



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

Mr. Barry M. Boldissar, Director
Hillsborough County Solid Waste Management Department
601 E. Kennedy Blvd., 24th Floor
Tampa, Florida 33602

August 20, 2008

RE: Hillsborough Southeast County Landfill, Hillsborough County
Landfill Gas Collection and Control System Construction Permit
Pending Permit No.: 35435-016-SC/08
WACS No.: SWD/29/41193

Dear Mr. Boldissar:

This is to acknowledge receipt of the permit application prepared by SCS Engineers, dated and received July 21, 2008, for construction of a landfill gas collection and control system in Phase I-VI and Sections 7 & 8 of a Class I landfill, referred to as the Hillsborough Southeast County Landfill, located 8.8 miles east of U.S. Highway 301 on County Road 672, Balm, Hillsborough County, Florida.

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 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 necessarily 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 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 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.)]:

SECTION E - GENERAL REQUIREMENTS (Rule 62-701.320, F.A.C.):

1. **Section E.13:** Please publish the attached Notice of Application and provide proof of publication to the Department. Please provide documentation that demonstrates that the applicant has completed the notifications required by Rule 62-701.320(8)(b), F.A.C.

Attachment E-1 - Gas Collection and Control System Construction Drawings (Rule 62-701.320(7)(f), F.A.C.)

Due to extent and complexity of the Department's comments and questions and the difficulty in describing some comments related to these drawings, these drawings will be discussed in detail at the meeting requested at the end of this letter. Please provide revised drawings that address the comments provided below and at the above-referenced meeting, including all necessary details for the construction and operation of the facility. **The drawings will be reviewed in their entirety after the responses to these requests for information are submitted.**

2. **Drawings 3 of 30 through 7 of 30:**

a. Please revise these drawings or provide a schematic drawing that shows the directions of gas flow in the lateral and header pipes, collection trenches, and blower/flare system; the direction condensate and/or dewatering water flow in the condensate/dewatering lines and conveyances, and the blower/flare system; and the direction of air flow in the air supply lines.

b. Please explain why the pipe slope is reduced to 1% between CV-1 and CS-1 and between CV-2 and CS-1.

c. Please revise the applicable sheets to identify the location of all remote wellheads.

3. **Drawing 7 of 30:**

a. There appear to be duplicate and inconsistent detail references for condensate sump CS-1 on this sheet. Please verify and revise this sheet accordingly.

b. Please clarify the intended use of proposed new storage building.

4. **Drawing 8 of 30:**

a. Please revise the well schedule table on this sheet, as appropriate, based on your response to comments regarding Attachment O-1 below.

5. **Drawing 9 of 30:**

a. Detail 1: This detail does not appear applicable to a caisson extraction well that requires a dewatering pump. Please provide a detail for this option.

b. Detail 4: Please explain the function of the "air line isolation and blowoff valves" and the rationale for the location of their placement in the system.

- c. Detail 5: Please explain the purpose of the "lift plates" on this detail.
6. **Drawing 10 of 30:**
- a. Detail 1 ("Condensate Drain Line"):
- 1) There are two "Detail 1" on this sheet. It appears that this detail should be Detail 2. Please verify and revise accordingly.
 - 2) Please explain how the "condensate drain line and LFG collection tie-in to leachate cleanout" functions.
- b. Detail 5: Please explain how the "condensate u-trap with drip leg" functions.
7. **Drawing 11 of 30:**
- a. Detail 6: Please explain how the "self-draining condensate trap" functions.
8. **Drawing 12 of 30:**
- a. Detail 1: The dewatering lines from the flame arrestor and blowers and the knockout pot to the condensate sump appear to be gravity lines. Please revise this detail and Detail A on Sheet 16 of 30 to provide the inlet and outlet elevations for these lines.
9. **Drawing 13 of 30:**
- a. Detail 1: The detail reference for the "LFG Horizontal Collector" on this detail appears incorrect. Please verify and revise accordingly.
- b. Detail 3:
- 1) Please explain if and how potential stress and/or damage to pipes, valves, and connections due to settlement under and/or creep of the 4" concrete pad on the landfill side slope was evaluated and considered in the design depicted on this detail.
 - 2) Note 3: Please revise this note and/or Section L or O of this application to describe how the horizontal LFG collector system will be "closely monitored" for air infiltration.
10. **Drawing 14 of 30:**
- a. Detail 4: Please describe the "mist eliminator" and explain how it functions.
11. **Drawing 16 of 30:**
- a. Note 7: Department permits are issued for the specific processes and operations applied for and indicated on the approved drawing or exhibits. Therefore drawings provided with an application shall be "construction-level" drawings, being of sufficient detail to show how the facility is designed and will be constructed and operated. Therefore plans and sections submitted "for information purposes only" and "as a schematic layout" are not acceptable for this application. Please revise the plans and details for the blower/flare system provided, as applicable, to represent "construction-level" drawings, being of sufficient detail to show how the facility is designed and will be constructed and operated.

**Attachment E-2 - Gas Collection and Control System Technical Specifications
(Rules 62-701.400(3), (7) and (8), F.A.C.)**

Please revise the Technical Specifications and/or other referenced application documents, as appropriate, to address the following comments and/or inconsistencies. The Technical Specifications will be reviewed in their entirety after receipt of this information.

12. Please provide a CQA Plan for the proposed construction.

13. Please provide Technical Specifications for the geotextile proposed to be used on this project.

14. Section 01 30 10 - Contractor Submittal:

a. Part 1.05.A.: This part refers to "Article 7.9 of the General Conditions" and "Section 5.0 of the Specific Conditions." Please identify and provide the documents referenced in this section and/or revise this part to reference an applicable technical specifications section.

15. Section 01 70 00 - Abbreviations and Definitions:

a. The "Owner" is referred to in several specification sections. Please revise this section to provide a definition for "Owner".

16. Section 01 70 30 - Project Record Documents:

a. This and several other technical specifications sections refer to the record drawings and documents for this project being prepared by the Contractor. Record drawings and construction certification documentation are typically prepared by the engineer of record for the project (Engineer) and not the Contractor. Please explain this apparent discrepancy and revise the applicable parts of the technical specifications sections, as appropriate.

17. Section 31 20 00 - Excavating, Trenching, Backfilling, and Grading:

a. Part 3.4: Please note that dewatering may require an Industrial Waste Permit from the Department. 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.**

b. Part 3.07: Please provide supporting information, calculations, and/or assumptions that determine the compaction required to "minimize bridging or settling" of the tire chips, and revise this part to specify the required compaction.

18. Section 33 21 70 - LFG Extraction Wells and Wellheads:

a. Part 1.04.A.: Please revise this part to clarify whether the referenced quality assurance professional will be provided by the Owner, Engineer, or Contractor.

b. Part 3.02: Please revise this part to specify the installation procedures that will be implemented to prevent damage to the liner and leachate collection system for the landfill.

SECTION L - LANDFILL OPERATION REQUIREMENTS (RULE 62-701.500, F.A.C.):

19. **Section L.9.a:**

a. Please revise the narrative in this section to discuss the rationale for the decisions to install LFG gas extraction wells, caisson LFG extraction wells, horizontal collectors, and/or horizontal collectors with vertical components in different areas of Phase I-VI and Section 7 & 8. Please provide the supporting information, calculations, and/or assumptions utilized in support of the decisions made.

b. Please revise this section to discuss the design differences between the LFG gas extraction well and the caisson LFG extraction well and the use of both well types on this project.

c. Please provide supporting references, information and calculations that demonstrate that 4" nominal tire chips are a suitable material for use as backfilling material in the vertical gas extraction wells and horizontal collector trenches and vertical borings, as proposed for this project.

d. Please revise this section to describe the specific criteria to be used (e.g. specific conditions encountered) in deciding whether the installation of a pneumatic pump in a gas extraction well is required.

20. **Section L.9.b.1:**

a. Please revise this section to specifically describe the monitoring requirements of 40 CFR Part 60.753.

SECTION O - GAS MANAGEMENT SYSTEM (RULE 62-701.520, F.A.C.):

21. **Section O.1:**

a. Please provide the supporting design calculations for the blower/flare system.

22. **Section O.1.b:**

a. Please specifically describe the referenced "typical industry-standard approach" used in design of the gas collection and control system.

b. Please provide a copy of the specific references, information, and/or calculations utilized in support of the conclusion that the radius of influence is approximately 2.25 times the well depth.

c. Please specifically describe the referenced "standard industry practices" used in design of the gas collection and control system.

d. Please provide a copy of the specific references, information, and/or calculations utilized in support of the conclusion that limiting the flow rate to 1 gallon per minute will minimize the potential for silting in the tire chips.

23. Section O.1.d and Attachment O-1:

a. This section indicates that the gas extraction wells will be installed to "terminate at the sand drainage layer of the LCRS." Rule 62-701.530(1)(a)3., F.A.C. specifies that the gas management system shall be designed to collect gas from the uppermost two-third of the filled waste. Based on the proposed depth of the installation of the extraction wells and the depth location of the slotted pipe in many of the wells, as indicated on Attachment O-1, it appears that the proposed gas collection system is designed to collect gas from the lowermost depths of waste. Please explain how the proposed design complies with Rule 62-701.530(1)(a)3., F.A.C.

b. Please revise this section to describe the criteria used to determine the appropriate length of solid and slotted pipe in the LFG extraction wells and provide copies of any supporting references, information, and/or calculations relied upon in developing the criteria.

c. Please revise this section to describe how the approximate ground surface and approximate depth of waste was determined as reported on Attachment O-1, including specific references to the information utilized.

d. Please revise Attachment O-1, as appropriate, based on your response to comments regarding the design wells depths and radius influence determination above.

24. Section O.4.c and Attachment O-3:

a. Please revise this section to specifically identify the calculated, assumed, and default values that were input into the model.

b. Please revise this section to describe how the disposal rates reported in Attachment O-3 were determined, and provide a copy of the information and/or calculations utilized.

c. Please provide copies of the LFG generation output reports generated by the model from which the values reported on Attachment O-3 were obtained and examples of any conversion calculations conducted.

d. Please revise this section to describe how the collection system efficiencies reported on Attachment O-3 were determined, and provide copies of any supporting references, information, and/or calculations relied upon.

e. Please provide the supporting references, information and calculations conducted and relied upon in obtaining the "LFG Recovery from the Existing and Planned System" values reported on Attachment O-3.

25. Section O.4.d:

a. This section indicates that condensate sampling is not proposed. However Rule 62-701.530(5)(b)4., F.A.C. requires that procedures for sampling, analysis, and reporting of the results of condensate sampling be provided as part of a gas recovery system. Please revise this section and the design of the facility, as appropriate, to provide for routine condensate sampling, including the location of sampling, sampling frequency, and parameters to be analyzed. Condensate sampling is typically conducted at the same frequency and analyzed for the same parameters as leachate sampling and analysis.

26. Attachment O-2:

a. Please provide pipe strength calculations for the horizontal gas collection lines based on the use of tire chips as a bedding and backfill material, perforated pipes, the maximum depth of refuse that will be placed over the pipes, and equipment loading.

27. Attachment O-4:

a. The maximum and minimum LFG temperature utilized in these calculations are inconsistent with the value assumed in the design criteria for gas blowers in Specification Section 44 11 20-Part 1.04. Attachment 1 does not provide supporting information for the assumed maximum and minimum LFG gas temperature as indicated. Please explain these apparent discrepancies and revise Attachment O-4, as applicable. Please provide a copy of the reference and/or information utilized in supporting the maximum and minimum LFG gas temperatures used in the calculations.

b. Please provide supporting information that demonstrates that the natural gas water content chart provided in Attachment 2 is applicable in determining the water content in landfill gas.

c. Please provide the pipe flow calculations conducted and the supporting references and information relied upon in obtaining the LFG flow values reported on Sheets 2 through 4 of Attachment O-3. Please revise the table to report the LFG flow calculated for each extraction well and collection trench boring and collection trench.

d. The expected LFG flow utilized in the condensate generation calculations is based on the maximum expected flow reported on Attachment O-4, which occurs at the end of the time period considered. However the trend appears to indicate that the expected flow rate will continue to increase beyond the calculated time period. Please explain why the analysis was not continued to a point of decreasing flow rate and the ultimate maximum flow rate obtained was not utilized in the condensate generation calculations.

SECTION S - FINANCIAL RESPONSIBILITY (RULE 62-701.630, F.A.C.):

28. Section S.1 and Attachment S-1:

a. This section indicates that the cost estimates provided have been updated for inflation for 2008. While the long-term care costs appear to have been inflation adjusted for 2008, the closure costs provided appears to have been revised to add the construction costs for the proposed gas system and removed the cost for the existing passive system, but do not appear to have been inflation-adjusted for 2008. Please revise the closure cost accordingly and provide a revised Attachment S-1.

b. Please provide a revised DEP Form 62-701.900(28), signed and sealed by the professional engineer that prepared the estimate and signed by the owner/operator.

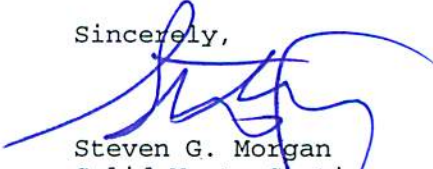
Please provide all responses that relate to engineering for design and operation, including plan sheets, signed and sealed by a professional engineer. Responses that relate to the facility operations should be included as part of the Operation Plan. All replacement pages should be numbered, and with 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 October 8, 2008, 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 date noted above**, you should develop an alternate specific timetable for the submission of the requested information for Department review and consideration. Pursuant to the provisions of Rule 62-4.055(1), F.A.C., 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.

You are requested to submit 4 copies of your response to this letter as one complete package with an original and three copies of all correspondence. It is **strongly recommended** that you contact the Department to set up a meeting to discuss this letter and subsequent submittals. Please contact me at (813) 632-7600 ext. 385 to schedule this meeting.

Sincerely,



Steven G. Morgan
Solid Waste Section
Southwest District

SM/sgm

Attachment

cc: Daniel Cooper, P.E., SCS Engineers, 4041 Park Oaks Blvd., Suite 100, Tampa, Florida 33619
Larry Ruiz, Hillsborough County Solid Waste Management, P.O. Box 1110, Tampa, Fl 33601
Ron Cope, HCEPC (e-mail)
Richard Tedder, FDEP Tallahassee (e-mail)
Fred Wick, FDEP, Tallahassee, (e-mail)
David Zell, FDEP Tampa -Air Section (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 a solid waste construction permit from the Hillsborough County Solid Waste Department to construct a gas collection and control system for the current Class I disposal areas (Cells I through VI and Cells 7 & 8), subject to Department rules, at the Hillsborough County Southeast County Landfill located approximately 8.8 miles east of U.S. Highway 301 on County Road 672, Hillsborough 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 Telecom Parkway, Temple Terrace, Florida 33637-0926