 AIRPORT SAFETY

There has been no change to this section.

E.15 OPERATOR TRAINING

There has been no change to this section.

SECTION F

LANDFILL PERMIT REQUIREMENTS

F.1 VICINITY MAP

There has been no change to this section.

F.2 AIRPORT MAP

There has been no change to this section.

F.3 PLOT PLAN

The changes in the plot plan that will result due to the reclosure work are depicted in the drawings in Attachment E-1. The remainder of the site will remain as is.

F.3.a Dimensions

There has been no change to this subsection.

F.3.b Water Quality Monitoring Wells

There has been no change to this subsection.

F.3.c Soil Borings

There has been no change to this subsection.

F.3.d Trenching

Refer to Attachment E-1 for the design drawings showing proposed areas that will be excavated. Section E.7 of this report outlines how the excavations will occur.

F.3.e Cross Sections

Refer to Attachment E-1 for the design drawings showing cross sections of the proposed modifications.

F.3.f Previously Filled Disposal Areas

There has been no change to this subsection.

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F.3.g Fencing

There has been no change to this subsection.

F.4 TOPOGRAPHIC MAP**F.4.a Proposed Fill Areas**

Refer to Attachment E-1 for the design drawings showing the location of the areas that will receive new fill.

F.4.b Borrow Areas

There has been no change to this section.

F.4.c Access Roads

Refer to Attachment E-1 for the design drawings showing access roads into the 8 different cells. Section E.7 explains how the cells will be filled.

F.4.d Grades required for proper drainage

Attachment E-1 contains the proposed new cap design drawing site plan, which includes grading contour lines showing the proper grades required for drainage.

F.4.e Cross sections of lifts

Attachment E-1 contains the fill sequencing drawings which are described in Section E.7. These drawings show the cross sections and lifts of all areas that will receive new fill.

F.4.f Special drainage device

Attachment E-1 contains the proposed new cap design drawing site plan which includes grading contour lines and flow arrows for stormwater. New swales will be constructed to convey stormwater from the new cap to the existing dry retention areas.

F.4.g Fencing

There has been no change to this subsection.

F.4.h Equipment facilities

There has been no change to this subsection.

F.5 LANDFILL REPORT

F.5.a Current and projected population

There has been no change to this subsection.

F.5.b Waste Type, Quantity, and Source

The facility will accept Class III waste including C&D debris with the exception of land clearing debris and yard waste. The estimated volume of air space, based upon the excavation and new final closure design is approximately 82,350 cubic yards (CY). The quantity of waste received will be hard to anticipate as the County has not previously segregated this waste type specifically; see Section F.5.c for possible receiving rates. The source of the waste will be from within Citrus County.

F.5.c Anticipated Facility Life

The time that it will take to reshape the cap will be very dependent upon the amount of waste that is received at the landfill that will qualify for disposal in this area. As it is difficult to predict a precise amount of material that will be received on a daily basis. Table F-1 below outlines the anticipated facility life based upon several receiving rates. The area is divided into 8 sections. The volume of airspace to fill in each section is approximately 10,300 CY. The table shows the time to fill each cell and the entire landfill as a function of the receiving rate.

Table F-1 Anticipated Facility Life

Daily Receiving Rate (tons/day)	Volume Equivalent (yd ³ /day)*	Time to fill each section (days)	Time to fill each section (weeks)**	Time to fill each section (months)	Anticipated Total Facility Life (months)	Anticipated Total Facility Life (years)
30	60	172	28.5	6.5	53	4.4
40	80	129	21.5	5	40	3.3
50	100	103	17	4	32	2.7
75	150	69	11.5	2.5	21.5	1.8
100	200	51	8.5	2	16	1.3

* Assumes compacted waste density of 1000 lb./CY

** Based upon 6 working days per week

The County's best estimate for the amount of material it can collect separately from Class I waste that can be landfilled into the reclosure area is 40 tons/day.

F.5.d Cover Material

The current operating permit allows the County to utilize soil, tarps and 50/50 mixtures of soil/mulch. The County is requesting that another alternate daily cover material, a spray on paper based material that will be applied onto the working face as an aqueous slurry, be

approved for use on the landfill. Otherwise, there are no changes proposed to the source and type of cover material used at the Citrus County Central Landfill.

F.6 APPROVED LABORATORY

There has been no change to this section.

F.7 FINANCIAL RESPONSIBILITY

There has been no change to this section.

SECTION G

GENERAL CRITERIA FOR LANDFILLS

There has been no change to this section.

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SECTION H

LANDFILL CONSTRUCTION REQUIREMENTS

H.1 FILL SEQUENCE PLAN

This section is not applicable.

H.2 BOTTOM LINER DESIGN

This section is not applicable.

H.2.a.1 Test Information and Documentation

This subsection is not applicable.

H.2.a.2 Foundation

This subsection is not applicable.

H.2.a.3 Bottom Liner Location Relative to Seasonal High Groundwater

This subsection is not applicable.

H.2.a.4 Hydrostatic Uplift

This subsection is not applicable.

H.2.a.5 Ground Surrounding Earth

This subsection is not applicable.

H.2.b Composite Liner

This subsection is not applicable.

H.2.b.1 Upper Geomembrane Thickness and Properties

This subsection is not applicable.

H.2.b.2 Designate Leachate Head for Primary LCRS including Leachate Recirculation if Appropriate

This subsection is not applicable.

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H.2.b.3 Design Thickness in Accordance with Table A and Number of Lifts Planned for Lower Soil Component

This subsection is not applicable.

H.2.c Double Liners

This subsection is not applicable.

H.2.c.1 Geomembrane Thickness and Properties

This subsection is not applicable.

H.2.c.2 Sub-base Design

This subsection is not applicable.

H.2.c.3 Leak Detection System Design Criteria

This subsection is not applicable.

H.2.d Standards for Geosynthetic Components

This subsection is not applicable.

H.2.d.1 Geomembrane Seams

This subsection is not applicable.

H.2.d.2 Spark Test

This subsection is not applicable.

H.2.d.3 Protective Layers over Upper Liner

This subsection is not applicable.

H.2.d.4 First Layer of Waste

This subsection is not applicable.

H.2.d.5 HDPE Geomembrane Specification

This subsection is not applicable.

H.2.d.6 PVC Geomembranes

This subsection is not applicable.

H.2.d.7 Interface Shear Strength Testing

This subsection is not applicable.

H.2.d.8 Transmissivity Testing

This subsection is not applicable.

H.2.d.9 Hydraulic Conductivity Testing of Geosynthetic Clay Liners

This subsection is not applicable.

H.2.e Geosynthetic Specifications

This subsection is not applicable.

H.2.f Soil Component Standards

This subsection is not applicable.

**H.3 LEACHATE COLLECTION AND REMOVAL SYSTEM
(LCRS)**

This section is not applicable

H.3.a Primary and Secondary LCRS Requirements

This subsection is not applicable.

H.3.a.1 Chemical Compatibility

This subsection is not applicable.

H.3.a.2 Mechanical Properties

This subsection is not applicable.

H.3.a.3 Clog Prevention

This subsection is not applicable.

H.3.a.4 Cleanouts

This subsection is not applicable.

H.3.b Primary LCRS Requirements

This subsection is not applicable.

H.3.b.1 Bottom Twelve Inches

This subsection is not applicable.

H.3.b.2 Total Thickness Resistant To Waste and Leachate

This subsection is not applicable.

H.3.b.3 Bottom Slope

This subsection is not applicable.

H.3.b.4 Equivalent to Granular Material

This subsection is not applicable.

H.4 LEACHATE RECIRCULATION

This section is not applicable.

H.4.a.1 Hydraulic Head Limitations

This subsection is not applicable.

H.5 LEACHATE STORAGE TANKS AND SURFACE IMPOUNDMENTS

This section is not applicable.

H.5.a Surface Impoundment Requirements

This subsection is not applicable.

H.5.b Above-ground Leachate Storage Tanks

This subsection is not applicable.

H.5.c Underground Leachate Storage Tanks

This subsection is not applicable.

H.5.d Routine Maintenance Schedule

This subsection is not applicable.

H.6 GEOMEMBRANE CONSTRUCTION QUALITY ASSURANCE PLAN

This section is not applicable.

H.7 SOIL CONSTRUCTION QUALITY ASSURANCE PLAN

This section is not applicable.

H.8 SURFACE WATER MANAGEMENT SYSTEM

H.8.a Department Permit for Stormwater Control

The County was previously issued a MSSW Permit (Number 402023.03) from the Southwest Florida Water Management District for this portion of the site. The current storm water system utilizes dry retention for treatment. The proposed re-closure is graded so the stormwater runoff generated on the 10-acre closed site primarily discharges to the dry retention area on the north. The County will be applying under a separate application for an Environmental Resource Permit (ERP) from the FDEP for this portion of the site and the modifications that are being presented here. All of the stormwater runoff from the 100-year 24-hour storm event will be retained on-site.

H.8.b Surface Water Management System Design

An ERP Application will be submitted under a separate cover by SCS on behalf of Citrus County. The stormwater management system will be designed such that all of the stormwater runoff from the 100-year 24-hour storm event will be retained on-site

H.8.c Stormwater Control Details

Details of the stormwater controls design, including collection channels, pipes, downchutes, and energy dissipaters, will be presented with the ERP application

H.9 LANDFILL GAS CONTROL SYSTEMS

Section O.1 of this report describes the gas management and controls system.

H.10 INWARD GROUND WATER GRADIENT

This section is not applicable.

SECTION I

HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS

There has been no change to this section.

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SECTION J

GEOTECHNICAL INVESTIGATION REQUIREMENTS

There has been no change to this section.

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SECTION K

VERTICAL EXPANSION OF LANDFILLS

Section K of the permit application does not apply to the Citrus County Central Landfill Construction Permit Application since a vertical expansion of an existing landfill is not planned and is designated as "Not Applicable" 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), which is attached at the beginning of this permit application report.

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SECTION L

LANDFILL OPERATIONS REQUIREMENTS

L.1 TRAINED OPERATORS

There has been no change to this section.

L.2 LANDFILL OPERATION PLAN

L.2.a Citrus County Central Landfill Organization and Responsibilities

There has been no change to this subsection.

L.2.b Contingency Plan

There has been no change to this subsection.

L.2.c Waste Type Control

There has been no change to this subsection.

~~A new tipping fee category has been added at the scalehouse for Class III waste. In the case where entire loads are identified as qualifying Class III waste the load will be directed to the Class III working face for unloading. If the load is primarily Class III with a small amount of other materials the load will be directed to the customer service area, where the waste will be placed in a designated area of the bulky waste bunker. County personnel will sort the load, placing appropriate Class III material in one rolloff container and Class I material in a separate rolloff container. Yard waste will be relocated to the yard waste stockpile. At the end of each day each rolloff box will be delivered to the designated disposal area.~~

L.2.d Weighing Incoming Waste

There has been no change to this subsection.

L.2.e Vehicle Traffic Control

There has been no change to this subsection.

L.2.f Method and Sequence of Filling Waste

There has been no change to this subsection.

~~Section E.7 of this report outline how the waste will be filled into the existing cells once the excess soil is excavated from each area. The design drawings in Attachment E-1 show how the fill sequencing will occur.~~

L.2.g Waste Compaction and Application of Cover

There has been no change to this subsection.

~~Waste that is going to be filled in the new cells will be compacted during the filling operation by a compactor currently being used by the County on site. The working face of the waste will be covered at least weekly or more frequently if needed utilizing initial cover material approve for use on site.~~

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

There has been no change to this subsection.

~~The closed portion of the landfill has existing landfill gas vents that will be preserved until they are encountered during excavation. The gas vents will then be destroyed and replaced by new gas vents evenly spaced across the landfill. The drawings in Attachment E-1 show the location of the existing and proposed gas vents. The two passive gas flares that are on the existing leachate collection risers will be preserved and reinstalled upon completion of filling in Sections 1 and 2.~~

~~The existing leachate collection risers will be preserved and will not have to be extended as the proposed elevation in the vicinity of the risers is only 1-2 feet greater than the existing elevation and the risers currently extend 3 feet above grade.~~

~~The stormwater controls consist of conveyance swales and dry retention areas. The type of controls will not change however there will be some re-direction of stormwater, which will be outlined and modeled in the ERP permit application.~~

L.2.i Water Quality Monitoring

There has been no change to this subsection.

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

There has been no change to this subsection.

L.3 OPERATING RECORD

There has been no change to this section.

L.4 WASTE RECORDS

There has been no change to this section.

L.5 ACCESS CONTROLS

There has been no change to this section.

L.6 LOAD CHECKING PROGRAM

There has been no change to this section.

L.7 SPREADING AND COMPACTING WASTE

L.7.a Waste Layer Thickness and Compaction Frequencies

There has been no change to this subsection.

L.7.b First Layer Thickness

There has been no change to this subsection.

L.7.c Slopes and Lift Depth

There has been no change to this subsection.

L.7.d Working Face

There has been no change to this subsection.

L.7.e Initial Cover Controls

There has been no change to this subsection.

L.7.f Initial Cover Frequency

There has been no change to this subsection.

L.7.g Intermediate Cover

There has been no change to this subsection.

L.7.h Final Cover

There has been no change to this subsection.

L.7.i Scavenging and Salvaging

There has been no change to this subsection.

L.7.j Litter Policing

There has been no change to this subsection.

L.7.k Erosion Control Procedures

There has been no change to this subsection.

L.8 LEACHATE MANAGEMENT

There has been no change to this section.

L.8.a Leachate Monitoring and Sampling

There has been no change to this subsection.

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

There has been no change to this subsection.

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

There has been no change to this subsection.

L.8.d Offsite Discharge and Treatment of Leachate

There has been no change to this subsection.

L.8.e Contingency Plan

There has been no change to this subsection.

L.8.f Recording Leachate Generation

There has been no change to this subsection.

L.8.g Precipitation and Leachate Comparison

There has been no change to this subsection.

L.8.h Leachate Collection System Cleaning

There has been no change to this subsection.

L.9 GAS MONITORING PROGRAM

There has been no change to this section.

L.10 STORMWATER MANAGEMENT SYSTEM

There has been no change to this section.

L.11 EQUIPMENT AND OPERATION

There has been no change to this section.

L.11.a Operating Equipment

There has been no change to this subsection.

L.11.b Reserve Equipment

There has been no change to this subsection.

L.11.c Communications Equipment

There has been no change to this subsection.

L.11.d Dust Control

There has been no change to this subsection.

L.11.e Fire Protection

There has been no change to this subsection.

L.11.f Litter Control

There has been no change to this subsection.

L.11.g Signs

There has been no change to this subsection.

L.12 ALL-WEATHER ACCESS ROAD

There has been no change to this section.

L.13 ADDITIONAL RECORDKEEPING

There has been no change to this section.

L.13.a Permit Application Development

There has been no change to this subsection.

L.13.b Monitoring Information

There has been no change to this subsection.

L.13.c Remaining Site Life Estimates

There has been no change to this subsection.

L.13.d Archiving and Retrieving Records

There has been no change to this subsection.

SECTION M

WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS

There has been no change to this section since the request in RAI #1 to decrease the frequency of testing for certain leachte parameters.

SECTION N

SPECIAL WASTE HANDLING REQUIREMENTS

There has been no change to this section.

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SECTION O

LANDFILL GAS MANAGEMENT SYSTEM REQUIREMENTS

O.1 LANDFILL GAS MANAGEMENT SYSTEM

O.1.a Concentrations of Combustible Gases

There has been no change to this section.

O.1.b Site-specific Design

There has been no change to this section.

O.1.c Reducing Gas Pressure

There are a series of passive gas vents located over the closed portion of the landfill that currently relieve and subsequently reduce the gas pressure from within the landfill. There are as many as 8 passive gas vents that will be affected by the placement of the soil stockpile. In order to assure that the gas venting system continues to function, these vents will be extended as required throughout the placement of the soil stockpile. Below is a description of how these vents will be extended to allow gas to continue to vent from inside the waste mass.

Prior to the placement of soil in the temporary soil storage area the current 6 inch diameter PVC gas vents will be extended upward approximately 5 feet by coupling 5 feet of additional PVC pipe to the current pipe utilizing a 6 inch PVC coupler. To protect the vent a 7 foot long 24 to 36 inch diameter corrugated metal pipe (CMP) section will be placed over the gas vents and pushed approximately 1 foot into the ground for stability. The CMP pipe section will then be partially painted with a bright colored spray paint so it will stand out. As soil is placed in the area around the well locations care will be taken not to contact the CMP. Once the first 5 foot lift of soil has been placed in an area and soil reaches the level of the top of the corrugated pipe section the process of extending the pipe upward will be repeated. Instead of pushing the CMP section into the ground, the new CMP section will be coupled to the first pipe using a coupling band. For added protection clean soil will be added to the inside of the CMP section between the pipe and the vent pipe to assure stability and reduce external pressure on the CMP section. Additional soil may be added around the outside of the CMP to hold the section in place until the next soil lift is placed.

This process will be repeated until the final soil stockpile elevation is reached. As the soil is removed the CMP and PVC sections will be removed until the vent is back to its original elevation.

Should one of the passive gas vents be bumped and cracked a smaller 4 or 5 inch diameter PVC pipe will be inserted inside the 6 inch pipe (slip lined) and extended downward to the existing ground surface elevation to assure that gas is still being vented to the atmosphere.

O.1.d Liner, Leachate Control System or Final Cover Non-Interference

There has been no change to this section.

O.2 LANDFILL GAS MONITORING

There has been no change to this section.

O.3 LANDFILL GAS REMEDIATION AND ODOR REMEDIATION PLANS

**O.4 THERE HAS BEEN NO CHANGE TO THIS SECTION.
LANDFILL GAS RECOVERY FACILITIES**

This section is not applicable since there are no landfill gas recovery facilities at Citrus County Central Landfill.

O.4.a Application Content and Format

This subsection is not applicable.

O.4.b Closure Operation Plan

This subsection is not applicable.

O.4.c Gas Generation and Condensate Disposal Method

This subsection is not applicable

O.4.d Condensate Sampling

This subsection is not applicable.

O.4.e Methods of Controlling Gas

This subsection is not applicable.

O.4.f Performance Bond

This subsection is not applicable.

SECTION P

LANDFILL CLOSURE REQUIREMENTS

This section is not applicable.

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SECTION Q

CLOSURE PROCEDURES

Q.1 SURVEY MONUMENTS

There are no changes to this section.

Q.2 FINAL SURVEY REPORT

There are no changes to this section

Q.3 CERTIFICATION OF CLOSURE CONSTRUCTION

There are no changes to this section.

Q.4 DECLARATION TO THE PUBLIC

There are no changes to this section.

Q.5 OFFICIAL DATE OF CLOSING

There are no changes to this section.

Q.6 USE OF CLOSED LANDFILL AREAS

A portion of the closed area of the landfill has been proposed for temporary soil storage to allow several landfill improvement construction projects to occur simultaneously. The details of the storage pile operation are outlined below

Timeframe

The stockpile will begin receiving soil once the first construction project gets underway in the first quarter of 2009. The stockpile area will be used throughout the three construction projects (7-acre Closed Cell Reclosure, Phase III landfill Expansion and Transfer Station construction) that are scheduled between Q1 2009 through Q4 2011. Upon completion of the last project the soil stockpile area will have the soil removed as it is utilized on site. Once the soil stockpile is exhausted then the area will be returned to its current long term care condition. This timeframe is dependent upon several factors including permit acquisition and waste volume received. A more definitive timeframe will be provide with the Operations Permit renewal that is scheduled for February 2010

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Start up

The operation of the temporary soil stockpile area will begin by marking the intended storage area. Concrete blocks will be placed at the corners and along the edges of the stockpile area at 100 foot intervals.

The two proposed access roads will then be constructed from the existing roadways to the temporary soil storage area. The access road from the closed portion of the landfill on the western side of the storage area will be constructed first to serve the closed cell reclosure project which is scheduled to begin first. The access road from the east will be constructed as required during the 7 acre cell reclosure or once the Phase III project commences.

The two access roads will be constructed by placing clean fill soil over the existing ground surface area and building the road up to the appropriate elevation for drainage then placing a layer of sub-base material then the roadway surface. The roadway surface will be constructed of limerock or recycled asphalt. In the case of the access road from the west, the road will be built up 2-6 feet from the current elevation to accommodate a culvert for stormwater. The road from the east will mostly follow the current contours with a minimum 1.5 foot elevation increase to protect the underlying cap.

The road from the west and the second half of the road from the east will be constructed over an area that contains an existing PVC cap. The additional fill and surface treatment used to construct the access road will spread the load of the vehicles out over a large area due to the footprint of the roadway cross section. This will allow for loads to be distributed and not significantly impact the current liner. The access roads will be maintained over the time period during which the stockpile area is utilized and observations will be made to assure there is no significant settlement in the areas where the access roads are constructed.

Placement of Soil

The placement of the soils on the storage pile area will be conducted such that all areas of the soil-storage area will be equally burdened over time. Roughly one acre of the 5 acre-area will be utilized at one time until the soil level on that one acre is approximately 5 feet in depth. The placement of soil will then move to the second acre area and soil will be placed there until the depth is approximately five feet then a third acre will be utilized and so on until all five acres have one five foot lift in place. This process will be repeated in 5 foot lifts until all soil is placed. This type soil placement will allow for each area of the soil storage area to settle to an equilibrium point before additional soils are placed. Thus, any settlement that may result from the soil pile will be slow and equally distributed along with the placed soils.

Restoration of Area

Once the temporary soil storage area is no longer needed the area will be restored to the existing conditions by removing the access roads and performing regrading assure proper stormwater run-off. Final elevations will exceed current elevations, and mimic current topography thus ensuring a minimum of 2 feet of cover over the liner. The area will then be resodded or seeded as necessary to restore vegetative cover. If any of the landfill gas vents are compromised in any way during the soil storage placement or area restoration, those vents will be replaced. These measures will restore the area to its current condition

Q.7 RELOCATION OF WASTES

This section is not applicable

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SECTION R

LONG TERM CARE REQUIREMENTS

There has been no change to this section.

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SECTION 5

FINANCIAL RESPONSIBILITY REQUIREMENTS

This section is not applicable.

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ATTACHMENT 2
CITRUS COUNTY CENTRAL CLASS I LANDFILL
OPERATIONS PLAN

ATTACHMENT L-1
CITRUS COUNTY CENTRAL
CLASS I LANDFILL
OPERATIONS PLAN

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JUL 24 2008
SOUTHWEST DISTRICT
TAMPA

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SECTION 1

EXECUTIVE SUMMARY

The purpose of this document is to provide a consolidated manual of operating procedures for the Citrus County Central Landfill, including the Phase 2 expansion area. This document is part of the application to the Florida Department of Environmental Protection (FDEP) for an operations permit for the Phase 2 expansion. This operations plan supersedes previous operations plans submitted to FDEP for this facility.

This plan has been prepared in accordance with Florida Rule 62-701, Florida Administrative Code (F.A.C.). Part L of FDEP's permit application form for solid waste management facilities (Part L) includes requirements for an operations plan. All information identified in Part L is provided herein, or in referenced documents. This operations plan is organized in accordance with Part L. In addition, Table 1-1 cross-references this document with the requirements of Part L.

TABLE 1-1 CROSS REFERENCE OF FDEP PERMIT APPLICATION, PART L REQUIREMENTS	
Part L Landfill Operation Requirements (Rule 62-701.500, F.A.C.)	Corresponding Section of Operation Plan
1. Provide documentation that landfill will have at least one trained operator during operation and at least one trained spotter at each working face; (62-701.500(1), F.A.C.)	Section 2.1
2. Provide a landfill operation plan including procedures for: (62-701.500(2), F.A.C.)	
a. Designating responsible operating and maintenance personnel;	Section 2.2
b. Contingency operations for emergencies;	Section 2.3
c. Controlling types of waste received at the landfill;	Section 2.4
d. Weighing incoming waste;	Section 2.5
e. Vehicle traffic control and unloading;	Section 2.6
f. Method and sequence of filling waste;	Section 2.7
g. Waste compaction and application of cover;	Section 2.8
h. Operations of gas, leachate, and stormwater controls;	Section 2.9
i. Water quality monitoring;	Section 2.10

TABLE 1-1
CROSS REFERENCE OF FDEP PERMIT APPLICATION, PART L REQUIREMENTS

Part L Landfill Operation Requirements (Rule 62-701.500, F.A.C.)	Corresponding Section of Operation Plan
j. Maintaining and cleaning the leachate collection system.	Section 2.11
3. Provide a description of the landfill operation record to be used at the landfill; details as to location of where various operational records will be kept (i.e. FDEP permit, engineering drawings, water quality records, etc.); (62-701.500(3), F.A.C.)	Section 3
4. Describe the waste records that will be compiled monthly and provided to the Department quarterly; (62-701.500(4), F.A.C.)	Section 4
5. Describe methods of access control; (62-701.500(5), F.A.C.)	Section 5
6. Describe load checking program to be implemented at the landfill to discourage disposal of unauthorized wastes at the landfill; (62-701.500(6), F.A.C.)	Section 6
7. Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7), F.A.C.)	Section 7.1
a. Waste layer thickness and compaction;	Section 7.2
b. Special considerations for first layer of waste placed above liner and leachate collection system;	Section 7.3
c. Slopes of cell working face and side grades above land surface, planned lift depths during operation;	Section 7.4
d. Maximum width of working face;	
e. Description of type of initial cover to be used at the facility that controls:	Section 7.5
1) Disease vector breeding/animal attraction	Section 7.5
2) Fires	Section 7.5
3) Odors	Section 7.5
4) Blowing litter	Section 7.5

**TABLE 1-1
CROSS REFERENCE OF FDEP PERMIT APPLICATION, PART L REQUIREMENTS**

Part L Landfill Operation Requirements (Rule 62-701.500, F.A.C.)	Corresponding Section of Operation Plan
5) Moisture infiltration 6) Procedures for applying initial cover including minimum cover frequencies; 7) Procedures for applying intermediate cover; 8) Time frames for applying final cover; 9) Procedures for controlling scavenging and salvaging; 10) Description of litter policing methods; 11) Erosion control procedures.	Section 7.5 Section 7.6 Section 7.7 Section 7.8 Section 7.9 Section 7.10
8. Describe operational procedures for leachate management including: (62-701.500(8), F.A.C.) a. Leachate level monitoring, sampling, analysis and data results submitted to the Department; b. Operation and maintenance of leachate collection and removal system, and treatment as required; c. Procedures for managing leachate if it becomes regulated as a hazardous waste; d. Agreements for off-site discharge and treatment of leachate; e. Procedure for off-site leachate treatment; f. Contingency plan for managing leachate during emergencies or equipment problems; g. Procedures for recording quantities of leachate generated in gal/day and including this in the operating record; h. Procedures for comparing precipitation experienced at the landfill with leachate generation rates and including this information in the operating record; i. Procedures for water pressure cleaning or video inspecting leachate collection systems.	Section 8.1 Section 8.2 Section 8.3 Section 8.4 Section 8.5 Section 8.6 Section 8.7 Section 8.8 Section 8.9
9. Describe how the landfill receiving degradable wastes shall implement a gas management system meeting the	Section 9

TABLE 1-1
CROSS REFERENCE OF FDEP PERMIT APPLICATION, PART L REQUIREMENTS

<p style="text-align: center;">Part L Landfill Operation Requirements (Rule 62-701.500, F.A.C.)</p>	<p style="text-align: center;">Corresponding Section of Operation Plan</p>
<p>requirements of Rule 62-701.530, F.A.C.; (62-701.500(9), F.A.C.)</p> <p>10. Describe procedures for operating and maintaining the landfill stormwater management system to comply with the requirements of Rule 62-710.400(9); (62-701.500(10), F.A.C.)</p> <p>11. Equipment and operation feature requirements; (62-701.500(11), F.A.C.)</p> <p style="padding-left: 40px;">a. Sufficient equipment for excavating, spreading, compacting and covering waste;</p> <p style="padding-left: 40px;">b. Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown;</p> <p style="padding-left: 40px;">c. Communications equipment;</p> <p style="padding-left: 40px;">d. Dust control methods;</p> <p style="padding-left: 40px;">e. Fire protection capabilities and procedures for notifying local fire department authorities in emergencies;</p> <p style="padding-left: 40px;">f. Litter control devices;</p> <p style="padding-left: 40px;">g. Signs indicating operating authority, traffic flow, hours of operation, disposal restrictions.</p> <p>12. Provide a description of all-weather access road, inside perimeter road and other roads necessary for access which shall be provided at the landfill; (62-701.500(12), F.A.C.)</p> <p>13. Additional record keeping and reporting requirements: (62-701.500(13), F.A.C.)</p> <p style="padding-left: 40px;">a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill;</p> <p style="padding-left: 40px;">b. Monitoring information, calibration and maintenance records, copies of reports required by permit maintained for at least 10 years;</p> <p style="padding-left: 40px;">c. Maintain annual estimates of remaining life of constructed landfills and or other permitted</p>	<p style="text-align: center;">Section 10</p> <p style="text-align: center;">Section 11.1</p> <p style="text-align: center;">Section 11.2</p> <p style="text-align: center;">Section 11.3</p> <p style="text-align: center;">Section 11.4</p> <p style="text-align: center;">Section 11.5</p> <p style="text-align: center;">Section 11.6</p> <p style="text-align: center;">Section 11.7</p> <p style="text-align: center;">Section 12</p> <p style="text-align: center;">Section 13.1</p> <p style="text-align: center;">Section 13.2</p> <p style="text-align: center;">Section 13.3</p>

**TABLE 1-1
CROSS REFERENCE OF FDEP PERMIT APPLICATION, PART L REQUIREMENTS**

Part L Landfill Operation Requirements (Rule 62-701.500, F.A.C.)	Corresponding Section of Operation Plan
d. areas not yet constructed and submit this estimate annually to the Department; Procedures for archiving and retrieving records which are more than five year old.	Section 13.4

Current Operating Conditions

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 area that is subdivided into smaller areas referred to as phases. At this time waste is disposed of in the area designated as Phase 1, 1A, and 2. A site plan of the Citrus County landfill, including the Phase 2 disposal area, 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.

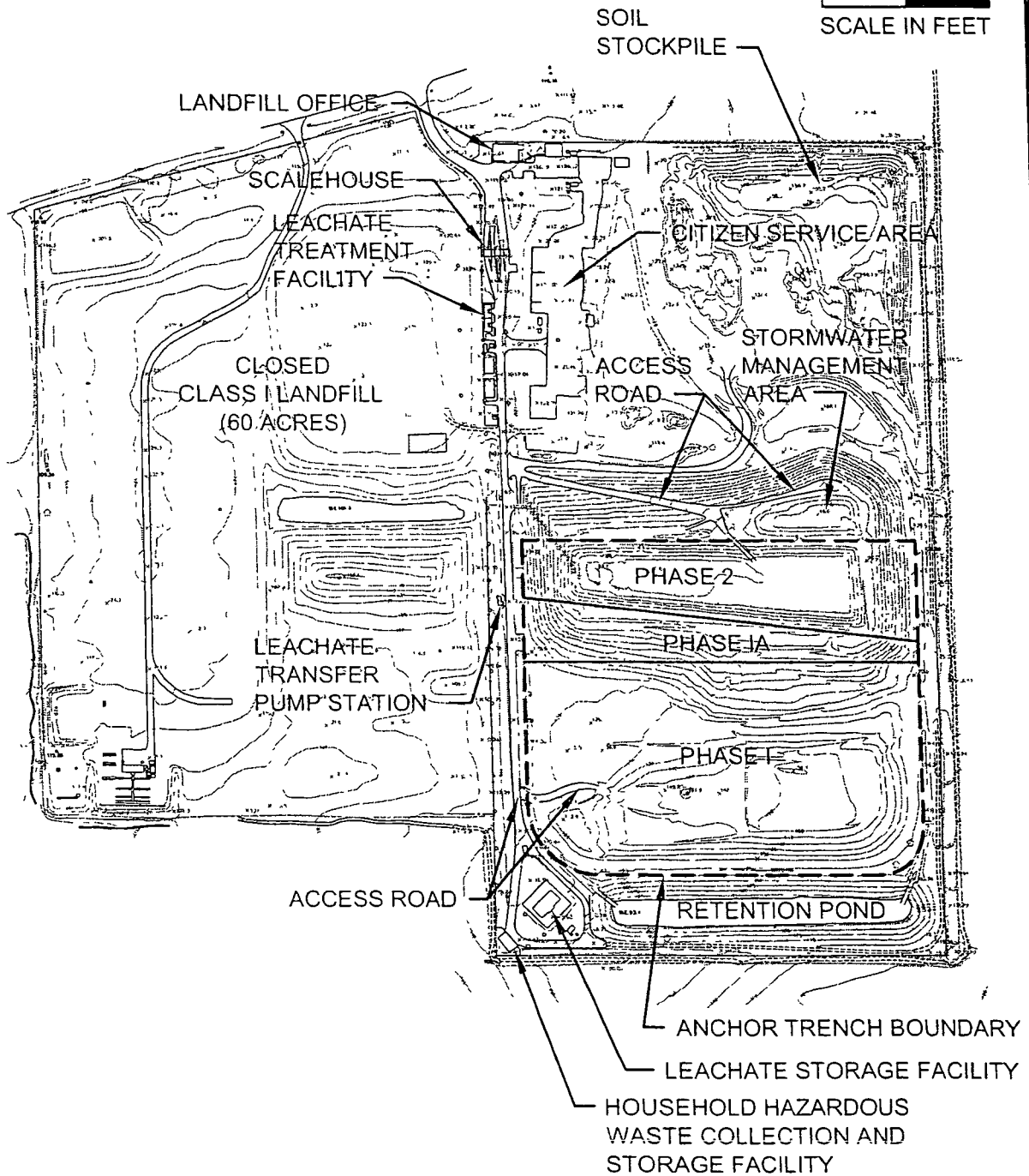
A ramp to and from the filling area provides access to the working face of the landfill from the west side of the Class I landfill via the central access road. Waste is spread over the working face area of the landfill, placed in two-foot layers, compacted by a compactor, and covered at the end of the working day.

Leachate generated from the landfill is pumped to the leachate storage facility prior to treatment in the onsite leachate treatment plant. The leachate storage facility is located on the southwest side of the Class I landfill and the leachate treatment facility is located on the northwest side of the Class I landfill. The facility's leachate system is self-contained. Effluent from the leachate treatment plant is disposed of in one of two on-site percolation ponds. Dried solids generated from the leachate treatment plant are disposed of in the landfill. If leachate cannot be treated at the on site treatment plant, 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.

SOURCE NOTE:

PHOTOGRAMMETRIC SURVEY PERFORMED BY KUCERA
SOUTH OF LAKE LAND, FLORIDA. AERIAL
PHOTOGRAPHY DATE: OCTOBER 14, 2004.



SCS ENGINEERS

Figure 1-1. Site Plan, Citrus County Central Landfill.

SECTION 2

LANDFILL OPERATIONS AND MAINTENANCE (RULE 62-701.500(2), F.A.C.)

Figure 2-1 is a site plan of the active area of the landfill including Phase 2.

2.1 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. In addition, 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., as adopted May 27, 2001. 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 Operator 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 (SWMTTC 8 hours) and/or Waste Screening and Identification for Landfill Operators and Spotters (SWMTTC 8 hours) conducted by the University of Florida TREEO Center or other SWMTTC approved providers. Every three years landfill operators 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.

2.2 DESIGNATION OF PERSONS RESPONSIBLE FOR OPERATION AND MAINTENANCE (Rule 62-701.500(2)(a), F.A.C.)

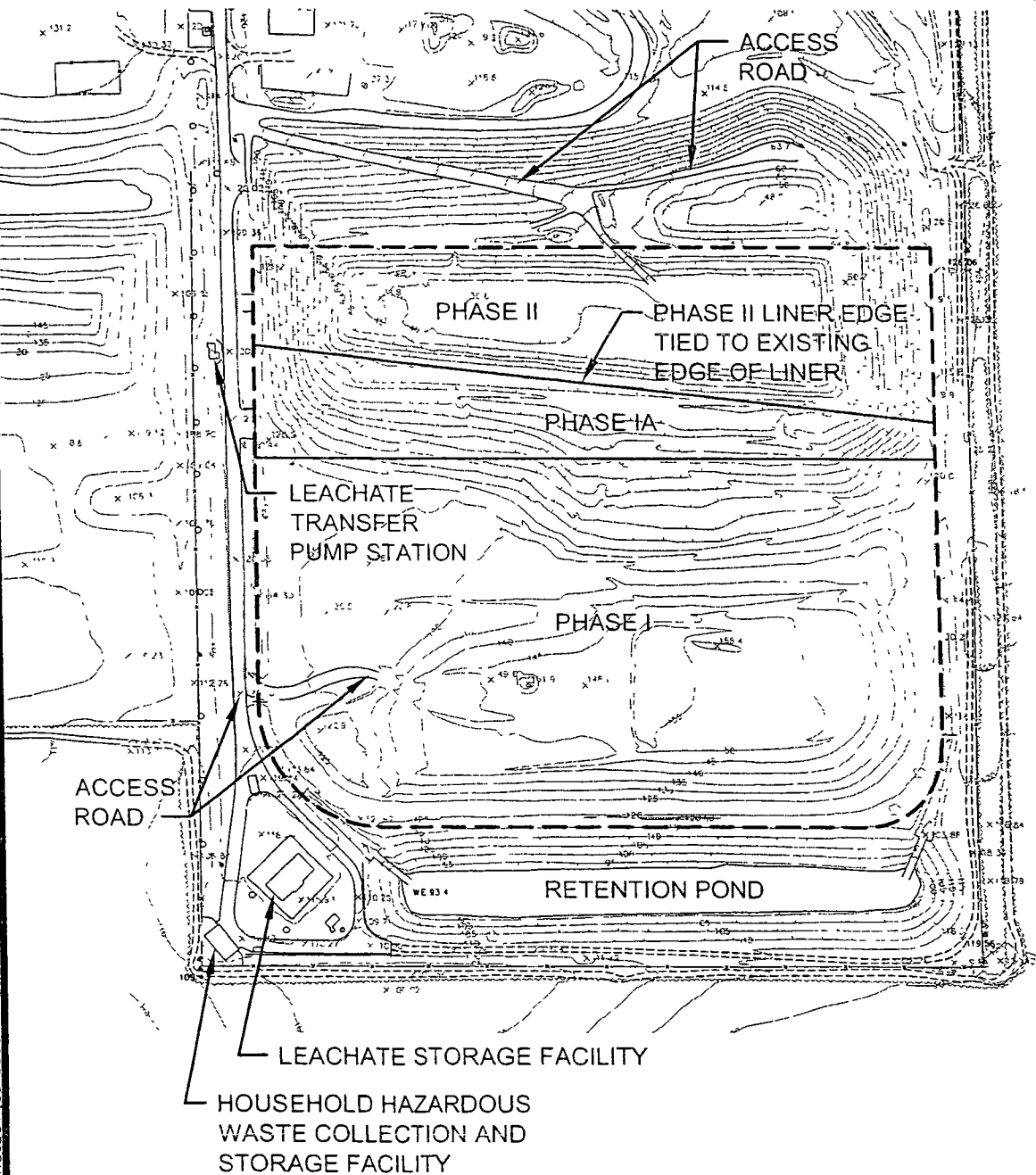
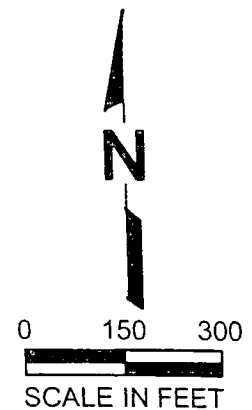
The persons directly responsible for major components of the landfill follow:

<u>Component</u>	<u>Responsible Party</u>
Operations	Field Crew Leader or Customer Service Crew Leader
Repair and Maintenance	Solid Waste Management Division Director
Permitting Requirements	Solid Waste Management Division Director
Water Quality and Leachate Testing	Solid Waste Management Division Director

The landfill Field Crew Leader or Customer Service Crew Leader has overall responsibility for the operation of the landfill. The landfill Field Crew Leader or Customer Service Crew Leader is responsible for the day-to-day implementation of the operations plan and, along with the Solid Waste Management Division Director, is responsible for environmentally safe operations in accordance with state and federal regulations.

SOURCE NOTE:

PHOTOGRAMMETRIC SURVEY PERFORMED BY KUCERA
SOUTH OF LAKE LAND, FLORIDA. AERIAL
PHOTOGRAPHY DATE: OCTOBER 14, 2004.



SCS ENGINEERS

Figure 2-1. Active Area Site Plan, Citrus County Central Landfill

2.3 CONTINGENCY OPERATIONS FOR EMERGENCIES

(Rule 62-701.500(2)(b), F.A.C.)

The contingency 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

2.3.1 Emergency Incidents Plan

Citrus County has developed a site specific Emergency Incidents Plan which is included in Appendix A. This plan includes additional detail for responding to emergency incidents at the Central Landfill.

2.3.2 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 Coordinator. Within 24 hours of notification of the Landfill Maintenance Coordinator, 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.

2.3.3 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.

2.3.4 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.

2.3.5 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.

2.4 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 scalehouse. Scalehouse attendants screen visible loads for unacceptable materials including recyclables, hazardous waste, and medical waste. From the scalehouse, it is 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 is placed at the HHW facility 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 which is collected daily 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 Citrus County Hazardous Waste Collection and Storage Facility (2004), which is on file at the landfill office. The current schedule allows for periodic program days for HHW 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 Collection/Storage 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.
- Non-latex paints shall not be air dried.

- 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 monthly and maintained at the facility for Department review upon request.

The specific waste handling procedures for this facility is described in the Facility Standards for the Citrus County Hazardous Waste Collection and Storage Facility, 2004, which is on file in the landfill office.

2.5 WEIGHING OF INCOMING WASTES (RULE 62-701.500(2)(D), F.A.C.)

Weighing of incoming wastes will be performed at the scalehouse. 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.

2.6 VEHICLE TRAFFIC CONTROL AND UNLOADING (Rule 62-701.500(2)(e), F.A.C.)

All traffic entering the landfill must pass through the scalehouse. Vehicle traffic control and unloading is directed by color-coded signage for unloading areas and the attendant in the scalehouse. 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.

2.7 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. Following this method waste will be placed in 10-foot lifts across the site. The fill sequencing plans for the remainder of Phase 1 and Phase 2 are provided in Attachment E-1.

2.8 WASTE COMPACTION AND APPLICATION OF COVER (Rule 62-701.50(2)(g), F.A.C.)

2.8.1 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 two (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 approximately 1 week prior to the placement of waste. 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 compacting 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.

2.8.2 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 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 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.

2.8.3 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 surface capable of supporting vegetative growth

- Composite drainage net layer (geosynthetic filter fabric with drainage net)
- 40-mil textured geomembrane

2.9 OPERATION OF GAS, LEACHATE, AND STORMWATER CONTROLS (Rule 62-701.500(2)(h), F.A.C.)

2.9.1 Landfill Gas Controls

Passive gas vents will be installed as part of final closure for the landfill. If it becomes apparent prior to or at the time of closure that passive vents are not adequate to control migration of landfill gas from the landfill, an active landfill gas control system will be installed. The operations plan will be updated as necessary to provide for operation and maintenance of the landfill gas controls.

2.9.2 Leachate Controls

Leachate is collected by a leachate collection and transfer system. The leachate is conveyed by gravity to a leachate sump located as shown in the Citrus County Central Landfill Phase 2 Expansion Construction Plan Sets. Collected leachate is pumped from the leachate sump in the landfill to an existing leachate storage tank. Additional information is provided in Section 8.0 of this operations plan.

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.

2.9.3 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 three (3) working days. Documentation of all inspections and repairs will be kept on file at the landfill office.

2.10 WATER QUALITY MONITORING (Rule 62-701.500(2)(i), F.A.C.)

Groundwater and leachate monitoring will be conducted as described in the Citrus County Central Landfill Groundwater Monitoring Plan. The latest version of the plan was submitted and approved as part of the minor operation permit modification submitted by JEA

and approved by FDEP April, 24, 2007. This document will be updated periodically based on current operation permit requirements with a current copy held in the solid waste administration offices at the landfill.

2.11 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, treatment, and disposal facilities for the closed portion and the Phase 1, 1A, and 2 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. See Section 8.2 for a description of the operation and maintenance procedures. Inspection and cleaning of the system will be performed every 5 years. Inspection of storage and treatment tanks will be performed every 3 years.

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SECTION 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)
- Random load checking records
- Leachate quantities, sampling, and analysis
- On-site rain gauge data
- Monthly leachate operating reports (FDEP monthly facility report)
- Annual estimates of remaining capacity (permitted disposal) in cubic yards
- Regulatory agency inspection reports
- Groundwater and leachate 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

SECTION 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 sludges; and
- Waste tires.

Reports are compiled monthly and maintained and are made available to FDEP on request.

SECTION 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 4:30 p.m.

Holidays and Saturday: 6:30 a.m. to 2:30 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.

SECTION 6

WASTE MONITORING (RULE 62-701.500(6), F.A.C.)

6.1 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 three (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 restricted 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 regulated hazardous waste or biomedical waste is observed, the Crew Leader will implement the Solid Waste Management Operations Emergency Response Plan for the Identification of Regulated Hazardous Waste. This plan is provided in Appendix A. This plan includes notifying FDEP, persons responsible for shipping the wastes, and 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 2.4 for procedures for handling special wastes.
8. If any large quantities of household hazardous waste are identified, 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.

6.2 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. Hazardous waste identified during the load checking program will temporarily be stored in the household hazardous waste collection and storage facility, and all handling procedures must follow the Household Hazardous Waste Operations Plan, which is on file in the landfill office.

If unauthorized material is transported to the facility, the Crew Leader or Division Director will be notified immediately and appropriate actions taken to remove any unauthorized materials or wastes from the facility. Special wastes such as waste tires and batteries that are discovered will be removed from the landfill and placed in the on-site temporary storage area for recyclable material. The Citrus County Special Operations response team is notified for handling and storage of hazardous materials for disposal in an appropriate off-site facility.

6.3 RECORDING INSPECTION RESULTS (Rule 62-701.500(6)(c), F.A.C.)

Results of the load checking inspections described in Section 6.1 of this document will be recorded in writing and retained at the landfill. 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 B.

SECTION 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.

7.1 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.

7.2 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.

7.3 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.

7.4 WIDTH OF WORKING FACE (Rule 62-701.500(7)(d), F.A.C.)

The working face will 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.

7.5 INITIAL/DAILY COVER (Rule 62-701.500(7)(e), F.A.C.)

Daily cover will be placed over the waste at the end of each working day. 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.

7.6 INTERMEDIATE COVER (Rule 62-701.500(7)(f), F.A.C.)

If additional solid waste will not be deposited in a location within 180 days of daily cover

placement, a 12-inch compacted 50/50 mixture of soil and mulch intermediate cover will be placed within 7 days of daily cover placement.

7.7 FINAL COVER (Rule 62-701.500(7)(g), F.A.C.)

Phase 2 will receive final cover as portions of the facility are closed. A description of the final cover can be found in Section 2.8.3 of this plan.

7.8 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.

7.9 LITTER POLICING METHODS (Rule 62-701.500(7)(i), 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.

7.10 EROSION CONTROL (Rule 62-701.500(7)(j), F.A.C.)

Soil cover erosion control measures will be integrated into landfill operations to collect and transport stormwater without exposing solid waste and creating leachate. 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

7.10.1 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.

7.10.2 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.

7.10.3 Inspections

The intermediate soil cover will be regularly inspected for erosion damage. Any damage that is discovered will be repaired within 3 days.

SECTION 8

LEACHATE MANAGEMENT (RULE 62-701.500(8), F.A.C.)

Leachate is collected in 8-inch gravity header pipes that slope from east to west. These gravity header pipes drain into the leachate collection sump located on the west side of the landfill. Clean outs are provided at each end of the header pipe to allow access for inspection and cleaning. Pumps in side-slope risers pump the leachate to the leachate storage tank prior to treatment in an on-site leachate treatment plant.

8.1 MONITORING, SAMPLING, AND ANALYSIS OF LEACHATE (Rule 62-701.500(8)(a), F.A.C.)

The Division Director is responsible for leachate monitoring, sampling, and analysis, and for providing copies of the leachate analysis to FDEP. Leachate sampling and analysis is addressed in the Citrus County Central Landfill Groundwater Monitoring Plan Evaluation, Attachment M-1. Sampling and analysis will be conducted by qualified contractors and will meet applicable FDEP requirements.

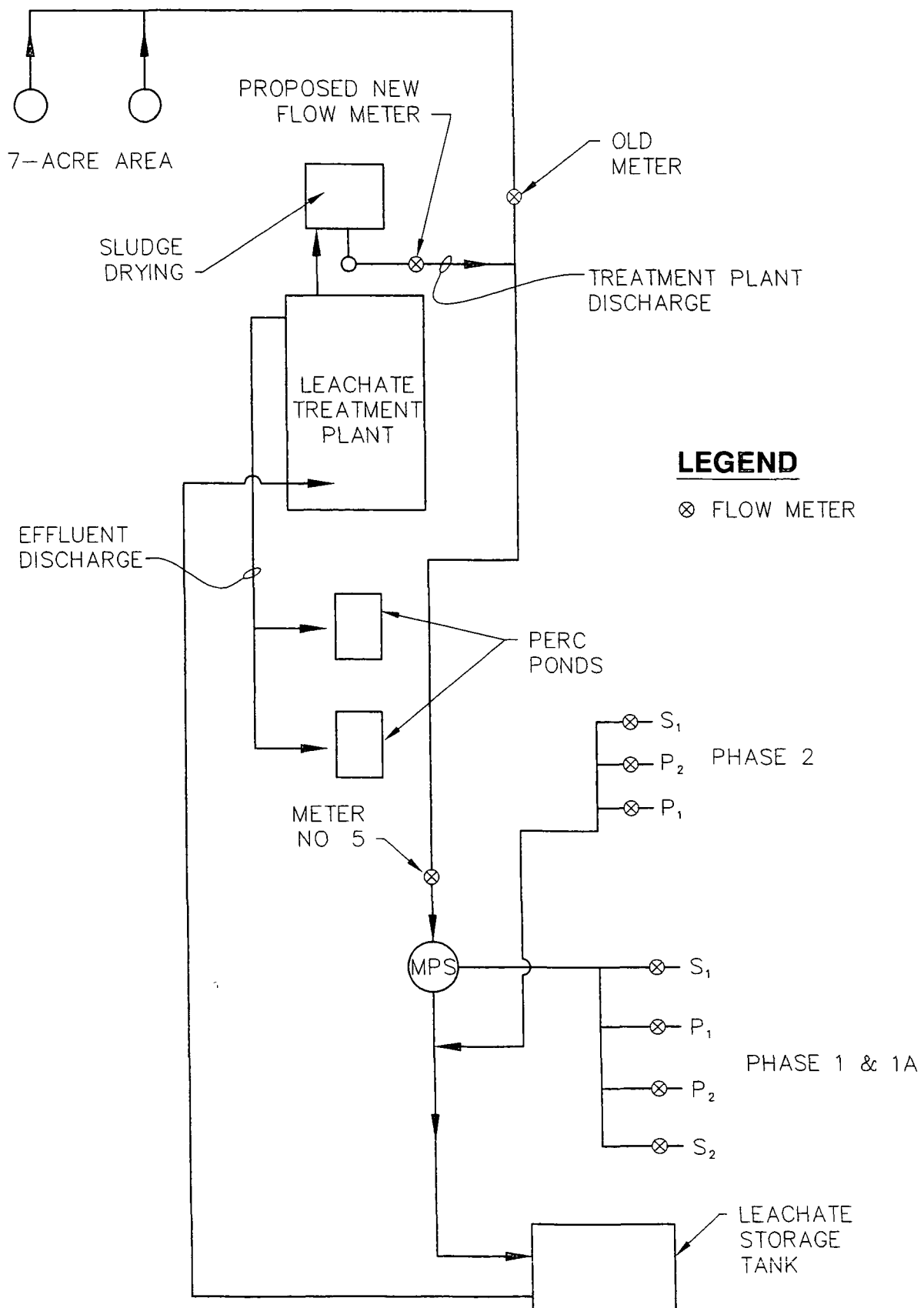
The depth of leachate over the liner is monitored with level transducers on the leachate removal pumps. In addition, the leachate pump side slope risers and leachate collection pipe clean out side-slope risers provide a mechanism to observe leachate levels through physical measurements. Complete details of the pumps and side slope risers are provided in the Phase 2 Construction Plans.

8.2 OPERATION AND MAINTENANCE OF LEACHATE COLLECTION SYSTEM (Rule 62-701.500(8)(b), F.A.C.)

The Utility Operator will be responsible for maintenance of the leachate systems, including the piping, pump stations, and piping to the leachate storage tank and treatment plant. A schematic diagram of the leachating pumping and treatment system is shown in Figure 8-1. 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 C. 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.

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SCS ENGINEERS

Figure 8-1. Leachate Flow Schematic

- Installation instructions.
- Original manufacturer's parts list, illustrations, and detailed assembly drawings.
- Spare parts ordering instructions.
- Manufacturer's printed operating and maintenance instructions.

Stormwater that is collected and retained within the working face area will be pumped to the leachate storage tank using the County's hydraulic pump. Contaminated stormwater will be pumped through the network of temporary pipe setup within the landfill working area. Information in the hydraulic pump and the piping network is provided in Appendix D.

Flow will be monitored from the leachate pumps. Facility personnel will record leachate flows daily. 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 flow will be reported with the quarterly facility monitoring report. Leachate generation/flow records will be kept at the facility as part of the official operation record.

Daily maintenance on each leachate pump station will also include reading flow meters and making sure each pump is operational. 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.

8.3 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.

8.4 OFF-SITE TREATMENT (Rule 62-701.500(8)(c), F.A.C.)

Leachate is normally treated and disposed of on site. If off site treatment and disposal is necessary, leachate will be transported to one of several Citrus County Utilities wastewater treatment plants. No written agreement exists with Citrus County Utilities because it is a division of this department.

8.5 ON-SITE TREATMENT (Rule 62-701.500(8)(d), F.A.C.)

Leachate will be treated onsite. A powdered activated carbon enhanced, activated sludge plant treats all leachate generated at the landfill. This plant, manufactured by ZIMPRO, provides sequential batch treatment in two stages. There are two first stage reactors and one-second stage reactor. The first stage is aerobic for nitrification of the ammonia in the leachate, and the second is an anoxic treatment process for denitrification. The second stage is supplemented with methanol to support the microorganisms due to low influent nutrients. Carbon provides removal of metals, complex organics and serves as microbial attachment medium. Mobile dissolved ions are not removed. After filtration and chlorination, the effluent is ready for on-site disposal. Sludge from the treatment process is dewatered and disposed in the landfill. The Leachate System Operation Process and Instrumentation Diagram (P&ID) is filed in the landfill office and provides further information on the operation of the leachate collection and treatment system.

The leachate is initially pumped to the on-site leachate storage tank prior to treatment. Liquid levels will be measured daily in the leachate storage tank units. The tank exterior will be visually inspected weekly. The tank interior will be inspected at least every three years, and more frequently if it is drained. At the time of draining, accumulated sediment will be removed and interior maintenance will be performed. If failures are detected, repairs will be made as soon as possible and before tank is brought back into operation. Electrical and mechanical equipment maintenance will follow manufacturer's recommendations. Inspection reports will be kept in the landfill office.

The leachate treatment system is permitted to treat up to 30,000 gallons per day (gpd) of raw leachate. Presently, with the operation of the 7-acre closed areas and Phases 1 and 1A, the system treats about 8,500 gpd on an annual average. The system has treated up to 14,300 gpd.

With the addition of Phase 2 landfilling operations hydrogeological modeling of the early operations sequence indicates an average flow of 3,000 gpd of leachate will be generated in addition to the leachate generated from the other areas. Using the historical leachate generation quantities for Phase 1 and 1A is considered conservative because as landfilling in these areas reaches higher elevations larger areas will be subject to steeper slopes thus less leachate should be generated.

Based on the assumptions listed above, it is expected that total average daily leachate generation from all areas should be less than 12,000 gpd. This results in a capacity excess of over 50% when compared to the permitted treatment capacity of the leachate treatment system.

Based on the operating record of the leachate treatment system, reports of influent and effluent quality and groundwater monitoring at the effluent disposal ponds, the leachate treatment system is performing adequately.

8.6 CONTINGENCY PLAN FOR MANAGING LEACHATE (Rule 62-701.500(8)(e), F.A.C.)

If on site leachate treatment 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 off site disposal ability is not anticipated.

8.7 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 (See Figure 8-1). 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 older meter shown on Figure 8-1 is no longer being used.

A new flow meter has been ordered to be installed at the discharge location for the treatment plant discharge, which is re-circulated 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. By subtracting the metered flow from the treatment plant, the County will have a detinative volume for flow coming from the 7-acre closed area.

8.8 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.

8.9 INSPECTION AND CLEANING (Rule 62-101.500(8)(h), F.A.C.)

The new leachate collection system for Phase 2 has been pressure cleaned and inspected by video recording after construction and prior to the initial placement of waste in Phase 2. Thereafter, existing leachate collection systems at the Citrus County Landfill will be pressure cleaned or inspected by video 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 E.

SECTION 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 and 2) 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.

9.1 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 Florida Department of Environmental Protection (FDEP), the new 18 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. Attachment 9-1 is a site map showing the LFG monitoring probe locations and Attachment 9-2 Show a detail of the gas probes.

9.1.1 Landfill Areas

The landfill areas on site include the closed 60-acre landfill and the active Phase 1/1A and Phase 2 landfill cells. The closed 60-acre landfill is an unlined landfill that 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.

9.2 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.

Attachments 9-2 and 9-3 show floor plans for the Administration and scalehouse buildings, respectively

9.3 GAS MONITORING PROCEDURES

9.3.1 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.

9.3.2 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.

9.3.2.1 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

9.3.2.2 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

9.3.2.3 Leachate Treatment Plant--

Methane concentration will be checked at the following locations at the leachate treatment plant:

- 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

9.3.2.4 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

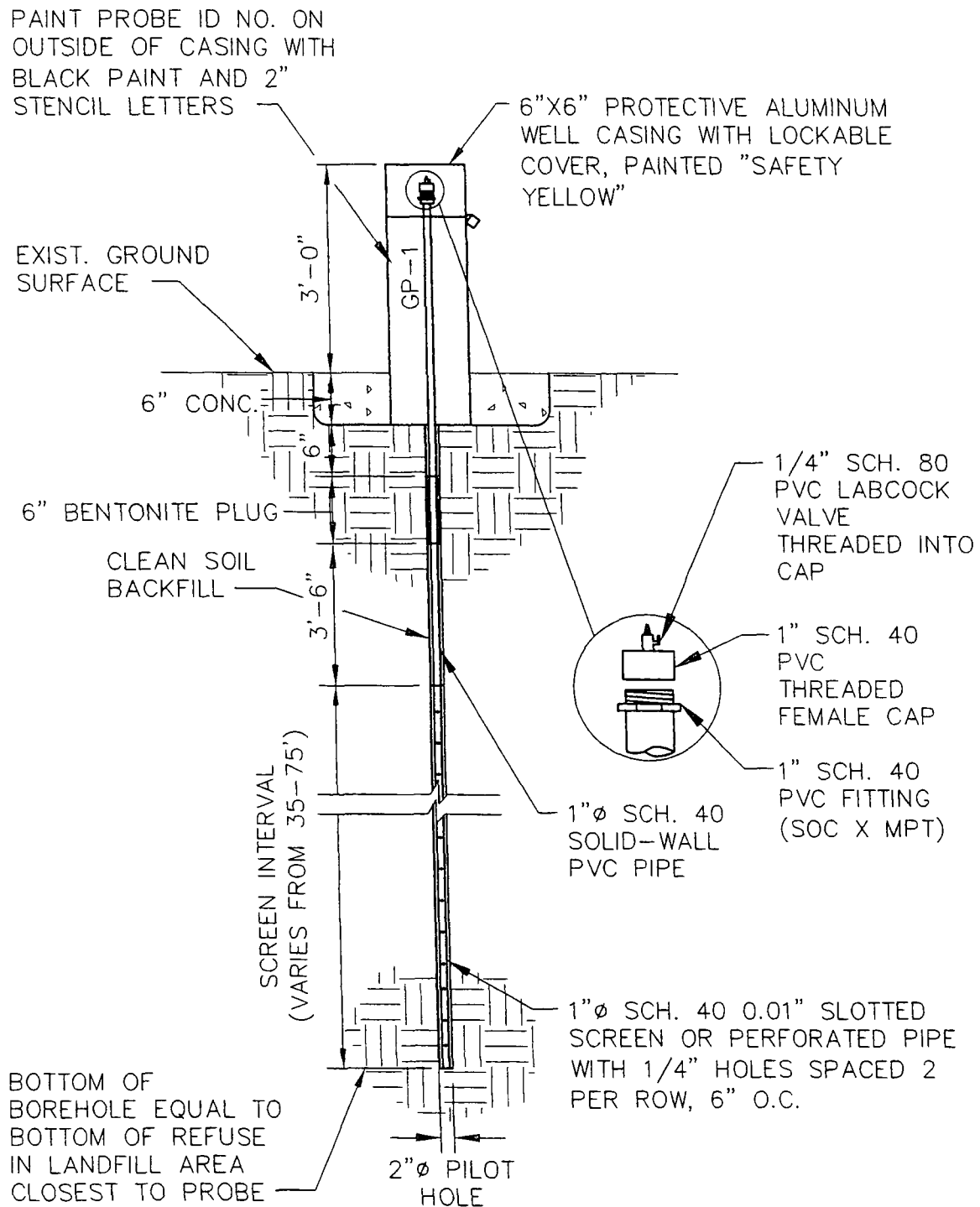
9.4 REPORTING

Results of the monitoring will be reported to FDEP quarterly. A copy of the proposed monitoring form is included as Attachment 9-4 to this plan.

If the results of the monitoring show that combustible gas concentrations exceed the limits specified in Rule 620710.530(1)(a), F.A.C., Citrus County will take the following actions:

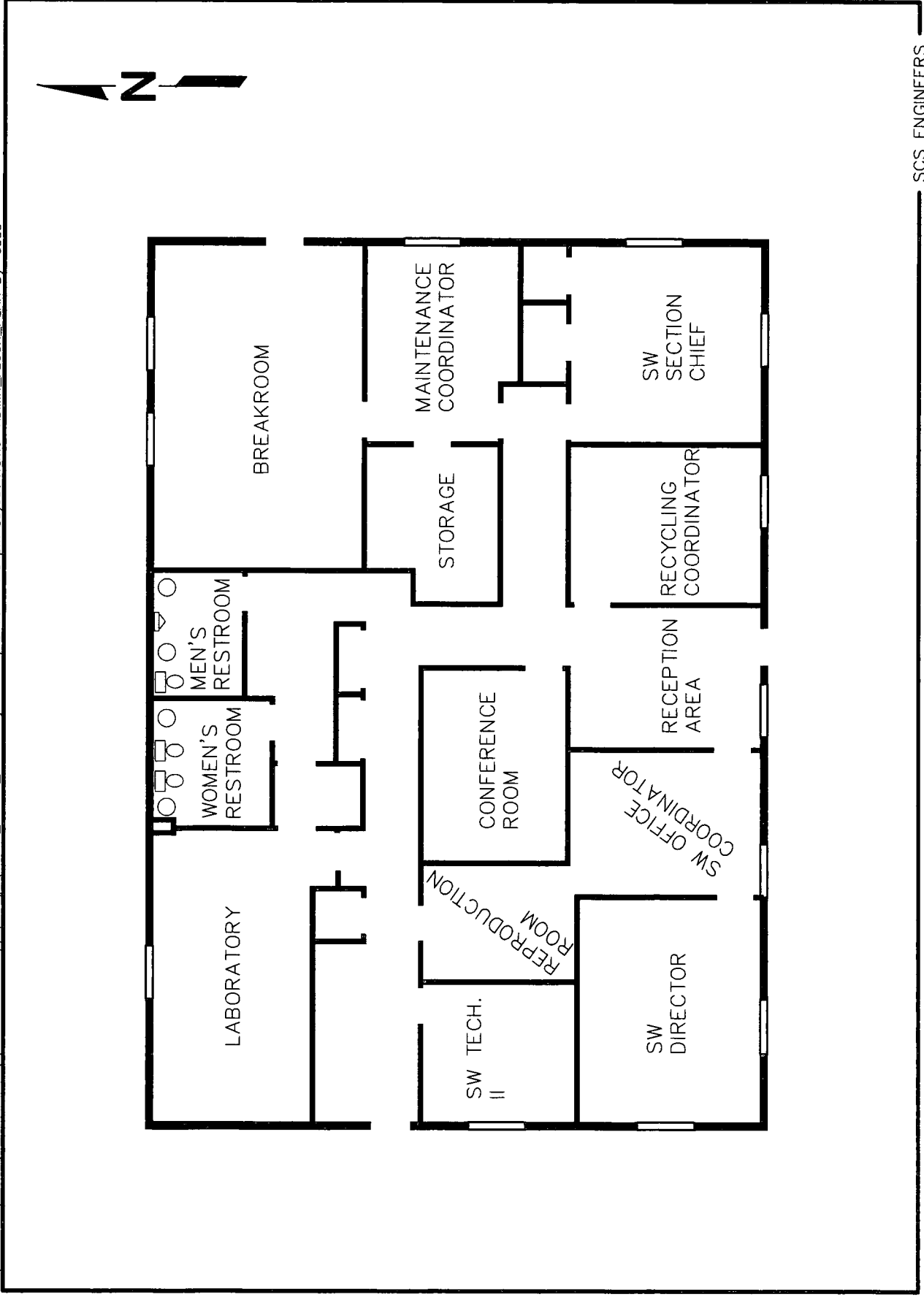
- Immediately take all necessary steps to ensure protection of human health and notify FDEP of the exceedances.
- Within seven days of the detections, submit to FDEP for approval a gas remediation plan. The gas remediation plan must describe the nature and extent of the problem and the proposed remedy. The remedy must be completed within 60 days of detection unless otherwise approved by FDEP.

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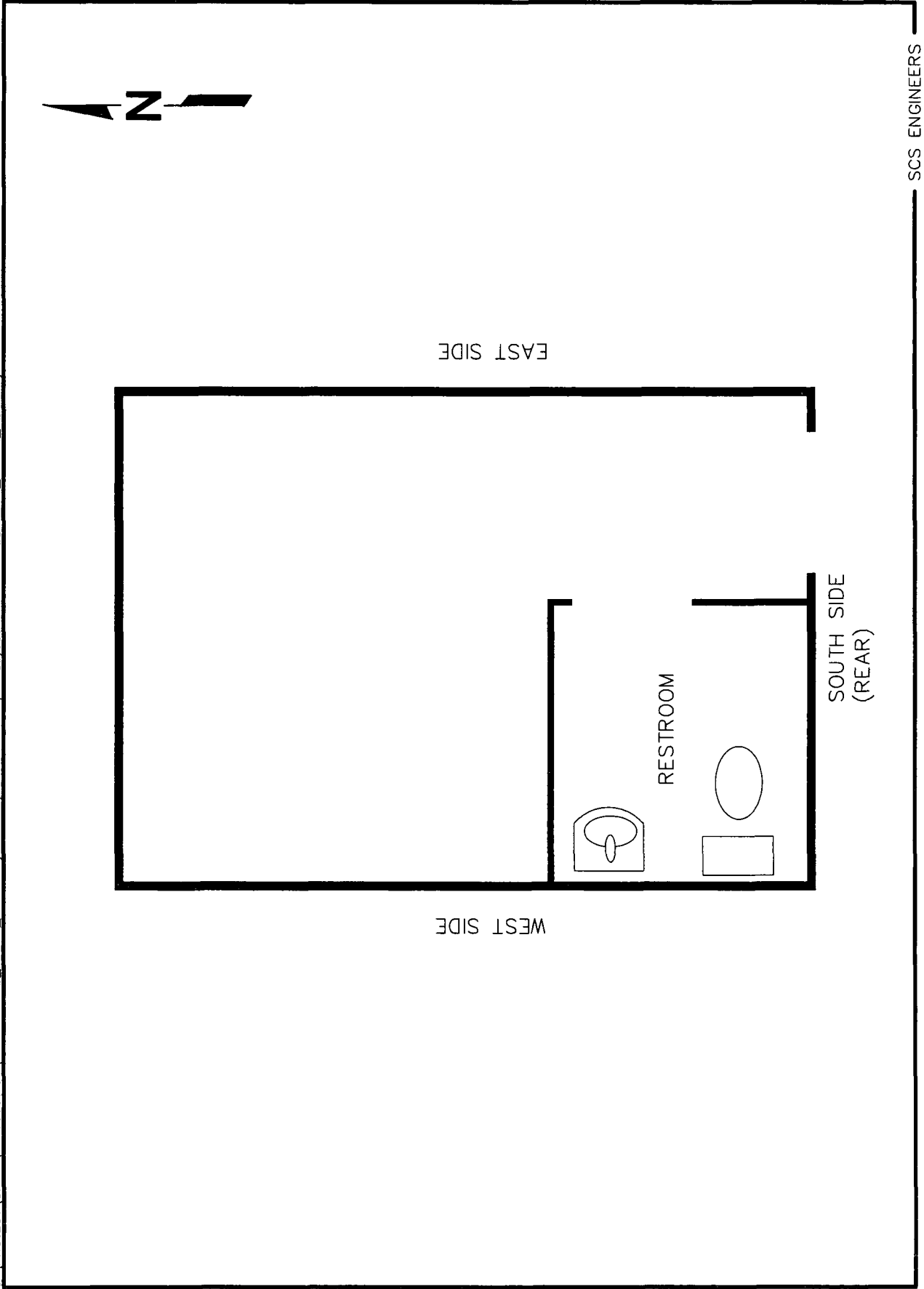


SCS ENGINEERS

Attachment 9-2. Proposed LFG Monitoring Probe Detail, Central Landfill, Citrus County.



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ATTACHMENT 9-4. Scalehouse Floor Plan

SECTION 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.

10.1 STORMWATER BEST MANAGEMENT PRACTICES

The landfill will use the following stormwater best management practices (BMPs):

- Sideswales
- Grass
- Sod
- Downdrains
- Benches
- Dry retention stormwater ponds
- Pumps to transport stormwater
- Lined ditches

Many of these stormwater management systems were constructed during Phase 1 development 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 2 expansion. Complete plans and cross sections of these systems are included in the Phase 2 Expansion Permit Application Construction Plans, which are also on file at the FDEP Southwest District office. Record drawings of the Phase 2 expansion will be provided with the construction certification upon completion of the project.

10.2 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.

10.3 INTERIM STORMWATER DRAINAGE

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 dissipators 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 on Sheet 6 of the Operations Drawings.

SECTION 11

EQUIPMENT AND OPERATION FEATURES (RULE 62-701.500(11), F.A.C.)

11.1 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:

- Bomag 671 Landfill Compactor
- Caterpillar 826-C Compactor
- Caterpillar 623-F Scraper Pan
- John Deere 700H Dozer
- Caterpillar 950 Wheel Loader (2)
- 1,200 gal. Water Truck
- 1,250 gal. Water Wagon

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.

11.2 BACKUP EQUIPMENT (Rule 62-701.500(11)(b), F.A.C.)

There is sufficient redundancy in major equipment to maintain normal operations even during emergency operating conditions. Arrangements will be made with suppliers to obtain reserve equipment within 24 hours of equipment breakdown if sufficient equipment is not available to properly operate the landfill.

11.3 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 scalehouse and administrative office.

11.4 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.

11.5 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.

11.6 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.

11.7 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.

SECTION 12

ROADS

(RULE 62-701.500(12), F.A.C.)

12.1 ALL-WEATHER ROADS (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.

12.2 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.

SECTION 13

RECORDKEEPING (RULE 62-701.500(13), F.A.C.)

13.1 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.

13.2 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.

13.3 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.

13.4 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
Emergency Incidents Plan

EMERGENCY INCIDENTS PLAN

For

THE CENTRAL LANDFILL

And

RELATED FACILITIES

For

CITRUS COUNTY, FLORIDA

COMMISSIONERS

Dennis Damato, County Commission District 1
Gary Bartell, County Commission District 2
Vicki Phillips, County Commission District 3
John Thrumston, County Commission District 4
Joyce Valentino, County Commission District 5

ADMINISTRATION

Anthony Schembri, County Administrator
Eber Brown, Deputy County Administrator

COUNTY ATTORNEY

Robert B. Battista

DEPARTMENT OF PUBLIC WORKS

Glenn McCracken, Public Works Director
Michael Arnold, Assistant Public Works Director

DIVISION OF SOLID WASTE MANAGEMENT

Susan Metcalfe, Director
Citrus County Division of Solid Waste Management
Citrus County Central Landfill
230 West Gulf to Lake Highway
Lecanto, Florida 34461
(352)527-7670

Revised July, 2008

EMERGENCY INCIDENTS PLAN

**Citrus County Division of Solid Waste Management:
Citrus County Central Landfill Active 80 Acre Site
Citrus County Central Landfill Closed 60 Acre Site
Citrus County Leachate Treatment Facility
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**

- A. Purpose and Scope
- B. Preparedness
- C. Emergency Supplies List
- D. Site Layout
- E. Emergency Response Coordinators
Emergency Response Team
- F. Prevention of Emergency Incidents
- G. Identification of Emergency Incidents
- H. Emergency Procedures
- I. Evacuation
- J. Notification
- K. Follow-Up Reporting
- L. Cleanup/Decontamination

Appendix One:	Leachate Treatment Facility: Chemical Listing and Quantities
Appendix Two:	Operations Maintenance Building and Diesel Fuel Facility: Material Listing and Quantities
Appendix Three:	Citizen Service Area: Material and Maximum site capacity
Appendix Four:	Methane Gas: Hazard Data/Management Summary
Appendix Five	HHW Hazards; Materials & Capacity

SECTION II: Facility Standards and Emergency Incidents Plan for the Hazardous Waste Collection and Storage Facility

**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 PLAN

A. PURPOSE AND SCOPE

The purpose of this plan is to provide information and guidance for responses to emergency incidents at the Citrus County Central Landfill Site(s) and Related Facilities.

B. PREPAREDNESS

Local authorities have been notified, and will 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 will be provided as well as a copy of the contingency plan for all revisions.

A current copy of this plan will be maintained at the Central Landfill Administrative Office. The Citrus County Fire Services/Special Operations Section, the Department of Public Works and the Sheriff's Office have access to the SWM facilities.

Agencies Notified:

Hospital:	Citrus Memorial Hospital 502 West Highland Boulevard Inverness, Florida 34453	(352) 726-1551
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Law Enforcement:	Citrus County Sheriff's Office 1 South Park Avenue Inverness, Florida 34453	(352) 726-4488
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Emergency:	Emergency Response - 911 3425 West Southern Street Lecanto, Florida 34461	911
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Fire and Hazardous:	Citrus County Department of Public Safety 3600 W. Sovereign Path, Suite 291 Lecanto, Fl. 34461	(352) 527-5406
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EMERGENCY INCIDENTS PLAN

Agencies Notified: (continued)

Emergency Medical: Nature Coast EMS (352) 637-4121
3380 E. Gulf to Lake Highway
Lecanto, FL 34461

Environmental: Department of Agriculture and
Consumer Services (352) 796-5650
Division of Forestry
15019 Broad Street
Brooksville, Florida 33512

Department of Environmental Protection
Division of Waste Management (813) 632-7600
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Every effort shall be made to operate the facilities in a safe manner. All necessary materials to contain small spills, fires or releases shall be maintained on site as outlined in the emergency supplies list. The ability to clean up all residues thereof will also be available. These supplies shall also be used to contain and cleanup any de minimus releases during normal operation. Good housekeeping will support a safer work environment.

EMERGENCY INCIDENTS PLAN

C. EMERGENCY SUPPLIES LIST (HHW COLLECTION CENTER)

Equipment:

Shovels	Poly, 65 Gal. Overpack Drum
Brooms	Poly, 30 Gal. Overpack Drum
Squeegee	Metal, 55 Gal. Drums
ABC Fire extinguishers	Poly, 55 Gal. Drums
Bung Wrench	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 (ignitable solvent pump)	Emergency Eye Wash & Shower Station
pH Testing Tape	Drum Wrenches
H ₂ O Testing Tape	Drum Placard Labeling Materials

MSA Passport Gas Meter measures –	Lower Explosive Limits	(LEL) ignitables
	Carbon Monoxide	(CO) combustion
	Oxygen	(O ₂) low or super
	Hydrogen Sulfide	(H ₂ S) corrosion

Materials:

Mercury Absorbent	Absorbent Pads
Vermiculite, Bagged Absorbent	Absorbent 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
Hardhats	Clear & Sunglass Safety glasses

EMERGENCY INCIDENTS PLAN

EMERGENCY SUPPLIES LIST (EQUIPMENT LOCATED ON THE SWM SITE)

Bulldozer, Caterpillar D6

Compactor, Caterpillar 826 G

Compactor, Caterpillar 826 H

Self-Loading Scraper (Pan), Caterpillar 623F, 23 Yard

(2) Front-End Loader(s), John Deere, 644J, w/ 4 cu yard multi-purpose bucket

Fuel Truck, Ford F350 – with 400 gallon diesel fuel tank and air compressor

Water Truck, Ford 700, w/2000 gallon water tank & 100 g.p.m. pump (8 H.P. B&S)

(2) Dump Trucks, Ford, Tandem Axle

Roll-off truck with 30 cu yd box

Tractor, medium duty, John Deere 2552, w/ front-end loader

(2) Lite Sets, Alamand, with 6kw generator (located in disposal cell and in CSA)

Dump Trailer, 6' x 12', Hydraulic

Fork Lift, Caterpillar, Diesel

Grabber Attachment for 55 Gal. Drums, Attached to the Fork Lift

Generator, 150 Kw Caterpillar (Olympian), Trailer mounted,

Water Pump on Construction Trailer, 100 g.p.m., with 1000 gallon water capacity

Water Transfer Pump, 4" outlet, Mack, Hydraulic drive

Water Transfer Pump, 4" outlet, Acme

Hand Tools and Mechanics Tools, at both the Maintenance Building and HHWCC

EMERGENCY INCIDENTS PLAN

D. SITE LAYOUT

- (A) Citrus County Central Landfill
 - (1) Administrative Office
 - (2) Operations Maintenance Building
 - (3) Diesel Fuel Facility
 - (2) Scalehouse Complex
 - (3) Leachate Treatment Facility
 - (4) Citizen Service Area
 - (5) Electronics Storage Facility
 - (6) Hazardous Waste Collection and Storage Facility
 - (7) Garbage Disposal Area
 - (8) Withlacoochee Technical Institute Shooting Range

EMERGENCY INCIDENTS PLAN

E. EMERGENCY RESPONSE COORDINATORS/EMERGENCY RESPONSE TEAM

Primary: Susan Metcalfe - Director - Solid Waste Management

Address: 9426 E. Baymeadows Drive
Inverness, Florida 34450

Phone: (Work) (352) 527-7670
(Direct) (352) 527-7671
(Home) (352) 637-3828
(Cell) (352) 400-0699

Secondary: Carmen Bruno – Customer Service Crew Leader

Address: 5360 North Tumblewood Drive
Crystal River, FL 34428

Phone: (Work) (352) 527-7670
(Direct) (352) 527-7679
(Home) (352) 564-4213
(Cell) (352) 400-0674

Secondary: Prime DeVaughn – Field Crew Leader - Landfill Operations

Address: 1366 South Rock Crusher Road
Crystal River, Florida 34446

Phone: (Work) (352) 527-7670
(Home) (352) 628-7591
(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 be directed by the Incident Commander. During large operations, the SWM Emergency Response Coordinator may serve as or assign an individual to serve as part of a Unified Command Staff.

EMERGENCY INCIDENTS PLAN

Chain of Command:

Department of Public Works, Division of Solid Waste Management

Department Director Glenn McCracken (Cell) (352) 400-0650

Assistant Department Director Mike Arnold (Cell) (352) 400-0560

Solid Waste Management - Landfill Operations:

Division Director Susan Metcalfe

Customer Service Crew Leader Carmen Bruno

Field Crew Leader Prime DeVaughn

In the event that the local emergency response authorities are called in, they will be tasked with establishing incident command.

The Solid Waste Management response team shall follow the response authority's direction.

EMERGENCY INCIDENTS PLAN

Solid Waste Management Staff Listing:

Administration:

Susan J. Metcalfe,	Director
Claire Smith,	Office Coordinator
Cathy Winter,	Contract Services Specialist
Aaron Lake,	Equipment Maintenance Coordinator
Jana Weiss,	Customer Service Representative

Customer Service:

Carmen Bruno,	Customer Service Crew Leader
Owen Carney,	Recycling Coordinator

Citizen Service Area:

Chris Dozier,	Medium Equipment Operator
Dan Sherlock,	Medium Equipment Operator
David Vance,	Solid Waste Technician
Sean Ear,	Solid Waste Technician

Household Hazardous Waste:

Paul Davis,	Household Hazardous Waste Coordinator
Open,	Hazardous Waste Specialist

Scalehouse Facility:

William Gilmore	Solid Waste Technician, Lead
Norm Bowen,	Solid Waste Technician
Judy Laubert,	Solid Waste Technician
Jean Poore,	Solid Waste Technician
Ronnie Weinman,	Solid Waste Technician

Landfill Operations:

Prime DeVaughn,	Field Crew Leader
Scott Palmer,	Heavy Equipment Operator, Lead
Eric Heath,	Heavy Equipment Operator
Rich Martone,	Heavy Equipment Operator
Harold Gravely,	Heavy Equipment Operator
Mike Holst,	Heavy Equipment Operator
Sue Heglund	Maintenance Worker

Leachate Treatment Plant: (contracted through the County's Utilities Division)

Gary Loggins	Chief Plant Manager
Jerry Nusbaum	Utilities Operator II

EMERGENCY INCIDENTS PLAN

F. PREVENTION OF EMERGENCY SITUATIONS

Operations shall be conducted at the Central Landfill Facilities in a manner, which maximizes worker and environmental safety. No smoking shall be permitted in the facility's designated compound areas and access will be restricted to authorized personnel in some areas as needed. NO SMOKING signs shall be posted in areas around the facilities. Safety and operation plans shall be followed at all times.

(1) Leachate Treatment Facility / Scalehouse Operation Facility

The enclosed portion of the facilities is outfitted with oxygen and combustible gas alarms. In the event of an alarm, the Emergency Response Coordinator will be contacted. See Appendix One for chemical listing and quantity at the Leachate Treatment Facility.

(2) Maintenance Building / Diesel Fuel Facility

Fire extinguishers are located at both facilities. See Appendix Two for material listing and quantities.

(3) Waste Separation Facility - "Citizen Service Area"

Fire extinguishers are located at the waste tire site and oil collection site, which is in close proximity to the wood waste storage site. See Appendix Three for materials and maximum site capacity.

(4) Hazardous Waste Collection and Storage Facility

The Hazardous Waste Collection Center and Storage Facility is outfitted with fire detection systems, portable ABC extinguishers, and automated fire suppression systems.

The Facility is also outfitted with an emergency shower and eye wash station.

See Section II for the *HHW Facility Standards and Emergency Incidents Plan*, revised July, 2008, for details

EMERGENCY INCIDENTS PLAN

G. IDENTIFICATION OF EMERGENCY SITUATIONS

The following situations will be considered emergencies:

- (1) Fire or smoke is detected
- (2) An explosion occurs
- (3) A serious leak or spill is detected
- (4) Personal injury has occurred
- (5) Any other incident transpires which needs immediate attention, such as, but not limited to:
 - (a) Vehicle accident
 - (b) Helicopter accident, or
 - (c) Other incidents not covered above

H. EMERGENCY PROCEDURES

Whenever there is a perceived or actual emergency situation, the person who recognizes the emergency will notify the Administrative Office, via radio / cell phone, who will advise the Emergency Response Coordinator. The Emergency Response Coordinator shall take responsibility for implementing the contingency plan. If necessary the Emergency Response Coordinator shall notify all facility personnel and provide for their evacuation. If necessary, the notification plan must be implemented. The Emergency Response Coordinator shall direct facility staff in response procedures as the situation dictates.

Also, the Emergency Response Coordinator must assess possible hazards to human health or the environment that may result from the release, fire or explosion. This assessment must consider both direct and indirect effects.

During an emergency, the Emergency Response Coordinator must take all reasonable measures necessary to ensure that fire, explosions, and releases do not occur, reoccur or spread to other parts of the facility.

EMERGENCY INCIDENTS PLAN

1. Emergency Procedure, Fire

The person who recognizes the emergency will also notify the Administrative Office, via radio / cell phone, who will advise the Emergency Response Coordinator. The Emergency Response Coordinator shall determine if outside agencies need to be contacted and if the facility should be evacuated.

In the event of a small fire, the personnel discovering the fire should determine if it could be extinguished safely and quickly with the available fire extinguishers. First consideration must be given to the safety of all people within the facility.

In the event of a fire within the chemical holding area of the Leachate Treatment Facility or the storage building at the Hazardous Waste Collection and Storage Facility, initial determination should be made concerning the safety of response actions. **The doors of the buildings should not be opened.**

2. Emergency Procedure, Explosion

If an explosion occurs, the person who recognizes the emergency will also notify the Administrative Office, via radio / cell phone, who will advise the Emergency Response Coordinator.

The Emergency Response Coordinator shall contact outside agencies and determine if the facility should be evacuated.

The incident shall be investigated and the appropriate response as outlined herein shall be taken. Under no circumstances shall life or property be put in deliberate peril in attempting to handle explosions.

EMERGENCY INCIDENTS PLAN

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, 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
- 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 outlined in Item L. of this document.

4. Personal Injury

The personnel discovering the injured party should take the following actions:

- Notify the Administrative Office, via radio / cell phone, who will 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

EMERGENCY INCIDENTS PLAN

5. Other Miscellaneous Emergency Incidents

For any other perceived, imminent or actual emergency situation, the person who recognizes the emergency will notify the Administrative Office, via radio or cell phone, who will advise the Emergency Response Coordinator. The Emergency Response Coordinator shall take responsibility for implementing the contingency plan. If necessary the Emergency Response Coordinator shall notify all facility personnel and provide for their evacuation and the notification plan must be implemented. The Emergency Response Coordinator shall their staff in response procedures, as the situation dictates.

Also, the Emergency Response Coordinator must assess possible hazards to human health or the environment that may result from any release, fire or explosion. This assessment must consider both direct and indirect effects.

During an emergency, the Emergency Response Coordinator must take all reasonable measures necessary to ensure that fire, explosions, and releases do not occur, reoccur or spread to other parts of the facility.

I. EVACUATION

In the event that the facility needs to be evacuated, the Emergency Response Coordinator shall notify County personnel by portable radio and the contingency and notification plan will be implemented. Due to the nature and location of the emergency, the Emergency Response Coordinator shall advise County personnel which evacuation route and plan to implement. Operations staff shall proceed to inform all non-county personnel on site and assist with their safe exit.

Traffic on roads into the facility will be stopped and re-routed as necessary by Scalehouse personnel. Clear access by response personnel and vehicles to the emergency shall be maintained at all times by County personnel.

Upon completion of evacuation of the facility, all personnel are to proceed directly to the staging area designated by the Emergency Response Coordinator.

Primary Staging Area: Administrative Office.

Secondary Staging Area: Electronics Recycling Building

EMERGENCY INCIDENTS PLAN

J. NOTIFICATION

Whenever there is an imminent or actual emergency situation, the person who recognizes the emergency will notify the Administrative Office, via radio / cell phone, who will advise the Emergency Response Coordinator. The Emergency Response Coordinator shall take responsibility for implementing the contingency plan. If necessary the Emergency Response Coordinator shall notify all facility personnel and provide for their evacuation. Generally, the most expedient method of notification shall be by two-way radio. The Emergency Response Coordinator shall direct facility their staff in response procedures, staging areas or evacuation routes, as the situation dictates.

EMERGENCY INCIDENTS PLAN

K. 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 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

EMERGENCY INCIDENTS PLAN

- 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 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 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.

EMERGENCY INCIDENTS PLAN

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 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.

EMERGENCY INCIDENTS PLAN

L. CLEANUP/DECONTAMINATION

All residues from a release, fire or explosion shall be contained and cleaned up in a manner consistent with the emergency spill procedure.

Immediately after the emergency, the Emergency Response Coordinator shall provide for treating, storing or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire or explosion at the facility.

The Emergency Response Coordinator must 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 this contingency plan is cleaned and fit for its intended use before operations are resumed.

Any contaminated equipment shall 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 shall be conducted in accordance with an appropriate decontamination program.

APPENDIX ONE

Leachate Treatment Facility Chemical Listing and Quantities

LEACHATE TREATMENT FACILITY

Chemical Listing

Maximum Quantities on Site

Chlorine - liquid

(Sodium Hypochlorite)

3 - 55 gallon drums

(Approx. 1,400 lbs.)

40% Phosphoric Acid

(Phosphoric Acid and
Chlorinated Hydrocarbon)

2 - 55 gallon drums

(Approx. 880 lbs.)

Polymer

(Percol 788-N)

5 - 5 gallon containers

(Approx. 200 lbs.)

Powdered Activated Carbon

(Hydroadarco C)

360 - 50 lb. Bags (Max.)

Liquid Methanol

7,000 gallon tank

Muratic Acid

8 – 55 gallon drums

(Approx. 3,520 lbs.)

APPENDIX TWO

Operations Maintenance Building
and Diesel Fuel Facility

**“OPERATIONS”
MAINTENANCE BUILDING
AND
DIESEL FUEL FACILITY**

Chemical Listing

Maximum Quantities on Site

Maintenance Building:

Cans of Gasoline

8 – 5 gallon cans

Oil

2 – 55 gallon drum

Hydraulic Oil

2 – 55 gallon drum

Grease

2 – 120 pound drums

Adhesive for plastics

5 – 5 gallon containers

**Fuel Truck (parked in building
at night)**

450 gallons diesel fuel

Diesel Fuel Facility:

Diesel fuel

4 – 500 gallon tanks

APPENDIX THREE

Citizen Service Area (CSA)

Material and Maximum site capacity

CITIZEN SERVICE AREA (CSA)

<u>Material</u>	<u>Maximum Capacity</u>
Household Garbage & Trash	10 – 30 yd Dumpsters
Recyclable Materials	1 – 30 yd container of newspaper 1 – 30 yd container of glass & aluminum / steel 1 – 30 yd container Plastic 1 – 30 yd container Cardboard 1 – 20 yd container flower pots
Waste Oil Site	3 - 450 gallon containers
Anti-Freeze	1 - 450 gallon tank
Waste Tires	115 tons
Scrap Metal	50 tons
Wood Waste	Unprocessed 800 tons Processed 2,000 tons
Lead Acid Batteries	1 – 2 Pallets (50 – 75 batteries per pallet)
Propane Tanks	1 – 20 yd container

APPENDIX FOUR

Methane Gas

Hazard Data and Management Summary

TOMES (R) HAZARD MANAGEMENT

TOPIC: METHANE GAS

HAZARD DATA/MANAGEMENT Reference AAR, 1987; CHRIS, 1985)

SUMMARY

Methane is extremely flammable and may be easily ignited by flames, sparks, or heat.

All possible sources of ignition, including sparks, flares, flames and smoking should be kept away from this material.

All sources of possible ignition should be shut off.

EXPLOSION HAZARD

Methane forms explosive mixtures with air; a mixture of 1 part methane to 10 parts air is particularly explosive.

When the concentration of methane is less than 5.53 percent, it will not longer explode.

When the methane concentration reaches 14 percent or more, it burns without an explosive noise.

Methane may explode if it is ignited in an enclosed space.

Methane reacts with chlorine and bromine in light, and explosively in bright sunlight.

Vapors may travel a considerable distance to an ignition source and flash back over the vapor trail.

Vapor explosion hazard indoors, outdoors or in sewers / wells.

Methane Gas

EMERGENCY ACTION-CALL EMERGENCY RESPONSE 911

Keep unnecessary people away; isolate hazard area and deny entry.

Stay upwind, out of low areas and ventilate closed spaces before entering.

Possible pressure self-contained breathing apparatus and structural firefighters' protective clothing will provide limited protection.

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.

DUST/VAPOR HEALTH HAZARD

May be poisonous if inhaled.

Contact may cause burns to skin and eyes.

Vapors may cause dizziness or suffocation.

Contact with liquid may cause frostbite.

Fire may produce irritating or poisonous gases.

Methane Gas

LIFE SUPPORT TREATMENT

RESCUERS SHOULD WEAR APPROPRIATE RESPIRATORY PROTECTION:

BE AWARE OF THE SERIOUS FIRE AND EXPLOSION HAZARD PRESENTED BY METHANE DURING RESCUE ATTEMPTS:

Remove victims of inhalation exposure from the toxic environment and administer 100 percent humidified supplemental oxygen with assisted ventilation as required;

Airway protection and maintenance may be required;

Copiously flush exposed eyes or skin with water;

If not breathing, give artificial respiration;

DECONTAMINATION

Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for respiratory tract irritation, bronchitis, or pneumonitis. Administer 100 percent humidified supplemental oxygen with assisted ventilation as required.

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.

APPENDIX FIVE

Household Hazardous Waste Hazards
Stored Materials, UN ID Number, and Quantities Stored

**HOUSEHOLD HAZARDOUS WASTE COLLECTION CENTER
MATERIAL LISTING AND QUANTITIES STORED**

<u>Stored Waste Materials</u>	<u>UN ID Number</u>	<u>Maximum Quantities Stored</u>
Flammable Liquid, n.o.s.	UN 1993	(5) 55 Gal. Drums
Bulk, Oil Based Paint	UN 1263	(4) – 55 Gal. Drums
Containers, Oil Based Paint	UN 1263	(1) Gaylord Box @ 700 lbs.
Solvent Tars & Adhesives	UN 1999	(2) Gaylord Box @ 700 lbs.
Small Flammable Solids	UN 3175	(3) – 55 Gal. Drums
Mixed Aerosols	UN 1950	(3) – 55 Gal. Drums
Motor Oil	Unregulated	(1) – 55 Gal. Drum
Corrosive Solid, Basic, Inorganic, n.o.s.	UN 3262	100 lbs.
Corrosive Liquid, Acid, Inorganic, n.o.s.	UN 3264	250 lbs.
Corrosive Liquid, Acid, Organic, n.o.s.	UN 3265	100 lbs.
Corrosive Liquid, Basic, Inorganic, n.o.s.	UN 3266	200 lbs.
Corrosive Liquid, Basic, Organic, n.o.s.	UN 3267	250 lbs.
Toxic Pesticides Liquids	UN 3021	400 lbs.
Toxic Pesticides Solids	UN 2930	800 lbs.
Oxidizing Liquid, n.o.s.	UN 3139	200 lbs.
Oxidizing Solid, n.o.s.	UN 1479	100 lbs.
P.C.B.s in Electronic Parts	UN 2315	100 lbs.
Flares, Fuses, Fireworks	Class 1.4	50 lbs.
Small Arms Ammunition	Class 1.4	100 lbs.

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 July, 2008

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 forced 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 sub grade and 6 mill 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 CESQG programs. In 2008, the Citrus County Board of 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.

HHW Facility Standards and Emergency Incidents Plan

I. 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 Waste 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	Susan Metcalfe
Customer Service Crew Leader	Carmen Bruno
Household Hazardous Waste Coordinator	Paul Davis
Hazardous Waste Specialist	Currently Vacant

HHW Facility Standards and Emergency Incidents Plan

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 2 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 of containing all stormwater 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. Stormwater 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 stormwater or condensation.

HHW Facility Standards and Emergency Incidents Plan

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 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.

HHW Facility Standards and Emergency Incidents Plan

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 generated 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 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.

HHW Facility Standards and Emergency Incidents Plan

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 participants' 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:
 1. DOT Hazard Class
 2. Chemical compatibility

HHW Facility Standards and Emergency Incidents Plan

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 Scalehouse operator will first screen incoming waste. If a citizen cannot dispose of their HHW during normal acceptance times, the Scalehouse operator shall direct the participant to a Citizen Service Area 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 Citizen Service Area 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 for disposal assistance.

HHW Facility Standards and Emergency Incidents Plan

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 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.

HHW Facility Standards and Emergency Incidents Plan

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:

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 in 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 that the training or job experience required for each position has been completed by facility personnel.

HHW Facility Standards and Emergency Incidents Plan

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 requires 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 in areas where the atmosphere may become explosive due to the presence of flammable vapors, dusts, or gases.)

HHW Facility Standards and Emergency Incidents Plan

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 being 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 CESQC 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. The operator shall keep records and results of these weekly inspections.

HHW Facility Standards and Emergency Incidents Plan

D. Special Requirements for Ignitable or Reactive Waste

1. Containers holding ignitable or reactive waste shall be located within the transfer/containment slab, within a secondary containment area and grounded to minimize static electricity.
2. HHW staff 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 specially 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 breaks 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.

HHW Facility Standards and Emergency Incidents Plan

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 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.

HHW Facility Standards and Emergency Incidents Plan

VI. PREPAREDNESS 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.

HHW Facility Standards and Emergency Incidents Plan

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
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

MSA Passport Gas Meter measures –	Lower Explosive Limits	(LEL) ignitables
	Carbon Monoxide	(CO) combustion
	Oxygen	(O ₂) low or super
	Hydrogen Sulfide	(H ₂ S) corrosion

Materials:

Mercury Absorbent	Absorbent Pads
Vermiculite, Bagged Absorbent	Absorbent Socks
Abzorbit, 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

HHW Facility Standards and Emergency Incidents Plan

C. ADJUNCT EQUIPMENT AVAILABLE ON SWM SITE

Bulldozer, Caterpillar D6

Compactor, Caterpillar 826 G

Compactor, Caterpillar 826 H

Self-Loading Scraper (Pan), Caterpillar 623F, 23 Yard

(2) Front-End Loader(s), John Deere, 644J, w/ 4 cu yard multi-purpose bucket

Fuel Truck, Ford F350 – with 400 gallon diesel fuel tank and air compressor

Water Truck, Ford 700, w/2000 gallon water tank & 100 g.p.m. pump (8 H.P. B&S)

(2) Dump Trucks, Ford, Tandem Axle

Roll-off truck with 30 cu yd box

Tractor, medium duty, John Deere 2552, w/ front-end loader

(2) Lite Sets, Alamand, with 6kw generator (located in disposal cell and in CSA)

Dump Trailer, 6' x 12', Hydraulic

Fork Lift, Caterpillar, Diesel

Grabber Attachment for 55 Gal. Drums, Attached to the Fork Lift

Generator, 150 Kw Caterpillar (Olympian), Trailer mounted,

Water Pump on Construction Trailer, 100 g.p.m., with 1000 gallon water capacity

Water Transfer Pump, 4" outlet, Mack, Hydraulic drive

Water Transfer Pump, 4" outlet, Acme

Hand Tools and Mechanics Tools, at both the Maintenance Building and HHWCC

HHW Facility Standards and Emergency Incidents Plan

VII. EMERGENCY INCIDENTS PLAN AND PROCEDURES

A. EMERGENCY RESPONSE COORDINATOR

Primary: Susan Metcalfe - Director - Solid Waste Management

Address: 9426 E. Baymeadows Drive
Inverness, Florida 34450

Phone: (Work) (352) 527-7670
(Direct) (352) 527-7671
(Home) (352) 637-3828
(Cell) (352) 400-0699

Secondary: Carmen Bruno – Customer Service Crew Leader

Address: 5360 North Tumblewood Drive
Crystal River, FL 34428

Phone: (Work) (352) 527-7670
(Direct) (352) 527-7679
(Home) (352) 564-4213
(Cell) (352) 400-0674

Secondary: Prime DeVaughn – Field Crew Leader - Landfill Operations

Address: 1366 South Rock Crusher Road
Crystal River, Florida 34446

Phone: (Work) (352) 527-7670
(Home) (352) 628-7591
(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.

HHW Facility Standards and Emergency Incidents Plan

B. EMERGENCY RESPONSE PROCEDURES

1. Whenever there is a perceived, 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 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

HHW Facility Standards and Emergency Incidents Plan

- 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 their 24-hour number 904/488-1320). The report should include:
 - i. Name and telephone number of person reporting;
 - iii. 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. 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.

HHW Facility Standards and Emergency Incidents Plan

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
 - h. Estimated quantity and disposition of recovered material that resulted from the incident.

Appendix B

Sample Load Checking Inspection Forms

CITRUS COUNTY CENTRAL LANDFILL

WEEKLY MONITORING OF WASTE - INSPECTION RESULTS

HAULING COMPANY: _____ DATE: _____ TIME: _____

DRIVER NAME: _____ CO. ID# OF VEHICLE: _____

SOURCE OF WASTE AS STATED BY DRIVER: _____

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: _____ RED BAGS (BIOMEDICAL): _____

SLUDGE (WITH > 12% LIQUID): _____ DRUMS OVER 20 GAL WITHOUT HOLES: _____

TYPES: PAINTS: _____ PAINT RELATED - (THINNERS): _____ AEROSOLS: _____

POISONS: _____ REACTIVES: _____ CORROSIVES: _____ FLAMMABLES: _____

OIL/FILTERS: _____ BATTERIES: _____ ACTION TAKEN FOR HW MATERIALS: _____

COMMENTS: _____

INSPECTOR SIGNATURE AND TITLE _____

COMPLETED ACTION

PICTURE OF LOAD TAKEN YES () _____ NO () _____ BY: _____

SCALEHOUSE ADVISED TO ADD WRC: YES () _____ NO () _____ NUMBER OF CHARGES _____
(WRC= WASTE RELOCATION CHARGE @ \$60 PER EVERY HOUR TO RELOCATE MATERIAL)

ADM. FOLLOW-UP: WRC VERIFIED IN SYSTEM YES () _____ NO () _____ By: _____

ADM. FOLLOW-UP - PICTURE ATTACHED TO REPORT: _____

Appendix C
Maintenance Summary Form

MAINTENANCE SUMMARY FORM

PROJECT: _____ CONTRACT NO.: _____

1. EQUIPMENT ITEM _____
2. MANUFACTURER _____
3. EQUIPMENT/TAG NUMBER(S) _____
4. WEIGHT OF INDIVIDUAL COMPONENTS (OVER 100 POUNDS) _____
5. NAMEPLATE DATA (hp, voltage, speed, etc.) _____
6. MANUFACTURER'S LOCAL REPRESENTATIVE
 - a. Name _____ Telephone No. _____
 - b. Address _____
7. MAINTENANCE REQUIREMENTS _____

[illegible]

8.

[illegible]

9.

Part No.	Description	Unit	Quantity	Unit Cost

Note: Identify parts provided by this Contract with two asterisks.

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 OPERATOR SERVICE REPORT**

Equipment Number	Circle Machine Number	1040	Bomag	9314	Pan Scraper	20154	Roll-off Mileage	20186	Recycle Alley Loader
		9279	Dump Truck	20064	John Deere Dozer	20164	Caterpillar Compactor	20187	Cell Loader
OPERATOR DAILY CHECKS & SERVICES <div> <div>WEEK OF:</div> <div>Monday</div> <div>TO:</div> </div>									
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									
Operator Comments: "Equipment failure is not an option"									

Total Hours Operated		Next Service Due	
Total Fuel Used		Posted	
Gallons Per Hour			



Appendix D

Contaminated Stormwater Piping and Pump Information

DRAWING NO

AS SHOWN

SCALE

DATE

995613STORM

CADD FILE

995613STORM

PROJ. NO

09199056 13

BLJ

CHK. BY

JAB

APP. BY

JAB

RJD

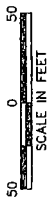
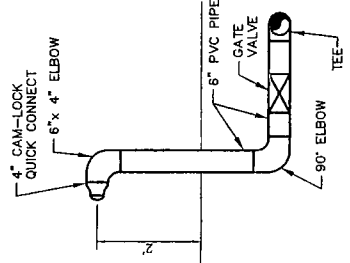
SCS ENGINEERS
STEARN, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
3012 U.S. HWY. 301 NORTH, SUITE 200, TAMPA, FL 33619
PH (813) 621-0080 FAX NO (813) 623-6757

CITRUS COUNTY
SOLID WASTE MANAGEMENT DIVISION
CITRUS COUNTY, FLORIDA

CONTAMINATED
STORMWATER COLLECTION
CENTRAL LANDFILL
PHASE II EXPANSION
CONSTRUCTION DRAWINGS

REV	DATE	DESCRIPTION

CAM-LOCK RISER CONNECTION
NOT TO SCALE



SERVICE MANUAL
FOR
ACME DYNAMICS INC.
HYDRAULIC PUMP HEAD & POWER UNIT
POWER UNIT MODEL ADH41 # 337 W/DEUTZ MODEL
BF4L913 AIR-COOLED DIESEL ENGINE SERIAL
NUMBER 8588244
PUMP HEAD MODEL 4HH # 421

BOARD OF COUNTY COMMISSIONERS
DEPARTMENT OF PUBLIC WORKS
SOLID WASTE MANAGEMENT DIVISION
P.O.BOX 340, LECANTO, FL. 34460
(352)527-7670 FAX (352)527-7672
CONTACT: FRANK DAMIANO

ACME DYNAMICS
THE FUTURE IN PUMP TECHNOLOGY

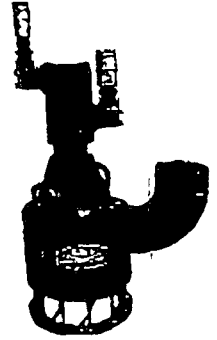
Bert Newton
Florida Sales Manager

ACME Dynamics, Inc
PO Box 1760, Plant City Florida 33564-1760

813-752-3137
813-752-4580 Fax
1-800-622-9355
813-918-1655 Cell
158*25834*6 Nextel
www.acmedynamics.com
E mail bnorton@acmedynamics.com

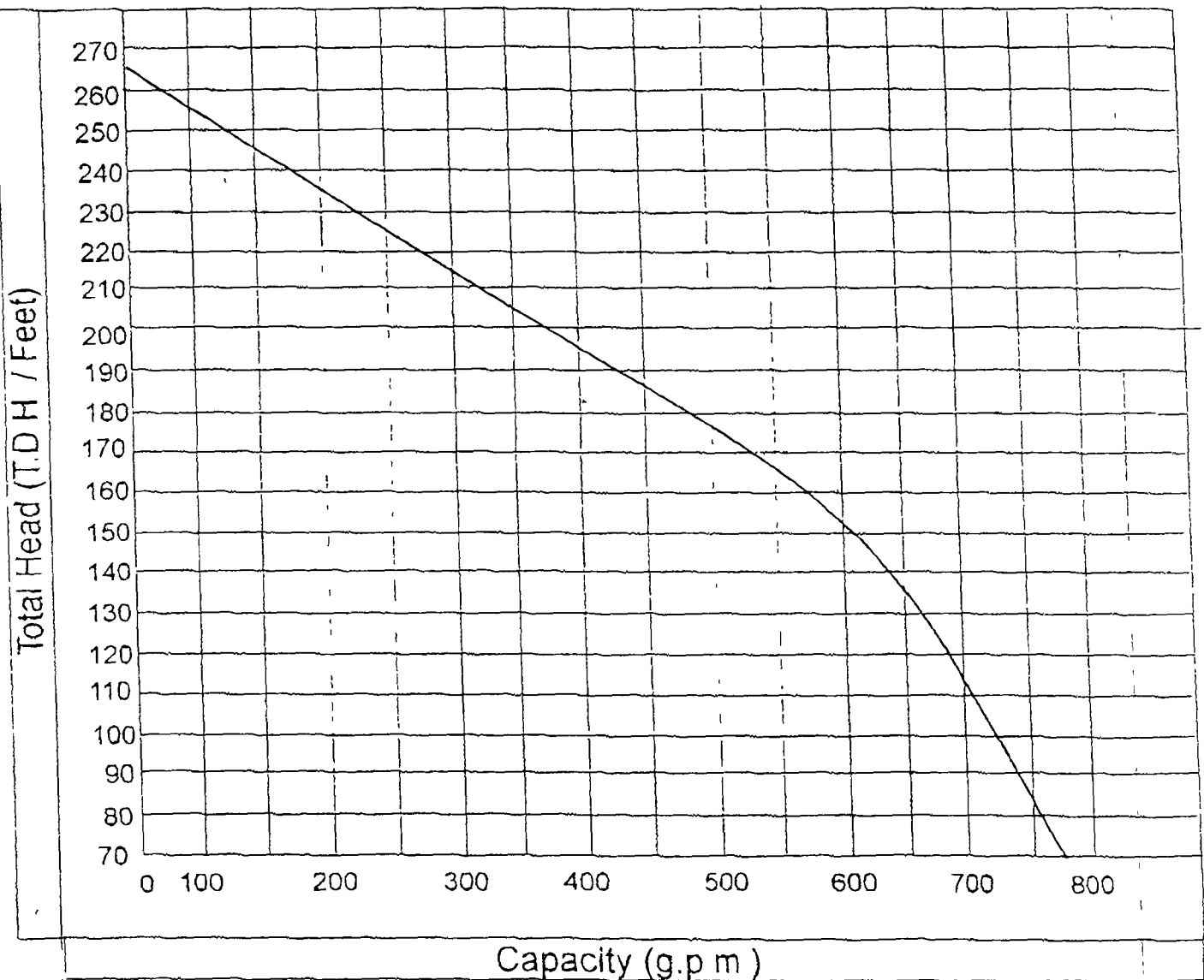
curve # 4HH
4 high head

4" HIGH HEAD PUMP MODEL- 4 HH



Impeller Dia	Style	No Vanes	Solids Dia.	Discharge	Weight
8 00"	ENCLOSED	3	2"	4.00"	155 Lbs

Hydraulic motor	Model	Displacement	engine- Cummins	BHP / RPM
Vickers	25M42	2 68	4BT-3 3-85	71 / 2200



TEST CONDITIONS

Water-----fresh
S G -----1.00
Temp-----70° F
Altitude-----Sea Level
tested---3/29/2002

ACME DYNAMICS

THE FUTURE IN PUMP TECHNOLOGY

P O Box 1780 • Plant City FL 33564-1780

Phone (813) 752-3137 • (800) 622-9355

Fax (813) 752-4580

Please visit our web site at www.acmedynamics.com

email salesandrentals@acmedynamics.com

*Tests were conducted according to Hydraulic Institute ANSI / HI-1 6

Appendix E
Leachate Collection System Inspection Report

Leachate Collection System Inspection Report

Citrus County Central Landfill

SCS engineers (SCS) coordinated the cleaning and inspection of the leachate collection system located at the Citrus County Landfill. SCS sub-contracted with Florida Jetclean Inc, (Jetclean) to perform the cleaning and television inspection of the pipes. Jetclean's report on the recent inspection conducted in November 2004 is attached.

SCS has reviewed the results of the November cleaning and inspection and compared these results to the report of the previous inspection prepared by Jetclean in 2001. All indications of blockages reported in the current report (as revised with supplemental inspection in February) are consistent with the findings in the 2001 report.

The reported blockages due to crushed pipes appear to occur at the same vertical location near the southwest corner of Phase 1. The blockage reported in the west No. 3 lateral (southern most in Phase 1) was a partial collapse of the pipe from the top, which prevents the camera from traversing further down the pipe. The blockage in the south header cleanout includes several bulges in the pipe that prevents further down pipe movement of the camera. The end of the vent pipes on the west side of Phase 1A are expected to end in a gravel pack as indicated in the report. In the November report, the west header cleanout video inspection showed the presence of sand in the line. This area was re-inspected by video in February and found to be clear of the obstruction. The sand was apparently cleaned out but the jetting. The blockages that are reported do not appear to be affecting the ability of the system to collect leachate.

FLORIDA JETCLEAN INC.

HIGH PRESSURE WATER JETTING
VIDEO PIPELINE INSPECTION
10 DIG POINT REPAIRS

37 WINDWARD ISLAND
CLEARWATER, FL 33767-2322
TEL 800-226-8013 FAX 727-442-2222

CITRUS COUNTY CENTRAL LANDFILL LEACHATE COLLECTION SYSTEM MAINTENANCE JETCLEANING LOG NOVEMBER 2004

ACTIVE DISPOSAL AREA

LATERAL 1 WEST CO	800'	EAST CO	500'
LATERAL 2 WEST CO	800'	EAST CO	500'
LATERAL 3 WEST CO	150'	EAST CO	950'
HEADER SOUTH CO	150'		
HEADER WEST CO	800'		
VENT SOUTH CO (W SIDE)	202'		
VENT NORTH CO (W SIDE)	702'		
SUMPS	1 DETECTION	231'	
	2 COLLECTION	228'	
	3 COLLECTION	231'	
	4 DETECTION	227'	

FORCE MAIN LIFT STATION TO TANKS

LIFT STATION TO CO1	70'
CO1 - LIFT STATION (LS)	420'
CO1-CO2	597'
CO3 - TANKS	208'

7 ACRE DISPOSAL SITE

EASTERN LS LATERAL	370
WESTERN LS LATERAL	<u>375'</u>
TOTAL FOOTAGE	<u>8511'</u>

G:\PROJECT\09199056 13\FIGURE1.dwg Feb 23, 2005 - 2:36pm Layout Name Layout1 By 2569gav

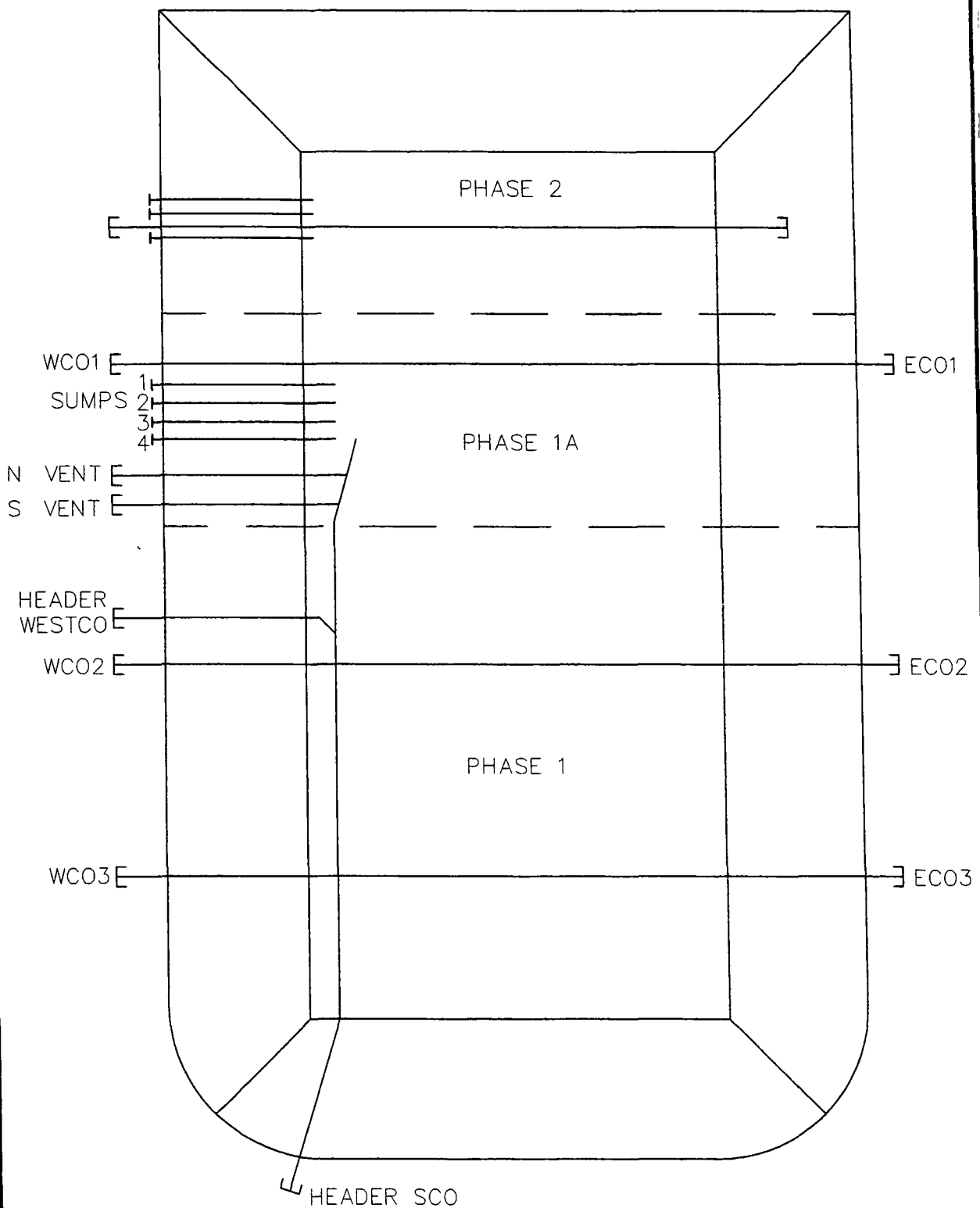
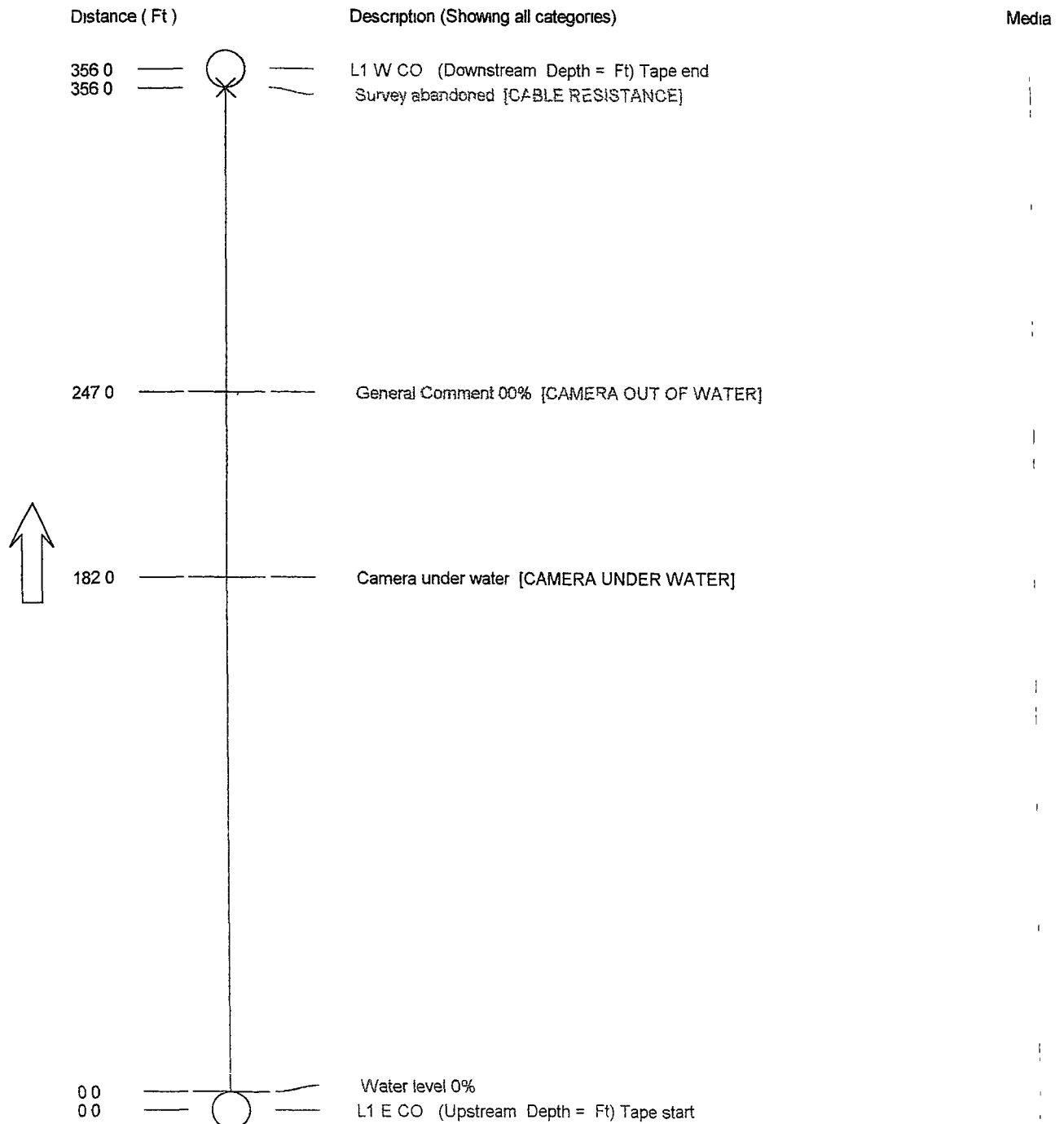


Figure 1 Leachate Collection Piping Schematic Diagram NTS

Pipe Graphic Report of PLR L1 E CO X

for SCS ENGINEERS

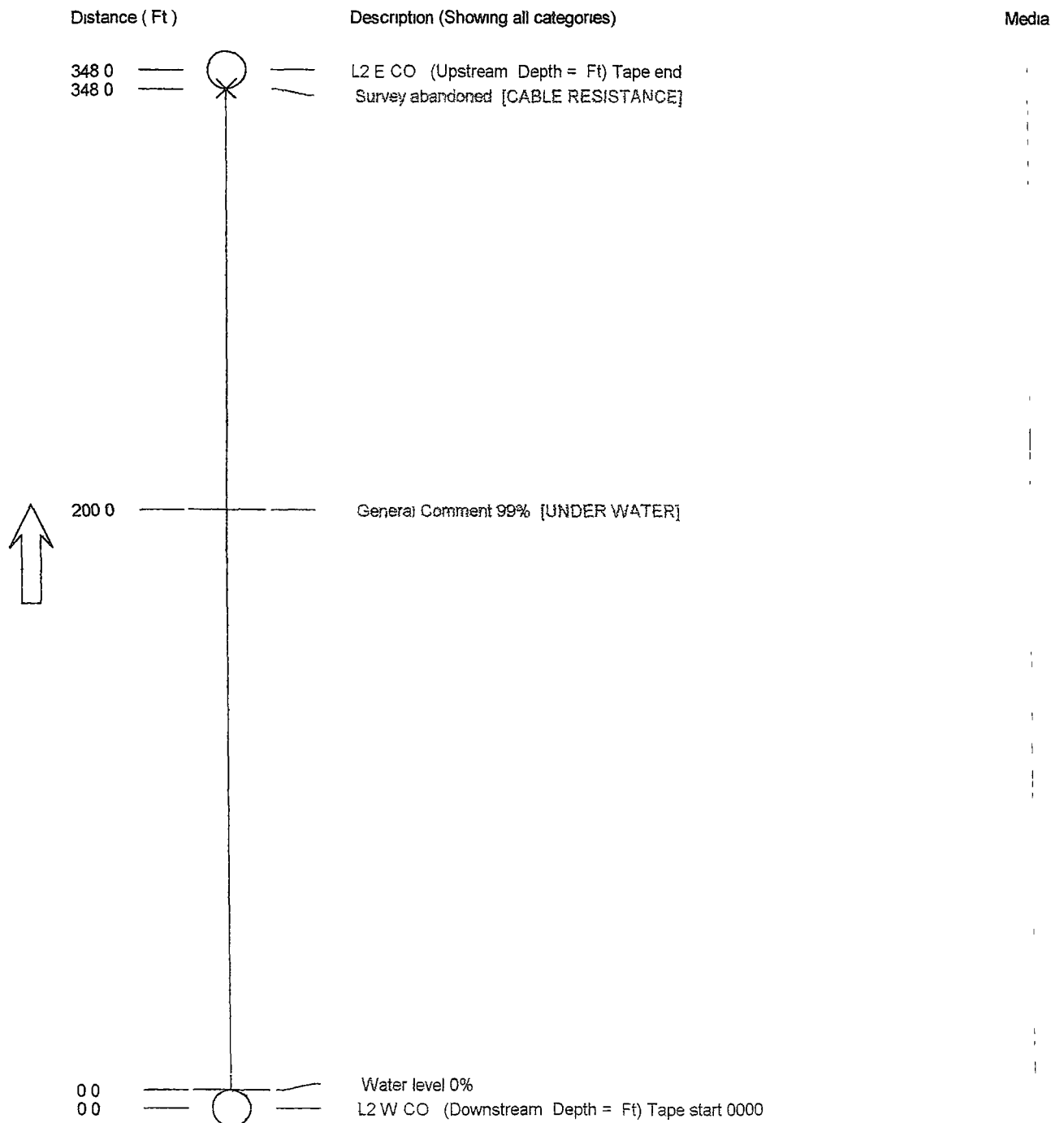
Job	Contract	Cassette 1	Surveyed On 11/02/2004	Sheet 1
Operator WCR	Van Reference	Weather Dry		
Road Name SR 44		Place Name CITRUS COUNTY LANDFI		
Location type Landfill				
Surface				
Survey purpose Maintenance				
Pipe Use Leachate	Schedule length Ft	From L1 E CO	Depth Ft	
Shape Circular	Size 6 by ins	To L1 W CO	Depth Ft	
Material HDPE	Joint spacing Ft	Direction Down		
Lining Plastic	Year laid Cat A	Pre-clean Y	Last cleaned	
General note ACTIVE DISPOSAL AREA		Structural	Service	Constructional
Location note		Miscellaneous	Hydraulic	



Pipe Graphic Report of PLR L2 E CO X

for SCS ENGINEERS

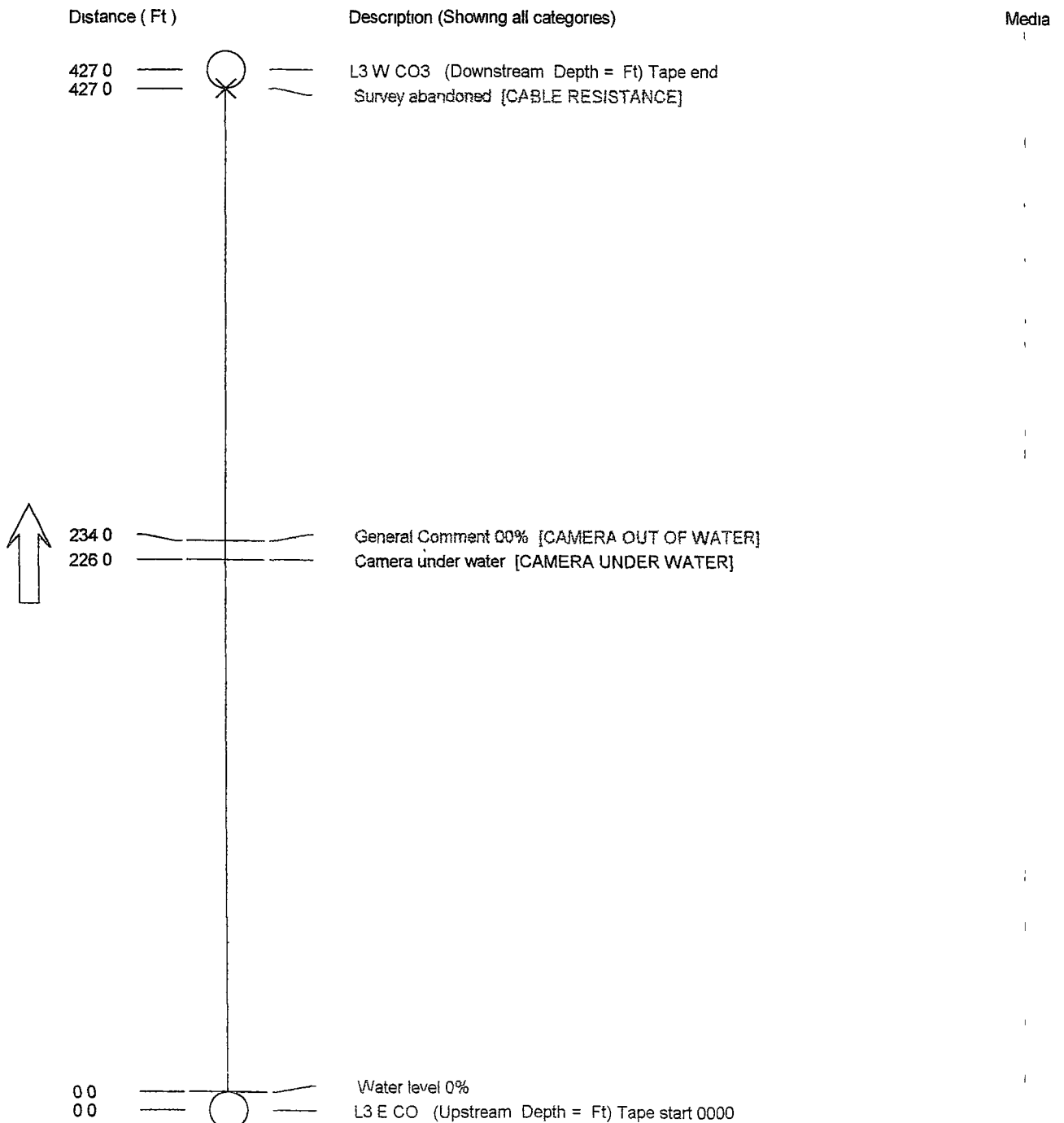
Job	Contract	Cassette 1	Surveyed On 11/02/2004	Sheet 3
Operator WCR	Van Reference	Weather Dry		
Road Name SR 44		Place Name CITRUS COUNTY LANDFI		
Location type Landfill				
Surface				
Survey purpose Maintenance				
Pipe Use Leachate	Schedule length Ft	From L2 W CO	Depth	Ft
Shape Circular	Size 6 by ins	To L2 E CO	Depth	Ft
Material HDPE	Joint spacing Ft	Direction Up		
Lining Plastic	Year laid Cat A	Pre-clean Y	Last cleaned	
General note ACTIVE DISPOSAL AREA		Structural	Service	Constructional
Location note		Miscellaneous	Hydraulic	



Pipe Graphic Report of PLR L3 E CO X

for SCS ENGINEERS

Job		Contract		Cassette 1		Surveyed On 11/02/2004		Sheet 5	
Operator WCR		Van Reference		Weather Dry					
Road Name SR 44				Place Name CITRUS COUNTY LANDFI					
Location type Landfill									
Surface									
Survey purpose Maintenance									
Pipe Use Leachate			Schedule length			From L3 E CO		Depth	
Shape Circular			Size 6 by ins			To L3 W CO3		Depth	
Material HDPE			Joint spacing			Direction Down			
Lining Plastic			Year laid			Pre-clean Y		Last cleaned	
General note ACTIVE DISPOSAL AREA						Structural		Service	
Location note						Miscellaneous		Hydraulic	
						Constructional			



Pipe Graphic Report of PLR HEADER SCOX for SCS ENGINEERS

Job	Contract	Cassette 1	Surveyed On 11/03/2004	Sheet 7
Operator WCR	Van Reference	Weather Dry		
Road Name SR 44		Place Name CITRUS COUNTY LANDFI		
Location type Landfill				
Surface				
Survey purpose Maintenance				
Pipe Use Leachate	Schedule length Ft	From HEADER SCO	Depth	Ft
Shape Circular	Size 6 by ins	To SUMPS	Depth	Ft
Material HDPE	Joint spacing Ft	Direction Down		
Lining Plastic	Year laid Cat A	Pre-clean Y	Last cleaned	
General note ACTIVE DISPOSAL AREA		Structural	Service	Constructional
Location note		Miscellaneous	Hydraulic	

Distance (Ft)

Description (Showing all categories)

Media

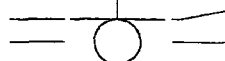
150 0
150 0



SUMPS (Downstream Depth = Ft) Tape end
Survey abandoned [PIPE CRUSHED]

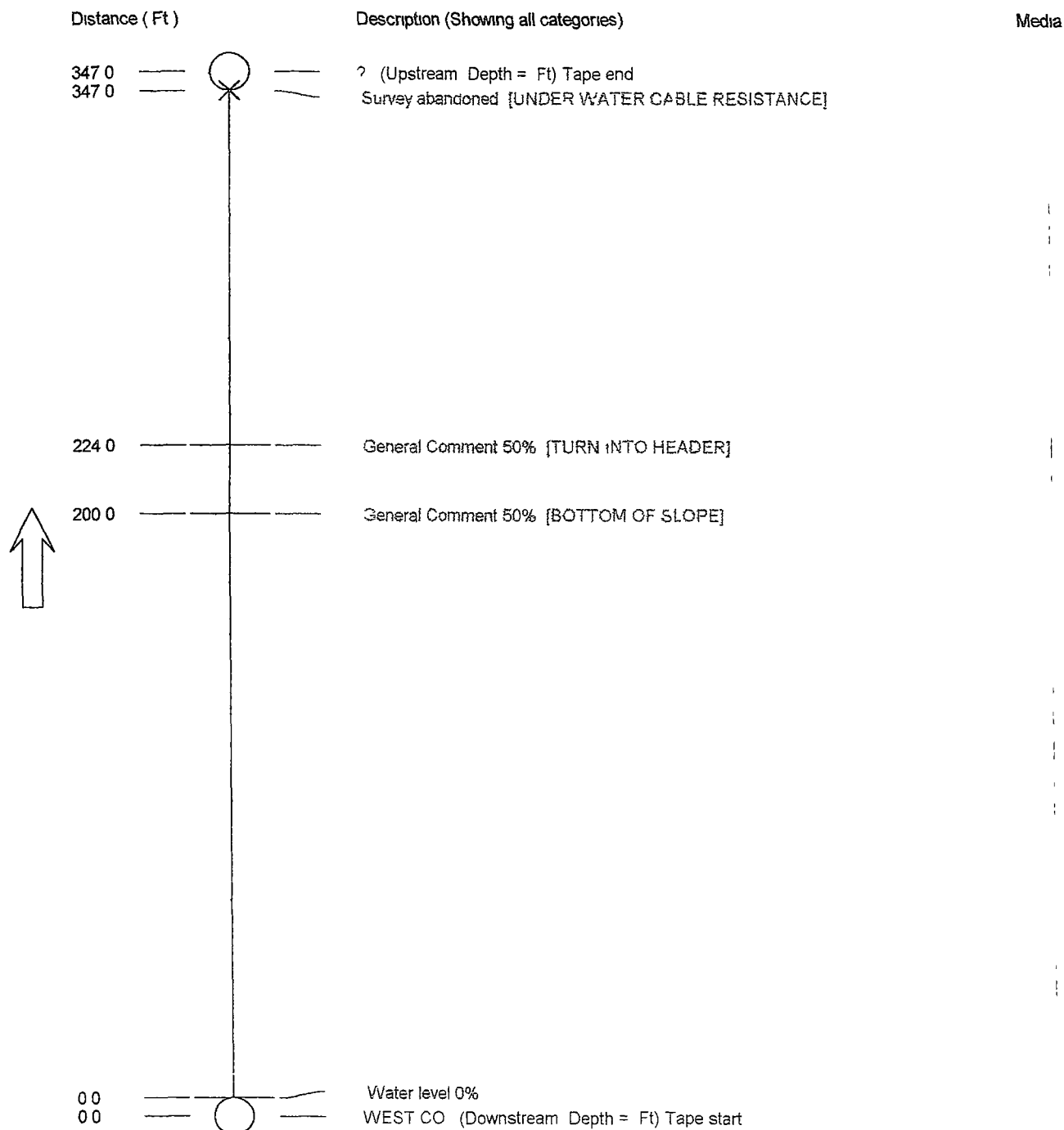


00
00



Water level 0%
HEADER SCO (Upstream Depth = Ft) Tape start

Job	Contract	Cassette 1	Surveyed On 02/18/2005	Sheet 8
Operator WCR	Van Reference	Weather Dry		
Road Name SR 44		Place Name CITRUS COUNTY LANDFI		
Location type Landfill				
Surface				
Survey purpose Maintenance				
Pipe Use Leachate	Schedule length Ft	From WEST CO	Depth	Ft
Shape Circular	Size 6 by ins	To ?	Depth	Ft
Material HDPE	Joint spacing Ft	Direction Up		
Lining Plastic	Year laid Cat A	Pre-clean Y	Last cleaned	
General note ACTIVE DISPOSAL AREA		Structural	Service	Constructional
Location note DON'T KNOW WHERE THIS LATERAL GOES		Miscellaneous	-1, are unc	



Pipe Graphic Report of PLR HEADER SCOX for SCS ENGINEERS

Job	Contract	Cassette 1	Surveyed On 11/03/2004	Sheet 10
Operator WCR	Van Reference	Weather Dry		
Road Name SR 44		Place Name CITRUS COUNTY LANDFI		
Location type Landfill				
Surface				
Survey purpose Maintenance				
Pipe Use Leachate	Schedule length Ft	From N VENT WCO	Depth Ft	
Shape Circular	Size 6 by ins	To HEADER SCO	Depth Ft	
Material HDPE	Joint spacing Ft	Direction Up		
Lining Plastic	Year laid Cat A	Pre-clean Y	Last cleaned	
General note ACTIVE DISPOSAL AREA		Structural	Service	Constructional
Location note NORTH VENT TO HEADER SOUTH CO		Miscellaneous	Hydraulic	

Distance (Ft)

Description (Showing all categories)

Media

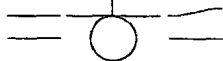
205 0
205 0



HEADER SCO (Upstream Depth = Ft) Tape end
Survey abandoned [BEND IN PIPE IMPASSABLE]



0 0
0 0

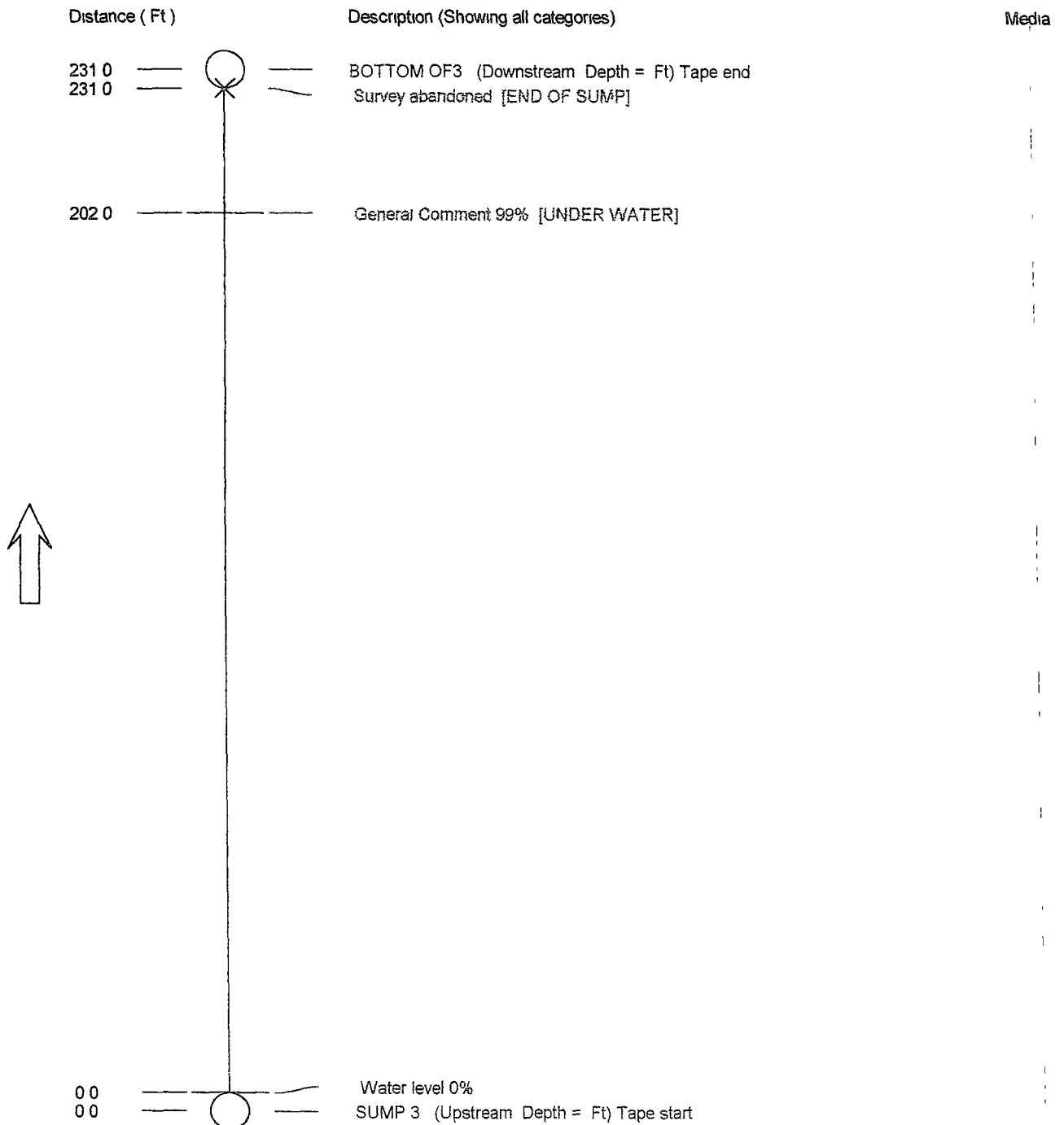


Water level 0%
N VENT WCO (Downstream Depth = Ft) Tape start

Pipe Graphic Report of PLR SUMP 3 X

for SCS ENGINEERS

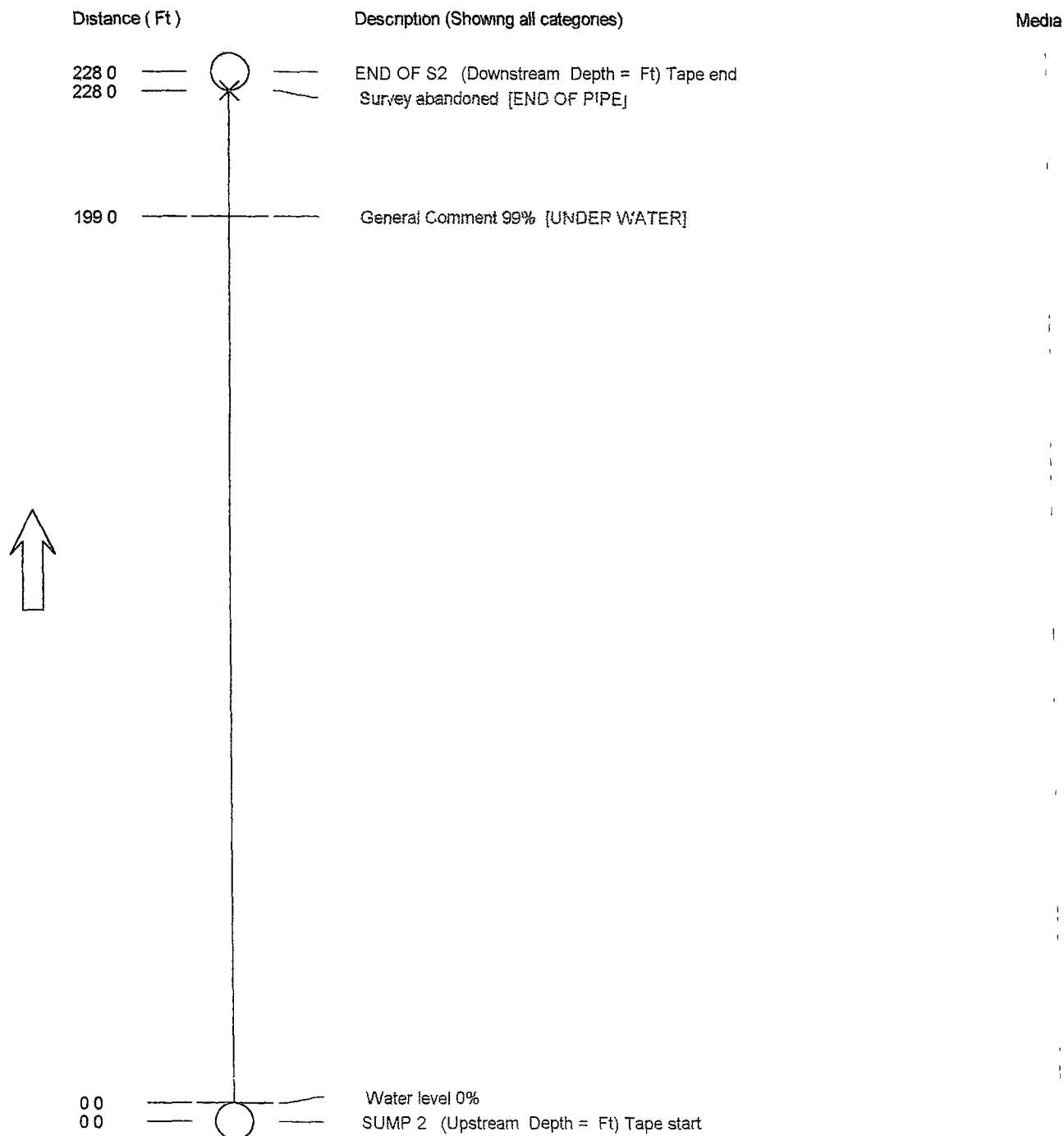
Job	Contract	Cassette 2	Surveyed On 11/03/2004	Sheet 12
Operator	Van Reference	Weather Dry		
Road Name		Place Name		
Location type Landfill				
Surface				
Survey purpose Maintenance				
Pipe Use Leachate	Schedule length Ft	From SUMP 3	Depth Ft	
Shape Circular	Size 18 by ins	To BOTTOM OF3	Depth Ft	
Material HDPE	Joint spacing Ft	Direction Down		
Lining	Year laid Cat A	Pre-clean Y	Last cleaned	
General note		Structural	Service	Constructional
Location note		Miscellaneous	Hydraulic	



Pipe Graphic Report of PLR SUMP 2 X

for SCS ENGINEERS

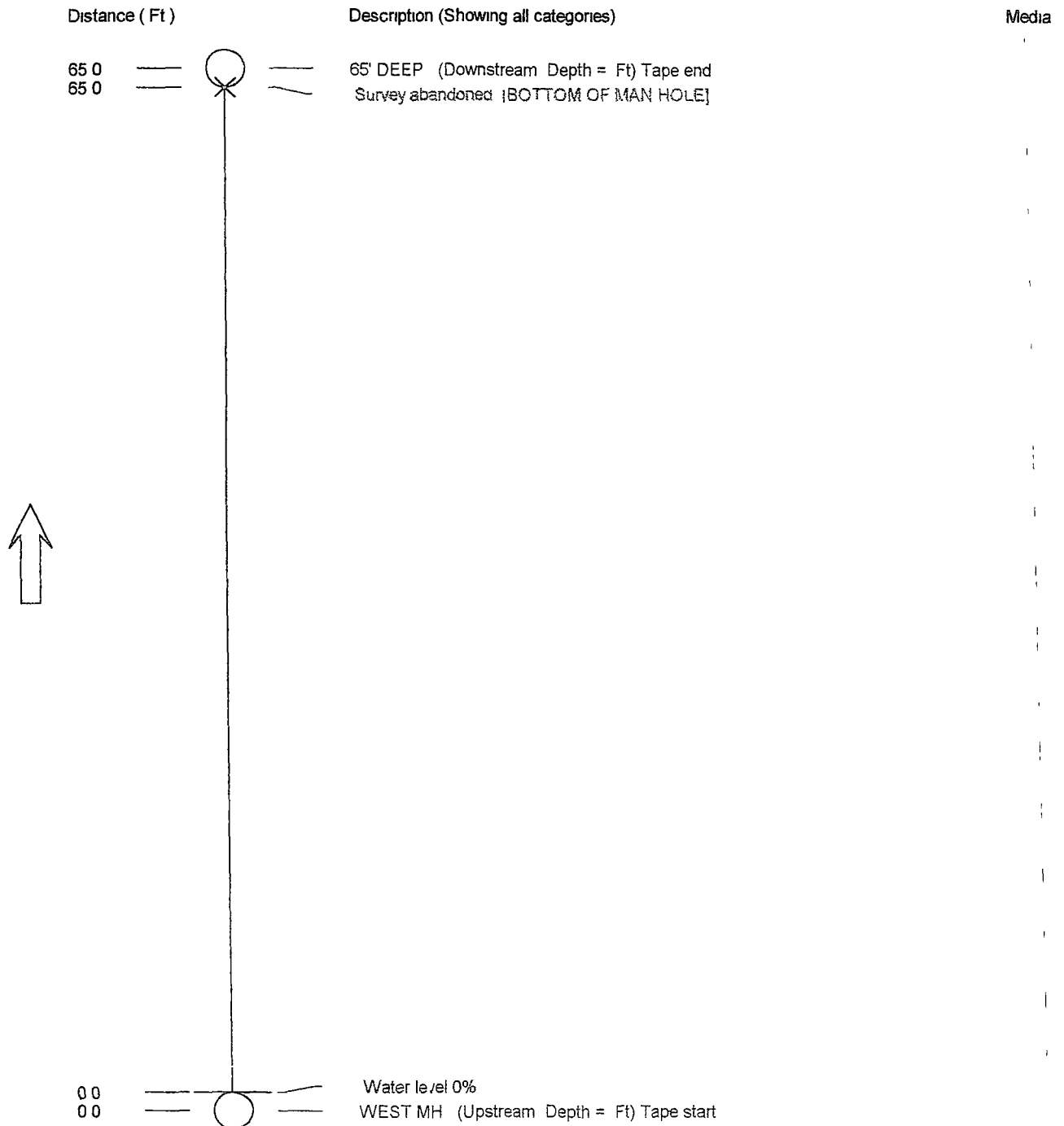
Job	Contract	Cassette 2	Surveyed On 11/05/2004	Sheet 14
Operator	Van Reference	Weather Dry		
Road Name		Place Name		
Location type Landfill				
Surface				
Survey purpose Maintenance				
Pipe Use Leachate	Schedule length	Ft	From SUMP 2	Depth
Shape Circular	Size 18	by ins	To END OF S2	Depth
Material HDPE	Joint spacing	Ft	Direction Down	Ft
Lining	Year laid	Cat A	Pre-clean Y	Last cleaned
General note			Structural	Service
Location note			Miscellaneous	Hydraulic
			Constructional	



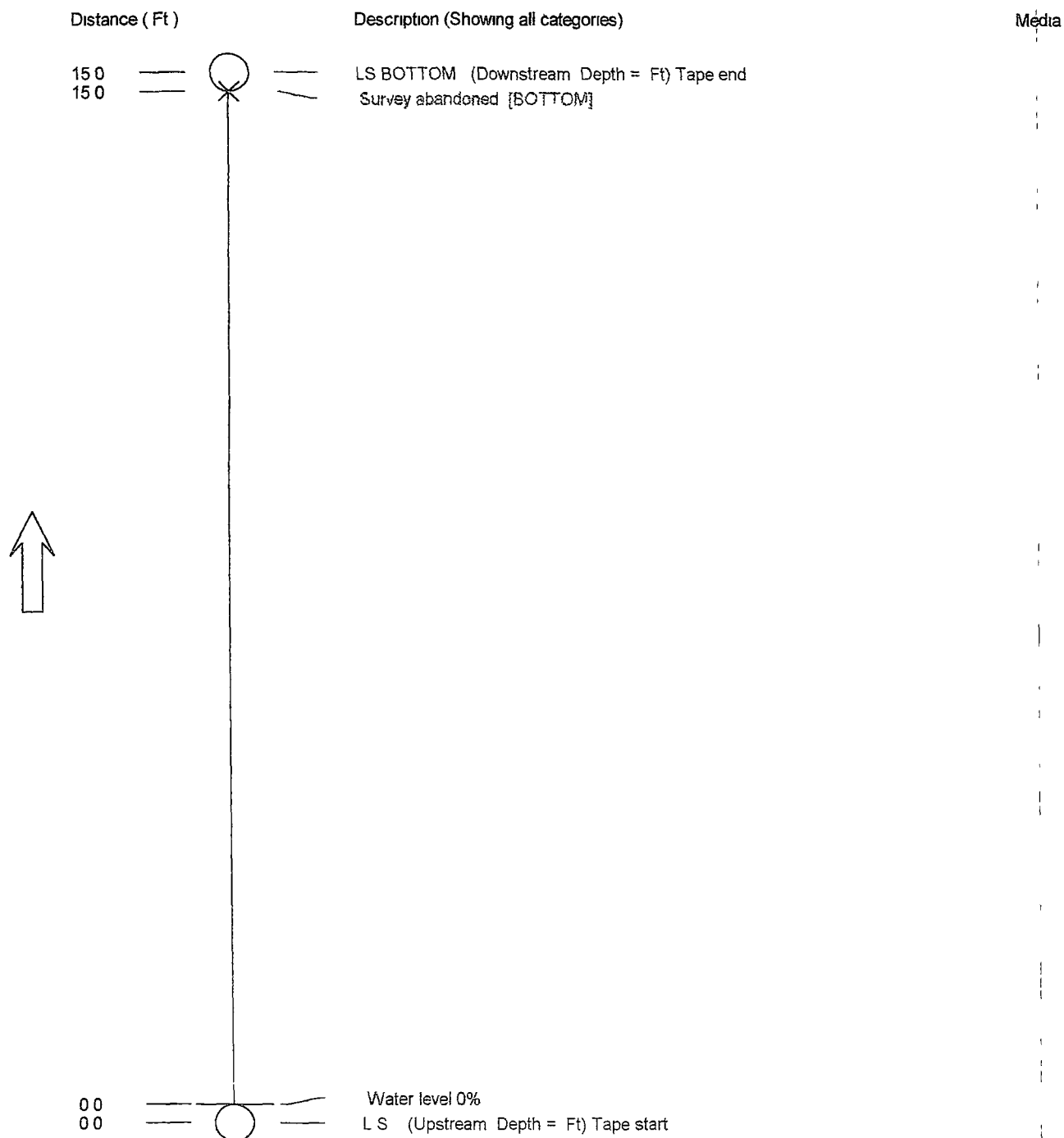
Pipe Graphic Report of PLR WEST MH X

for SCS ENGINEERS

Job	Contract	Cassette 2	Surveyed On 11/08/2004	Sheet 16
Operator	Van Reference	Weather Dry		
Road Name		Place Name		
Location type Landfill				
Surface				
Survey purpose Maintenance				
Pipe Use Leachate	Schedule length Ft	From WEST MH	Depth Ft	
Shape Circular	Size by ins	To 65' DEEP	Depth Ft	
Material	Joint spacing Ft	Direction Down		
Lining	Year laid Cat A	Pre-clean Y	Last cleaned	
General note 7ACRE SITE VIDEO OF MAN HOLES				
Location note		Structural	Service	Constructional
		Miscellaneous	Hydraulic	



Job	Contract	Cassette 2	Surveyed On 11/10/2004	Sheet 18
Operator	Van Reference	Weather Dry		
Road Name		Place Name		
Location type Landfill				
Surface				
Survey purpose Maintenance				
Pipe Use Leachate	Schedule length Ft	From L S	Depth Ft	
Shape Circular	Size by ins	To LS BOTTOM	Depth Ft	
Material	Joint spacing Ft	Direction Down		
Lining	Year laid Cat A	Pre-clean Y	Last cleaned	
General note LIFT STATION ACROSS FROM SUMPS		Structural	Service	Constructional
Location note		Miscellaneous	Hydraulic	



Appendix F
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						

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

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
JUL 24 2008
SOUTHWEST DISTRICT
TAMPA

ATTACHMENT 3

ALTERNATE DAILY COVER MATERIAL TECHNICAL INFORMATION

Landfill Products from New Waste Concepts

"...ProGuard SB eliminates dust and powders, and delivers effective over-night cover for pennies a square foot."

The newest, easiest, most cost effective alternative daily cover material is here. ProGuard SB offers the quality you have come to expect from New Waste Concepts, with the added ease of a single component system. Just mix the single bag blend of recycled fiber and polymers with water in the ConCover All Purpose Sprayer (CAPS) and apply.

Cost Effective

ProGuard SB is formulated to cost just **pennies a square foot**. Once you've tried ProGuard SB, you'll agree, there is no better ADCM. Let New Waste Concepts put ProGuard SB to work for you.

ProGuard SB Single Bag System



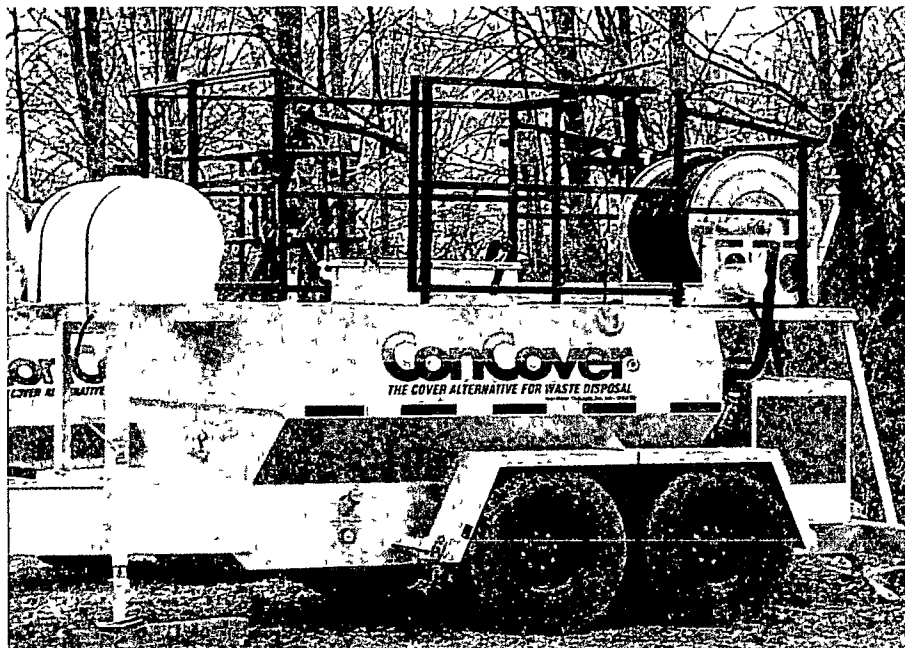
Easy To Use

ProGuard SB alternative daily cover is a blend of polymers and recycled fiber that provides reliable overnight protection, without the hassle of two dry components. ProGuard SB is unique in that the engineered polymers and recycled fibers are combined into one dry component which eliminates fine powders and dust.

Site Support and Evaluation

Our knowledgeable staff will train your operators on product applications and usage, and then follow up with routine visits to insure you are getting the maximum benefit from ProGuard SB.

If you'd like to experience superior overnight coverage at an affordable rate, give us a call. A New Waste Concepts representative will be happy to discuss how we can put ProGuard SB to work for you.



New Waste Concepts, Inc.
26624 Glenwood Road
Perrysburg, Ohio 43551
Phone (419) 872-2190 or (877) 736-6924
Fax (419) 872-2602
Email mfnknight@nwci.com
www.nwci.com



MATERIAL SAFETY DATA SHEET

Trade Name*ProGuard Single Bag® / ProGuard SB®*Section I - General Information

Product Name	ProGuard Single Bag® / ProGuard SB®
Manufacturer	New Waste Concepts, Inc 26624 Glenwood Road Perrysburg, Ohio 43551 (419) 872-2190
Date MSDS Prepared	August 29, 2003
Last Review Date	August 29, 2003
MSDS Preparer's Name/Address	Prepared by manufacturer
Unit of Issue/Container Type	Plastic bag/ 40 lb bales
Product Description	Recycled paper fiber and polymer

Section II - Ingredient/Identity Information

Proprietary (Y/N)	Y
-------------------	---

Section III - Physical/Chemical Characteristics

Appearance and Odor	Fibrous with brown or natural green color
Boiling Point	N/A
Melting Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Specific Gravity	N/A
Decomposition Temperature	N/A
Evaporation Rate	N/A
Solubility (H ₂ O)	Slightly Soluble
Percent Volatiles by Volume	N/A
Viscosity	N/A
pH	N/A

Section IV - Fire and Explosion Hazard Data

Flash Point	~525 F°
Lower Explosive Limit	N/A
Upper Explosive Limit	N/A
Extinguishing Media/Methods	Use CO ₂ , dry chemical foam, or water
Special Fire Fighting Methods	None
Unusual Fire/Explosive Hazards	As supplied, if ignited, dry bales will burn

Section V - Reactivity Data

Stable (Y/N)	Y
Conditions To Avoid	Heat/fire
Materials To Avoid	None known
Hazardous Decomposition Products	CO ₂ , CO ₃

Section VI - Health Hazard Data

Routes of Entry

Inhalation (Y/N)	Y
Skin (Y/N)	N
Ingestion (Y/N)	N
Other	N
Contact Eye/Skin Hazards	N/A
Acute Overexposure Symptoms	Avoid prolonged inhalation of fiber material
Chronic Overexposure Symptoms	None known

Emergency Treatment/ First Aid Procedures

Gross Inhalation	Move victim to fresh air environment Seek medical attention
Gross Ingestion	No oral toxicity known
Skin Contact	Wash affected areas with soap and water
Severe Eye Contact	Flush eyes with water for 15 minutes Seek medical attention if irritation persists

Section VII - Precautions For Safe Handling and Use

Personal Protective Equipment (Routine Use)

Respirator Protection	Face shield recommended but not required
Gloves	Recommend latex, butyl rubber, or nitrile gloves
Eye Protection	Safety goggles or glasses recommended
Other	None
Work Practices	This product is to be used in outdoor environments Do not use in the presence of ignition sources
Ventilation	Use outdoors
Spill/Release Procedures	Sweep material into drums and dispose of in accordance to local, state, and federal laws Does not need to be reported to CERCLA or RCHA
Neutralization Procedures	N/A
Waste Disposal Procedures	This material is not hazardous, nor does it exhibit any hazardous waste characteristics
Storage/Handling Procedures	Store product in a dry environment
Other Health Hazard Precautions	Use proper lifting procedures when attempting to dispense product from 40 lb bales

User will treat the above as "CONFIDENTIAL TECHNICAL INFORMATION", which information shall be used only by the user or subsidiaries or parent of the user. This data when transmitted to other parties should always be labeled "CONFIDENTIAL TECHNICAL INFORMATION", irrespective of to whom it is being transmitted.

The information contained herein has been compiled from sources considered to be accurate, however, no warranty is expressed or implied regarding the accuracy of this information and seller assumes no responsibility for injury to buyer or third persons or for any damage to any property and buyer assumes all such risks.

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
JUL 24 2008
SOUTHWEST DISTRICT
TAMPA

ATTACHMENT 4

COUNTY CORRESPONDENCE WITH FDEP REGARDING SAMPLE
FREQUENCY MODIFICATIONS

Citrus Central Landfill -- leachate effluent sampling/reporting changes
From: "Morris, John R." <John.R.Morris@dep.state.fl.us>
To: <Susan Metcalfe@bocc citrus.fl.us>
CC: "Pelz, Susan" <Susan Pelz@dep.state.fl.us>
Date: 7/9/2007 11:50 AM
Subject: Citrus Central Landfill -- leachate effluent sampling/reporting changes
Attachments: 21375_011_sce9b(2).doc

Susie:

The attachment includes revisions to SC #E.9.b.(2) of permit #21375-008-SO/01 regarding the proposed changes to the sampling frequency for leachate effluent at Citrus Central landfill. Please check to see if the strike through/underline revisions are consistent with our telephone conversation on June 29, 2007.

If so, it is the Department's intention to require leachate effluent sampling at the frequency listed in this revision to SC #E.9.b (2) until such time that the permit is modified. It is anticipated that an application for permit modification will be submitted to address the proposed changes to the cap of the closed lined cell, and the leachate effluent sampling frequency change will be incorporated into the permit as part of that modification.

Please contact me if you have questions about this message.

John

<<21375_011_sce9b(2).doc>>

John R. Morris, P.G.
FDEP SW District Office, Solid Waste Section
13051 N Telecom Pkwy.
Temple Terrace, FL 33637-0926.

Telephone: 813-632-7600, ext. 336, suncom 514-9155, ext 336
Facsimile. 813-632-7664
E-mail. john.r.morris@dep.state.fl.us

SPECIFIC CONDITIONS: PART E - Water Quality Monitoring Requirements

(Specific Condition #E 9 , continued)

b. Leachate Treatment Plant Effluent Sampling. Grab samples of treated leachate effluent (unfiltered) shall be collected at the discharge from the chlorine contact tank (WACS Testsite ID No 175) as shown on the figure entitled "Site Plan," prepared by JEA, received April 16, 2007 (**attached**), to comply with the ground water standards and minimum criteria referenced in Rules 62-520 420 and 62-520 400, F A C , respectively, with the exception of sodium, chloride and total dissolved solids (TDS) These three parameters shall meet the standards listed in Rule 62-520 420, F A C , at the edge of the zone of discharge along the western property boundary (as described in SC#E 2 a)

Amended 04/24/2007.

1) Leachate effluent shall be sampled at the frequency listed in Specific Condition No. E.9 b (2), and the analytical results shall be submitted **quarterly**, as follows Quarter 1 results shall be submitted by **April 15th**; Quarter 2 by **July 15th**, Quarter 3 by **October 15th**; and, Quarter 4 by **January 15th**.

2) Leachate effluent samples shall be collected for analysis of the following parameters

Parameter	Unit	Minimum	Maximum	Frequency
Flow	gpd	N/A	30,000	Daily
pH	STD UNITS	6 00	8 50	Daily
CBOD ₅	mg/l	N/A	20	Weekly/Monthly
TSS	mg/l	N/A	20	Weekly/Monthly
Nitrate - N	mg/l	N/A	10	Weekly/Monthly
Chloride	mg/l	N/A	N/A	Quarterly
Sodium	mg/l	N/A	N/A	Quarterly
TDS	mg/l	N/A	N/A	Quarterly
Total ammonia - N	mg/L	N/A	2 8	Quarterly
Benzene	µg/l	N/A	1	Quarterly
Toluene	µg/l	N/A	40	Quarterly
Ethylbenzene	µg/l	N/A	30	Quarterly
Total Xylenes	µg/l	N/A	20	Quarterly
Vinyl Chloride	µg/L	N/A	1	Quarterly
Ethylene dibromide (EDB)	µg/l	N/A	0 02	Quarterly
Total Trihalomethanes	µg/l	N/A	100	Semi-annually*
Arsenic	mg/l	N/A	0 01	Annually
Barium	mg/l	N/A	2	Annually
Cadmium	mg/l	N/A	0 005	Annually
Chromium	mg/l	N/A	0 1	Annually
Iron	mg/l	N/A	0 3	Annually
Mercury	mg/l	N/A	0 002	Annually
Lead	mg/l	N/A	0 015	Annually
Selenium	mg/l	N/A	0 05	Annually
Silver	mg/l	N/A	0 1	Annually

* =to be conducted concurrently with the semi-annual ground water sampling events described in Specific Condition Nos E 4 b , and E 4 c

PERMITTEE: Citrus County Board of
County Commissioners

PERMIT NO: 21375-008-SO/01
Citrus County Central Class I Landfill

If in any two consecutive ~~weeks~~months of leachate effluent sampling, the same listed parameter exceeds the regulatory level, the permittee shall immediately cease discharge into the percolation ponds and provide off-site disposal for its leachate and/or effluent, until acceptable leachate treatment is again demonstrated and until on-site discharge into the percolation ponds is again approved by the Department.

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
JUL 24 2008
SOUTHWEST DISTRICT
TAMPA

ATTACHMENT 5
SOIL STOCKPILE ANALYSIS LETTER

SCS ENGINEERS

April 22, 2008
File No 09207049 02

Ms Susan J Metcalfe, P G , Director
Solid Waste Management Division
Citrus County Department of Public Works
P O Box 340
Lecanto, Florida 34460

Subject Assessment of Potential Effects of Proposed Soil Stockpile
 Citrus County Central Landfill, Lecanto, Florida

Dear Ms Metcalfe

At your request, SCS Engineers (SCS) has completed an evaluation of the potential effect of placing a soils stockpile on a portion of the closed landfill. This evaluation was focused on estimating how such stockpiling may effect leachate and landfill gas (LFG) within the closed landfill area and if these effects could potentially cause detectable releases of contaminants from the landfill.

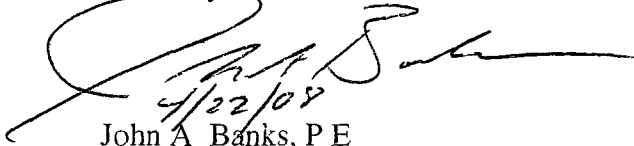
The proposal is to place approximately 150,000 cubic yards of soil in the southeast corner of the 60-acre closed landfill site. The proposed stockpile will occupy about 5 acres and be 20 ft deep in the center with 3 to 1 side slopes. The closed landfill in this area contained sewage sludge placed between 1975 and 1990 and yard waste was placed from 1988 to 1990. The area was capped with a PVC liner and 2 feet of soil in 1990. There are four gas vents located in this area. In 2006, SCS conducted Tier 2 sampling of these vents and one probe in this area as part of a wider sampling effort. While gas was measured in the vents and probes, it was not noted to be flowing or producing meaningful pressures.

Based on the types and age of the waste in the subject area, the site's geology, and the results of the analysis conducted by Mr. Robert Isenberg of our Reston, VA office (see attachment), it is our professional opinion that the settlement that will be caused by the loading from the proposed soil stockpile should not result in substantive detectable changes to water quality or LFG monitoring points in the vicinity of the proposed stockpile.

Ms Susan J Metcalfe
April 22, 2008
Page 2

Please contact us if you have any questions or comments regarding this submittal

Sincerely,

A handwritten signature in black ink, appearing to read 'John A. Banks', with a date '4/22/08' written below it.

John A Banks, P E
Project Director

A handwritten signature in black ink, appearing to read 'Raymond J. Dever'.

Raymond J Dever, P E , BCEE
Vice President

SCS ENGINEERS

JAB/RJD jab

Attachment

cc Robert H Isenberg, SCS Reston, VA
Robert L Westly, SCS Tampa, FL

SCS ENGINEERS

April 21, 2008

File No 09207049 02

MEMORANDUM

TO: John A Banks, P.E
Robert L Westly, P G
FROM: Robert H Isenberg, P E., CPG
SUBJECT: Citrus County Landfill – Evaluation of Proposed
Soil Stockpile Over Closed Landfill Area

PURPOSE

The purpose of this analysis is to estimate the total settlement that will result from stockpiling soil over an old solid waste landfill and discuss the potential impact on leachate and landfill gas

SITE CONDITIONS

Based on our review of site conditions, we understand the following

- The depth of waste is about 20 ft.
- Some of the waste is sewage sludge placed in shallow lagoons from 1975 up to 1990
- The rest of the waste is yard waste placed from 1988 to 1990.
- The landfill has a PVC final cap and no bottom liner or leachate collection system
- The estimated density and level of compaction has not been previously calculated For purposes of this analysis we estimate the in-place waste density is approximately 45 pounds per cubic foot (lbs/cu.ft).
- The landfill cell is unlined and leachate levels have not been measured. Since the underlying soils are relatively permeability sandy soils, it is highly unlikely that leachate is mounded within the waste mass
- Depth of groundwater table is 80 ft measured from the bottom of waste; groundwater flows to the west
- Fill will be sandy soil with an estimated density of 120 lb/cu. ft and will be stockpiled up to 35 feet in places with a 3:1 sideslope
- Stockpile area is located in southeast corner of site.
- There are four landfill gas wells in the area of the proposed stockpile which indicate LFG is present but not in significant quantities or pressure.

SETTLEMENT POTENTIAL

Following Sowers' (1), Yen & Scanlon (2) and similar methods for evaluating municipal waste landfill settlement, the amount a landfill settles is a function of several factors including the following

- (a) on-going decomposition of organic matter,
- (b) raveling of particles over time,
- (c) compression due to self-weight,
- (d) impact of new loadings from structural fill and from the building foundations

The first three factors are not significant to this analysis as they relate to operational settlement that occurs during waste filling or are related to the long term decomposition of the organic components in waste over a period of many years. For this project, it is the last item that is relevant as it deals with physical compression of the waste from a new loading---in this case, it is the new soil stockpile

Due to various unknown factors including the exact composition and placement of refuse, rate of decomposition of woody and paper refuse, distribution, age, and moisture content of existing refuse materials accurate predictions of settlement rate and the overall magnitude of settlement cannot be made. However, based on generally accepted empirical models, we have considered potential short term and long term estimates of settlement for use in developing Project designs

Total Settlement

Based on basic one-dimensional compression theory by Hough (3) and others, waste will compress under a new loading according to the compression relationship shown below

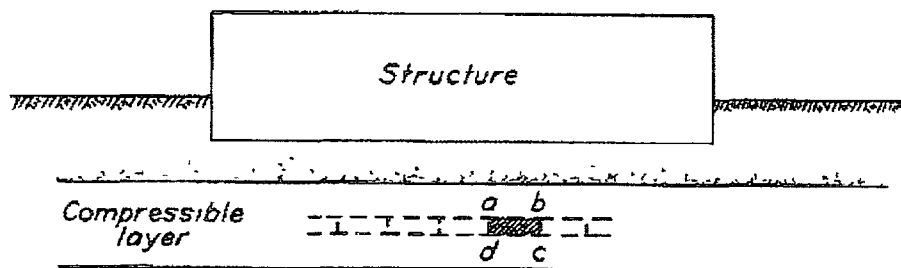


Fig. 5-1. One-dimensional compression of soil layer.

(Graphic from Hough, 1969, page 111)

$$S = H \cdot (C_c / (1 + e_o)) \cdot \log (1 + dP / P_i)$$

Where, S = change in thickness due to one-dimensional vertical compression
 of the layer in question
 H = original layer thickness = 20 feet

Cc= compression index
e_o= initial void ratio
dP= new loading from soil stockpile (35 feet x 120 pcf)
P_i= initial stress due to weight in the center of compressible layer

For waste material, Sowers estimated Cc=0.15*e_o for conditions "unfavorable" to compression to 0.55*e_o for conditions "favorable" compression.

Based on the information provided on the age and depth of waste, we estimate the Cc value would be closer to the unfavorable end of the scale. However, a conservative value of Cc=0.35*e_o would be reasonable for this case due to the wastes accepted.

If we assume the initial waste void ratio (e_o) is 2.0, the Cc value would calculate to be 0.70.

The initial stress P_i in the center of the waste layer would be equal to 10 ft * 45 pcf = 450 psf.

The new stress, dP, in the center of the layer would be a maximum of 35 ft*120 pcf = 4200 psf. This is conservative as no stress reduction has been assumed to occur with depth or position.

Using these assumptions, we estimate the total settlement of 20 feet of old waste due to 35 of stockpile fill would be

$$=20*(0.70/3.0)*(\log(1+(4200/450))) = 4.73 \text{ feet, say 5 feet.}$$

This value corresponds to 25% of the original thickness which compares well to a recent waste surcharge project where up to 18 feet of fill was placed over 30 feet of old waste and resulted in settlement of up to 3 feet.

Differential Settlement

Based on the information analyzed for this geotechnical study, it should be assumed that differential settlement between any two points will be equal to approximately one half (½) of the above estimated settlement amounts, which would be 2.5 feet in this case. This estimate of differential settlement is based upon generally accepted experiences for compressible materials.

LEACHATE MIGRATION POTENTIAL

Given the lack of a bottom liner, existence of a PVC cover, sandy soils beneath the waste, age of the waste and type of waste, it is unlikely the waste contains saturated layers and that the likelihood of a measureable head of leachate at the bottom of the waste mass is very low. If leachate is present, our experience suggests it will be relatively isolated and/or perched within the mass.

Under these moisture conditions, the waste mass will simply compress in proportion to the height of the soil stockpile but without a corresponding build-up of pore pressures, if pore

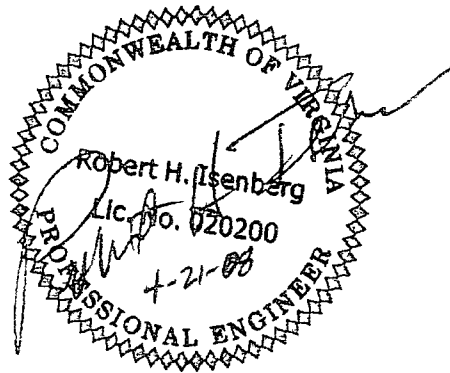
pressures are created they would dissipate quickly due to the permeability of the waste. If the waste contains localized saturated zones of leachate, the increased load from the soil stockpile may cause a temporary increase in the elevations and result in limited lateral migration until equilibrium is restored. However, the potential for a downward or lateral migration of leachate appears to be negligible.

GAS MIGRATION POTENTIAL

Compression of the waste mass by the soil stockpile loading will reduce the volume of void spaces in the mass, which will be exhibited as surface settlement. Gas that is contained within these void spaces will compress and, if sufficient void space reduction occurs, may move horizontally or vertically until it reaches an equilibrium state. However, since the filling process will occur over a period of time (with resulting waste settlement lagging behind), it is likely that whatever gas movement occurs will happen relatively slowly and roughly in proportion to the rate of filling. Two additional factors that may potentially slow the potential for gas movement is that the compressed waste will have a reduced permeability and a reduced surface area—the reduced permeability will slow the rate of movement, while the reduced surface area will reduce the rate at which new gas is generated. Lastly, given the age of the waste, type of waste, and observation of minimal pressures at the existing vents it is likely that gas production is on the low end of the gas generation lifecycle and not much gas is being produced.

REFERENCES

- 1 Sowers, G F "Settlement of Waste Disposal Fills," Proceedings, 8th International Conference on Soil Mechanics and Foundation Engineering, Moscow, 1973
- 2 Yen, B C., and Scanlon, B, "Sanitary Landfill Settlement Rates," Journal of Geotechnical Engineering, May 1975
- 3 Hough, B K, "Basic Soils Engineering," Ronald Press Company, Second Edition, 1969



ATTACHMENT B
DESIGN DRAWINGS

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
SEP 29 2008
SOUTHWEST DISTRICT
TAMPA

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
SEP 29 2008
SOUTHWEST DISTRICT
TAMPA

ATTACHMENT C

**GEOTECHNICAL INVESTIGATION
CITRUS COUNTY CENTRAL LANDFILL
(UNIVERSAL ENGINEERING SCIENCES)**

*WITHDRAWN
FROM APPLICATION*

ATTACHMENT D

INTEGRATED SOLID WASTE MANAGEMENT EXCERPT

*with SRW
from
Application*

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
SEP 29 2008
SOUTHWEST DISTRICT
TAMPA

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
SEP 29 2008
SOUTHWEST DISTRICT
TAMPA

ATTACHMENT E

GAS MIGRATION POTENTIAL CALCULATIONS

Daniel R. Cooper, P.E.
Florida PE No. 66440

SCS ENGINEERS

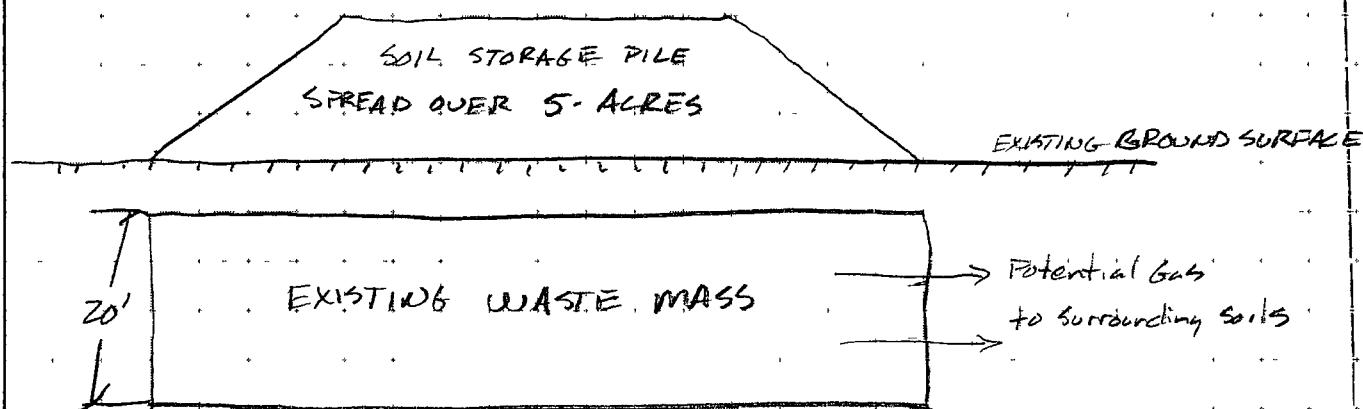
SHEET 1 OF 8

CLIENT CITRUS COUNTY	PROJECT 7-Acre Cell Re-closure	JOB NO 09207049.01
SUBJECT POTENTIAL GAS MIGRATION DUE TO ADDITION OF SOIL TO AREA OVER EXISTING WASTE MASS	BY DRL	DATE 9-18-08
	CHECKED [Signature]	DATE 9/29/09

OBJECTIVE:

Determine the amount of gas that could potentially be forced from existing waste mass into surrounding soils, due to the loading of the waste from additional weight of a soil storage pile placed at ground surface.

Once the potential amount of gas quantity released is determined, calculate the potential extent of the gas into surrounding soils.



APPROACH:

Calculate pore volume of waste to determine the total amount of potential gas that could enter surrounding soils.

Calculate pore volume of surrounding soils based on soil characteristics.

Determine the distance that gas could infiltrate into the surrounding soils based upon pore volumes and linear movement.

ASSUMPTIONS:

Weight / Force of soil storage pile will be vertical and completely compress pores in 5 foot section of waste (From Attachment 5d RAI #1)

The waste has a void ratio e of 1.0 which leads to porosity $n = \frac{e}{1+e} = 0.50$ or 50% voids. This value is high as 20 year old waste will have settled to a lower ^{porosity} value but we want to be conservative and

SCS ENGINEERS

SHEET 3 OF 8

CLIENT CITRUS COUNTY	PROJECT 7 Acre Cell Re-Closure	JOB NO 09207049.01
SUBJECT POTENTIAL GAS MIGRATION DUE TO ADDITION OF SOIL TO AREA OVER EXISTING WASTE MASS	BY DRL	DATE 9-18-08
	CHECKED [Signature]	DATE 9/29/09

CALCULATIONS CONT:

Calculate the volume of soil that could be effected, or the amount of soil it would take to absorb the gas from the waste

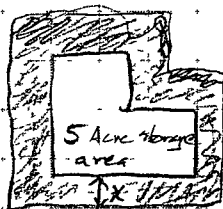
$$V_{\text{soil}} = V_T (0.439) \quad w/ V_{\text{soil}} = V_{\text{from waste}} = 544,500 \text{ ft}^3$$

$$544,500 \text{ ft}^3 = V_T (0.439) \quad V_T = 1,240,319 \text{ ft}^3$$

Since this volume is over a 20' height the area of effected soil becomes

$$V_T = (A)(h) \quad A_s = \frac{V_T}{h} = \frac{1,240,319 \text{ ft}^3}{20 \text{ ft}} = 62,016 \text{ ft}^2$$

So gas will enter into an area 62,016 ft² around the 5 Acre Storage area. Assuming the gas disperses evenly the effect area becomes the shaded area in the drawing below



shaded area = 62,016 ft² Total Area = 279816 including determine X.
5 Acre storage area.

Using Autocad it was determined that an area extending outward 28 feet in every direction yields a 280,300 ft² of effected soil. This can be seen in the attached Autocad DWG (see sheet 8 of these calcs.

CONCLUSIONS:

Based on Autocad drawings and calculations above the maximum distance that gas could travel from the waste mass is 28 feet. This distance will most likely be less as there will be vertical dispersion and the waste mass should have an actual porosity less than 0.5 due to its age.

SCS ENGINEERS

SHEET 2 OF 8

CLIENT CITRUS COUNTY	PROJECT 7-Acre Cell Re-Closure	JOB NO 09207649.01
SUBJECT POTENTIAL GAS MIGRATION DUE TO ADDITION OF SOIL TO AREA OVER EXISTING WASTE MASS	BY DRL	DATE 9-18-08
	CHECKED [Signature]	DATE 9/29/08

ASSUMPTIONS. CONT:

assume that there will be more gas than there will be in actuality.

Gas will dissipate radially from the 5 foot section of waste with no vertical dispersion, which will lead to a larger distance away from the waste mass than if vertical dispersion was included.

CALCULATIONS:

Total volume of waste being compressed = V_T

$V_T = \text{Area of waste} \cdot \text{Compression distance}$

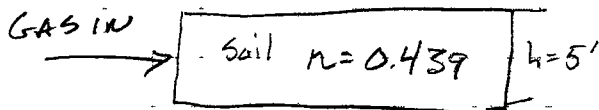
$$= 5 \text{ acres} \cdot 5 \text{ feet} = 25 \text{ acre} \cdot \text{ft} \quad 25 \text{ acre} \cdot \text{ft} \cdot \frac{43560 \text{ ft}^2}{\text{acre}} = 1,089,000 \text{ ft}^3$$

Volume of void is this volume of soil = V_v $V_v = V_T n$
porosity of soil = $n = 0.5$

$$V_v = 1,089,000 \text{ ft}^3 (0.5) = 544,500 \text{ ft}^3 = \text{volume of voids in waste.}$$

This volume may not be entirely gas, but we will assume it is to maximize the potential gas volume to be conservative.

This volume of gas will now travel into surrounding soils



Knowing from the soil borings that we have UCS soils with Classification of SP, SM & SC a porosity of 0.439 was used based on averaging HELP model Classifications 1 for SP, and 4, 5, 6, 7 for SM and 10 for SC. HELP model Table 4 is attached for reference see sheet of these calcs.

SCS ENGINEERS

SHEET 4 OF 8

CLIENT CITRUS COUNTY	PROJECT 7-acre Cell Re Closure	JOB NO 09207049.01
SUBJECT POTENTIAL GAS MIGRATION DUE TO ADDITION OF SOIL TO AREA OVER EXISTING WASTE MASS	BY DRC	DATE 9-18-08
	CHECKED C/B	DATE 9/29/08

CONCLUSIONS CONT.

From the AutoCAD drawing it can be seen that the area potentially affected by the gas migration remains within the fence line, thus there would be no potential gas migration off site due to the addition of the soil to the proposed soil storage area.

THE HYDROLOGIC EVALUATION OF LANDFILL
PERFORMANCE (HELP) MODEL

USER'S GUIDE FOR VERSION 3

by

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TABLE 4. DEFAULT SOIL, WASTE, AND GEOSYNTHETIC CHARACTERISTICS

Classification			Total Porosity	Field Capacity	Wilting Point	Saturated Hydraulic Conductivity
HELP	USDA	USCS	vol/vol	vol/vol	vol/vol	cm/sec
1	CoS	SP	0.417 ✓	0.045	0.018	1.0x10 ⁻⁷
2	S	SW	0.437	0.062	0.024	5.8x10 ⁻⁸
3	FS	SW	0.457	0.083	0.033	3.1x10 ⁻⁸
4	LS	SM	0.437 ✓	0.105	0.047	1.7x10 ⁻⁸
5	LFS	SM	0.457 ✓	0.131	0.058	1.0x10 ⁻⁸
6	SL	SM	0.453 ✓	0.190	0.085	7.2x10 ⁻⁹
7	FSL	SM	0.473 ✓	0.222	0.104	5.2x10 ⁻⁹
8	L	ML	0.463	0.232	0.116	3.7x10 ⁻⁹
9	SiL	ML	0.501	0.284	0.135	1.9x10 ⁻⁹
10	SCL	SC	0.398 ✓	0.244	0.136	1.2x10 ⁻⁹
11	CL	CL	0.464	0.310	0.187	6.4x10 ⁻¹⁰
12	SiCL	CL	0.471	0.342	0.210	4.2x10 ⁻¹⁰
13	SC	SC	0.430	0.321	0.221	3.3x10 ⁻¹⁰
14	SiC	CH	0.479	0.371	0.251	2.5x10 ⁻¹⁰
15	C	CH	0.475	0.378	0.265	1.7x10 ⁻¹⁰
16	Barner Soil		0.427	0.418	0.367	1.0x10 ⁻⁷
17	Bentonite Mat (0.6 cm)		0.750	0.747	0.400	3.0x10 ⁻⁹
18	Municipal Waste (900 lb/yd ³ or 312 kg/m ³)		0.671	0.292	0.077	1.0x10 ⁻⁸ ←
19	Municipal Waste (channeling and dead zones)		0.168	0.073	0.019	1.0x10 ⁻⁸
20	Drainage Net (0.5 cm)		0.850	0.010	0.005	1.0x10 ⁻¹
21	Gravel		0.397	0.032	0.013	3.0x10 ⁻¹
22	L	ML	0.419	0.307	0.180	1.9x10 ⁻⁹
23	SiL	ML	0.461	0.360	0.203	9.0x10 ⁻¹⁰
24	SCL	SC	0.365	0.305	0.202	2.7x10 ⁻¹⁰
25	CL	CL	0.437	0.373	0.266	3.6x10 ⁻¹⁰
26	SiCL	CL	0.445	0.393	0.277	1.9x10 ⁻¹⁰
27	SC	SC	0.400	0.366	0.288	7.8x10 ⁻¹¹
28	SiC	CH	0.452	0.411	0.311	1.2x10 ⁻¹⁰
29	C	CH	0.451	0.419	0.332	6.8x10 ⁻¹¹
30	Coal-Burning Electric Plant Fly Ash		0.541	0.187	0.047	5.0x10 ⁻⁸
31	Coal-Burning Electric Plant Bottom Ash		0.578	0.076	0.025	4.1x10 ⁻⁸
32	Municipal Incinerator Fly Ash		0.450	0.116	0.049	1.0x10 ⁻⁸
33	Fine Copper Slag		0.375	0.055	0.020	4.1x10 ⁻⁸
34	Drainage Net (0.6 cm)		0.850	0.010	0.005	3.3x10 ⁻¹

Moderately Compacted

(Continued)

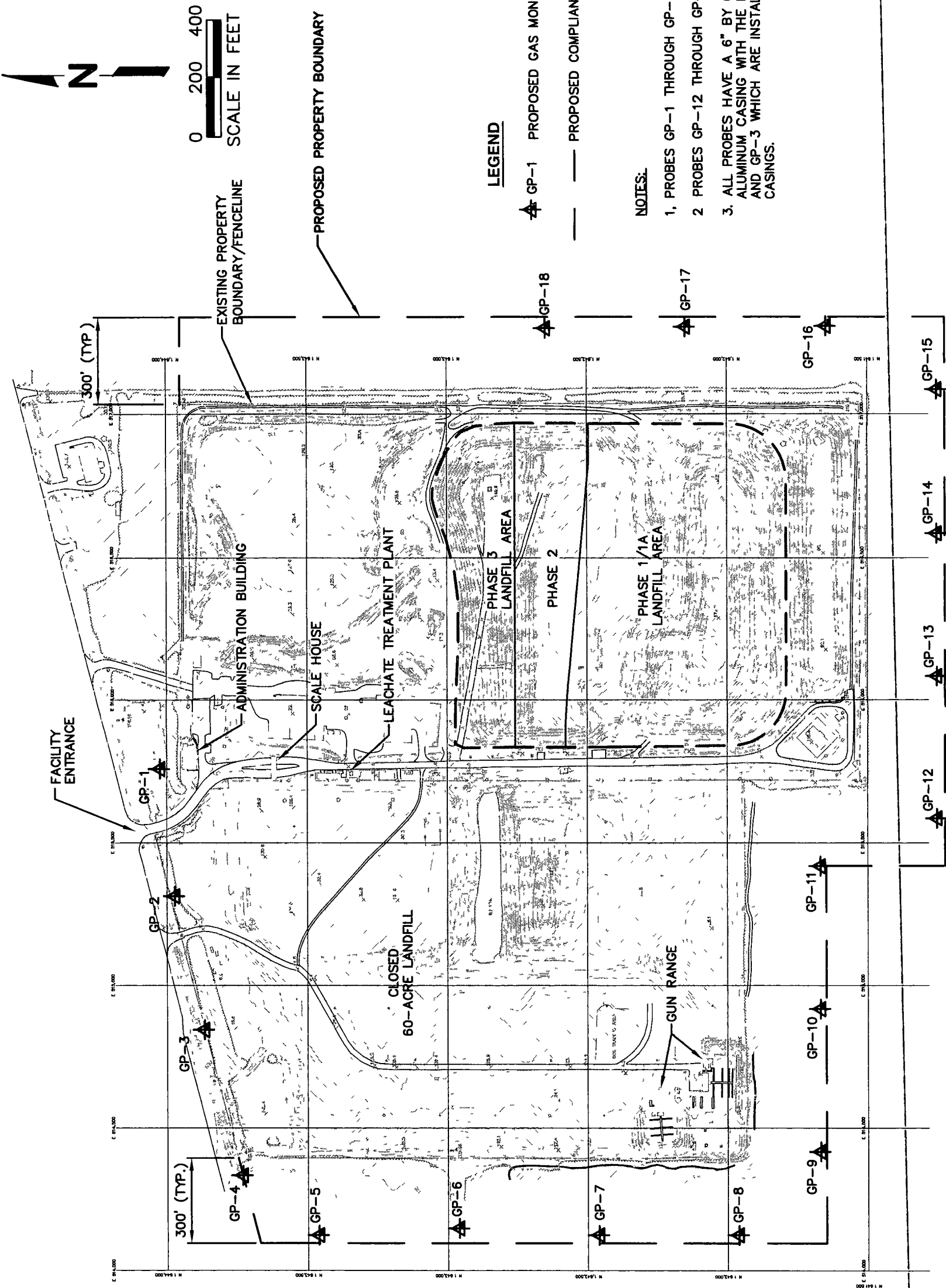
TABLE 4 (continued). DEFAULT SOIL, WASTE, AND GEOSYNTHETIC CHARACTERISTICS

Classification		Total Porosity	Field Capacity	Wilting Point	Saturated Hydraulic Conductivity
HELP	Geomembrane Material	vol/vol	vol/vol	vol/vol	cm/sec
35	High Density Polyethylene (HDPE)				2.0×10^{-10}
36	Low Density Polyethylene (LDPE)				4.0×10^{-10}
37	Polyvinyl Chloride (PVC)				2.0×10^{-10}
38	Butyl Rubber				1.0×10^{-10}
39	Chlorinated Polyethylene (CPE)				4.0×10^{-10}
40	Hypalon or Chlorosulfonated Polyethylene (CSPE)				3.0×10^{-10}
41	Ethylene-Propylene Diene Monomer (EPDM)				2.0×10^{-10}
42	Neoprene				3.0×10^{-10}

(concluded)

user-defined soil option accepts non-default soil characteristics for layers assigned soil type numbers greater than 42. This is especially convenient for specifying characteristics of waste layers. User-specified soil characteristics can be assigned any soil type number greater than 42.

When a default soil type is used to describe the top soil layer, the program adjusts the saturated hydraulic conductivities of the soils in the top half of the evaporative zone for the effects of root channels. The saturated hydraulic conductivity value is multiplied by an empirical factor that is computed as a function of the user-specified maximum leaf area index. Example values of this factor are 1.0 for a maximum LAI of 0 (bare ground), 1.8 for a



Attachment 9-1. Landfill Gas Monitoring Probe Locations, Central Landfill, Citrus County, Florida.

Maps

Scanned

Separately