



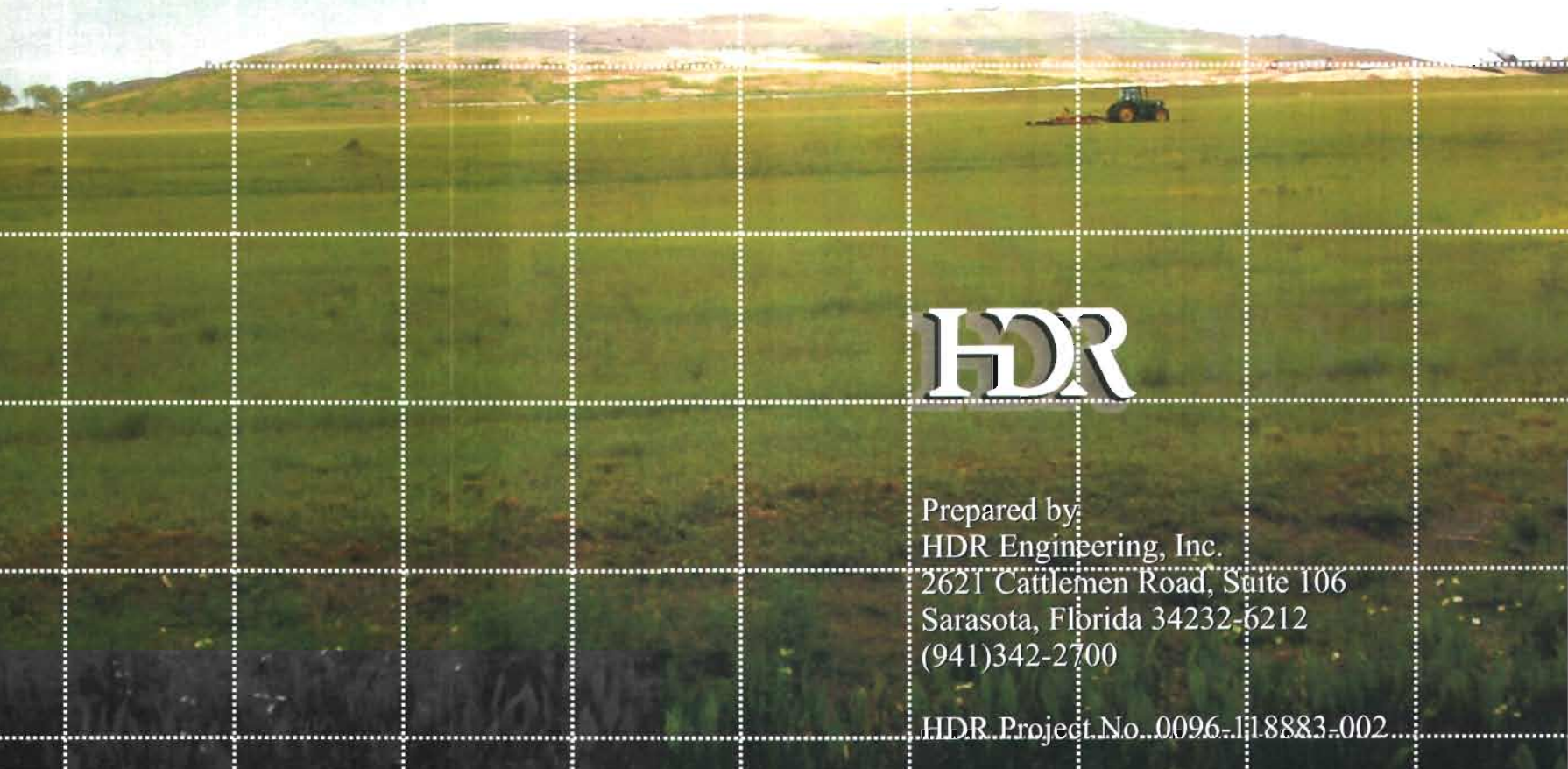
**Sarasota County
Solid Waste Operations**

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
DEC 30 2010
SOUTHWEST DISTRICT
TAMPA

**Central County Solid Waste Disposal Complex
Class I Landfill Operations
Permit No: 130542-007-SO/01
WACS No: SWD/58/51614**

Response to Request for Additional Information

December 2010



HDR

Prepared by
HDR Engineering, Inc.
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HDR Project No. 0096-118883-002



December 30, 2010

Steven G. Morgan
Solid Waste Section
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

DEC 30 2010

SOUTHWEST DISTRICT
TAMPA

RE: Response to Request for Additional Information
Central County Solid Waste Disposal Complex, Sarasota County
Class I Landfill Operation Permit Modification
Pending Permit Modification No.: 130542-015-SO/MM
WACS No.: SWD/58/51614

Dear Mr. Morgan:

On behalf of Sarasota County Solid Waste Management Department, HDR Engineering, Inc. (HDR) is pleased to provide the following information in response to the Florida Department of Environmental Protection's (FDEP) September 23, 2010 Request for Additional Information (RAI) regarding the Central County Solid Waste Disposal Complex Class I Landfill Operation Permit Modification.

All revisions to the narrative reports are shown with deletions struckthrough (~~struckthrough~~) and additions underlined (underlined) along with a change line indicator in the left margin.

Responses to each of the comments in the September 23, 2010 RAI are provided below in the same order presented in RAI. In each case the FDEP request is repeated in italics with the response immediately following in **bold**.

The following attachments are enclosed with the response document and are referenced in the responses to comments:

ATTACHMENT A	REVISED OPERATIONS PLAN
ATTACHMENT B	SHEET 45 (FULL-SIZE)
ATTACHMENT C	CONFORMED WQMP AND REVISED JULY 2010 WQMP ADDENDUM
ATTACHMENT D	REVISED APPLICATION PAGES

GENERAL:

1. *The requested information and comments below do not repeat the information submitted by the applicant. However, every effort has been made to concisely refer to the section, page, drawing detail number, etc. where the information has been presented in the original submittal.*
2. *Please submit **4 copies** of all requested information. Please specify if revised information is intended to supplement, or replace, previously submitted information. Please submit all revised plans and reports as a complete package. For revisions to the narrative reports, deletions may be struckthrough (~~struckthrough~~) and additions may be underlined underlined or similar notation method. This format will expedite the review process. Please include revision date on all revised pages.*
3. *Please provide a summary of all revisions to drawings, and indicate the revision on each of the applicable plan sheets. Please use a consistent numbering system for drawings. If new sheets must be added to the original plan set, please use the same numbering system with a prefix or suffix to indicate the sheet was an addition, e.g. Sheet 1A, 1B, P1-A, etc.*
4. *Please be advised that although some comments do not explicitly request additional information, the intent of all comments shall be to request revised calculations, narrative, technical specifications, QA documentation, plan sheets, clarification to the item, and/or other information as appropriate. Please be reminded that all calculations must be signed and sealed by the registered professional engineer (or geologist as appropriate) who prepared them.*

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

Comment 1. Please respond to each of the items in John Morris' September 22, 2010 memorandum (attached) regarding this application. You may contact Mr. Morris at (813) 632-7600, extension 336, to discuss the items in his memorandum.

Response 1: The responses to Mr. Morris' September 22, 2010 memorandum follow the responses for the RAI comment letter.

APPENDIX A – OPERATIONS PLAN (RULE 62-701.320(7)(e)1., F.A.C.)

Please note that the revised Operations Plan provided in Attachment A includes tracked changes with strikethrough and underline for deletions and additions, respectively. It is our intention to submit a conformed Operations Plan that includes all revisions submitted as part of the RAI process for this permit modification application to the Department at the conclusion of the RAI process.

Comment 2. Part K.2.h.

a. Please revise this section to indicate that the use of piping to transport excessive leachate at the working face to the toe of the landfill will be such the leachate will not be accumulated in the area of the pipe inlet at the working face area.

Response 2a: Part K.2.h of the Operations Plan has been revised as requested. Please refer to the revised Operations Plan provided in Attachment A.

b. Please revise this area to discuss the relocation of the excessive leachate piping system, as the working face of the facility moves.

Response 2.b.: Part K.2.h of the Operations Plan has been revised as requested. Please refer to the revised Operations Plan provided in Attachment A.

c. Please revise this section to reference Sheet 45, as appropriate.

Response 2.c.: Part K.2.h of the Operations Plan has been revised and refers to Sheet 45 located in Attachment K-19. Please refer to the revised Operations Plan provided in Attachment A.

Comment 3. Sheet 45: Please provide a full-sized signed & sealed copy of Sheet 45, revised to address the comments below.

A signed and sealed full-size Sheet 45 is provided in Attachment B. This sheet is also provided as a half-size drawing in Attachment K-19 of the revised Operations Plan provided in Attachment A.

a. Please provide a reduced sized-revised Sheet 45, as a figure or attachment to the Operations Plan.

Response 3a: A half-size Sheet 45 is provided in Attachment K-19 of the Operations Plan. The Revised Operations Plan and Attachment K-19 are provided in Attachment A.

b. Please revise this sheet to specify the pipe size and specifications.

Response 3b: Sheet 45 has been revised as requested. Please refer to Sheet 45 provided in Attachment B.

- c. *Please provide details of the pipe inlet area at the working face/intermediate cover and pipe outlet area at the toe of landfill slope/rain cell cover.*

Response 3c: Sheet 45 has been revised as requested. Please refer to Sheet 45 provided in Attachment B.

- d. *Please revise the "cell divider berm tie-in" and "typical leachate containment berm" details to show the piping system.*

Response 3d: Sheet 45 has been revised as requested. Please refer to Sheet 45 provided in Attachment B.

- e. *Please provide a "cell divider berm tie-in" detail showing the piping system and associated toe of slope berm for shedding stormwater from intermediate cover to the rain cell cover.*

Response 3e: Sheet 45 has been revised as requested. Please refer to Sheet 45 provided in Attachment B.

Comment 4. *Attachment K-12: The 2000 letter provided in Attachment K-12 appears outdated and therefore no longer valid for operation of the facility. Please verify and delete this letter as an attachment to the Operations Plan, as appropriate. For continuity of attachment numbering, it is suggested that Attachment K-12 become Sheet 45.*

Response 4: We request that the 2000 letter remain in Attachment K-12 in order to serve as a historical document for future users of the Operation Plan which demonstrates the original approval from the FDEP for using leachate as dust control on the active areas of the landfill.

The following responses address the comments from John Morris' September 22, 2010 memorandum regarding this application.

SECTION L – WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS [Rule 62-701.510, F.A.C.]

Comment 1. L.1.a., through L.1.h.:

- a. *The location of information for these items of the application form are indicated to be "Reference 2" [the document entitled "Water Quality Monitoring Plan Addendum," prepared by HDR, revised April 2009 and/or "WQMP Addendum" [the document entitled "Water Quality Monitoring Plan Addendum," prepared by HDR, revised July 2010. It is noted that while these two documents have identical titles, the more recent document does not replace the previous version, but was indicated to be limited to the amendments to Rule 62-701.510, F.A.C., that were*

effective on January 6, 2010. In addition, parts of the monitoring plan for the facility are described by a separate document entitled "Ground Water Monitoring Plan Addendum," prepared by SCS Engineers, dated June 28, 2002, with revisions to Section 4.0 of this document prepared by PBSJ dated February 22, 2007 [as referenced in Specific Condition #A.2.a.(4) in permit #130542-007-SO/01]. Please submit a complete monitoring plan document that addresses the combined ground water, surface water and leachate monitoring requirements for the Phase I and Phase II disposal footprint at the facility to meet the requirements of Rule 62-701.510, F.A.C. Please submit revisions to these items of the application form to reference this combined monitoring plan document.

Response 1a: A conformed WQMP is provided in Attachment C for the Department's review. As agreed to in email correspondence from the Department to Lois Rose on December 20, 2010, the attached WQMP is not signed and sealed at this time, however, the technical report (monitoring plan evaluation) due in May 2011 will include an evaluation of the adequacy of the monitoring frequency and sampling locations. As part of the submittal the technical report and water quality monitoring plan will be signed and sealed at that time by a professional geologist or engineer with experience in hydrogeologic investigations. Also, as agreed to in the email correspondence from the Department on December 20, 2010, the technical reports (monitoring plan evaluations) for this permit period will be revised from November 15, 2010 to May 15, 2011 and from April 15, 2013 to September 15, 2013 to correspond to the revised time frames provided in the revised Rule 62-701, effective January 6, 2010.

As part of the WQMP revisions, Figure 1 was revised to reflect the current monitoring locations at the CCSWDC. This figure is also referenced as part of the revised Operations Plan provided in Attachment A and is intended to be included in Attachment K-3 of the Operations Plan. The revised Figure 1 for the Operations Plan Attachment K-3 is provided in Attachment A. Please note that it is our intent to provide a conformed Operations Plan to the Department following the conclusion of this RAI process.

The revised application form pages referencing the conformed WQMP are provided in Attachment D. In addition, the revised Part L of the Engineering Report referencing the WQMP prepared in December 2010 is provided in Attachment D.

Also, the WQMP Addendum submitted as part of the July 2010 modification application has been revised to remove Section 3.0, Landfill Gas Monitoring. The revised July 2010 WQMP Addendum is provided in Attachment C with the conformed WQMP.

Also note that information regarding Landfill Gas Monitoring is provided in Section K.9 of the Operations Plan provided in Attachment A.

Comment 2. L.1.c.: Ground water monitoring requirements. [Rule 62-701.510(3), F.A.C.]

- a. *Section 2.2 of the WQMP Addendum referenced the requirements of Rule 62-701.510(3)(d)5, F.A.C., regarding monitor well protection. The first sentence in ¶1 of this section is consistent with the cited rule regarding the need to install bollards around wells in high traffic areas, however the second sentence in ¶1 of this section should be revised to indicate that monitor wells should be "locked" to minimize the potential for unauthorized access. Please include this revision when the combined monitoring plan document is prepared.*

Response 2a: This revision is provided in the conformed WQMP provided in Attachment C.

Comment 3. L.1.f.(4): Routine surface water sampling and analysis requirements. [Rule 62-701.510(6)(e), F.A.C.]

- a. *Section 2.3 of the WQMP Addendum referenced the revisions to surface water monitoring parameters listed in Rule 62-701.510(8)(b), F.A.C. ¶2 of this section referenced the removal of copper and zinc from the surface water monitoring parameter list. Please note that while the amendments to Rule 62-701.510(8)(b), F.A.C., did delete the separate entries for copper and zinc from the surface water parameter list, the purpose of these deletions was to eliminate the duplication of these two parameters. Please note that copper and zinc are included in the parameters listed by 40 CFR Part 258, Appendix I, so the amendment to the cited rule corrected the duplication, it did not eliminate copper and zinc from surface water monitoring. This comment is presented for informational purposes and does not require a response.*

Response 3a: Comment noted.

SECTION N – GAS MANAGEMENT SYSTEM REQUIREMENTS [Rule 62-701.530, F.A.C.]

Comment 4. N.2.: Provide documentation that will describe locations, construction details and procedures for monitoring gas at ambient monitoring points and soil monitoring probes. [Rule 62-701.530(2), F.A.C.]

- a. *This item of the application form referred to the Operations Plan. ¶2, Section K.9.b., of the Operations Plan identifies the gas probes for the combined Phase I and II footprint as GP-2, GP-3, GP-4 and GP-8 as shown on Figure 1 of the WQMP Addendum. Please note that the following gas probe designations provided in Section 4.1 and shown on Figure 1 of the document entitled "Water Quality*

Monitoring Plan Addendum," prepared by HDR, dated April 2009 were reflected in Specific Condition #F.3., of permit #130542-007-SO/01, as follow:

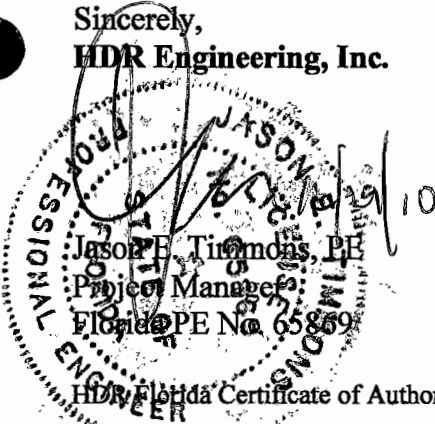
- GP-2 – located north of Phase I
- GP-3 – located east of Phase I
- GP-7 – located near the C&D processing facility
- GP-9 – located west of Phase II

It is also noted that the gas probe installed west of Phase II has been identified as GP-9 in the Certification of Construction Completion package [Ardaman & Associates, Inc., letter dated August 13, 2009]. Please submit revisions to Section K.9.b., of the Operations Plan to refer to gas probes GP-2, GP-3, GP-7 and GP-9.


Response 4: Section K.9.b has been revised as requested. Please refer to the revised Operations Plan provided in Attachment A. In addition, information included as part of the April 2009 and July 2010 WQMP Addendum documents has been added to Section K.9.b of the revised Operations Plan.

If you have any questions or concerns regarding the comment responses or attached documents, please contact me at (813) 282-2358.

Sincerely,
HDR Engineering, Inc.



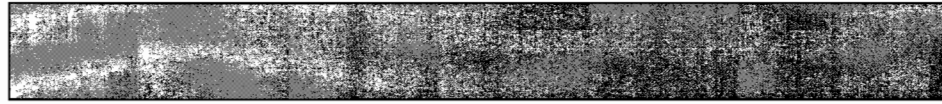
HDR Florida Certificate of Authorization No. 00004213



Richard A. Siemering
Solid Waste Section Manager

Cc: Gary Bennett, Sarasota County Solid Waste Operations
Lois Rose, Sarasota County Solid Waste Operations
Peter Peduzzi, P.E., Sarasota County Project Manager

ATTACHMENT A
REVISED OPERATIONS PLAN



Sarasota County
Solid Waste Operations

Central County Solid Waste Disposal Complex Operations Plan

| December ~~July~~ 2010

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
DEC 30 2010
SOUTHWEST DISTRICT
TAMPA

Prepared by
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HDR Project No. 39017-87559-195

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ATTACHMENTS

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K-4	Contaminated Soil Acceptance Criteria	K-14	Phase I Operation Drawings
K-5	Waste Load Inspection and Reporting Form	K-15	LFGCCS Operation and Maintenance Plan
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SECTION K OPERATIONS PLAN

K.1 TRAINING

In accordance with Rule 62-701.500(1), Florida Administrative Code (F.A.C.), key supervisory staff at the Central County Solid Waste Disposal Complex (CCSWDC) has received Landfill Operator Certification training. The training plan can be found in Attachment K-1. Sarasota County staff or a qualified landfill operations contractor will operate the facility. Sarasota County will require the operating entity to provide at least one trained landfill operator certified in accordance with Chapter 62-701.320(15), F.A.C. and at least one trained spotter at each working face during operation when the landfill receives waste to detect unauthorized wastes from each load.

The spotters will be responsible for guiding vehicles and promoting an efficient operation during normal operation hours. The spotters shall also be responsible for enforcing provisions for controlling the waste received. These provisions are described in Section K.2.c.

The facility will be operated in compliance with all applicable regulations governing the operation of solid waste management facilities and surface water management facilities.

In addition, the equipment operators have sufficient training and knowledge to move waste and soil, and to develop the site in accordance with the design plans and operational standards.

Interim spotters, who do not have the formal spotter training, maybe employed at the CCSWDC provided that the interim spotter is under the direct supervision of a trained operator or trained spotter. The interim spotter must receive training as an operator or spotter within 3 months of employment.

An interim operator may be employed at the CCSWDC provided that the interim operator has had at least one year of experience at the facility or a similar facility. An interim operator must receive operator training within one year of employment as interim operator. An interim operator shall serve as the operator for the facility in lieu of a trained operator for no more than three consecutive months.

In the event the spotter is located on heavy equipment spreading waste at the working face, then the equipment operator must be a trained landfill operator or spotter. The equipment operator will remove unauthorized waste from the working face to a temporary area next to the working face for later removal/management or stop operations and notify another operator or ground personnel to assist with removal/management of the unauthorized waste before resuming operations.

K.2 LANDFILL OPERATIONS PLAN

K.2.a Designation of Responsible Persons

The CCSWDC is owned by Sarasota County and operated under the direction of the Sarasota County Solid Waste Operations Unit. Lois Rose, Manager Solid Waste, will be the designated responsible person for the operation of the CCSWDC. A list of the landfill personnel is given below as well as typical training required for each position:

VEOLIA ENVIRONMENTAL SERVICES:

- General Manager (1) (Operator)
- Lead Equipment Operator (1) (Operator)
- Equipment Operator (7)
- Laborer/Spotter (1) (Spotter)
- Laborer (1) (Spotter)
- Mechanic (1)

SARASOTA COUNTY:

- Solid Waste Manager (1) (Operator)
- Compliance Specialist (3) (Operator)

K.2.b Contingency Operations for Emergencies

K.2.b.(1) Emergency Provisions

Emergency conditions at the landfill site may occur as a result of a natural disaster (hurricane, tornado, flooding, etc.) or fire. In the event emergency conditions will interrupt operations at the facility, the following contingency plan will be implemented (see Attachment K-2). In addition, staff shall review and implement the most current version of the Sarasota County Solid Waste Operations Emergency Plan on file at the CCSWDC. Refuse is not normally delivered to the site during emergency conditions; however, should a major storm occur, the following actions shall be taken:

- Daily cover shall be applied to all exposed refuse before a major storm arrives, if possible.
- All landfill equipment shall be parked near any natural wind screens such as earthen mounds and berms.
- All lightweight signs and equipment shall be secured.
- When operation resumes, work shall commence in dry areas only (up from the active face). Refuse shall not be deposited in standing water.
- Contract agreements with local contractors, equipment suppliers, or cooperative lending agreements with other County departments will be pursued for backup equipment, if necessary.

Small fires on the working face will be controlled by a bulldozer, landfill compactor and a water wagon and ample cover material to extinguish the fire. On-site stockpiles of soil cover material will always be available for suppressing fires. The large stormwater retention basins adjacent to

the landfill will serve as the water source for fire fighting purposes.

In the event of a fire or other emergency, the solid waste operations manager or their designee will notify the FDEP within twenty-four (24) hours by telephone and within seven (7) days a written report will be submitted describing the origins of the emergency, actions taken, result of the actions taken, and an analysis of the success or failure of the actions. However, if the fire cannot be extinguished by CCSWDC personnel within 1 hour, the Department and the local government will be notified of the fire and informed of the fire control measures taken at the facility. If the fire cannot be extinguished within 48 hours or Solid Waste Operations determines additional assistance is needed at anytime, the local fire control protection agency will be called. In addition the local government and neighbors, which may be impacted by the fire, will be notified.

The Nokomis Fire Department presently maintains a fire station at 111 Pavonia Road in Nokomis, approximately 10.9 miles from the proposed facility. This station has equipment capable of obtaining water from surface sources for fire fighting. In addition, the City of Venice has a fire station located at 5300 Laurel Road in Venice, FL located approximately 7.6 miles from the facility

Waste will continue to be accepted and disposal operations will continue in the event of a fire. Operations will be moved a safe distance from the fire location so as not to pose a hazard to operating personnel or customers.

A hot load area will be provided within the lined disposal area in a location away from the working face to allow vehicles arriving at the landfill with a fire in their load to dump quickly in an area where the material can be spread out and quickly covered with soil. The location of the hot load area will change from time to time with the changing working face locations. Hot loads will not be dumped on the working face until sufficiently cool to avoid combustion.

As described in Sections K.11.a. and K.11.b, the Contractor will provide adequate equipment on-site to ensure proper operation of the landfill and for excavating, spreading, compacting, and covering waste. As part of an agreement with a maintenance contractor, the Contractor will receive loaner equipment within forty-eight (48) hours of equipment breakdown, if required. These basic emergency procedures should protect the landfill and equipment, and allow reactivation of the operation in an orderly and timely manner. Two mobile electrical generators are maintained on-site to provide power during outages for the administration building, scale house, and maintenance building.

In case of an accidental spill of oil, fuel, leachate or chemicals, the spill will be minimized by controlling the source immediately (e.g., by closing valve, turning-off switch, or taking any other necessary action). The affected area will be controlled by diverting vehicular traffic. Runoff from the affected area will be controlled by building a berm, plugging drain or ditch, or adding absorbent material. The affected area will be cleaned, and the effectiveness of the cleanup confirmed by sampling, as needed depending on the nature of the spilled material. For spill

countermeasures of secondary containment at the Leachate Holding Tank refer to Section K.2.h.2, Leachate Management System.

A list of emergency telephone numbers is provided below.

Ambulance Service	911
Police Department	911
Fire Department	911
Lois Rose, Solid Waste Operations Manager	(941) 861-1589 - office (941) 650-0722 - cell
Southwest District, Dept. of Environmental Protection	(813) 632-7600

Remember, if you are calling from a phone, which is connected to the County's switchboard, you must dial 9 then 911 to reach the emergency operator.

K.2.b.(2) Wet Weather Operations

Steps to be taken for accommodating wet weather solid waste disposal include: 1) set-aside elevated tipping areas with limestone or shell approaches or other acceptable base material as needed to allow uninhibited vehicular movement; 2) set-aside elevated sandy cover material, and 3) erect containment berms around wet weather tipping areas in accordance with Section K.2.h.3.

In order to avoid an excessive accumulation of standing water in the area of the working face, a small area of daily cover will be removed by grading to allow direct percolation to the underlying refuse and leachate collection system. Pumping equipment is available on-site, if required to remove ponded leachate by pumping it to either a tanker truck for proper treatment and disposal, or to a leachate collection manhole.

K.2.c Controlling the Type of Waste Received at the Site

The automated accounting system, clerks at the scalehouse, and the site security fence discourage unauthorized entry and disposal of unauthorized waste. A sign located at the entrance states the general regulations including the types of unauthorized solid waste.

A trained spotter at the working face will visually inspect the waste as it is deposited. If unauthorized waste (i.e., lead-acid batteries, used oil, yard trash, white goods, and whole tires) is found at the working face, as part of routine operations, the waste would be segregated and removed for recycling, as described in Attachment K-13.

White goods and electronic wastes are accepted at the facility for recycling but are not allowed at the working face for disposal. Special wastes not authorized for disposal are accepted for staging at the CCSWDC until they are removed from the site for offsite recycling. These materials shall be stored in the designated white goods and recyclables storage area located near the southeast corner of Phase I as shown on Sheet G-03, Overall Site Plan and Phasing Plan, provided with the Permit Drawings.

Electronic products that are discovered at the working face will be removed and stored in a safe area within the active working area (bermed area). At the end of the day, at a minimum, these materials will be transported directly to the designated storage area. Undamaged electronic wastes recovered for recycling shall be stored in an undamaged condition and records for all quantities received by each recycler shall be kept along with the receipts with the name and address of each recycler. Recovered electronic wastes that have been damaged and will not be recycled will be removed and stored in a designated 30-foot x 45-foot covered concrete pad area adjacent to the Contractor's maintenance building located as shown on Sheet G-03, Overall Site Plan and Phasing Plan, provided with the Permit Drawings. The damaged waste shall be placed inside a watertight container.

White goods will be removed from the working face and taken to the white goods storage area located south of Phase I as shown on Sheet G-03, Overall Site Plan and Phasing Plan, provided in the Permit Drawings. White goods shall be removed from the site at least monthly. Refrigeration units will be stored in an upright position until all liquids, CFCs and Freon are removed.

Other unauthorized waste and small quantity household hazardous waste such as lead-acid batteries, fluorescent tubes, pesticides, solvents, cadmium batteries, and thermometers, which are discovered at the working face, will be removed and stored in the designated 30 foot by 45 foot covered concrete pad adjacent to the maintenance building. This facility is only for temporary storage of material removed from the working face and is not a designated public household hazardous waste disposal facility or transfer station. These wastes will be placed on a 4-drum spill pallet. These pallets will be made up of 100 percent polyethylene with UV inhibitors and have spill reservoirs which meet the uniform fire code capacity requirements. Two pallets will be placed in the designated area. These materials will be collected each month by hazardous materials disposal companies or removed for alternate disposal or recycling. Unauthorized wastes will be removed from the site monthly. The maximum on-site storage for unauthorized wastes will be as follows:

- 1,000 electronic devices on e-waste slab.
- 30 batteries in a secondary containment covered tray.
- 2 - 250 gallon containers for used oil with double containment (at the Citizen Convenience Center).
- 20 gallons of used oil placed upright in undamaged container (at the Contractor's maintenance building).
- 1,250 white goods, and lawnmowers, will be placed upright until all liquids, CFCs, and Freon are removed.

Sarasota County will accept contaminated soil for the purpose of landfilling (disposal) at CCSWDC in accordance with the criteria included in Attachment K-4. Waste tires encountered during operations will be placed in a container at the working face that will be removed at the end of the working day and stored in the area designated for waste tire processing within the CCSWDC. The waste tire processing facility is located within the future Phase V landfill area as shown on Sheet G-03, Overall Site Plan and Phasing Plan, provided with the Permit Drawings.

At least one trained spotter will be at each working face when wastes are received at the landfill. Normally, one working face will be operating at the landfill. There may be occasions where two or more working faces are required such as when the first lift of waste is placed in a new cell, during high volume periods such as after a storm, or when the size of a working face is limited such as at the corner of a cell. The spotters will be trained in accordance with Rule 62-701.320(15) and in accordance with the training plan described in Attachment K-1 to recognize unauthorized waste. Each load of waste will be visually inspected at ground level by the spotter as well as by the equipment operators spreading the waste. The spotters and equipment operators will look for containers and other indicators of unauthorized waste. Upon detection of unauthorized waste, the spotters will require the hauler to remove the material for disposal at a proper facility. If the hauler has departed, the spotter will remove the material from the working face for temporary storage at the designated 30 foot by 45 foot covered concrete pad adjacent to the maintenance building and ultimate removal from the site for proper disposal or recycling.

If any hazardous waste is detected in the load, the hauler shall be informed immediately of the violation. In the event of discovery of hazardous materials, the procedures outlined in Items 3, 4, 5, and 6 of Section K.6 will be followed if any unauthorized wastes are discovered.

If unauthorized waste (i.e., hazardous, PCBs, untreated biomedical, or free liquid) are found at the landfill working face, the waste will be isolated and the contractor's general manager or designee would be promptly notified. The contractor's general manager or designee is trained in the proper procedure to follow including notification to the FDEP. Similarly, if suspect waste is found the waste will be isolated, identified if possible, and the County's operation manager or designee will be notified. The County's operation manager or designee will prepare a suspect waste report and ensure that the waste is properly disposed. The waste load inspection form contained in Attachment K-5 is used for this purpose. Hazardous waste will be isolated and restricted from access until it is removed and properly disposed of from the CCSWC Landfill by a licensed hazardous waste contractor. Hazardous wastes will be removed from the site within 48 hours.

Special waste such as asbestos will be accepted and managed in accordance with the requirements of 62-701.520(3), F.A.C. The asbestos waste haulers will be required to notify the County who will notify the landfill contract operator in advance and provide information on the estimated volume and delivery date of the asbestos. All incoming asbestos material will be required to comply with all applicable permit conditions and be wet down and properly wrapped or bagged. The uncompacted asbestos material will be covered with a minimum 6-inch layer of soil upon disposal. If additional asbestos deliveries are scheduled on the same day, the asbestos may remain uncovered until the end of the work day. The disposal location

will be recorded in accordance with 40 C.F.R., Part 61.154, and a record of the asbestos location will be maintained.

Waste oil that is collected for the purpose of recycling is accepted at the CCSWDC near the main entrance. Waste oil is stored in a secure container until removed from the site for recycling purposes. Lawn mowers are accepted at the CCSWDC as long as they are drained of all fluids and are managed as white goods. After inspection for fluids, lawn mowers are stored in the white goods area until collected by the scrap metal vendor who collects white goods. Waste oil, lawn mowers, and yard trash will be managed as described in the Landfill Recycling Plan, Attachment K-13. The yard waste processing facility location is south of Phase I as shown on Sheet G-03, Overall Site Plan and Phasing Plan, provided with the Permit Drawings. The facility is permitted under a separate yard waste processing facility registration.

The Citizen's Convenience Center is located near the entrance of the landfill and consists of spaces for two 20-cubic yard roll off containers for MSW, scrap metal, recyclables, tires, drop off for electronics, and a household chemical collection center. The roll off containers and electronics storage areas are located on concrete pads covered with permanent canopies that prevent the accumulation of water in the containers during inclement weather. Household chemicals are stored in a pre-manufactured hazardous waste storage unit. The Citizen's Convenience Center has a full time attendant and is in operation from 8:00 A.M. to 5:00 P.M. six days per week. The attendant meets customers at the entrance, directs them to the appropriate area of the facility, and monitors the waste for unacceptable materials. The roll-off containers are emptied daily.

The electronics drop off at the Citizen's Convenience Center is manned by a full time attendant who unloads all vehicles that come into the facility. The electronics are from residential curbside collection routes and may include, but are not limited to, televisions, computers, monitors, copiers, etc. The electronics are physically unloaded and placed on pallets or the concrete pad and wrapped in cellophane. Electronics typically will remain at the facility for less than one week but may remain for up to two weeks. Any debris from the operation is swept up and placed in a closed drum for disposal. A vendor will remove the electronics to a recycler by backing semi-trailers up to the slab and loading the pallets onto the truck with pallet jacks or fork lifts.

K.2.d Weighing or Measuring Incoming Wastes

All waste entering the landfill site will be weighed. A minimum of three (3) electronic 50-ton scales are installed at the entrance facility. An Information Management System (IMS) is linked to the scales to facilitate accurate data collection and measurement of incoming materials.

K.2.e Vehicle Traffic Control and Unloading

Directional signs will be placed to safely direct vehicles to the current waste unloading area. These signs will have large legible letters and will be cleaned when necessary. Signs will be strategically placed so that the route is clear to the drivers. Speed limit, safety, and prohibitive practice signs will be placed as necessary to encourage a safe, clean operating area. Unloading will be permitted only at the designated

working face. On the fill area, temporary signs, barricades, and flagged stakes will be used to direct vehicles to the proper tipping area. Haulers will be responsible for unloading their own vehicles. Wastes requiring special handling will be coordinated with and unloaded under the direct supervision of landfill contract operation personnel.

K.2.f Method and Sequence of Filling Waste

The overall phasing plan for the facilities is depicted on Sheet G-03, Overall Site Plan and Phasing Plan, provided with the Permit Drawings. The layout for the five (5) cells (designated disposal units) constructed as part of Phase I is shown in Attachment K-14. Staging plans for the remainder of Phase I as previously approved by FDEP are also provided in Attachment K-14. The layout for the four (4) cells proposed for Phase II of the Class I landfill is shown on Sheet C-01, Basegrade Plan, provided with the Permit Drawings. A detailed staging plan for the fill sequencing within Phase II is provided on Sheets C-07, C-08, and C-09 provided with the Permit Drawings. Phase II will be constructed in stages with Cells 1 and 2 being constructed before Cells 3 and 4. Sheets C-01A, C-02A, and C-03A of the permit drawings show Phase II with only Cells 1 and 2 constructed. Sheet C-13A shows the temporary liner termination between Cells 2 and 3. The typical maximum height for each lift is 10 feet. The temporary roads and swales for access and surface water drainage will be phased in as the Phase II area is filled. The maximum width of the working face will be 200 feet. However, the landfill operations may be conducted with a working face width of less than 200 feet.

Temporary Gas Vent Removal

Four temporary gas vents were installed within the bottom liner system during Phase II construction. These gas vents were required when naturally occurring gas within the soil beneath Phase II began to collect beneath the liner and cause the liner system to lift off of the subgrade in several locations. The vents are located near the center of Cells 2 and 3 close to the ridge line between the two cells. Attachment K-15 contains information on the construction and locations of the gas vents.

Prior to the placement of waste within either Cell 2 or Cell 3, the temporary gas vents located in the cell will need to be removed and the liner system repaired. The County will notify the FDEP Southwest District office at least two (2) weeks prior to vent removal/liner repair. Vent removal and liner repair will be performed in accordance with the following procedures:

1. Remove rain cover in vicinity of vent and excavate protective cover soil near repair area;
2. Remove protective casing from standpipe;
3. Remove clamp from primary liner boot, cut primary liner outside of boot weld, and lift boot over standpipe;
4. Remove clamp from secondary liner boot, cut secondary liner outside of boot weld, and lift boot over standpipe;
5. Remove any hydrated or damaged geosynthetic clay liner (GCL) as necessary to allow removal of vent pipe;

6. Remove vent pipe, being careful not to damage in-place liner components or subgrade;
7. Inspect subgrade, replace any soft soil with material meeting requirements of Phase II project specifications, and provide smooth surface for placement of overlying geosynthetics;
8. Patch GCL, secondary liner, secondary geocomposite, primary liner, and primary geocomposite in accordance with the requirements of Phase II project specifications and CQA Plan with the exception that no laboratory or field testing beyond vacuum testing of liner welds will be required of the repair materials due to the limited extent of the repairs;
9. Replace protective cover material over repair; and,
10. Replace rain cover if needed.

All repairs shall be performed by a company approved by a liner manufacturer to perform liner installation. All repairs shall be observed by a third party inspector who will submit documentation to the FDEP Southwest District office that the repairs were performed in general accordance with the Phase II specifications and CQA Plan.

Filling in New Cell

The initial lift of solid waste shall be deposited in each new Phase II cell (designated disposal unit) beginning at the south end of the landfill cell.

Waste will be placed within the designated edge of waste shown on the Engineering Drawings. The edge of waste will be located by measuring 7 feet inward from the edge of liner markers on the north and west sides of Phase II including the temporary liner termination for Cell 2. The edge of waste will be located by measuring 14 feet inward from the edge of liner markers on the south side of Phase II. Periodic inspections will be made to ensure that the markers are in place and the edge of waste is located the required distance from the edge of the liner.

The initial lift of solid waste will progress to the north across the entire width of the landfill cell. The working face will primarily move in an east/west direction across the width of the landfill cell. Selected solid waste loads consisting of solid waste containing no rigid objects will be used for at least the first 4 feet of the first lift, and it will be filled to an elevation of approximately 40 feet NGVD within the Phase II cells.

The method of waste disposal for each lift is described as follows. All incoming solid waste will be directed to the working face and placed against the side slope of the previous day's refuse. The first row of waste in a new lift will be placed against the toe of a containment berm to provide a guide for the placement of refuse for the remaining rows. A slope of not more than 3 to 1 will be maintained. The working face shall be less than 200 feet wide. A maneuvering area shall be provided for large private and commercial vehicles. Depending on space limitation within the working face area, a section of the working face may also be designated for smaller loads and vehicles.

Solid waste will be placed at the working face and spread in 2-foot layers then compacted. The spreading of refuse will be a continuous operation.

In compliance with 62-701.500(10), F.A.C., the stormwater management systems will be operated and maintained as necessary to meet applicable standards of Chapters 62-701, 62-302, and 62-25, F.A.C. The stormwater management system at the CCSWDC Class I landfill is designed to avoid mixing of stormwater with leachate. Stormwater or other surface water which comes into contact with the landfilled solid waste or mixes with leachate will be considered leachate and subjected to applicable requirements.

The filling of the remaining disposal capacity within Phase I will generally follow the FDEP approved staging plans provided in Attachment K-14. The filling of each lined cell within the Phase II area will follow the sequence outlined below: (Refer to Sheets C-07 through C-09, Landfill Staging Plans, provided with the Permit Drawings).

The cell area initially will be filled with a minimum 4-foot lift to bring the daily cover grade to an elevation of approximately 40 feet NGVD which is higher than the cell's lined external containment berms in order to promote stormwater runoff. The lower lift thickness will be placed in the high end (south) of the cells and the greater lift thickness will be placed on the low end (north).

Filling of each cell will generally progress from the south end of the cell to the north end while providing a slope on the cover to allow storm water drainage as shown on the Staging Plans, Sheets C-07 through C-09, Landfill Staging Plans, provided with the Permit Drawings. Only select waste containing no rigid materials will be used within the first 4 feet of the initial lift in a cell.

Subsequent waste lifts will be added to a cell in accordance with the landfill staging plans before opening new cells to waste disposal.

The surface runoff from unused portions of cells will be directed away from solid waste by grading and using temporary diversion berms.

Areas on the top and sides of each lift will be adequately covered and stabilized to maximize surface runoff away from the bermed, sloped working area and towards the stormwater drainage areas to minimize leachate generation, as shown on Sheets C-07 through C-09, Landfill Staging Plans, provided with the Permit Drawings. Intermediate cover will be applied to internal top and side slopes and completed external slopes within seven (7) days if the area will not receive more waste within 180 days. The top of lifts will be sloped to promote storm water drainage. Intermediate covered areas that will not be landfilled or covered with final cover within 6 months will be sodded (external slopes) or seeded and mulched (internal and top slopes) to avoid slope erosion. Storm water collected within the bermed working area will be considered leachate and will be collected and disposed as such. Efficient use of these techniques will decrease leachate volumes.

K.2.g Waste Compaction and Application of Cover

Cover material for daily operations of the landfill will be obtained from the designated stockpile area, C&D Site, and/or compost generated from yard waste recycling. Compost used with soil for cover material shall be free of waste. Cover material will be deposited in the stockpile area location shown on Sheet G-03, Overall Site Plan and Phasing Plan, provided with the permit drawings. The designated stockpile area will have ~~stockpiles no higher than 25 feet with 3:1~~ side slopes in order to minimize erosion. Additional soil obtained from offsite borrow areas will be placed within the stockpile area during the operational life of the facility. A silt fence will be installed around the stockpile area and side slopes will be grassed to further reduce and control erosion.

Waste will be spread in layers approximately two feet thick on the working face and compacted to approximately one foot in thickness before application of the next layer. The solid waste will be compacted with a minimum of three to five passes of a compactor. Initial, intermediate and final cover will be applied as detailed in Sections K.2.f, K.7.f, K.7.g, and K.7.h., of this Operations Plan.

K.2.h Stormwater Controls

The stormwater management system for this project consists of a series of swales, culverts, and detention ponds. The system is designed to comply with all of the requirements of both Chapters 62-25 F.A.C. and 40 D-4 F.A.C. The stormwater management system for CCSWDC was constructed under a permit issued by the Southwest Florida Water Management District in 1993. All components of the system were installed during Phase I construction.

All cells within Phase II as well as the Phase I/Phase II overlay liner system were constructed with a rain cover to avoid erosion of the protective cover, limit plant growth, and assist with the management of stormwater until waste is deposited within the cells. The rain cover consists of a 20-mil scrim-reinforced polyethylene liner held in place with sand bags. Specifications for the rain cover installed during Phase II construction are provided in Attachment K-16.

Stormwater collected on the rain cover will flow north to the sump areas within each cell. Any collected stormwater that has not been in contact with solid waste or otherwise contaminated by leachate will be pumped out of the cells and into the perimeter channel which is part of the permitted stormwater management system. Any stormwater collected by the rain cover that has been in contact with solid waste or which has received discharges of leachate will be considered leachate and will either be allowed to enter the leachate collection system within the cell or will be pumped out of the cell into one of the leachate collection manholes located on the north perimeter berm of Phase II. The impacted stormwater will then flow by gravity to the Phase II leachate pump station where it will be pumped to the leachate storage tank. If it is not clear whether stormwater has been impacted by leachate, the County will collect samples of the stormwater for analysis to determine whether it meets the requirements for discharge into the stormwater management system as contained within the current Environmental Resource Permit (ERP).

Pumping of stormwater off of the rain cover in Cells 1 and 2 will be accomplished with portable pumps that will be positioned on the north perimeter berm as needed. The pump discharge will be directed to a portion of the perimeter drainage channel lined with riprap in order to avoid erosion of the channel. Since Cells 3 and 4 will be idle for a long period prior to receiving waste, a semi-permanent dewatering system will be installed for these cells. The system will consist of a single manually operated electric pump mounted on a concrete pad that will be located on the north perimeter berm of Cell 3. The concrete pad will be 8 inches thick; therefore its installation will not damage the geosynthetic components within the anchor trench which are protected with approximately 2 feet of soil cover. The suction and discharge piping will consist of 8-inch diameter DR-18 PVC pipe. The suction piping will be buried along the top of the berm but will emerge out of the ground after turning south opposite of the Cell 3 and Cell 4 sump areas in order to avoid damage to the liner system and anchor trenches. The suction piping will continue into the sump areas and will be raised above the surface of the rain cover by means of small concrete pads onto which the pipe will be strapped. The rain cover will be protected from the concrete pads by placing a layer of geocomposite drainage layer (GDL) between the bottom of the pad and the rain cover. The discharge piping from the pump will also be 8-inch diameter DR-18 PVC pipe. It will be buried soon after leaving the pump and discharge into the perimeter channel north of the pump on a riprap pad to prevent erosion. Drawings of the Cells 3 and 4 rain cover dewatering system are included in Attachment K-17.

The rain cover will be removed prior to the placement of waste within a cell. The rain cover within a cell may be removed either all at once or in stages depending on how long it is anticipated it will take to place the first lift of waste within the cell. If the rain cover is removed in stages, then stormwater may be collected in the areas with remaining rain cover in accordance with the previously described procedures.

All stormwater runoff will be conveyed via perimeter drainage channels to detention facilities. Ditch blocks located in the perimeter channels at strategic locations act as sediment traps and will require periodic maintenance.

The ultimate discharge of the detention facilities will be to Old Cow Pen Slough or isolated wetlands through fixed control weirs and spreader swales.

As the filling of the waste progresses, temporary stormwater letdown structures will be installed to facilitate drainage without erosion. Temporary stormwater diversion berms will be installed around the top perimeter of each lift and connected to the temporary letdown structures. The temporary letdowns will be located, in the approximate locations as shown on Sheets C-07 through C-09, Landfill Staging Plans, provided with the Permit Drawings. Stormwater will be directed to these temporary letdown structures by sloping the top of each lift to promote drainage as shown on the staging plans.

Sediment collection provided by perimeter ditches and ditch blocks will minimize siltation of the main retention areas. In addition, the active fill area(s) will be surrounded by berms to capture

stormwater that comes in contact with waste and to prevent run-on and mixing with the stormwater from outside the active fill area. Stormwater collected within the berms surrounding the active fill area(s) is considered to be leachate and will be allowed to percolate into the landfill for collection by the leachate collection system. This leachate may also be pumped to a leachate cleanout pipe or leachate manhole as a means of discharging it to the leachate collection system. This water will be filtered through a screen on the pump intake prior to discharge to a cleanout pipe or manhole.

In addition, During normal operations and rainfall events, rain water which becomes leachate at the working face will percolate into the waste to drain the area. However, in order for the operator to limit leachate ponding at the working face during intense rainfall events, resulting in excessive leachate at the working face may be managed by the operator may installing piping which drains excessive leachate to the toe of the landfill and into the leachate collection system as shown on the drawing sheet provided in Attachment K-19. At the pipe inlet, tires or sand with silt fence maybe used as a filter medium to limit sediment transport through the pipe, allow leachate to freely drain to the inlet of the pipe, and to prevent objects from blocking the pipe inlet. Leachate may accumulate while the pipe is draining the area; however, the operator will inspect the inlet area periodically to ensure that the pipe inlet is not clogged and is allowing free drainage of water to the pipe to keep the accumulation at the inlet to a minimum. If tires are used, the areas will be temporary and before final disposal of the tire pieces, they will be reduced in size in accordance with the tire disposal requirements of Rule 62-711, F.A.C. As the working face moves, the piping used to assist in drainage of excessive leachate will be relocated and reinstalled in a location selected by the operator which best drains the area. The general setup and installation of the piping will be as shown on the drawing sheet provided in Attachment K-19.

If tires are used for the inlet and outlet areas, they will be temporary and before final disposal of the tire pieces, they will be reduced in size in accordance with the tire disposal requirements of Rule 62-711, F.A.C.

On areas of the landfill that is covered with intermediate cover, pipes may be used from the top of the landfill to the areas with rain cover on Phase II to shed stormwater off the landfill and reduce erosion. The pipes will be installed as shown on the drawing sheet provided in Attachment K-19.

Operation and Maintenance Procedures

The stormwater management system for the CCSWDC consists of a variety of treatment and conveyance methods. The treatment system for the main solid waste handling and disposal areas includes seven wet detention basins. Conveyance to these ponds is through a series of letdown structures, perimeter channels and swales, and culverts. Stormwater collection along the entrance road is provided by the roadside swales. All portions of the stormwater system will be visually inspected by the County weekly and immediately following a storm event of 0.5 inch or greater. The inspections will identify buildup of debris, surface sheen, erosion and sedimentation, and overgrown or exotic vegetation, and structural problems. Any problems identified by these

inspections will be corrected within three (3) days. The wet detention basins will be inspected to estimate quantities of sediment within each pond. If the sediment occupies 30 percent of the volume below the normal pool elevation, the sediment will be removed and disposed of in the landfill. Vegetation in all portions of the conveyance systems will be removed on an as needed basis to prevent blockage.

K.2.i Groundwater Monitoring Plan

Please refer to the Water Quality Monitoring Plan and addendums for the CCSWDC for information regarding the groundwater monitoring network and well locations.

K.2.j Maintaining Leachate Collection System

Leachate collection system maintenance will include daily inspection of all leachate pump stations, metering manholes and leak detection manholes. All pump running data as well as leachate level and flow data will be recorded and checked for irregularities. Pumps are pulled and checked for operational parameters at least once every two years. An example leachate pump data form is provided in Attachment K-8. The leachate collection system will be cleaned and inspected as described in part L.8.h of this Operations Plan.

K.3 LANDFILL OPERATION RECORD

The Administrative office located adjacent to the scale facilities at the entrance of the CCSWDC is shown on Sheet G-03, Overall Site Plan and Phasing Plan of the permit drawings. The office provides facilities for employees including a training/meeting room, sanitary facilities, and first aid equipment. Similar additional facilities are located at the Equipment Maintenance building. Files are located in the Administrative office to contain the operating record for the facilities as required by regulatory agencies/permits. Items that will be stored in the operation record include:

- This Operations Plan.
- All permits for the facility.
- All records and drawings used for developing permit applications.
- All monitoring information, calibration and maintenance records, and copies of reports required by permit (maintained for at least 10 years).
- Background water quality records.
- Annual estimates of the remaining life of the constructed landfill and other permitted landfill areas.
- All monthly waste records which shall include tonnages received for Class I, C&D, yard waste and recyclables.
- Asbestos location records.
- All monitoring reports for groundwater, stormwater, leachate and landfill gas.
- Waste tire processing records.

- Copies of all notifications required by 62-701 F.A.C.
- On-site precipitation record.
- DEP inspection reports.
- Load checking reports.
- Leachate storage tank inspection reports.
- All training verifications.
- All other reports related to the design, operation, monitoring and permitting for the facilities.

K.4 LANDFILL WASTE REPORTS

Each month, a summary report of waste tonnage received for Class I waste, C&D debris, yard waste, and recyclables will be compiled. Copies of the monthly reports will be submitted to FDEP annually or upon request.

K.5 EFFECTIVE BARRIER/ACCESS CONTROL

Access control at CCSWDC includes a perimeter fence with a locking access gate at the scalehouse, which is the only entrance/exit for the facility. The access gate normally will be kept open during hours of operations and an attendant will be at the scalehouse during those times. When CCSWDC is not in operation, this access gate normally will be kept closed and locked.

K.6 LOAD CHECKING PROGRAM

At least three random loads of Class I Municipal Solid Waste (MSW) delivered to the landfill each week will be examined in accordance with the following procedure:

Mechanism For Inspections

- (1) Specific locations within the active landfill cell are to be dedicated to load examination. The areas should be relatively free from extraneous debris and capable of maintaining isolation of the material for one calendar week.

- (2) The inspection of the load shall be controlled by a Contracting Operator employee. Training of contract personnel shall continue on an ongoing basis. In accordance with Rule 62-701.500(6)(a), FAC, a minimum of three random loads will be checked at the active working face(s) each week. The selected driver will be directed to discharge their load at a designated location adjacent to the working face. If any unauthorized waste (i.e., lead-acid batteries, used oil, yard trash, white goods, and whole tires) is found by the random inspection, or as part of routine operations, the waste will be segregated and removed from the site for recycling as described in Section K.2.c. These unauthorized wastes will be stored as described in Section K.2.c. and removed from the site within 30 days.
- (3) The inspection form (see Attachment K-5) shall be filled out and signed off by the inspector. The inspector will identify and note all unauthorized waste found during random load inspection, estimated quantity, and the action taken. The inspector will sign the inspection form that will be retained at the CCSWDC. It shall be the County's responsibility to file/store/distribute the reports.
- (4) The Sarasota County Solid Waste Operations Unit or the Solid Waste's Hazardous Waste Section will investigate violations found during the inspection process. The Contract Operator will remove or clean-up the disposed materials.
- (5) Violations involving hazardous waste dumping will be handled by the Sarasota County Solid Waste's Hazardous Waste Section. Every attempt will be exhausted to place responsibility on the generator relative to having the hazardous waste in question removed from the landfill at the expense of the generator. In the event that generator responsibility cannot be determined and that the waste appears to be from a commercial source, it will be the Contract Operator's responsibility to segregate and secure the waste and pay all costs relative to safely disposing of said waste.
- (6) A list of offenders will be compiled by the Solid Waste's Hazardous Waste Section and the list will be provided to the County with updates on a periodic basis.

K.7 PROCEDURES FOR SPREADING & COMPACTING WASTE AT THE LANDFILL

The following guidelines will provide an efficient and environmentally sound method of operation for the CCSWDC.

- Portable litter fencing will be placed at the working face where needed to reduce windblown litter.
- Cracks or eroded sections in the surface of any filled and covered area will be repaired and a regular maintenance program will be followed to eliminate pockets or depressions that may develop as waste settles.

- If 12 inches of intermediate cover (free of waste) has been placed over a partially filled area, it will be removed and either reused or stockpiled for later use prior to the placement of a new lift.
- The materials described in Attachment K-10 may be used for initial cover. Stormwater runoff will not be allowed from waste filled areas covered with tire chips or tarp. Runoff from outside of the bermed working face area will be considered stormwater only if the flow passes over areas that have no exposed waste and have been adequately covered with at least 6 inches of compacted soil (or a mixture of soil/mulch), free of waste and stabilized to control erosion.
- Sufficient cover material will be stockpiled near the working face to provide an adequate supply for initial cover operations. In some areas, daily stockpiling near the working face may not be necessary because of the proximity of the on-site soil stockpile area.

K.7.a Waste Layer Thickness and Compaction Frequencies

Waste will be spread in layers of approximately two feet thick on the working face and compacted to approximately one foot in thickness before application of the next layer. The solid waste will be compacted with a minimum of three to five passes of a compactor.

K.7.b First Layer of Waste

Selected solid waste loads consisting of solid waste containing no large rigid objects will be used for at least the first four feet of the first lift of a new cell in order to protect the liner and leachate collection system. The first lift will be a minimum of 4 feet deep to bring the daily cover grade to an elevation of approximately 40 feet NGVD which is higher than the cell's lined external containment berms in order to promote shedding of stormwater. Waste will be deposited at the inside toe of the cell's lined external containment berm on the south end of the cell and spread to the north. No solid waste will be placed beyond the litter fences. For the initial lift, hauling vehicles will reach the working face by traveling on top of the previously deposited waste and depositing the loads at the top of the working face. The fill will be spread and compacted "down slope" to prevent vehicles from traveling on the protective sand layer. Also see Section K.2.f. in this Operations Plan.

K.7.c Slopes, Side Grades, and Lift Height

The typical height for each lift is 10 feet. All incoming solid waste will be directed to the working face and placed against the toe of the side slope of the previous day's refuse. The first row of waste in a new lift will be placed against the toe of the containment berm to provide a guide for the placement of refuse for the remaining rows. A maximum slope of 3 to 1 will be maintained on the working face. All top slope areas will be sloped to drain stormwater off of the landfill.

Waste will be placed within the designated edge of waste shown on the Engineering Drawings. The edge of waste will be located by measuring 7 feet inward from the edge of liner markers on the north and west sides of Phase II including the temporary liner termination for Cell 2. The edge of waste will be located by measuring 14 feet inward from the edge of liner markers on the south side of Phase II. Periodic inspections will be made to ensure that the markers are in place and the edge of waste is located the required distance from the edge of the liner.

K.7.d Maximum Width of Working Face

Maximum width of the working face will be 200 feet. This will provide a sufficient area for maneuvering large private and commercial vehicles as well as minimize the exposed area and the unnecessary use of cover material.

K.7.e Initial Cover

For the Class I landfill, a minimum of six inches of compacted initial cover consisting of native sandy soils, top soil, soil-yard waste compost mixture, shredded tires, or other FDEP approved initial cover will be applied to the top of the lift and to the working face at the end of each day. Attachment K-10 provides a description and specification for initial cover materials previously approved for this facility.

A 2-inch layer of shredded yard waste may be applied when needed to the initial cover to minimize erosion during rainy weather. The application of initial cover over the landfilled waste will assure control of disease vector breeding/animal attraction, odors, waste combustion (fire), blowing litter, and moisture infiltration.

The initial cover material will be spread over the exposed waste and, with the exception of tarps, compacted by the equipment used to spread the cover (likely a bulldozer or scraper). The initial cover material will not be removed prior to placement of successive lifts of waste, with the exception of tarps, which would be removed prior to placement of successive lifts. To enhance the infiltration of leachate through the waste, the initial cover material may be broken up in place by a dozer blade or equipment traffic immediately prior to the placement of the subsequent lift of waste. Any remaining litter and cleanings from equipment will be placed at the bottom of the completed cell and covered.

Before moving the working face, the area that will remain inactive will be covered with compacted cover soil (free of waste) or a mixture of 50 percent unscreened wood mulch and 50 percent soil, with sufficient thickness (minimum 6-inches) to prevent erosion and the mixing of leachate with stormwater.

K.7.f Application of Initial Cover

Initial cover will be applied at the end of each working day, except when solid waste will be placed on the working face within 18 hours, a temporary cover such as a tarpaulin may be used to cover the working face and removed before placement of additional waste. Initial cover alternative materials are listed in Attachment K-10.

K.7.g Intermediate Cover

Intermediate cover consisting of at least 1 foot of compacted native sandy soils or composted yard trash screened through ½-inch mesh mixed with 25 percent soil, by volume, will be applied within 7 days if final cover or an additional lift is not to be applied within 180 days. Intermediate covered areas that will not be landfilled or covered with final cover within 6 months will be sodded (external slopes) or seeded and mulched (internal and top slopes) to avoid slope erosion. Also see Section K.2.f. in this Operation Plan.

To conserve the intermediate cover material, a portion of the intermediate cover will be removed immediately before placement of additional solid waste on top of the lift or before placement of additional waste. The intermediate cover material (free of waste) will be stripped and reused as intermediate cover material. The stripped intermediate cover will be pushed ahead as needed for the perimeter containment berms constructed around the active working face area. The intermediate cover areas will be graded to promote drainage and seeded to prevent erosion.

Components of the landfill gas collection system may be installed in areas that receive intermediate cover. The locations of all underground piping associated with these systems will be marked to avoid damage to them during landfill operation and intermediate cover maintenance activities. Above ground structures such as well heads, and valves, will be kept readily visible by such measures as clearing vegetation, painting components bright colors, and installing protective posts and flagging. These measures should protect the above ground structures from damage during routine intermediate cover maintenance activities such as mowing, grass repair, and washout repair.

K.7.h Final Cover

Following the receipt of a closure permit, final cover will be applied to the Class I landfill on the completed portions of Phase I or Phase II of the landfill operation. The perimeter sideslopes of all completed cells will have a slope of 3:1.

The cap and final cover will consist of a minimum of 12 inches of intermediate cover soil, a geomembrane layer that complies with Department rules, a geocomposite drainage layer, and 24 inches of local common soil of which upper 6 inches will be capable of supporting vegetative cover. Specifications for the local common soil will be provided with the closure permit application.

Components of the landfill gas collection system may be installed in areas that receive final cover. The locations of all underground piping associated with these systems will be marked to avoid damage to them during landfill operation and final cover maintenance activities. Above ground structures such as well heads, and valves, will be kept readily visible by such measures as clearing vegetation, painting components bright colors, and installing protective posts and flagging. Protective posts shall be installed such that they do not damage the final cover system. These measures should protect the above ground structures from damage during routine final cover maintenance activities such as mowing, grass repair, and washout repair.

K.7.i Scavenging and Salvaging Control Devices

Scavenging and salvaging is not allowed on the working face at CCSWDC. In the event spotters working in this area observe scavenging or salvaging activities on the working face, the landfill manager will be notified.

K.7.j Litter Control Devices

Litter will be controlled by requiring covered loads, efficient unloading and cover operations, litter fences, perimeter fencing, and by routine clean-up. Litter outside the working area will be picked up within twenty-four (24) hours.

A small litter fence will be placed at the limit of each landfill cell area for the full length of the active working area of the cell.

K.7.k Erosion Control Procedures

Erosion control procedures at CCSWDC mainly consist of stormwater management for active cell areas and in areas surrounding the landfill cells. Stormwater management for used portions of active cells where initial or intermediate cover over the waste has been placed in accordance with FDEP requirements, is achieved by:

- Grading the waste-in-place with an adequate slope and adequately covering the waste to divert stormwater away from the working face.
- Use of terraces and letdown pipes.
- Maintaining internal and external berms.

Of critical importance will be maintaining the stormwater management system during the filling sequence. As each lift is constructed, temporary stormwater diversion berms will be constructed.

A containment berm will isolate the working face from the remaining covered areas. Stormwater which accumulates behind the containment berm in the area of the working face is leachate and will be retained and allowed to percolate into the landfill where it will eventually be collected in the leachate collection system.

Other berms will divert stormwater from top slopes to let down structures and will serve as erosion control to protect recently covered side slopes. These external berms will be sodded to minimize erosion and will be directly connected to the temporary letdown structures to facilitate proper management of stormwater runoff.

Sediments that reach the perimeter channels will collect behind the ditch blocks and will require periodic removal. Within 30 days after applying intermediate cover to side slopes that have reached designed dimensions, sod shall be applied. As filling progresses above the proposed first drainage terrace, the first set of temporary letdown structures will be constructed. This operating procedure will minimize the amount of erosion and sediment accumulation that must periodically be removed from the perimeter ditches.

Areas provided with intermediate cover, or other areas that discharge to the stormwater management system that exhibit significant erosion, will be repaired as follows:

- If greater than 50 percent of the soil cover material has eroded, then the area will be repaired within 7 days.
- If waste or liner is exposed, then the area will be repaired by the end of the next working day.

K.8 PROCEDURE FOR LEACHATE MANAGEMENT

K.8.a Leachate Monitoring, Sampling, and Analysis

The sump pumps located in Cells 1 through 5 of Phase I will operate in an automatic mode based on the liquid level in the sump. Figure L-2 in Attachment K-3 shows the operation levels for the sump pumps. The pressure transducer located at the end of the pump housing accurately measures the level of liquid in the sump and provides a digital readout of this level at the control panel mounted on the valve box at the top of each cell's lined external containment berm. As shown on Figure L-2, the high water alarm will result if leachate levels rise to cause 12 inches of head on the liner system adjacent to the sump area.

Two additional pump units will be provided for backup of the Phase I sump pumps. This allows for removal of each pump on a regular scheduled basis to perform preventative maintenance. When a sump pump is removed for schedule maintenance, a spare pump will be reinstalled immediately while the maintenance is being performed. Each pump will receive preventive maintenance in accordance with the manufacturer's recommendations at a frequency based on run time.

Cells 1 through 4 of Phase II will drain by gravity to a duplex leachate pump station located north of Cell 2. The pump station will operate in an automatic mode based on the liquid level within the wet well. Sheet C-17, Leachate Collection System Details, of the Permit Drawings shows the operation levels for the pumps. The pressure transducers located at the end of the pump housing accurately measure the level of liquid within the wet well and provide a digital readout of this level at the control panel mounted adjacent to the pump station. As shown on Sheet C-17, Leachate Collection System Details, the duplex pumps will operate on a lead/lag basis.

Additional details on leachate sampling locations, sampling and analysis schedule, and data submission is provided in the Water Quality Monitoring Plan and Addendums.

K.8.b Leachate Collection and Removal System

Phase I Collection System

The existing Phase I Class I landfill leachate collection system consists of a geonet drainage layer and perforated collection pipe above the composite liner system to collect and convey leachate. The leachate that is conveyed to sumps will be pumped to an existing 1,800,000 gallon on-site leachate holding tank. A typical detail for the Phase I sumps is provided in Figure L-2 of Attachment K-3. The leachate collection piping system consists of 8-inch diameter perforated HDPE pipe sloped in such a manner that leachate flowing through the solid waste of the landfill will be collected and transported by gravity to a sump and leachate pump. The discharge line from the sump pump connects to a HDPE header line via a valve vault. Provisions for sampling the leachate as well as monitoring flows and pressure are provided in the valve boxes (locations shown in Attachment K-14).

Phase II Collection System

The proposed Phase II Class I landfill leachate collection system consists of a geonet composite drainage layer and perforated collection pipe above the double synthetic liner system to collect and convey leachate. The leachate that is collected within the Phase II cells will be pumped to the on-site leachate holding tank. The leachate collection piping system consists of 8-inch diameter perforated HDPE pipe sloped in such a manner that leachate flowing through the solid waste of the landfill will be collected and transported by gravity to a metering manhole located on the north perimeter berm of each cell. At the metering manhole, leachate flows from each cell are measured using a Parshall flume and an ultrasonic water level sensor. Each metering manhole drains by gravity to a duplex leachate pump station located adjacent to Cell No. 2. The discharge from the leachate pump station will be directed through a new HDPE leachate forcemain that will be installed along the north and west sides of Phase II, the west and south sides of future Phase III and the south side of future Phase IV. Provisions for sampling the Phase II leachate as well as monitoring flows and pressure are provided in the valve vault located adjacent to the leachate pump station as shown on the details provided on Sheet C-17, Leachate Collection System Details, of the Permit Drawings. Any stormwater accumulated in an unused cell will be pumped out from the cell using portable pumps and discharged to the stormwater system. Prior to waste disposal within a cell, the valve connecting the leachate collection pipe within the cell to the manhole will be in the closed position to prevent stormwater from draining to the leachate pump station. Immediately prior to solid waste being deposited into a new landfill cell, the valve at the manhole will be opened to allow the free flow of leachate to the pump station.

Leachate collected within the geocomposite drainage layer of the leak detection system of Phase II will be drained by gravity to a leak detection manhole located on the north perimeter berm of each cell. The discharge valve at the leak detection manhole will normally be closed to allow the quantity of leakage to be measured. An ultrasonic water level sensor calibrated to the storage volume within the manhole at a given level will be used to measure leakage rate. After the leakage rate has been determined, the leachate within the leak detection manholes will

subsequently be drained by gravity to the leachate pump station and the valve closed for another measurement. The leak detection system has been designed such that a leak developing within the most remote part of a cell will flow to the leak detection manhole within twelve hours. A Leakage Action Rate (LAR) of 100 gallons/acre/day has been established for the Phase II cells, which corresponds to the EPA Guidance and FDEP experience with facilities with similar liner systems. At this rate, the 470 gallon storage volume within the leak detection manhole will be exhausted within 8.75 hours. For leakage rates greater than 100 gallons/acre/day, measures should be initiated to find and repair or minimize leaks within the primary liner system.

The following procedures will be initiated if the LAR of 100 gallons/acre/day is exceeded:

1. Increase monitoring of the leakage quantity from the cell(s) affected. This consists of increasing the frequency of monitoring liquid levels within the leak detection manhole(s) to determine the time required to fill the five-foot storage volume in the manholes. It is anticipated that readings will be made at least daily after the LAR is exceeded and the calculated leakage rates will be recorded.
2. Immediately notify FDEP once it is ascertained that the LAR is being exceeded and provide a plan on how the County intends to address the exceedence.
3. Attempt to locate and fix sources of leaks to the extent practical. Measures to locate leaks could include inspecting the leak detection manhole to determine whether groundwater is leaking into it, observing the surface of the cell to determine if there are indications as to where leaks may be located such as large protrusions of waste that may have penetrated the liner system, and video taping the leak detection pipe to determine where large inflows are occurring. If the location of a leak can be identified and excavation of waste is practical, then the liner will be exposed and repaired.
4. Adjust operational practices as needed to reduce the likelihood of future damage to the liner such as increasing the thickness of the initial layer of select waste on the cell bottom.
5. If leaks can not be specifically located or if it is not practical to find them, adjust operations to try to reduce the leakage to below the LAR. This could include measures to reduce the generation of leachate such as grading the landfill to promote runoff, installing drains and berms to direct runoff away from the landfill, the installation of additional intermediate or temporary cover, installing temporary geomembrane rain covers, or accelerating the placement of final cover in areas that have reached final elevation.

Phase I/Phase II Overlay Liner System

An overlay liner system will be constructed over the west sideslope of Phase I prior to the placement of waste against this slope as a result of the construction of Phase II. The purpose of the overlay liner system is to reduce the quantity of leachate entering the Phase I leachate

collection system from the Phase II expansion by directing it to the Phase II leachate collection system. This will be accomplished by hydraulically separating the newer waste above it from the older waste beneath the overlay liner system.

The overlay liner system will consist of (from the top down) 2 feet of protective cover material, a geonet composite drainage layer, a textured 60-mil HDPE liner, and a minimum of 12 inches of intermediate cover placed over the waste. The protective cover may be installed in stages as required by operations in order to avoid having the material washout during storms. Alternately, the protective cover may be placed all at once if a rain cover is installed over it to prevent washouts. The rain cover would be removed prior to the placement of waste against the overlay liner system.

The rain cover on the overlay liner system includes rain gutters to divert stormwater off the rain cover to temporary downdrains that will direct the stormwater to the perimeter drainage channel located north of Phase I. The locations of the rain gutters and temporary downdrains are shown on Sheets C-3 and C-3A of the Engineering Drawings. Details of these features are included on Sheet C-13B of the Engineering Drawings. Calculations demonstrating that the rain gutters and downdrains are capable of transmitting the flow generated from the 25-year design storm are included in Attachment H.2 of the Phase II Permit Application Engineering Report.

Leachate percolating through the newer waste located above the overlay liner system will be captured by the liner and directed to the base of the overlay liner system by means of the geonet composite drainage layer. A stone-filled trench drain with an 8-inch diameter perforated HDPE pipe located at the Phase I/Phase II divider berm will collect the leachate and direct it to the low point within Cell 1 of Phase II where it will flow out of the cell with the rest of the leachate collected within Cell 1. From there, the leachate will flow as previously described for the Phase II collection system.

Leachate Disposal System: General Description

Leachate that is generated from the landfill cells will be pumped to the existing 1,800,000 gallon leachate storage tank. The leachate accumulated in the storage tank will be removed by a leachate pumping station that will pump through a 4-inch PVC force main to a connection to the Sarasota County wastewater collection system south of the landfill on Knights Trail Road. The Sarasota County wastewater collection system in this area flows to the City of Venice Water Reclamation Facility (WRF) for treatment.

The leachate pumping and force main system is the primary disposal method for the CCSWDC leachate. Transfer pumps that discharge to tanker trucks for hauling to the Bee Ridge WRF will serve as a secondary emergency disposal location.

The following information provides a description of the above ground leachate storage tank in accordance with the requirements of 62-701.400(6)(c).

The existing leachate storage tank has a total capacity of 1.8 million gallons. The exposed plan area of the secondary containment system surrounding the existing leachate storage tank is 5,419 square feet. This will allow 27,000 gallons of water to accumulate after an 8-inch rainfall event. All liquid accumulating in the secondary containment system will be tested for specific conductance. Specific conductance of the stormwater in the secondary containment shall not be more than 50 percent above the specific conductance of water in the nearest downstream stormwater pond (Stormwater Pond No. 6) or shall not exceed 1,275 $\mu\text{mhos/cm}$, whichever is greater. If the specific conductance is greater than these criteria or if a visible sheen is present, then the stormwater will be pumped directly into the leachate storage tank and managed as leachate.

A log of discharges from the secondary containment system will be maintained. The date, specific conductance measurements, and visual sheen observations shall be recorded.

An electronic water level sensor will automatically determine when the storage tank reaches 90 percent capacity (1.62 million gallons) and a high water alarm will be activated. An electric actuated shutoff valve in the fill line will be activated to prevent overfilling the tank when the capacity reaches 1.8 million gallons in the tank. The electric actuated shutoff valve will be tested by inducing a false signal from the level sensor and confirming proper operation on a weekly schedule. The exposed tank exterior will be inspected weekly by visual observation. The inspection will include looking for leaks, corrosion, or other maintenance deficiencies. This will be accomplished by inspection from platforms at the top of the 20-foot high secondary containment wall, positioned 120 degrees apart around the circumference of the tank. The tank interior will be inspected annually when the tank is empty or at least once every three years. If any failures are detected, the tank construction company shall be contacted immediately and appropriate repairs conducted based on the nature of the problem. Leachate will be managed in accordance with the Contingency Plan (Section K.8.e) when the tank is out of service. Reports of the above inspections will be maintained by the County (the most recent inspection report is included as Attachment K-7).

The leachate pumping station will have automatic controls with the following set points:

	<u>Elevation</u>
High water alarm	40
Lag pump on	28
Lead pump on	27
Pumps off	26
Tank bottom	22

The set points can be modified by adjusting the pump control system. The duplex pumps will automatically alternate operation each time the pump is stopped by the level control system. The pumping station is equipped with a data logger to record flow, pH, and conductivity on a continuous basis.

K.8.c If Leachate Becomes Regulated as Hazardous Waste

Sarasota County will evaluate options for pretreating the leachate and alternate disposal if it becomes regulated as a hazardous waste.

K.8.d Off-Site Treatment of Leachate

The primary disposal location for CCSWDC leachate and alternate disposal is the City of Venice WWTP. Facility commitment letters are provided in Attachment K-6. A secondary disposal location is the Bee Ridge Water Reclamation facility. CCSWDC may use other secondary facilities for the offsite treatment or disposal of leachate; however, the County will notify FDEP of the change prior to use.

The CCSWDC will dispose of leachate at the primary treatment location provided the leachate meets the disposal quality requirements. Should leachate quality change such that it is no longer acceptable at the primary treatment location, the CCSWDC will dispose of leachate at the secondary facility.

K.8.e Contingency Plan for Leachate Management

Should one of the following events occur, the leachate contingency management plan shall be implemented.

- Any mechanical failure of the leachate management system that would prevent operation of the landfill leachate collection system pumps or the leachate transfer pumps for more than three (3) consecutive days.
- Liquid accumulation in the holding tank leak detection system in amounts greater than expected from rainfall.
- Rise of leachate levels inside the holding tank greater than 52.6 (high water alarm elevation represented by 31 foot mark on the external tank gauge).

Implementation of the contingency plan includes the following actions.

- (1) The landfill manager shall notify the FDEP (within twenty-four (24) hours) and leachate disposal facilities of the emergency event.
- (2) If the problem is excess leachate in the detection system of the holding tank, remedial measures shall be taken immediately to eliminate the leak. The detection system of the concrete holding tank consists of a layer of gravel located between the bottom of the holding tank and the top of the secondary containment slab that enables the detection of leaks at the bottom of the holding tank. Additional tractor trailer tanker units and operators shall be called to the site to expedite transport of leachate to the receiving wastewater treatment plant or additional quantities shall be pumped through the forcemain to the City of Venice lift station. The holding tank shall be emptied completely, if required, to facilitate repairs. Leachate will be pumped to mobile tanks during periods the repairs.

- (3) If the problem is excessive levels of leachate in the holding tank (elevation exceeds the high water alarm level), the maximum amount of leachate shall be diverted from the tank by increasing the number of frequency or tanker trucks hauling leachate to the primary or secondary WWTPs, pumping additional quantities of leachate through the forcemain to the City of Venice lift station, or storing leachate in mobile tanks.
- (4) Once the problem causing the implementation of the contingency plan has been resolved to an acceptable degree, the landfill manager shall notify FDEP (within three (3) day) that the facility is ready to return to normal operating conditions.
- (5) Inspections and repairs to the leachate tank will be scheduled during winter months to the extent possible in order to minimize the quantity of leachate that must be removed. While the tank is out of service, leachate will be pumped directly to either tanker trucks or temporary storage tanks. If the tank will be out of service for an extended period, the temporary tanks will be plumbed to the leachate transfer station to allow direct pumping of the leachate to the WWTP.

K.8.f Recording Quantities of Leachate Generated

A control panel for each sump pump in Cell Nos. 1 through 5 of Phase I is mounted on the valve box at the top of each cell's lined external containment berm. Each control panel will be equipped with a pump hour meter.

A control panel for the Phase II duplex leachate pump station will be mounted adjacent to the pump station. The control panel will be equipped with a flow meter, water level indicator, and a pump hour meter.

The following information will be recorded once per operating day from each pump location.

Cell No. or Phase	_____
Flow Meter Reading	_____
Hour Meter Reading	_____
Sump or Wet Well Liquid Level	_____

The above information is recorded on the form provided in Attachment K-8.

A control panel for the Phase II metering manholes will be mounted adjacent to the manhole. The panel will be equipped with a water level indicator, instantaneous flow meter, and a flow totalizer.

The following information will be recorded once per operating day from each metering manhole location.

Cell No.	_____
Instantaneous Flow	_____
Totalized Flow	_____
Liquid Level	_____

The above information is recorded on the form provided in Attachment K-8.

K.8.g Precipitation and Leachate Generation Rates

Rainfall for each 24-hour period measured at an official gauge located on-site will be recorded and entered onto a spreadsheet (format included in Attachment K-11) to compare precipitation to leachate generation.

K.8.h Leachate Collection System Inspection and Cleaning

CCSWDC will conduct a video inspection of the leachate collection system at least once every five years in accordance with Rule 62-701.500 F.A.C. requirements, and cleaned as necessary. Leachate pumps, metering manholes, and leak detection manholes at CCSWDC will be inspected for operation failures at least daily. Control panels will be inspected and operational data recorded as described in K.8.f.

K.9 LANDFILL GAS MANAGEMENT AND MONITORING

K.9.a Landfill Gas Management

The CCSWDC is located near the center of a 6,000 acre site. The minimum distance from the Class I landfill to the nearest property line is 1,800 feet. This distance represents a substantial buffer to allow for dispersion of odors normally associated with MSW landfill operations. Therefore, it is not anticipated that collection of landfill gas will be necessary for odor control.

In order to comply with air quality requirements, a Non-Methane Organic Compound (NMOC) emission report will be submitted to the implementing authority on an annual basis following the requirements of New Source Performance Standards (NSPS). Within twelve (12) months after reporting NMOC emissions greater than or equal to 50 Mg/year (megagram per year), a detailed landfill gas collection and controls system design plan submittal shall be made to the NSPS implementing agency. Within eighteen (18) months after this submittal, the installation of the landfill gas collection and control system shall be completed. Based on current Tier 2 sampling and model projections, the CCSWDC Class I landfill has not exceeded the NMOC threshold at the time this report was and is not expected to exceed the threshold until 2015⁹. Operation of the Landfill Gas System is provided in greater detail in Attachment K-15, LFGCCS Operation and Maintenance Plan.

K.9.b Landfill Gas Monitoring Program

A gas monitoring program will be implemented to prevent explosions and fires and to minimize off-site odors and damage to vegetation. The landfill gas monitoring program for CCSWDC will include monitoring of the landfill perimeter and enclosed on-site structures at the monitoring locations shown on Figure 1 ~~provided in the Water Quality Monitoring Plan Addendum April 2009~~ in Attachment K-3. Monitoring will be conducted on a quarterly basis and a report submitted to FDEP within 15 days after the end of the quarter in which monitoring occurred. The outside monitoring locations, as shown on Figure 1 provided in Attachment K-3, (gas monitoring probes) will consist of a monitor probe as shown on Figure L-3 in Attachment K-3. All gas probes will be clearly labeled and easily visible at all times.

The CCSWDC initial gas monitoring locations for Phase II when Cells 1 and 2 are constructed shall include four (4) gas monitoring probes as described above and numbered GP-2, GP-3, GP-7, and GP-9 and six (6) gas monitoring locations GM-1, GM-2, GM-3, GM-4, GM-5, and GM-7 in structures as shown on Figure 1 provided in the Water Quality Monitoring Plan and Addendums Attachment K-3. These locations are summarized in the table below:

CCSWDC Landfill Gas Monitoring Points

<u>MONITORING POINT</u>	<u>TYPE OF MONITORING</u>	<u>LOCATION</u>
<u>GP-2</u>	<u>Probe</u>	<u>North of Phase I</u>
<u>GP-3</u>	<u>Probe</u>	<u>East of Phase I</u>
<u>GP-7</u>	<u>Probe</u>	<u>North of C&D Processing Area</u>
<u>GP-9</u>	<u>Probe</u>	<u>West of Cell 4, Phase II</u>
<u>GM-1</u>	<u>Monitoring Location</u>	<u>Contractor's Maintenance Bldg.</u>
<u>GM-2</u>	<u>Monitoring Location</u>	<u>C&D Processing Area</u>
<u>GM-3</u>	<u>Monitoring Location</u>	<u>County Maintenance Bldg.</u>
<u>GM-4</u>	<u>Monitoring Location</u>	<u>Administrative Bldg.</u>
<u>GM-5</u>	<u>Monitoring Location</u>	<u>Scale House</u>
<u>GM-7</u>	<u>Monitoring Location</u>	<u>Control Panel at Leachate Storage Tank</u>

-Low areas, base boards, floor drains, and floor mounted cabinets shall be monitored inside the structures. Other structures on the site are not monitored because their great distance from the landfill (over 3,400 feet) and the shallow groundwater table (5 to 7 feet below surface) at the site would cause any migrating gas, if it existed, to purge to the atmosphere before it would travel to these structures through the ground. Also, there are no connections via conduit pipes, etc. between these structures and the landfill area.

Please note that gas monitoring probes north of Phase II are not necessary due to the presence of Stormwater Pond No. 1 that will effectively cut off the migration route of landfill gas in that direction. Also, gas monitoring probes south of Phase II are not necessary due to the long distance between the edge of waste and the property line and structures that can be adversely affected by migrating landfill gas. The high water table at the site also makes it unlikely that gas will migrate significant distances.

The landfill gas probes and monitoring locations shown on Figure 1 will be sampled at least quarterly for concentrations of combustible gases determined as a percent of the lower explosive limit (LEL) calibrated to methane as described in FAC 62-701.530.(2).

~~The monitoring will be conducted for the Lower Explosive Limit (LEL) of methane. A Gasman II CEA Instruments or an equivalent unit will be used. A methane/combustible gas detector (meter) will be used to measure the LEL at the monitoring locations. No purging of the probe will be allowed. Once the meter is connected to the sampling port, the valve will be opened and the meter pump will be engaged and meter reading observed. The highest value observed is recorded as well as the steady state value observed.~~

If the results of gas monitoring show that combustible gas concentrations exceed 25 percent of the LEL calibrated to methane in structures or 100 percent of the LEL calibrated to methane at the property boundary, Sarasota County will immediately take all necessary steps to ensure protection of human health and notify FDEP. Within 7 days of detection, a gas remediation plan detailing the nature and extent of the problem and the proposed remedy will be submitted to FDEP for approval. The remedy will be completed within 60 days of detection unless otherwise approved by FDEP.

If the LEL is greater than 25 percent inside any monitor location probe, a temporary monitor probe shall be established 50 feet from the monitor location in the opposite direction from the landfill. The temporary monitor probe shall be of the design shown in Figure L-3 of Attachment K-3. The temporary monitor probe will be monitored on a monthly basis for at least one quarter and until the temporary monitor station records zero percent LEL and the monitor location probe records less than 25 percent LEL. ~~If the LEL is greater than 25 percent inside the structures, or equal to, or greater than 100 percent at any monitor probe, the landfill operator will submit to the FDEP within seven (7) days a remediation plan detailing the nature and extent of the problem and the proposed remedy. The remedy will be completed/implemented within sixty (60) days of the detection unless otherwise approved by the FDEP.~~

K.9.c Odor Reporting Procedures

The CCSWDC shall be operated to control objectionable odors in accordance with Rule 62-296.320(2), F.A.C. After being notified by the Department that objectionable odors have been confirmed beyond the landfill property boundary, the CCSWDC shall:

- (1) Immediately take steps to reduce the objectionable odors. Such steps may include applying or increasing initial cover, reducing the size of the working face, and ceasing operations in the areas where odors have been detected;
- (2) Submit to the Department for approval an odor remediation plan for the gas releases. The plan shall describe the nature and extent of the problem and the proposed long-term remedy. The remedy shall be initiated within 30 days of approval.
- (3) Implement a routine odor monitoring program to determine the timing and extent of any off-site odors, and to evaluate the effectiveness of the odor remediation plan.

K.10 STORMWATER MANAGEMENT SYSTEM

The landfill stormwater management system for CCSWDC is discussed in Section K.2.h.(3) – Stormwater System.

K.11 EQUIPMENT AND OPERATION FEATURE REQUIREMENTS

K.11.a Adequate In-Service Equipment

Equipment proposed for the CCSWDC will include the equipment listed in Table K-1. The exact equipment complement may vary from time to time and additional equipment will be acquired if needed. One roll-off container will be placed at the Class I landfill area.

TABLE K-1. EQUIPMENT USED AT THE CCSWDC

NUMBER	EQUIPMENT
2	Bulldozer
2	Compactors
2	Dump Truck
1	Front-end Loader
1	Grader
1	Hydraulic Excavator
1	Water Truck
1	Fuel Truck
2	Pick-up Trucks
2	UD Gators
1	Roll-off Truck
1	Compressor
1	Pressure Washer
1	Welder

Emergency Electrical Generation Equipment is of adequate size to assure complete operation of the Leachate Disposal and Collection Systems.

K.11.b Reserve Equipment

Cooperative lending agreements with the Contract Operator's company and standing agreements with local equipment suppliers will provide a means for procuring additional back-up equipment within 24 hours of a need being identified.

K.11.c Communication Facilities

Radios and cell phones will be the primary communications devices to provide safe conditions for landfill personnel.

K.11.d Dust Control Methods

Dust from unpaved haul roads and construction areas within the Class I landfill area will be controlled through the use of a water spray truck. An alternate dust control measure that may be used in active cells of the Class I landfill area is leachate reuse (see Attachment K-12 for FDEP approval letter). The reuse of leachate involves spraying small quantities of leachate from a spray bar mounted on the rear of a tank truck onto active fill areas of the landfill. The landfill operation crew will monitor the rate of leachate application, soil moisture conditions, and the specific landfill areas used to prevent the generation of leachate runoff. Leachate will only be applied under the following conditions.

- Leachate may only be sprayed on active, bermed fill areas, including the working face, and areas with the required six (6) inches of initial cover.
- Leachate may not be sprayed on areas with intermediate or final cover.
- The maximum grade leachate will be sprayed on is a 10H:1V slope. Areas within 150 feet of a 4H:1V or steeper side slope will not be sprayed on. At all times areas receiving leachate must be controlled to prevent run-off from entering the stormwater system
- Leachate will not be sprayed during a rainfall event, and when the application area is in a saturated condition.
- The application rate of leachate should be such that leachate does not accumulate on the landfill surface, and infiltrates quickly into the covered refuse.
- Leachate will not be sprayed at the end of the day on the initial cover of the working face or other areas. Spraying should be done early in the morning after any dew evaporates and continue until early afternoon or until all available areas have been used.

The Site Manager will record daily the gallons of leachate sprayed per this method.

If needed, dust masks will be available to personnel working in excessively dusty areas.

In general the facility will employ multiple methods for dust control as described above; in addition many of the facility's roads are paved for all-weather conditions, as described in Section K.12 below. Reasonable dust control precautions may include, but are not limited to, the following:

- Paving and maintenance of roads, parking areas and yards.
- Application of water to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
- Application of asphalt, water, or other Department-approved dust suppressants to unpaved roads, yards, open stock piles and similar activities.
- Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent re-entrainment, and from buildings or work areas to prevent particulate from becoming airborne.
- Landscaping or planting of vegetation.

- Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.
- Confining abrasive blasting where possible.
- Enclosure or covering of conveyor systems.

K.11.e Litter Control Devices

See Section K.7.j. in this Operations Plan.

K.11.f Signs Indicating Name of Operating Authority, Traffic Flow, Hours of Operations, and Charges for Disposal

There is a permanent sign at the south property line along the access road to the facility identifying the Sarasota County Central County Solid Waste Disposal Facility and indicating hours of operation and charges for different types of loads. The sign indicates materials that are not accepted for disposal in the landfill. Signs indicating approach and exit routes and one-way roads are strategically placed so traffic at the landfill will move smoothly and efficiently to and from the working face area.

K.12 ALL WEATHER ACCESS ROADS

A paved entrance from Knights Trail Road terminates at the landfill perimeter roadway. In addition, paved perimeter roads around the landfill areas are shown on Sheet G-03, Overall Site Plan and Phasing Plan of the permit drawings. All weather access roads will be constructed within the Class I area to route traffic to the active working face. The all weather access roads will be constructed of earth, ground shingles, crushed rock, shell or any other stabilizing material, as appropriate.

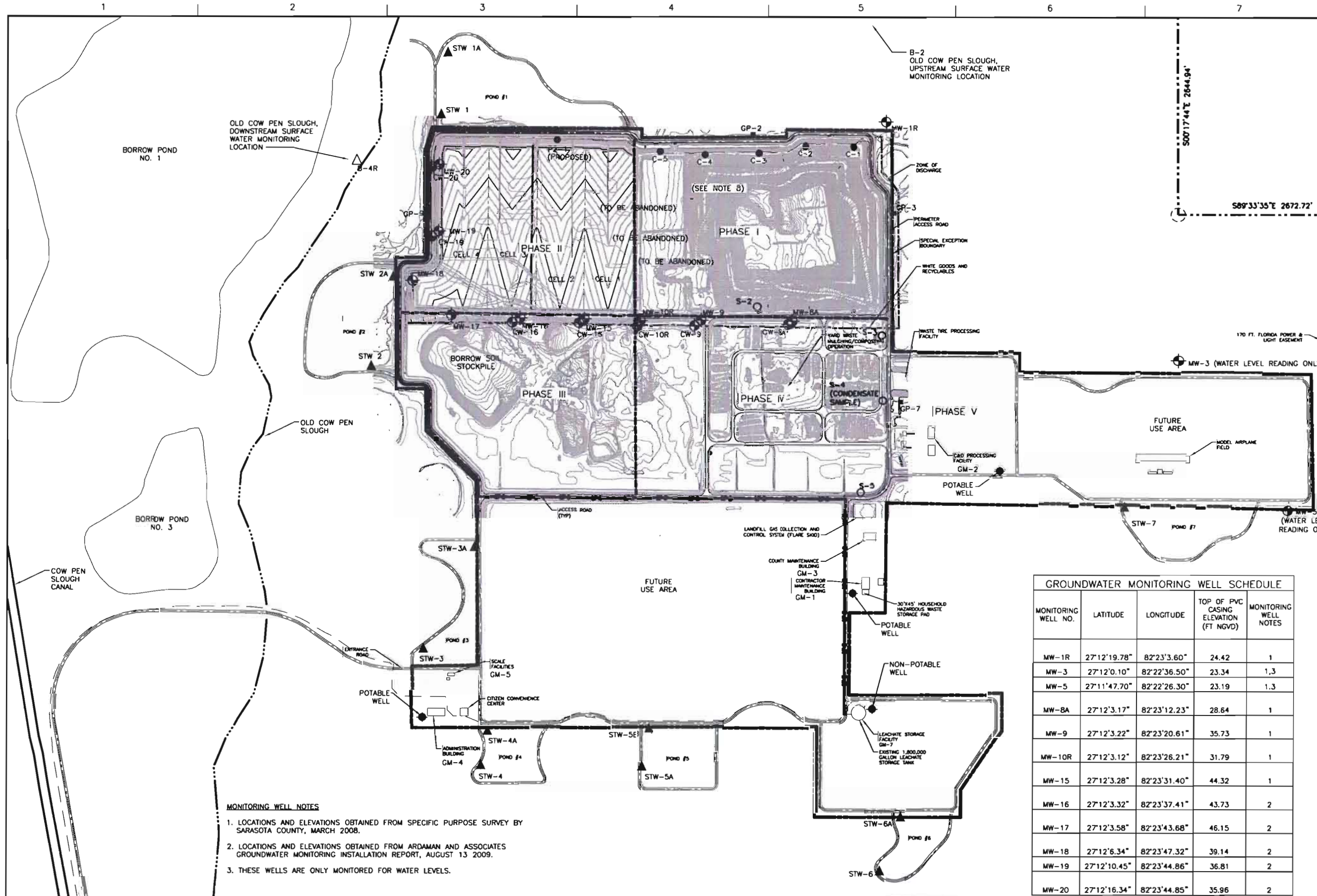
K.13 ADDITIONAL RECORD KEEPING AND REPORTING

See Section K.3 of this Operations Plan for records and documents retained. Documents used for development, operations, construction, background water quality, and permitting of the CCSWDC will be kept for the design life of the CCSWDC. Weigh tickets shall be kept for 5 years. All monitoring information, including calibration and maintenance records, chart recordings, and all reports required by permit shall be kept for 10 years.

Records that are more than five years old may be archived at an off-site storage location. The archived records will be stored in a secure place where they will be protected from damage. Provisions will be made to retrieve records from storage as required within 7 days.

ATTACHMENT K-3

FIGURES



- SITE PLAN NOTES**
1. TOPOGRAPHY WITHIN PHASES I THROUGH IV AREAS COMPILED BY LANDAIR MAPPING, INC. OF PEACHTREE CITY, GEORGIA USING PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHS DATED JUNE 16, 2006.
 2. LOCATIONS OF EXISTING PIEZOMETERS, MONITORING WELLS AND STAFF GAUGES OBTAINED FROM SPECIFIC PURPOSE SURVEY BY SARASOTA COUNTY, MARCH 2008.
 3. APPROXIMATE LOCATION OF PHASE I LEACHATE FORCEMAIN OBTAINED FROM RECORD DRAWINGS BY CAMP DRESSER & MCKEE, INC. DATED APRIL 1998. VERIFY LOCATION IN FIELD.
 4. APPROXIMATE LOCATION OF LEACHATE FORCEMAIN TO OFFSITE WWTP OBTAINED FROM CONFORMED DRAWINGS BY PBS&J DATED JULY 2005. VERIFY LOCATION IN FIELD.
 5. LOCATION OF CONDENSATE SUMPS OBTAINED FROM PHASE I LFGCCS AS-BUILT DRAWINGS DATED AUGUST 2010.

- LEGEND**
- S-2 LANDFILL GAS CONDENSATE SUMP
 - GP-1 GAS PROBE
 - MW-10R GROUNDWATER MONITORING WELL
 - GM-1 GAS MONITORING LOCATION
 - WATER SUPPLY WELL
 - ⊕ P-S-1 PHASE II BORING/PIEZOMETER LOCATION
 - ▲ STW-1 STORMWATER MONITORING STATION
 - C-1 LEACHATE MONITORING LOCATION
 - △ B-4R SURFACE WATER MONITORING LOCATION
- ZONE OF DISCHARGE
--- WATERWAY
--- LIMITS OF EASEMENT
--- EASEMENT CENTERLINE
--- EXISTING ROADWAY
--- PHASE BOUNDARY
--- PROPERTY BOUNDARY

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEC 30 2010
SOUTHWEST DISTRICT TAMPA

FOR PERMITTING

- MONITORING WELL NOTES**
1. LOCATIONS AND ELEVATIONS OBTAINED FROM SPECIFIC PURPOSE SURVEY BY SARASOTA COUNTY, MARCH 2008.
 2. LOCATIONS AND ELEVATIONS OBTAINED FROM ARDAMAN AND ASSOCIATES GROUNDWATER MONITORING INSTALLATION REPORT, AUGUST 13 2009.
 3. THESE WELLS ARE ONLY MONITORED FOR WATER LEVELS.

GROUNDWATER MONITORING WELL SCHEDULE				
MONITORING WELL NO.	LATITUDE	LONGITUDE	TOP OF PVC CASING ELEVATION (FT NGVD)	MONITORING WELL NOTES
MW-1R	27°12'19.78"	82°23'3.60"	24.42	1
MW-3	27°12'0.10"	82°22'36.50"	23.34	1,3
MW-5	27°11'47.70"	82°22'26.30"	23.19	1,3
MW-8A	27°12'3.17"	82°23'12.23"	28.64	1
MW-9	27°12'3.22"	82°23'20.61"	35.73	1
MW-10R	27°12'3.12"	82°23'26.21"	31.79	1
MW-15	27°12'3.28"	82°23'31.40"	44.32	1
MW-16	27°12'3.32"	82°23'37.41"	43.73	2
MW-17	27°12'3.58"	82°23'43.68"	46.15	2
MW-18	27°12'6.34"	82°23'47.32"	39.14	2
MW-19	27°12'10.45"	82°23'44.86"	36.81	2
MW-20	27°12'16.34"	82°23'44.85"	35.96	2

HDR Engineering, Inc.
2302 N. West Shore Blvd., Suite 250
Tampa, FL 33607-5755
(813) 263-2300
Florida Certificate of Authorization No. 00004219

G	12/2010	ADD CONDENSATE SUMPS, UPDATE WELLS
F	04/2009	REVISED PER MINOR PERMIT MODIFICATION
E	03/2008	REVISED PER RAI #4
D	01/2008	REVISED PER RAI #3
C	09/2007	REVISED PER RAI #2
B	06/2007	REVISED PER RAI #1
A	02/2007	ISSUED FOR APPROVAL
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	R. SIEMERING
REVIEWED BY	J. TIMMONS
DRAWN BY	B. JOHNSON
PROJECT NUMBER	0096-118883-01

Central County Solid Waste Disposal Complex
PHASE II CLASS I LANDFILL EXPANSION
PERMIT DRAWINGS

SARASOTA COUNTY FLORIDA

WATER QUALITY MONITORING PLAN

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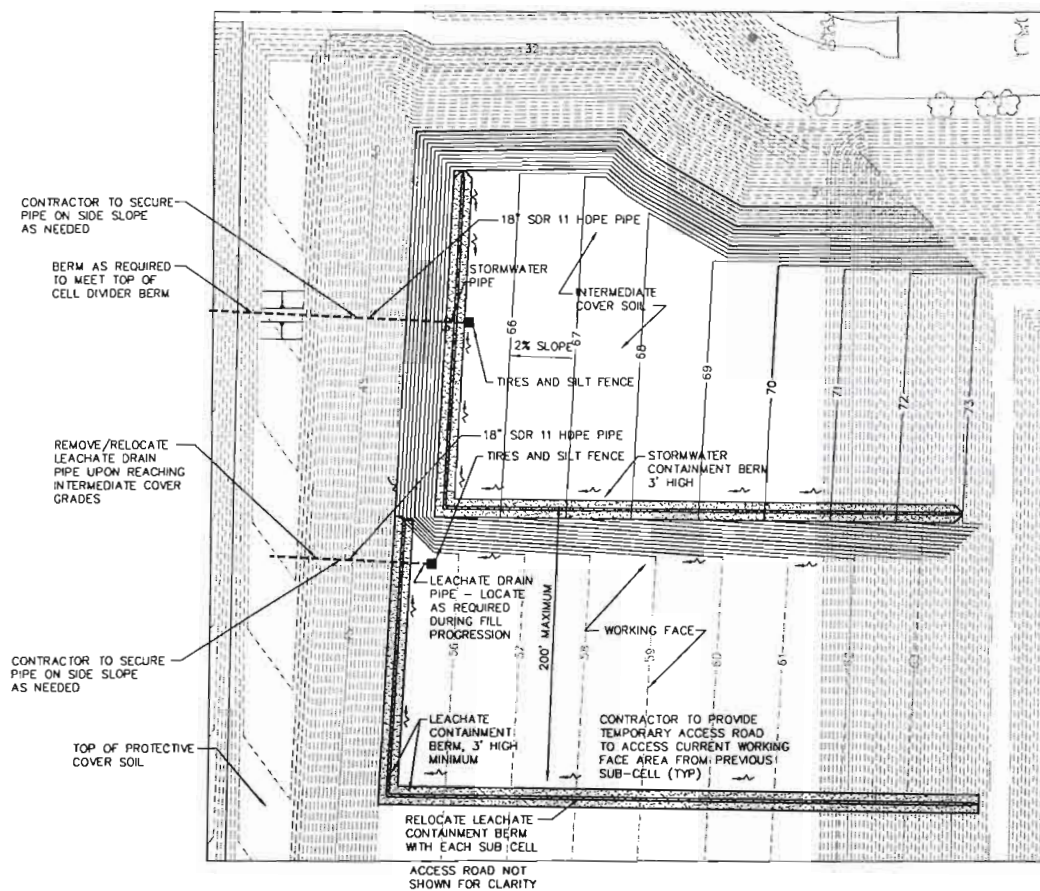
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SHEET
FIGURE 1

ATTACHMENT K-19

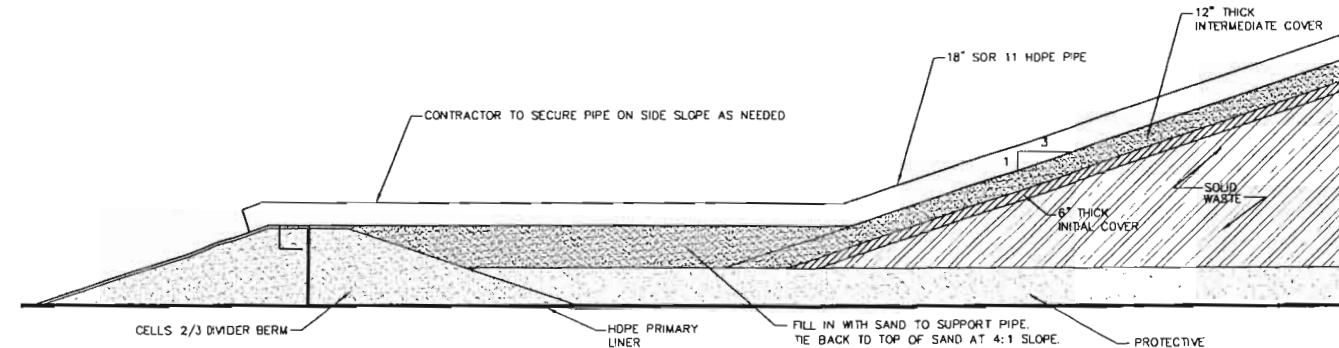
**FILL SEQUENCE SHEET 45 DETAILS FOR WORKING FACE
AND INTERMEDIATE COVER STORMWATER PIPING**

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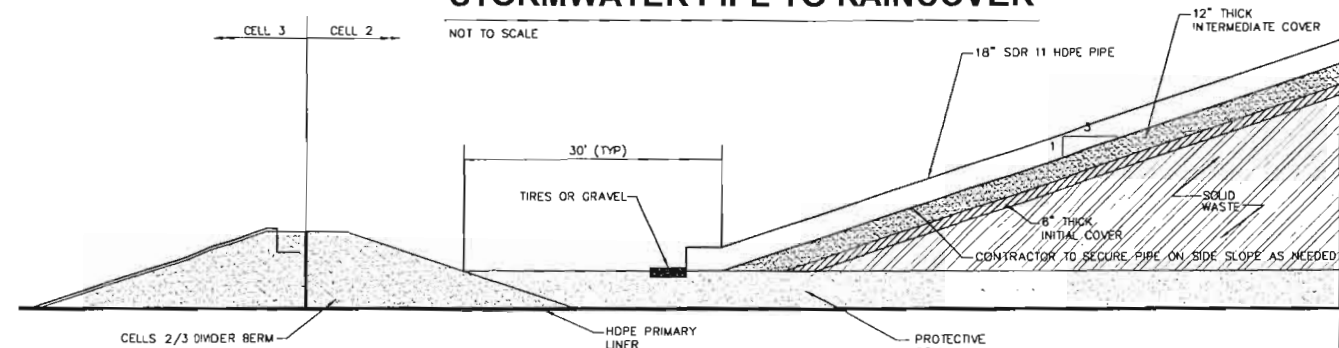


TYPICAL WORKING FACE

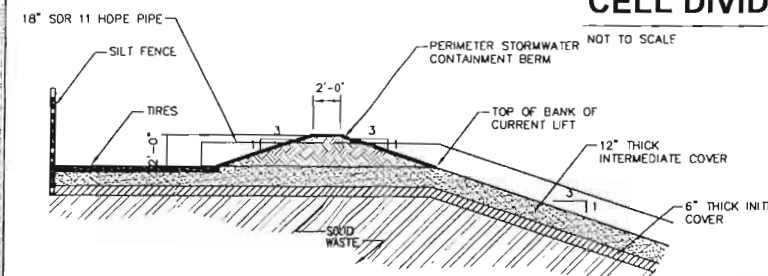
NOT TO SCALE



CELL DIVIDER BERM TIE-IN WITH STORMWATER PIPE TO RAINCOVER

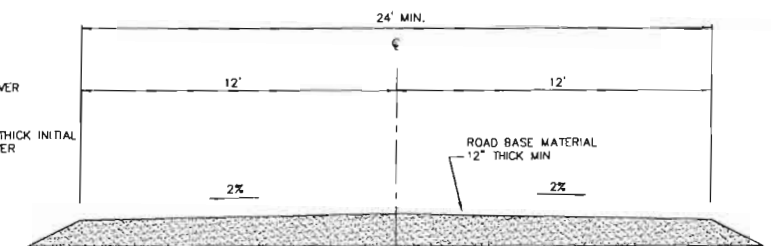


CELL DIVIDER BERM TIE-IN



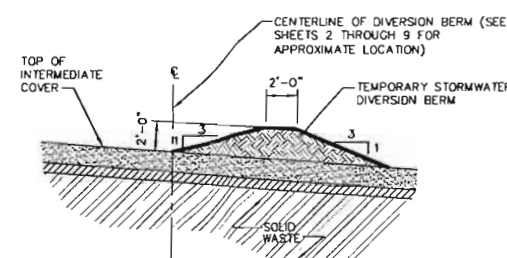
PERIMETER STORMWATER CONTAINMENT BERM

NOT TO SCALE



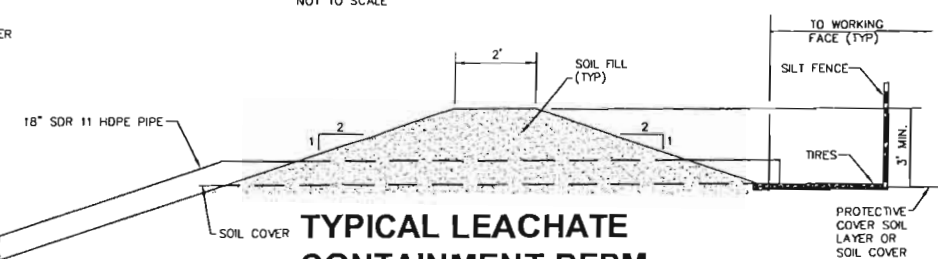
TYPICAL ACCESS ROAD

NOT TO SCALE



TEMPORARY STORMWATER DIVERSION BERM

NOT TO SCALE



TYPICAL LEACHATE CONTAINMENT BERM

NOT TO SCALE

HDR

1476 Bay Center Drive, Suite 400
Tampa, Florida 33604
813-283-2200
HDR CERT. AUTH. NO. CA 4213
FL REG. AA 000457

ISSUE	DATE	DESCRIPTION
2	07/23/10	SUBMITTED TO COUNTY
1	02/15/10	FOR OPERATIONAL USE

PROJECT MANAGER	R. SIEMERING
DRAWN BY	B. JOHNSON
CHECKED BY	R. SIEMERING
PROJECT NUMBER	00096-112585-003

JASON TIMMONS, P.E.
CERTIFICATE NO. 65869

SARASOTA COUNTY
PHASE II - CELL 2
FILL SEQUENCING

DETAILS

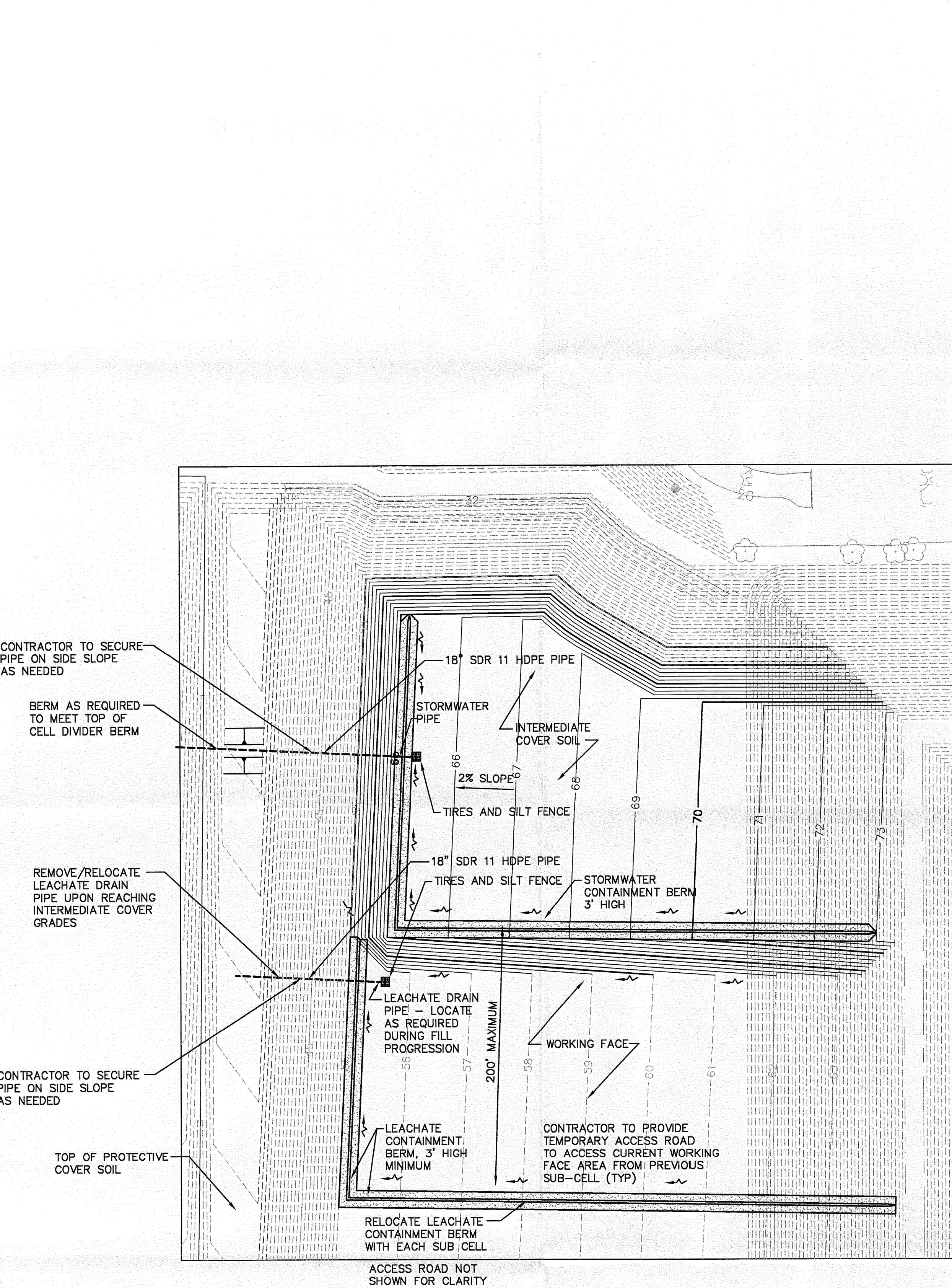
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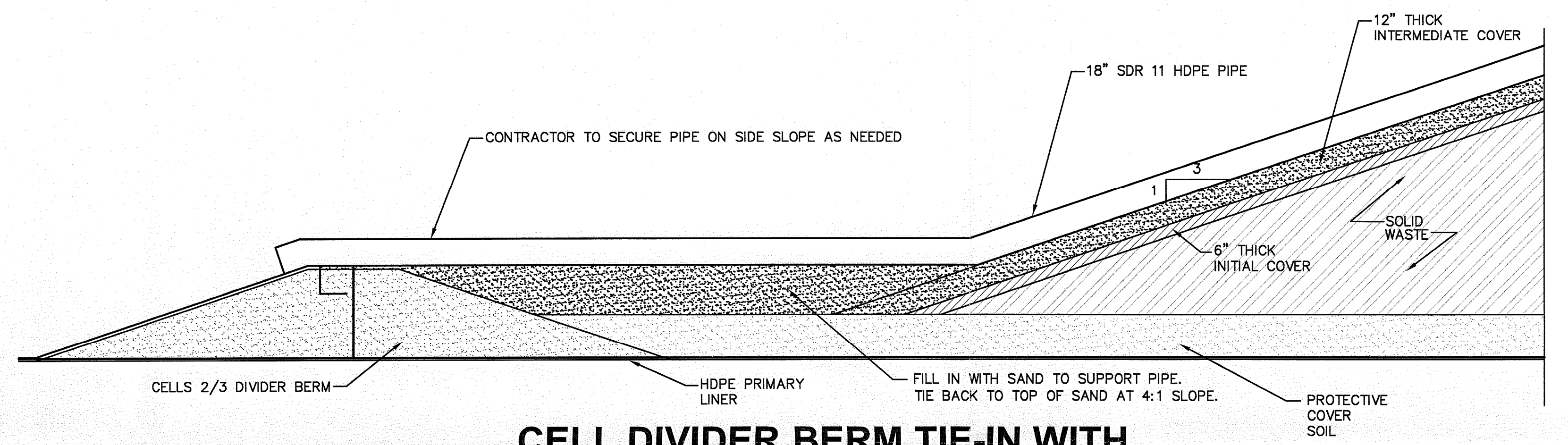
SHEET
45

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DEC 30 2010
SOUTHWEST DISTRICT
TAMPA

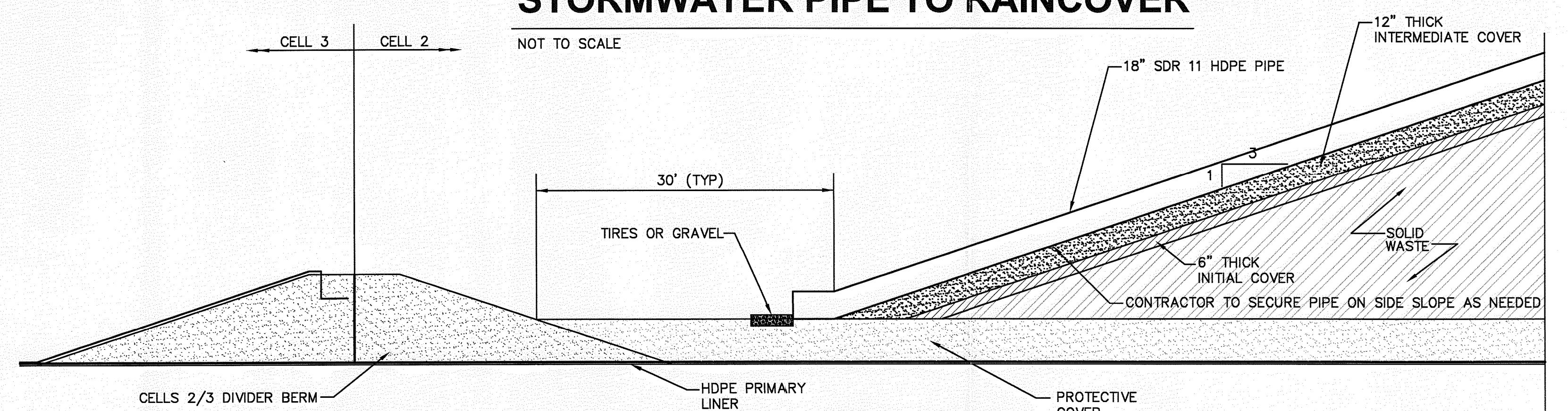
ATTACHMENT B
SHEET 45 (FULL-SIZE)



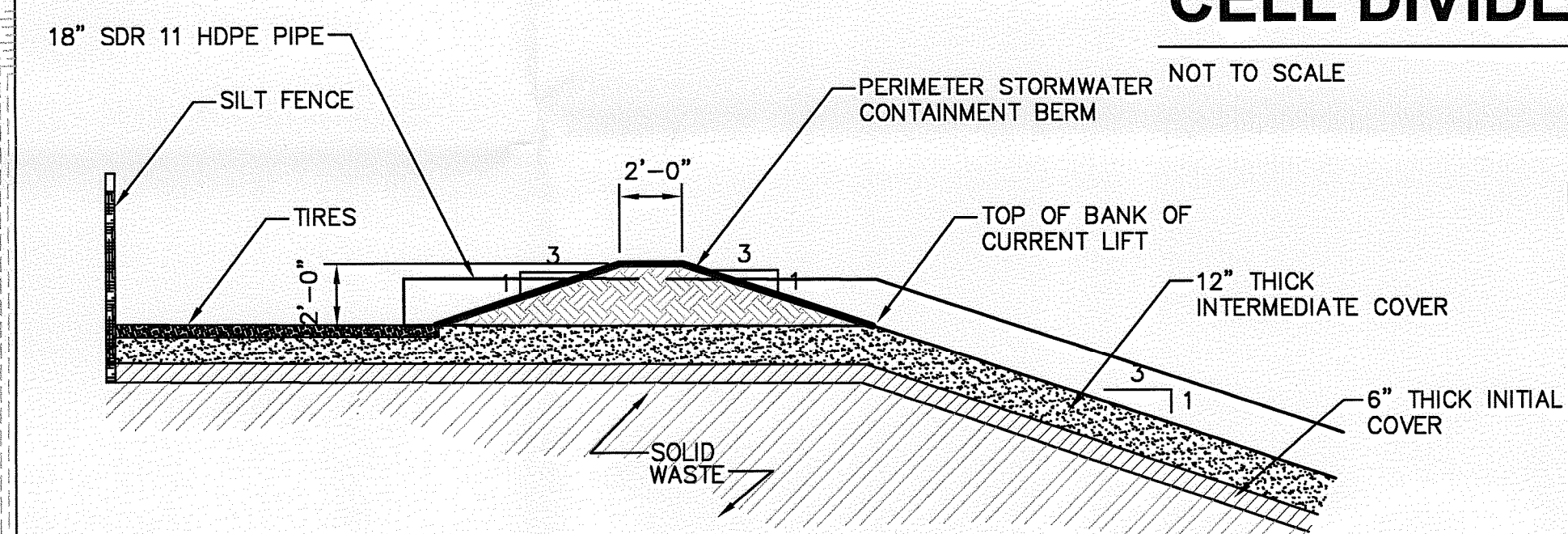
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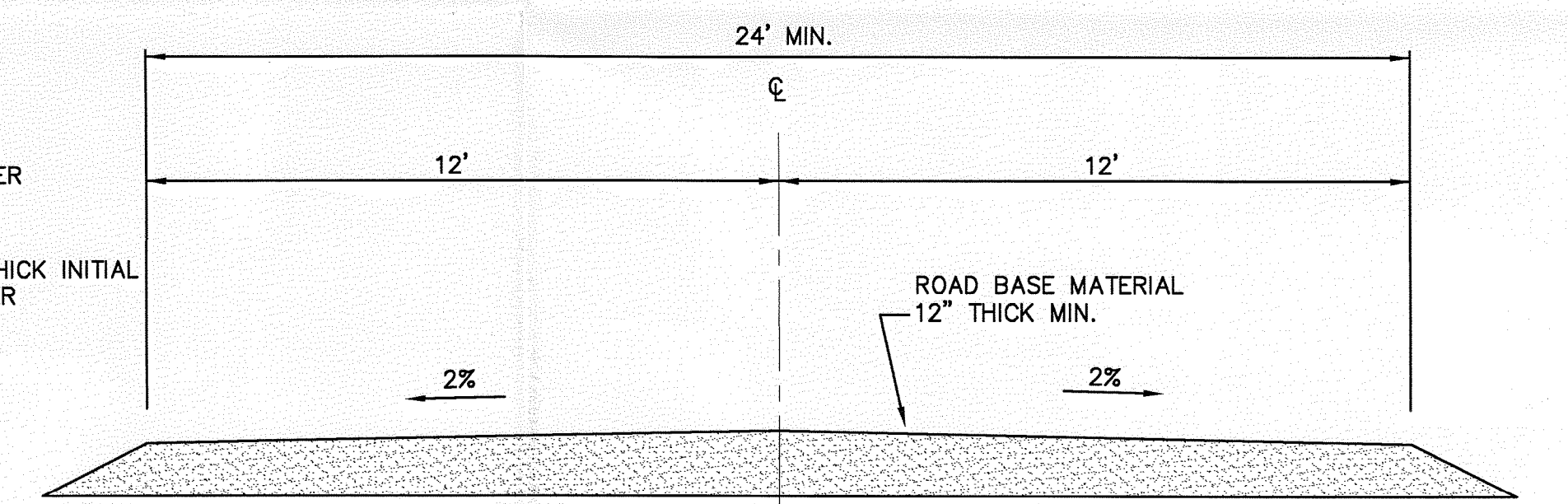
CELL DIVIDER BERM TIE-IN WITH STORMWATER PIPE TO RAINCOVER
NOT TO SCALE



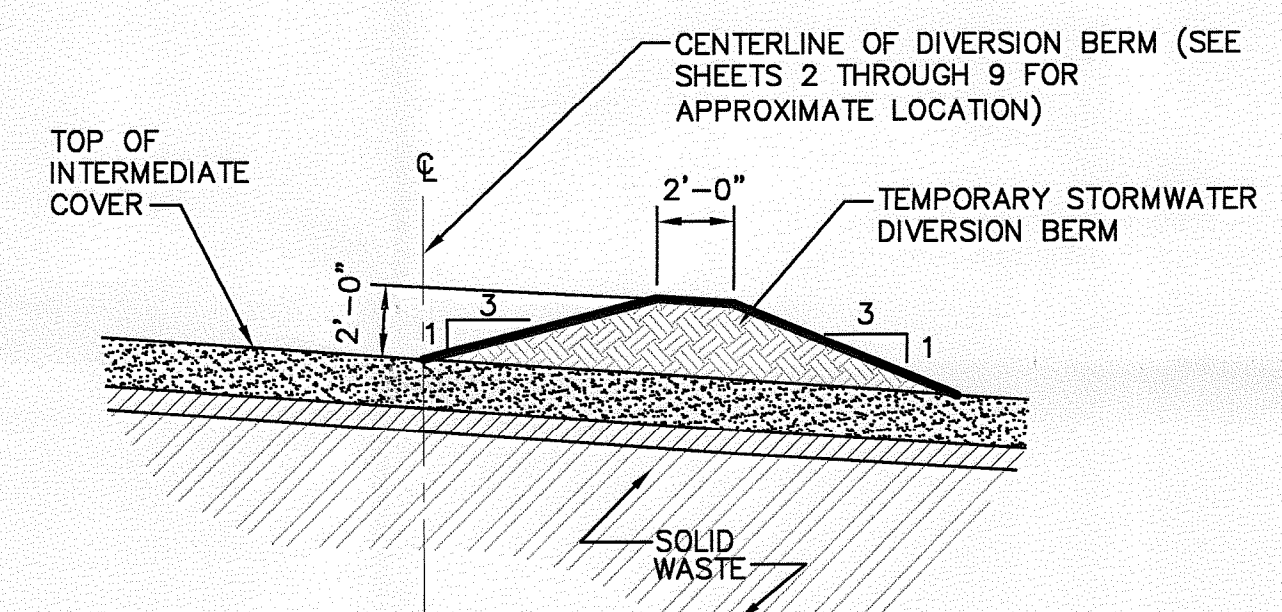
CELL DIVIDER BERM TIE-IN
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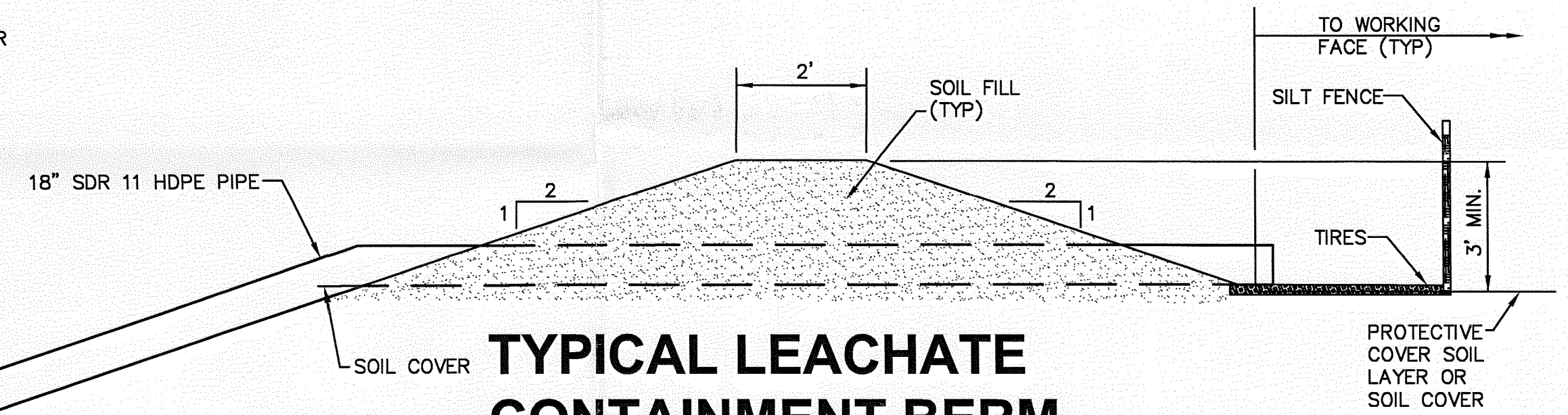
PERIMETER STORMWATER CONTAINMENT BERM
NOT TO SCALE



TYPICAL ACCESS ROAD
NOT TO SCALE



TEMPORARY STORMWATER DIVERSION BERM
NOT TO SCALE



TYPICAL LEACHATE CONTAINMENT BERM
NOT TO SCALE

HDR

5426 Bay Center Drive, Suite 400
Tampa, Florida 33609
813-282-2300
HDR CERT. AUTH. NO. CA 4213
FL REG. AA 000487

ISSUE	DATE	DESCRIPTION
2	07/23/10	SUBMITTED TO COUNTY
1	02/15/10	FOR OPERATIONAL USE

PROJECT MANAGER	R. SIEMERING
DRAWN BY	B. JOHNSON
CHECKED BY	R. SIEMERING
PROJECT NUMBER	D0096-112585-003

Jason Timmons 12/29/10

JASON TIMMONS, P.E.
CERTIFICATE NO. 65869

SARASOTA COUNTY
PHASE II - CELL 2
FILL SEQUENCING

DETAILS

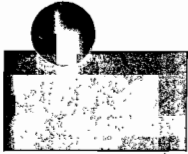
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SHEET
45

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
DEC 30 2010
SOUTHWEST DISTRICT
TAMPA

ATTACHMENT C

**CONFORMED WQMP AND
REVISED JULY 2010 WQMP ADDENDUM**



FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
DEC 30 2010
SOUTHWEST DISTRICT
TAMPA

Sarasota County
Solid Waste Operations

Central County Solid Waste Disposal Complex
Water Quality Monitoring Plan
December 20, 2010



WATER QUALITY MONITORING PLAN

**CENTRAL COUNTY SOLID WASTE DISPOSAL COMPLEX
SARASOTA COUNTY, FLORIDA
WACS ID No: SWD/58/51614
December 17, 2010**

Prepared From:

Document entitled "Ground Water Monitoring Plan Addendum," prepared by SCS Engineers, dated June 28, 2002, with revisions dated July 24, 2002 [Section 2 – Leachate Sampling Parameters] and September 16, 2002 [Appendix A], received June 28, 2002, July 29, 2002, and September 20, 2002

SCS Engineers, 3012 U.S. Highway 301 North, Suite 700, Tampa, Florida 33619

"Revisions to Section 4.0 of the SCS document" – dated February 22, 2007
PBS&J, 428 South Keller Road, Orlando, Florida 32810-6101

"Water Quality Monitoring Plan Addendum" – April 23, 2009
HDR, 5426 Bay Center Drive, Suite 400, Tampa, Florida 33609-3444

"Water Quality Monitoring Plan Addendum" – dated July 2010
HDR, 5426 Bay Center Drive, Suite 400, Tampa, Florida 33609-3444

This Water Quality Monitoring Plan was developed from information contained within the documents listed above at the request of the Florida Department of Environmental Protection (FDEP) on September 22, 2010. The request made by FDEP was to combine the information from the four documents into one complete water quality monitoring plan. Each of the documents were signed and sealed by a registered professional geologist or professional engineer prior to submittal to the Florida Department of Environmental Protection.

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SECTION 1.0

INTRODUCTION

The Florida Department of Environmental Protection (FDEP), Permit Number S058-299180 to operate the Central County Solid Waste Disposal Complex was issued to the Sarasota County Solid Waste Operations on July 30, 1997. Operation of the landfill began on June 15, 1998. Since this date, the original permit expired and the landfill has been further developed to include an additional Phase, know as Phase II. The current permit for the operation of the landfill is, Permit Number 130542-0007-SO/01. It was issued on November 18, 2008 and expires on November 18, 2013.

As specified by 62-701.510(2), F.A.C., the permittee shall provide FDEP with a Water Quality Monitoring Plan (WQMP) for the landfill site that describes the ground water, surface water and leachate monitoring systems. This document satisfies this requirement.

SECTION 2.0

GROUNDWATER

2.1 MONITORING AND PIEZOMETER WELLS

The groundwater monitoring program consists of collecting groundwater samples from the locations listed in Table 2-1.

The monitoring program includes sampling one background well and nine detection wells. All wells are installed in the surficial aquifer. There is no intermediate aquifer (permeable beds of the Hawthorn Group) or Floridan aquifer monitoring wells used as part of the groundwater monitoring program.

Monitoring wells MW-3 and MW-5 are inactive, but are used for water level measurements. These wells are included in the groundwater monitoring program for water level data collection only.

Figure 1 shows the monitoring well locations.

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TABLE 2-1. GROUNDWATER MONITORING WELLS AT CCSWDC

Well Number	WACS ID#	Aquifer Monitored	Purpose	Comments
MW-1R	20585	Surficial	Background	MW-1 replaced due to groundwater level not in screen
MW-3	4503	Surficial	Piezometer	Used for water level elevation only
MW-5	4505	Surficial	Piezometer	Used for water level elevation only
MW-8A	21453	Surficial	Detection	MW-8 replaced due to groundwater level not in screen
MW-9	4509	Surficial	Detection	
MW-10R*	4510	Surficial	Detection	MW-10R was a replacement well for MW-10R - May 1996
MW-15	23031	Surficial	Detection	Phase II
MW-16	23032	Surficial	Detection	Phase II
MW-17	23033	Surficial	Detection	Phase II
MW-18	23034	Surficial	Detection	Phase II
MW-19	23035	Surficial	Detection	Phase II
MW-20	23036	Surficial	Detection	Phase II

2.2 MONITORING WELL INSTALLATION, DESIGN AND ABANDONMENT

Monitoring wells shall be constructed as shown on Figure 2, Typical Groundwater Monitoring Well. Record drawings for all newly installed groundwater monitoring wells shall be submitted to the FDEP on Form 62-701.900(30), Monitoring Well Completion Report, Attachment A.

An initial sampling event shall be conducted within seven (7) days of well installation and development, for the analysis of the field and laboratory parameters currently required by the facility permit.

All groundwater monitoring wells shall have protective bollards or other devices installed around them if they are located in areas of high traffic flow in order to prevent damage to the well. Wells shall be clearly labeled, visible and locked when not in use, in order to minimize the potential for unauthorized access.

FDEP shall be notified in writing when any monitoring well is damaged or site conditions require a well to be abandoned. All wells shall be plugged so that they do not act as a conduit for leachate release to the groundwater.

2.3 MONITORING WELL SAMPLING AND ANALYSIS

FDEP shall be notified 14 days prior to conducting any routine sampling event, so that the Department may collect split samples.

Groundwater elevations will be measured at all active wells and piezometers during all sampling events to a precision of 0.01 foot. The water surface contour maps prepared for each sampling event will include ground water elevations (measured in feet NGVD) calculated for each well and piezometer well. In addition to the water level measurements taken from the groundwater monitoring wells, surface water elevations shall also be measured at the staff gauge locations listed in Table 2-2 for each sampling event. A water table surface elevation contour map shall be prepared for each set of water level measurements and submitted to FDEP for all routine ground water sampling events and monitoring plan evaluation reports. Figure 1 shows the location of staff gauges.

Groundwater monitoring wells are sampled semi-annual for the following parameters:

Field Parameters

- Static water level before purging
- Specific conductance
- pH
- Dissolved oxygen
- Turbidity
- Temperature
- Color and sheen by observation
- Groundwater Elevation

Laboratory Parameters (Unfiltered)

- Total ammonia-nitrogen
- Bicarbonate
- Carbonate
- Chlorides
- Nitrate
- Sulfate
- Total Dissolved Solids (TDS)
- Calcium
- Iron
- Magnesium
- Mercury
- Potassium
- Sodium
- Parameters listed in 40 Code of Federal Regulations (CFR) Part 258, Appendix I

TABLE 2-2. STAFF GAUGE LOCATIONS AT CCSWDC

Gauge Name	Location
STW-1	Storm Pond 1
STW-2	Storm Pond 2
STW-3	Storm Pond 3
STW-4	Storm Pond 4
STW-5	Storm Pond 5, west side
STW-5B	Storm Pond 5, east side
STW-6	Storm Pond 6
STW-7	Storm Pond 7

SECTION 3.0

SURFACE WATER

3.1 SURFACE WATER MONITORING LOCATIONS

The surface water monitoring sites include one upgradient location, B2, along the north property boundary, and one downgradient location, B4R, along the west portion of the property. The site characteristics are described in Table 3-3. and surface water monitoring locations are shown on Figure 1.

TABLE 3-3. SURFACE WATER MONITORING LOCATIONS AT CCSWDC

Surface Water Monitoring Location	WACS ID#	Water Body Monitored	Purpose
B2	4519	Old Cow Pen Slough	Upgradient
B4R	20060	Old Cow Pen Slough	Downgradient

3.2 SURFACE WATER SAMPLING AND ANALYSIS

Surface water locations are sampled semi-annual for the following parameters:

Field Parameters

- Specific conductivity
- pH
- Dissolved oxygen
- Turbidity
- Temperature
- Color and sheen by observation
- Surface Water Elevation

Laboratory Parameters (Unfiltered)

- Chlorophyll A
- Total hardness (as mg/L CaCO₃)
- Total phosphorus (as mg/L P)
- Calcium
- Iron
- Magnesium
- Mercury
- Potassium
- Sodium
- Sulfate
- Nitrate
- Total nitrogen
- Unionized ammonia
- Biochemical oxygen demand (BOD₅)
- Chemical oxygen demand (COD)
- Total organic carbon (TOC)
- Total dissolved solids (TDS)
- Total suspended solids (TSS)
- Fecal coliform
- Bicarbonate
- Carbonate
- Those parameters listed in 40 CFR Part 258, Appendix I

SECTION 4.0

LEACHATE

4.1 LEACHATE SAMPLING LOCATIONS

There are five leachate pump stations with sampling ports located on the north side of the Phase I area and one leachate sample port located at the pump station for the Phase II cells. The leachate monitoring locations are listed in Table 4-1. and leachate sampling locations are shown on Figure 1.

TABLE 4-1. LEACHATE SAMPLING LOCATIONS AT CCSWDC

Leachate Monitoring Location	WACS ID#	Location
C-1	20580	Cell No. 1, Phase I
C-2	20581	Cell No. 2, Phase I
C-3	20582	Cell No. 3, Phase I
C-4	20583	Cell No. 4, Phase I
C-5	20584	Cell No. 5, Phase I
P2-1	23037	Cells No. 1-4, Phase II

4.2 LEACHATE SAMPLING AND ANALYSIS

A composite leachate sample for the Phase I sampling ports may be collected for the inorganic parameters only. Otherwise individual leachate samples shall be collected from each of the sampling locations. Leachate samples from the Phase I and Phase II areas shall not be composited. The leachate sampling locations are sampled semi-annual for the following parameters:

Field Parameters

- Specific conductivity
- pH
- Dissolved oxygen
- Color and sheen by observation
- Temperature

Laboratory Parameters (Unfiltered)

- Total ammonia – N
- Total alkalinity (as mg/L CaCO₃)
- Carbonate
- Chlorides
- Nitrate
- Sulfate
- Total dissolved solids (TDS)
- Biochemical oxygen demand (BOD₅)
- Chemical oxygen demand (COD)
- Calcium
- Iron
- Magnesium
- Mercury
- Potassium
- Sodium
- Those parameters listed in 40 CFR Part 258, Appendix II, as well as the field parameters (only for sampling event during the second half of year)

SECTION 5.0

CONDENSATE

5.1 CONDENSATE SAMPLING

A condensate sample from the landfill gas collection system shall be sampled semi-annual for the parameters listed below. The condensate sampling location is listed in Table 5-1. and the condensate sampling locations are shown on Figure 1.

TABLE 5-1. CONDENSATE MONITORING LOCATION AT CCSWDC

Condensate Monitoring Location	WACS ID#	Location
S-4	23346	Condensate Sump S-4

Field Parameters

- Specific conductivity
- pH
- Dissolved oxygen
- Color and sheen by observation
- Temperature

Laboratory Parameters (Unfiltered)

- Total ammonia – N
- Total alkalinity (as mg/L CaCO₃)
- Carbonate
- Chlorides
- Nitrate
- Sulfate
- Total dissolved solids (TDS)
- Biochemical oxygen demand (BOD₅)
- Chemical oxygen demand (COD)
- Calcium
- Iron
- Magnesium
- Mercury
- Potassium
- Sodium

SECTION 6.0

REPORTING

6.1 WATER QUALITY MONITORING REPORTS

Results of all sampling events shall be submitted to FDEP within 60 days from completion of laboratory analyses, unless a different due date has been specified in the permit. Water quality data shall be provided to the FDEP in an electronic format, unless an alternate form of submittal is specified. Form 62-701.900(31) (Attachment B), Water Quality Monitoring Certification, shall be used to certify that the laboratory results have been reviewed and approved by the county. At a minimum, the report shall include the following:

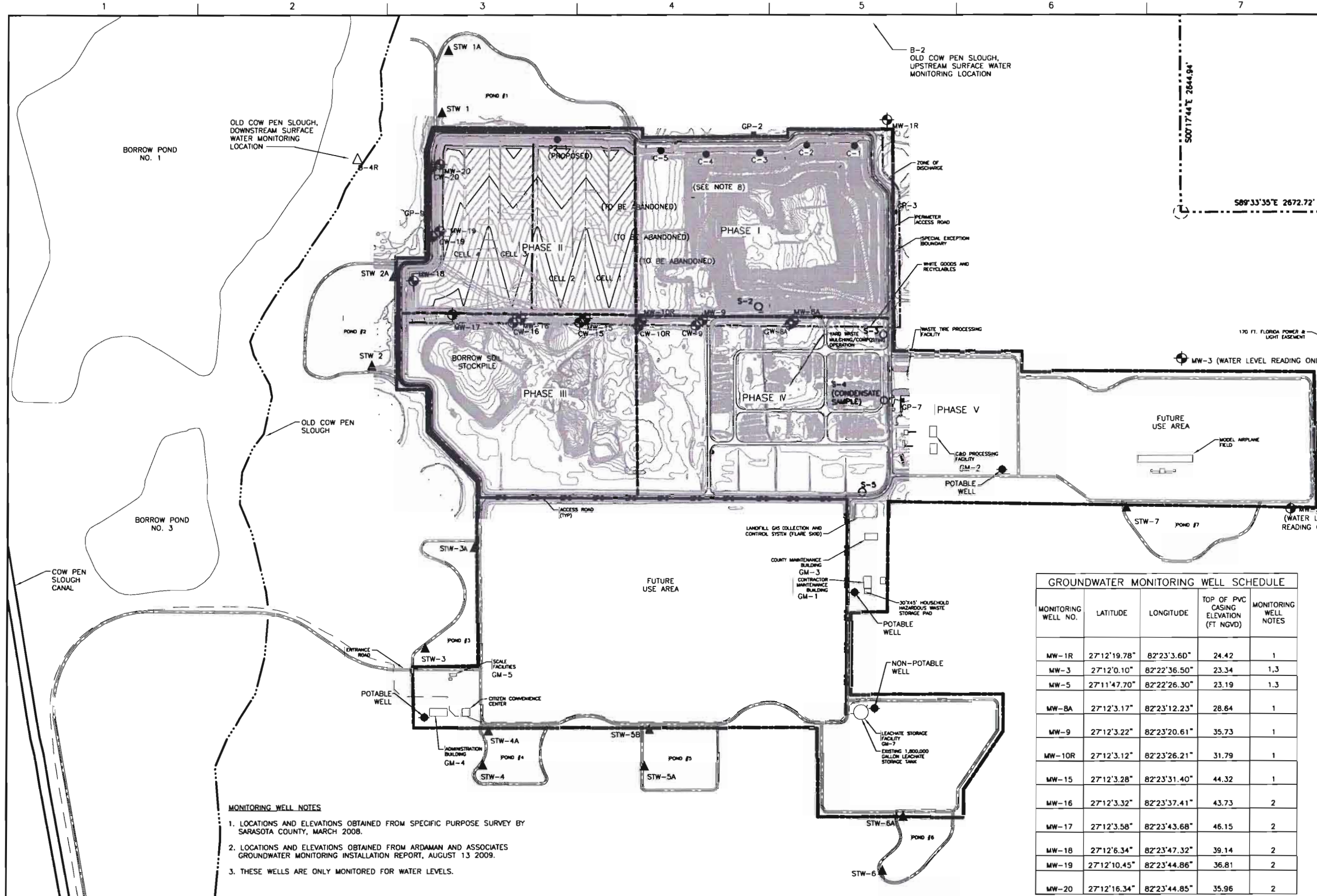
1. The facility name and identification number, sample collection dates and analysis dates;
2. All analytical results;
3. Identification number and designation of all surface water and groundwater monitoring points;
4. Applicable water quality standards;
5. Quality assurance, quality control notations;
6. Method detection limits;
7. STORET code numbers for all parameters;
8. Water levels recorded prior to evaluating wells or sample collection;
9. Updated groundwater table contour map signed and sealed by a professional geologist or profession engineer;
10. A summary of any water quality standards or criteria that are exceeded.

6.2 EVALUATION OF WATER QUALITY MONITORING PLAN

An evaluation of the water quality monitoring plan for the Central County Solid Waste Disposal Complex shall be conducted every two and one-half years. The WQMP evaluation is required to include an assessment of the effectiveness of the existing landfill design and operation as related to the prevention of groundwater contamination. A report detailing the findings and recommendations to improve the WQMP shall be submitted to the Florida Department of Environmental Protection. The requirements of F.A.C. 62-701.510(9)(b) include the following items that, at a minimum, must be included in the evaluation:

1. Tabular and graphical displays of any data which show that a monitoring parameter has been detected, including hydrographs for all monitoring wells.
2. Trend analyses of any monitoring parameters detected.
3. Comparisons among shallow, middle, and deep zone wells.
4. Comparisons between background water quality and the water quality in detection and compliance wells.
5. Correlations between related parameters such as total dissolved solids and specific conductance.
6. Discussion of erratic and/or poorly correlated data.

7. An interpretation of the groundwater contour maps, including an evaluation of groundwater flow rates.
8. An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based upon site conditions.



- SITE PLAN NOTES**
1. TOPOGRAPHY WITHIN PHASES I THROUGH IV AREAS COMPILED BY LANDAIR MAPPING, INC. OF PEACHTREE CITY, GEORGIA USING PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHS DATED JUNE 16, 2006.
 2. LOCATIONS OF EXISTING PIEZOMETERS, MONITORING WELLS AND STAFF GAUGES OBTAINED FROM SPECIFIC PURPOSE SURVEY BY SARASOTA COUNTY, MARCH 2008.
 3. APPROXIMATE LOCATION OF PHASE I LEACHATE FORCEMAIN OBTAINED FROM RECORD DRAWINGS BY CAMP DRESSER & MCKEE, INC. DATED APRIL 1998. VERIFY LOCATION IN FIELD.
 4. APPROXIMATE LOCATION OF LEACHATE FORCEMAIN TO OFFSITE WWTP OBTAINED FROM CONFORMED DRAWINGS BY PBS&J DATED JULY 2005. VERIFY LOCATION IN FIELD.
 5. LOCATION OF CONDENSATE SUMPS OBTAINED FROM PHASE I LFCCCS AS-BUILT DRAWINGS DATED AUGUST 2010.

- LEGEND**
- S-2 LANDFILL GAS CONDENSATE SUMP
 - GP-1 GAS PROBE
 - ⊕ MW-10R GROUNDWATER MONITORING WELL
 - ⊕ GM-1 GAS MONITORING LOCATION
 - WATER SUPPLY WELL
 - ⊕ P-S-1 PHASE II BORING/PIEZOMETER LOCATION
 - ▲ STW-1 STORMWATER MONITORING STATION
 - C-1 LEACHATE MONITORING LOCATION
 - △ B-4R SURFACE WATER MONITORING LOCATION

- ZONE OF DISCHARGE
- WATERWAY
- LIMITS OF EASEMENT
- EASEMENT CENTERLINE
- EXISTING ROADWAY
- PHASE BOUNDARY
- PROPERTY BOUNDARY

GROUNDWATER MONITORING WELL SCHEDULE				
MONITORING WELL NO.	LATITUDE	LONGITUDE	TOP OF PVC CASING ELEVATION (FT NGVD)	MONITORING WELL NOTES
MW-1R	27°12'19.78"	82°23'3.60"	24.42	1
MW-3	27°12'0.10"	82°22'36.50"	23.34	1,3
MW-5	27°11'47.70"	82°22'26.30"	23.19	1,3
MW-BA	27°12'3.17"	82°23'12.23"	28.64	1
MW-9	27°12'3.22"	82°23'20.61"	35.73	1
MW-10R	27°12'3.12"	82°23'26.21"	31.79	1
MW-15	27°12'3.28"	82°23'31.40"	44.32	1
MW-16	27°12'3.32"	82°23'37.41"	43.73	2
MW-17	27°12'3.58"	82°23'43.68"	46.15	2
MW-18	27°12'6.34"	82°23'47.32"	39.14	2
MW-19	27°12'10.45"	82°23'44.86"	36.81	2
MW-20	27°12'16.34"	82°23'44.85"	35.96	2

- MONITORING WELL NOTES**
1. LOCATIONS AND ELEVATIONS OBTAINED FROM SPECIFIC PURPOSE SURVEY BY SARASOTA COUNTY, MARCH 2008.
 2. LOCATIONS AND ELEVATIONS OBTAINED FROM ARDAMAN AND ASSOCIATES GROUNDWATER MONITORING INSTALLATION REPORT, AUGUST 13 2009.
 3. THESE WELLS ARE ONLY MONITORED FOR WATER LEVELS.

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEC 30 2010
SOUTHWEST DISTRICT TAMPA
FOR PERMITTING

HDR
HDR Engineering, Inc.
2202 N. West Shore Blvd., Suite 250
Tampa, FL 33607-5755
(813) 282-3300
Florida Certificate of Authorization No. 00004213

ISSUE	DATE	DESCRIPTION
G	12/2010	ADD CONDENSATE SUMPS, UPDATE WELLS
F	04/2009	REVISED PER MINOR PERMIT MODIFICATION
E	03/2008	REVISED PER RAI #4
D	01/2008	REVISED PER RAI #3
C	09/2007	REVISED PER RAI #2
B	06/2007	REVISED PER RAI #1
A	02/2007	ISSUED FOR APPROVAL

PROJECT MANAGER	R. SIEMERING
REVIEWED BY	J. TIMMONS
DRAWN BY	B. JOHNSON
PROJECT NUMBER	0096-118883-01

SARASOTA COUNTY
Central County Solid Waste Disposal Complex
PHASE II CLASS I LANDFILL EXPANSION
PERMIT DRAWINGS
FLORIDA

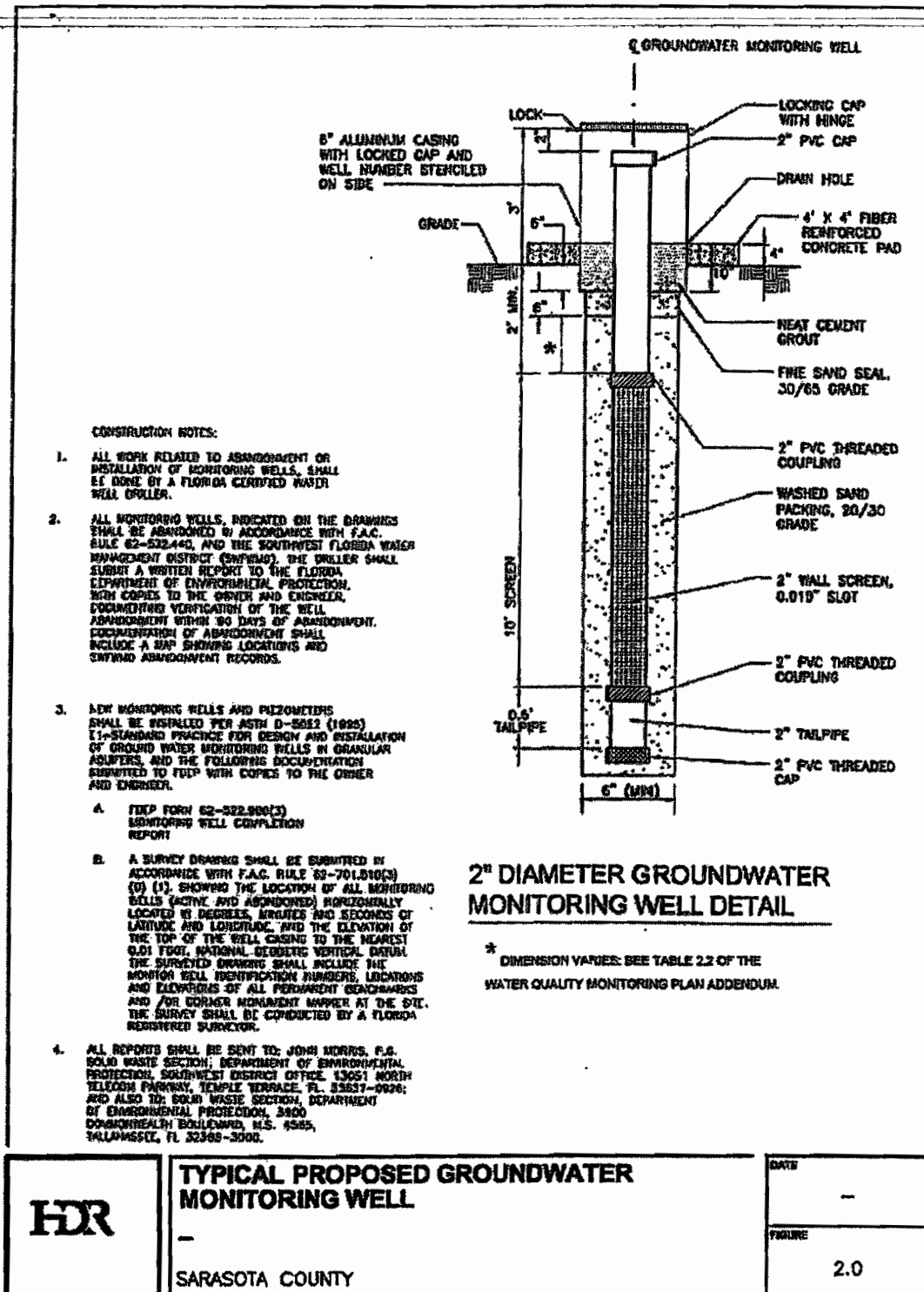
WATER QUALITY MONITORING PLAN

0 1" 2"

FILENAME figure1.dwg
SCALE 1"=400'

SHEET
FIGURE 1

Figure 2 Typical Groundwater Monitoring Well





Florida Department of Environmental Protection

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

DEP Form # 62-701.900(30)

Form Title: Monitoring Well Completion Report

Effective Date: January 6, 2010

Incorporated in Rule 62-701.510(3), F.A.C.

MONITORING WELL COMPLETION REPORT

DATE: _____

FACILITY NAME: _____

DEP PERMIT NO.: _____ WACS FACILITY ID NO.: _____

WACS MONITORING SITE NUM.: _____ WACS WELL NO.: _____

WELL TYPE: BACKGROUND ☐ DETECTION ☐ COMPLIANCE ☐

LATITUDE: _____ ° _____ ' _____ " LONGITUDE: _____ ° _____ ' _____ "

(see back for LAT / LONG requirements):

Coordinate Accuracy _____ Datum _____ Elevation Datum _____

Collection Method _____ Collection Date _____

Collector Name _____ Collector Affiliation _____

AQUIFER MONITORED: _____

DRILLING METHOD: _____ DATE INSTALLED: _____

INSTALLED BY: _____

BORE HOLE DIAMETER: _____ TOTAL DEPTH: _____ (BLS)

CASING TYPE: _____ CASING DIAMETER: _____ CASING LENGTH: _____

SCREEN TYPE: _____ SCREEN SLOT SIZE: _____ SCREEN LENGTH: _____

SCREEN DIAMETER: _____ SCREEN INTERVAL: _____ TO _____ (BLS)

FILTER PACK TYPE: _____ FILTER PACK GRAIN SIZE: _____

INTERVAL COVERED: _____ TO _____ (BLS)

SEALANT TYPE: _____ SEALANT INTERVAL: _____ TO _____ (BLS)

GROUT TYPE: _____ GROUT INTERVAL: _____ TO _____ (BLS)

TOP OF CASING ELEVATION (NGVD): _____ GROUND SURFACE ELEVATION (NGVD): _____

DESCRIBE WELL DEVELOPMENT: _____

POST DEVELOPMENT WATER LEVEL ELEVATION (NGVD): _____

DATE AND TIME MEASURED: _____

REMARKS: _____

NAME OF PERSON PREPARING REPORT: _____

(Name, Organization, Phone No., E-mail)

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

Northeast District
7825 Baymeadows Way Ste 200B
Jacksonville, FL 32256-7580
904-807-3300

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

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

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33801-3881
239-332-6975

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

NOTE: ATTACH AS-BUILT MW CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG.(NGVD) NATIONAL GEODETIC VERTICAL DATUM OF 1988 (BLS) = BELOW LAND SURFACE

Latitude must be measured in degrees, minutes and seconds, to at least two (2) decimal places.

Longitude must be measured in degrees, minutes and seconds, to at least two (2) decimal places.

Eastings and northings (State Plane Coordinates) **must** be converted to latitude and longitude.

Coordinate Accuracy: the measured, estimated degree of correctness of the measurement. An accuracy of 15 feet or 5 meters is preferred.

Datum: the horizontal reference for measuring locations on the Earth's surface. NAD83-North American Datum of 1983 is preferred.

Elevation Datum: the reference datum from which elevation measurements are made. NGVD88 (National Geodetic Vertical Datum of 1988) is preferred.

Collection Method: the method or mechanism used to derive the measurements, e.g. GPS, map, aerial photo, etc.

Collection Date: the date and time on which the measurements were taken.

Collector Name: the name of the person taking the measurement.

Collector Affiliation: the agency or company for whom the collector works.



Florida Department of Environmental Protection

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

DEP Form #: 62-701.900(31), F.A.C.

Form Title: Water Quality Monitoring Certification

Effective Date: January 6, 2010

Incorporated in Rule 62-701.510(9), F.A.C.

WATER QUALITY MONITORING CERTIFICATION

PART I GENERAL INFORMATION

- (1) Facility Name _____
 Address _____
 City _____ Zip _____ County _____
 Telephone Number () _____
- (2) WACS Facility ID _____
- (3) DEP Permit Number _____
- (4) Authorized Representative's Name _____ Title _____
 Address _____
 City _____ Zip _____ County _____
 Telephone Number () _____
 Email address (if available) _____

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission of false information including the possibility of fine and imprisonment.

(Date)

(Owner or Authorized Representative's Signature)

PART II QUALITY ASSURANCE REQUIREMENTS

- Sampling Organization _____
- Analytical Lab NELAC / HRS Certification # _____
- Lab Name _____
- Address _____
- Phone Number () _____
- Email address (if available) _____

Northwest District
160 Government Center
Pensacola, FL 32601-6794
850-595-8380

Northeast District
7826 Baymeadows Way, Ste. 200 B
Jacksonville, FL 32266-7690
904-807-3300

Central District
3318 McGuire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7655

Southwest District
13051 N. Telecom Pkwy.
Tempe Terrace, FL
813-632-7800

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33902-2549
239-332-6975

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



Sarasota County
Solid Waste Operations

Central County Solid Waste Disposal Complex Water Quality Monitoring Plan Addendum

February 2007

Revised June 2007

Revised September 2007

Revised January 2008

Revised March 2008

Revised April 2009

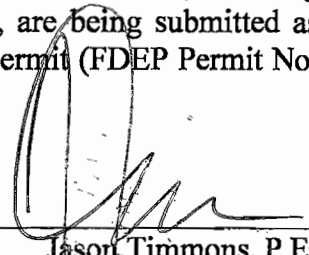
Revised July 2010

Prepared by
HDR Engineering, Inc.
5426 Bay Center Drive, Suite 400
Tampa, Florida 33609
(813) 282-2300

HDR Project No. 0096-118883-002

Certification

HDR Engineering, Inc. has prepared the following addendum to the Sarasota County Central County Solid Waste Disposal Complex (CCSWDC) Water Quality Monitoring Plan to comply with revisions to Rule 62-701, F.A.C., effective January 6, 2010. These modifications, including updated water quality analysis parameters and reporting requirements, are being submitted as part of a minor modification application for the CCSWDC operations permit (FDEP Permit No. 130542-007-SO/01).



Jason Timmons, P.E.

Florida P.E. No. 65869

HDR Certification of Authorization #4213

12/29/10

Date

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SECTION 2.0 WATER QUALITY MONITORING.....	2
2.1 Applicability	2
2.2 Monitoring Wells.....	2
2.3 Water Quality Parameters.....	2
2.4 Water Quality Reporting.....	2
2.5 Evaluation Monitoring Procedures	3

SECTION 1.0
INTRODUCTION

This addendum to the CCSWDC Water Quality Monitoring Plan addresses only those modifications required as part of the revisions to Rule 62-701.510, effective January 6, 2010. Sampling procedures and frequencies, analytical methods, and sampling parameters not addressed in this addendum will remain as currently described in the Water Quality Monitoring Plan and in the Operation Permit dated July 11, 2006 and amended as part of subsequent addendums.

SECTION 2.0

WATER QUALITY MONITORING

2.1 APPLICABILITY

The references to Rule 62-701.510 are intended to supplement the requirements of Rule Chapters 62-520 and 62-522, F.A.C. Any provisions of Chapters 62-520 and 62-522 that are not in direct conflict with the provisions of Rule 62-701.510 remain applicable.

2.2 MONITORING WELLS

Monitoring wells located in areas of "high traffic flow" as determined by the Solid Waste Operations Manager shall have protective bollards located around the well. Monitoring wells shall be located to minimize the potential for unauthorized access.

Any new monitoring well that is installed after completion of the site hydrogeological investigation, unless the new monitoring well is installed to replace an existing well within the monitoring network, shall also be analyzed for initial background water quality.

2.3 WATER QUALITY PARAMETERS

No changes are proposed for the groundwater monitoring parameters.

The only revision to the surface water monitoring parameters list is replacing total phosphates with total phosphorous (as mg/L P) and removing zinc and copper from the parameters list.

The following parameters are added to the leachate monitoring parameters:

- Biochemical Oxygen Demand (BOD5)
- Chemical Oxygen Demand (COD)
- Temperature
- Total Alkalinity (as mg/L CaCO_3)
- The field parameters listed in Rule 62-510(8)(a) (groundwater monitoring field parameters)

The following parameter is deleted from the leachate monitoring parameters list:

- Bicarbonate

2.4 WATER QUALITY REPORTING

Water quality reports shall be submitted within 60 days from completion of laboratory analyses, unless a due date is specified in the permit. The water quality data contained in the report shall be provided to the Department in an electronic format consistent with requirements for importing into Department databases, unless alternatively specified in the permit.

A technical report (monitoring plan evaluation), signed and sealed by a professional geologist or engineer with experience in hydrogeological investigations, shall be submitted to the Department every 2 ½ years during the active life of the facility and every 5 years during the long-term care period.

Since Phase I and Phase II share a common water quality monitoring system, we respectfully request that the summary reports for Phase I and Phase II be kept on the same schedule for submittal in order to maintain consistency and to reduce number of reviews and documents for the Department.

The most current FDEP forms will be used for well completion and analysis reports.

2.5 EVALUATION MONITORING PROCEDURES

Evaluation monitoring will be conducted as described in Rule 62-701.510(7).

SECTION 3.0
LANDFILL GAS MONITORING

3.1 — LANDFILL GAS MONITORING REPORTING

~~Landfill Gas Monitoring will be conducted on a quarterly basis and a report submitted to FDEP within 15 days after the end of the quarter in which monitoring occurred.~~

ATTACHMENT D
REVISED APPLICATION PAGES

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

	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<input checked="" type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input type="checkbox"/>	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;
<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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)
<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. All sampling and analysis preformed in accordance with Chapter 62-160, FAC; (62-701.510(2)(b),FAC)
<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. Ground water monitoring requirements; (62-701.510(3),FAC)
<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(1) Detection wells located downgradient from and within 50 feet of disposal units;
<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(2) Downgradient compliance wells as required;
<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(3) Background wells screened in all aquifers below the landfill that may be affected by the landfill;
<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(4) Location information for each monitoring well;
<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(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;
<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(6) Well screen locations properly selected;
<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(7) Monitoring wells constructed to provide representative ground water samples;
<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(8) Procedures for properly abandoning monitoring wells;
<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	(9) Detailed description of detection sensors if proposed.
<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Surface water monitoring requirements; (62-701.510(4),FAC)

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

PART L CONTINUED

<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(1) Location of and justification for all proposed surface water monitoring points;
<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(2) Each monitoring location to be marked and its position determined by a registered Florida land surveyor;
<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	e. Leachate sampling locations proposed; (62-701.510(5),FAC)
<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	f. Initial and routine sampling frequency and requirements; (62-701.510(6),FAC)
<input checked="" type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input type="checkbox"/>	(1) Initial background ground water and surface water sampling and analysis requirements;
<input checked="" type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input type="checkbox"/>	(2) Routine leachate sampling and analysis requirements;
<input checked="" type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input type="checkbox"/>	(3) Routine monitoring well sampling and analysis requirements;
<input checked="" type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input type="checkbox"/>	(4) Routine surface water sampling and analysis requirements.
<input checked="" type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input type="checkbox"/>	g. Describe procedures for implementing evaluation monitoring, prevention measures and corrective action as required; (62-701.510(7),FAC)
<input checked="" type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input type="checkbox"/>	h. Water quality monitoring report requirements;(62-701.510(9),FAC)
<input checked="" type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input type="checkbox"/>	(1) Semi-annual report requirements (see paragraphs 62 701.510(6)(c),(d)and (e) for sampling frequencies);
<input checked="" type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input type="checkbox"/>	(2) Documentation that the water quality data shall be provided to the Department in an electronic format consistent with requirements for importing into Department databases, unless an alternate form of submittal is specified in the permit.
<input type="checkbox"/>	Part L WQMP	<input type="checkbox"/>	<input type="checkbox"/>	(3) Two and one-half year report requirements, or every five years if in long-term care, signed, dated and sealed by PG or PE.

PART L
WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS

~~An addendum to~~ The CCSWDC Water Quality Monitoring Plan (WQMP), prepared in December 2010, addressing the revisions requested as part of this minor modification application and including information from previous submittals is provided in Appendix B.