Florida Department of
Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

Ms. Teresa Carver, Director
Hardee County Solid Waste Department
685 Airport Road
Wauchula, Florida 33873

May 29, 2009

RE: Hardee County Class I Landfill Phase I Closure
Pending Permit No. 38414-012-SF/01, Hardee County
WACS No. SWD/25/40612

Dear Ms. Carver:

This is to acknowledge receipt of your application dated April 29, 2009 (received April 30, 2009) prepared by SCS Engineers, for closure and long-term care monitoring and maintenance of Phase I of the Class I Landfill at the solid waste management facility referred to as the Hardee County Regional Landfill.

This letter constitutes notice that a permit will be required for your project pursuant to Chapter(s) 403, Florida Statutes.

Your application for a permit is incomplete. This is the Department's first request for additional information. Please provide the information listed below promptly. Evaluation of your proposed project will be delayed until all requested information has been received.

**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 submit all revised plans and reports as a complete package. If possible, please provide revised pages, which may be inserted into the original submittal (holes punched for a three-ring binder). For revisions to the narrative reports, deletions may be struckthrough (~~struckthrough~~) and additions may be shaded (shaded) 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 may 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.

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

**Application Form #62-701.900(1) - Rule 62-701.320(7)(b), F.A.C.**

1. **§K. and Section K:** Based on the proposed filling (i.e. vertical expansion) over the south and west side slopes of Phase I in the future, the information required in Part K of the application and Rule 62-701.430, F.A.C. is applicable to the proposed design of and operation on the south and west side slopes of Phase I. Please provide this information as part of this application and revise this part of the application form and Section K accordingly.

**Section E Solid Waste Management Facility Permit Requirements - Rule 62-701.320, F.A.C.**

2. **§E.13.:** Please publish the attached Notice of Application and provide proof of publication to the Department.

3. **Attachment E-2:** Please provide revised reduced-sized drawings based on your responses to comments on the closure drawings in Attachment P-1, as appropriate.

**Section O Gas Management System Requirements - Rule 62-701.530, F.A.C.**

4. **§O.1.b.:** Please provide supporting information demonstrating that the design capacity is below 2.5 MG or 2.5 million CY.

5. **§O.1.d.:** Supporting information and/or calculations that demonstrate that the passive gas venting system will reduce gas pressure under the closure/bottom liner system that might interfere or cause failure of the liner system, in accordance with Rule 62-701.530(1)(a)4., F.A.C. and Rule 62-701.430(2)(d), F.A.C. does not appear to have been provided. Please verify and provide this information, as appropriate.

**Part P Landfill Final Closure Requirements - Rule 62-701.600, F.A.C.**

6. **§P.4.g.2.:**

   a. Specification 02930-Table 02930-3 indicates that 100 hr. transmissivity test is run at 800 psf, which appears significantly less than the assumed final buildout (75 ft) overburden stress of 5000 psf. Therefore please explain how geotextile intrusion is factored into the test and revise this section, as appropriate.

   b. Since the recording of daily precipitation at the facility is required by Department rule and has been required by Department permit since at least 1998, please explain why precipitation data for the landfill is only available for 2002-2007.

   c. Please verify that the daily rainfall data from the NOAA weather station and the landfill was entered into the applicable HELP models or provide revised models with the daily rainfall data entered. Please provide a copy of the daily rainfall data utilized.

   d. Please revise this section and all other appropriate sections of Section P, as appropriate, based on the responses to comments on, and the results of revised HELP models and transmissivity calculations, as appropriate.

e. West and South HELP Model Analysis: The worst-case predicted leachate generation typically occurs during initial placement of waste with no initial cover. Please provide HELP model analyses for this scenario for the south and west slope liner system.

7. **§P.4.g.6.:** Please revise this section, as appropriate, based the response to comments on Attachments P-7 and P-8 and the results of revised stability analyses, as appropriate.

8. **§P.4.h.:**

a. South Sideslope Stormwater Control: It is unclear from the closure drawing in Attachment P-1 where an anchor trench is included in the terrace design. Please explain.

**Attachment P-1 Closure Design Drawings – Rule 62-701.600(5), F.A.C.**

Please provide the following additional information and revisions to the Closure Drawings that include all necessary details for the closure construction of the facility. Due to the difficulty in describing comments related to these drawings, these drawings will be discussed in detail at the meeting requested at the end of this letter. The drawings will be reviewed in their entirety after the responses to this request for information, and as discussed in the meeting.

9. **Drawing 6 of 16:**

a. Details of the North Side Slope Berm are not referenced on this sheet and do not appear to have been included in the plan set. Please verify and provide this detail, as appropriate.

10. **Drawing 8 of 16:**

a. There appears to be typographic error in the detail reference for the "Horizontal LFG Vent Trench". Please verify and revise this sheet, as appropriate.

b. It appears that the horizontal LFG vent trenches to HC-1 may be located on or in close proximity to and may pass over, under or through the southwest side slope berm. Please explain the trenches locations in relation to the side slope berm and provide appropriate details of this orientation on the appropriate sheet of the plan set.

c. Please provide revised drawings that include gas venting from all areas of the landfill. It does not appear that gas will be vented from the north or east slopes.

11. **Drawing 9 of 16:**

a. The design of the final cover system for Phase I specifies $1x10^{-4}$ cm/sec protective sand over the 40-mil LLDPE/geocomposite and $1x10^{-3}$ cm/sec protective sand over the 60-mil HDPE/geocomposite at the transition points shown on the cross sections on this sheet. Please revise the protective soil layer installation specifications to describe how these sands will be installed adjacent to each other at the transition points and the north and south side slope berms (see Detail 1 on Sheet 12 of 16) and the CQA plan to indicate how this will be monitored.

12. **Drawing 10 of 16:**

a. The rationale and details of geocomposite daylighting or not daylighting above the side slope terraces or the toe of slope, how and where the geocomposite is re-established below the daylighting, the referenced anchor trench at the terraces, and how stormwater that bypasses the geocomposite daylighting is managed either does not appear to be shown on the details on this sheet and/or is confusing. Please explain and revise this sheet as appropriate. This comment will be discussed in further detail during the meeting requested at the end of this letter.

13. **Drawing 11 of 16:**

a. Section 5 & 6: These sections do not appear to be shown on Sheet 7 as indicated. Please verify and revise the applicable sheets, as appropriate.

14. **Drawing 12 of 16:**

a. Detail 4: Please revise this detail, as appropriate, based on your response to the above comment regarding Sheet 10 of 16.

b. Since the final cover liner is not proposed to be welded to the bottom liner, please explain how leachate discharge at the anchor trench will be prevented.

15. **Drawing 14 of 16:**

a. Details A & B: Please revise this detail, as appropriate, based on your response to the above comment regarding Sheet 10 of 16, including details of any pipe penetrations through daylighting geocomposite, as appropriate.

16. **Drawing 15 of 16:**

a. Detail 5: The configuration shown on this detail appears to be inconsistent with the vertical LFG components of the horizontal LFG vent trenches being located along the side slope terraces, as indicated on Sheet 8 of 16. Please verify and revise this detail, as appropriate.

**Attachment P-2 Construction Quality Assurance Plan – Rules 62-701.400(3), (7) & (8), F.A.C.**

Please revise the Construction Quality Assurance Plan (CQA Plan), as appropriate to address the following comments and deficiencies in the plan.

17. **Table of Contents**: Technical Specification 02941 – ConCover does not appear to have been provided in Appendix J. Please verify and provide this specification section.

18. **§6.1.2.2.**: The reference to Table 02700-1 of Technical Specification 02776 appears to be a typographic error. Please verify and revise this section.

19. **§6.1.5.**: This section refers to anchor trench construction, backfilling, and compaction in accordance with the technical specifications and closure drawings. However, anchor trench details do not appear to be provided in either the technical specifications or closure drawings. Please verify and revise this section the technical specifications, and/or the closure drawings accordingly.

20. **§6.1.9.1.:** All repair locations shall be shown on Record Drawings (e.g. the panel layout sheet) and in repair logs and daily reports. Please revise this section accordingly.

**Attachment P-2 - Appendix J Technical Specifications - Rules 62-701.400(3),(7) & (8), F.A.C.**

Please revise the Technical Specifications, as appropriate to address the following comments and deficiencies in the specifications. The Technical Specifications will be reviewed in their entirety, as applicable, after the responses to these requests for information are submitted.

21. **Section 01530 – Protection of Existing Facilities**

a. §1.12: This section does not appear to discuss protection of the existing landfill liner system. Please verify and revise this section, or the appropriate specification section as applicable.

22. **Section 02220 – Excavation, Backfill, Fill, and Grading**

a. §2.04.B.: Please revise this or an appropriate section of this specification section to clarify that the Intermediate Cover/Grading Layer on the south and west slopes is a bottom liner subgrade and shall be consistent with and be installed in accordance with the liner subgrade specifications in Section 02220 and Section 02776 of Appendix J.

b. §2.06: Please revise this or an appropriate section of this specification to provide pre-construction source material testing and test frequencies for the protective cover soil.

c. §3.03: Please note that dewatering may require an Industrial Waste Permit from the Department and water collected from inside the landfill shall be managed as leachate. Please contact Ms. Yanisa Angulo, P.E., at 813-632-7600 x404, to determine if a permit is required. **This comment is for informational purposes only and does not require a response.**

d. §3.08.D.& 3.08.E: Please revise these sections to clarify that removed unsuitable Intermediate Cover/Grading Layer soil on the south and west slopes shall be replaced with soils consistent with the subgrade soil specifications in Section 02770-2.02 of this specification section.

e. §3.09.H.: The field density testing frequency specified in this section appears inconsistent with that specified in Table 02220-1. Please verify and revise this section, as appropriate.

f. §3.09.L. & 3.12.D.: Technical Specification 02941 – ConCover does not appear to have been provided in Appendix J. Please verify and revise these sections, as appropriate.

g. Table 02220-1: Rule 62-701.400(8)(e), F.A.C. requires a minimum liner subbase density testing frequency of two tests per acre and the frequency doubled for the first five acres. Please verify and revise this table accordingly.

23. **Section 02700 – LLDPE Geomembrane Liner**

a. §2.02.B.: A conformance test frequency at a rate of one sample per lot or one sample per 100,000 $ft^2$, whichever is larger appears to be more appropriate. Please verify and revise this section or provide a supporting justification for a test frequency based on "whichever is smaller", as appropriate.

b. §3.01.B.: There do not appear to be erosion repair specifications in Specification Section 02220, as indicated. Please verify and provide erosion repair specifications, as appropriate.

c. §3.04.A.5.: There appear to be seam overlap specifications provided in Section 6.1.8.4 of the CQA Plan. Please verify and revise this section to be consistent with the CQA Plan, as appropriate.

d. §3.07.C.6.: The reference to Section 3.05.C.(8) in this section appears to be a typographic error. Please verify and revise this section.

e. §3.07.C.8.: Please verify whether there should be a subsection "a." in this section and revise the section, as appropriate.

f. §3.09.A.: This section refers to anchor trench backfilling and compaction as indicated on the closure drawings. However, anchor trench details do not appear to be provided in closure drawings. Please verify and revise this section and/or the closure drawings accordingly.

24. **Section 02776 – HDPE Geomembrane Liner**

a. Please address the comments provided above regarding Specification Section 02700 for the corresponding sub-sections of this specification section.

b. Table 02776-1 appears to have been omitted from this specification section. Please verify and revise the section accordingly.

c. §2.02.C.: The reference to Table 02770-1 in the table note appears to be a typographic error. Please verify and revise this section.

25. **Section 02900 – Seeding and Sodding**

a. §1.01.E.: Technical Specification 02941 – ConCover does not appear to have been provided in Appendix J. Please verify and revise this section, as appropriate.

26. **Section 02930 – Biplanar Geocomposite**

a. §3.02.B.: A conformance test frequency at a rate of one sample per lot or one sample per 100,000 $ft^2$, whichever is larger appears to be more appropriate. Please verify and revise this section or provide a supporting justification for "whichever is smaller", as appropriate.

b. Table 02930-3:

(1) Please revise the transmissivity specification in this table, based on the responses to comments on, and the results of revised HELP models and transmissivity calculations, as appropriate.

(2) Please explain why the 100 hr. transmissivity test is run at 800 psf, rather than at the assumed final buildout (75 ft) overburden stress of 5000 psf and revise Note 1, as appropriate.

27. **Section 31 20 00 – Trenching and Backfilling**

a. §1.01.B.: Please verify whether installation of the toe drain will be in accordance with the Section 31 20 00 and revise Section 31 20 00, as appropriate.

b. §1.01.D.: The statement that, "No classification of type of excavated material will be made" appears inconsistent with specifications for reuse of excavated soils (Section 2.05.A) and the disposition of excavated wastes and/or unsuitable soils (Section 3.07). Please verify and revise this part, as applicable.

**Attachments P-3 though P-6 HELP Model Analyses and Geocomposite Transmissivity Calculations**

Please provide the following additional information and revisions to the HELP model analyses and geocomposite transmissivity calculations that include all necessary details for the closure construction of the facility. Due to the difficulty in describing some of the comments related to the HELP Models and associated transmissivity calculations, Attachments P-3 through P-6 will be discussed in further detail at the meeting requested at the end of this letter. The HELP model analysis and associated calculations will be reviewed in their entirety after the responses to this request for information, and as discussed at the meeting.

28. **Geocomposite Transmissivity/Hydraulic Conductivity Calculations:** The Department has been unable to recreate the calculations conducted and reach the same calculated values. Please verify the values for the assumptions made in the calculations and the calculations themselves, and provide revised calculations and revised HELP Model analyses, as appropriate.

29. **Attachments P-3 & P-4:** The Collection System K-values reported in the HELP Model Summaries appear to be in error. Please verify and revise as appropriate.

30. **Attachments P-4:** The geocomposite thickness reported in the HELP Model Summary appears to be in error. Please verify and revise as appropriate.

31. **Attachments P-6:**

a. Transmissivity/Hydraulic Conductivity Calculations:

(1) Since there does not appear to be a linear relationship between transmissivity values at 1000 psf, 10,000 psf and 15,000 psf on Figure A-9, it does not appear that the transmissivity at 2,000 psf, 4000 psf, 5000 psf can be interpolated from Figure A-9. Please verify and explain the rationale for interpolating these values and/or revise the assumed transmissivity values at these loads, as appropriate.

(2) Please explain why the reduction factors used in Scenario 1 would not be the same reduction factors used in Attachments P-3 through P-5.

**Attachment P-7 Veneer Slope Stability Analyses – Parallel Seepage**

32. Please revise these calculations based on the responses to comments on, and the results of revised HELP models and transmissivity calculations, as appropriate.

33. Please explain why there would not be parallel seepage on slopes with $1x10^{-3}$ soils (i.e. the south and west slopes). Alternatively, please provide calculations for parallel seepage for these slopes.

34. Please revise the calculation sheets to indentify the specific transmissivity calculation utilized in the analysis.

**Attachment P-9 Toe Drain Pipe Capacity Calculations**

35. Please revise these calculations based on the responses to, and results of revised HELP models and transmissivity calculations, as appropriate.

**Attachment P-10 ICPR Model Stormwater Analysis**

36. As indicated in the closure drawing comments, it is unclear how the diversion of stormwater to the side slopes terraces via daylighting the geocomposite drainage layer is depicted and therefore it is unclear how this diversion of stormwater is accounted for in the ICPR analysis. Please explain.

**Attachment P-12 Anchor Trench Calculations for Runout at Terraces**

37. As indicated in the closure drawing comments, it is unclear where the anchor trench is located in the side slope terraces details. The Department will review and evaluate Attachment P-12 after the location of the anchor trench is clarified (see Comment #12.a.).

38. The "$T_{ult}$ @ break" for the 40-mil LLDPE utilized in these calculations appears inconsistent with that specified in the Table 02770-1. Please verify and revise these calculations, as appropriate.

39. The supporting source for the anchorage ratio calculations and conclusions is unclear. Please explain.

**Attachment P-13 Geotextile Design Calculations**

40. The geotextile AOS utilized in these calculations appears inconsistent with that specified in the Specification Section 02940-2.01.A. Please verify and revise these calculations, as appropriate.

41. Since the toe drain will be located at the toe of the north and east slopes, it is unclear why the calculations indicate that the results of the Help Model analysis for the Open Cell Run (south and west slopes) were utilized. In addition the peak daily flow utilized does not appear to correspond to any of the reported HELP Model analysis results. Please verify and explain.

42. Please explain how the area of geotextile thorough which flow will pass is calculated.

**Section R Long-Term Care Requirements - Rule 62-701.620, F.A.C.**

43. Please provide a long-term care plan that specifically describes all post-closure activities and monitoring to be conducted at the facility (e.g. a long-term care plan similar to that provided with the Phase II Section I operation permit modification application, revised based the proposed closure details in this application.

**Part S Financial Responsibility Requirements - Rule 62-701.630, F.A.C.**

44. **§S.1:** The currently approved closure and long-term care cost estimates for the facility were based on a conceptual closure plan for the Phase I rather the specific closure details proposed by this application. Therefore please provide revised closure and long-term care cost estimates that are specific to the proposed closure design, including supporting calculations for each unit quantity and third-party quotes supporting each unit cost provided.

**Please provide all responses that relate to engineering for design and operation, including plan sheets, signed and sealed by a professional engineer. All replacement pages should be numbered, and with revision date.**

**This staff assessment is preliminary and is designed to assist in the review of the application prior to final agency action. The comments provided herein are not the final position of the Department and may be subject to revision pursuant to additional information and further review.**

Please respond by **July 13, 2009,** responding to all of the information requests and indicating when a response to any unanswered questions will be submitted. If the response will require longer than the above schedule, you should develop an alternate timetable for the submission of the requested information for Department review and consideration. If the Department does not receive a timely, complete response to this request for information, the Department may issue a final order denying your application. A denial for lack of information or response will be unbiased as to the merits of the application. The applicant may reapply as soon as the requested information is available.

Due to the complexity of the issues addressed in the above comments, the Department recommends that a meeting be scheduled with the applicant, consultant, and Department staff to discuss the requested information. You are requested to submit your response to this letter together, as one complete package. Please contact me at (813)632-7600 ext. 385 to schedule the meeting.

Sincerely,

Steven G. Morgan
Solid Waste Section
Southwest District

sgm
Attachment
cc: Shane Fischer, P.E., SCS Engineers, sfischer@scsengineers.com
Frank Hornbrook, FDEP Tallahassee (e-mail)
John Morris, P.G., FDEP Tampa (e-mail)
Susan Pelz, P.E., FDEP Tampa (e-mail)

62-110.106(5). Notices: General Requirements.
Each person who files an application for a Department permit or other notice as may publish or be required to publish a notice of application or other notice as set forth below in this section. Except as specifically provided otherwise in this paragraph, each person publishing such a notice under this section shall do so at his own expense in the legal advertisements section a newspaper of general circulation (i.e., one that meets the requirements of sections 50.011 and 50.031 of the Florida Statutes) in the county or counties in which the activity will take place or the effects of the Department's proposed action will occur, and shall provide proof of the publication to the Department within seven days of the publication.

62-110.106(6). If required, the notice shall be published by the applicant one time only within fourteen days after a complete application is filed and shall contain the name of the applicant, a brief description of the project and its location, the location of the application file, and the times when it is available for public inspection. The notice shall be prepared by the Department and shall comply with the following format:

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

The Department announces receipt of an application for permit from the Hardee County Solid Waste Department for a permit to close the Phase I portion of the existing Class I landfill, subject to Department rules, at the Hardee County Regional Landfill located at 685 Airport Road, Wauchula, Hardee County, Florida.

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