



Florida Department of Environmental Protection

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Lt. Governor

Michael W. Sole
Secretary

Mr. Bruce E. Kennedy (via e-mail only)
Assistant County Administrator
Pasco County Utilities
7530 Little Road
New Port Richey, Fl. 34654

August 29, 2008

RE: West Pasco County Landfill Cell A-4, Construction
Power Plant Certification No. PA87-23

Dear Mr. Kennedy:

This is to acknowledge receipt of the additional information dated and received July 28, 2008 submitted in support of your application dated May 12, 2006 (received May 15, 2006) prepared by CDM, to construct Cell A-4 of the Class I Landfill (ash monofill) at the solid waste management facility referred to as the West Pasco Class I Landfill.

As required by Condition of Certification [COC] #XIII.D.1., the construction of new disposal cells shall meet the requirements of Chapter 62-701, F.A.C. This letter constitutes notice that the information submitted **does not meet** the requirements of Chapter 62-701, F.A.C., and construction is **not authorized** at this time.

The information provided is incomplete. This is the Department's third 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 **6 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.)]:

SECTION 1 - Introduction & Permit Application Rule 62-701.320(7), F.A.C.

1. **Rule 62-701.320(7)(e)1., F.A.C.** As previously indicated, in order to evaluate several aspects of the proposed construction of Cell A-4 (such as pipe strength, stormwater control, financial assurance, etc.), a conceptual plan for closure, including long-term care, of the facility must be provided. The referenced conceptual closure plan in Section 7 of Volume IV of the 1987 application refers to closure in accordance with the closure and long-term care requirements of Rules 17-7.070 through 17-7.075 and the financial requirements of 17-7.076, which are no longer valid. Please provide revised closure and long-term care plans for the facility and revise Item E.7. and Item P.2. to reference the submittal of this information.

2. **Rule 62-701.400(6) F.A.C.** The 1995 Leachate Storage Tank information and the information provided in Attachment #19 do not address whether the capacity of the leachate storage tank is adequate to accommodate the additional leachate generated by Cell A-4. Please provide information that demonstrates that the leachate storage tank design and operation is adequate to handle the leachate generated by A-4 and meets the requirements of Rule 62-701.400(6), F.A.C.

a. Attachment 19: The May 15, 2008 CECS report refers to a April 23, 2008 inspection report, however the inspection reports provided in Attachment 19 are dated June 16, 2003 and April 12, 2005. Please provide a copy of the April 23, 2008 inspection report. Please provide legible copies of the photos in the April 12, 2005 inspection report.

3. **Rule 62-701.400(9) F.A.C.** The 1987 stormwater management system, approved for entire buildout of the facility, appears to have been design such that stormwater from the entire footprint of A-4 would be convey to proposed swales on the south and west sides of A-4. The information provided in Appendix E appears to indicate that stormwater runoff from the north and east sides of Cell A-4 is not proposed to be managed in that manner during the interim operation and temporary closure of A-4 (see Appendix E comments below). Please verify and address this apparent change to the design of the stormwater management system, provide a copy of SWFWMD's approval of proposed modifications to the stormwater management system in accordance with Section XIII.A.1. of the facility's Conditions of Certification, and revise Item H.8., as applicable.

4. **Rule 62-701.630, F.A.C.** Please address the following comments regarding the financial assurance cost estimates information provided in Appendix 18.

a. Please provide copies of the construction cost information obtained from Means Cost Works.

b. Slope and Fill: Closure cost estimates shall be based on the closure being conducted by a third-party utilizing material obtained from third-party sources. Therefore the slope and fill costs cannot assume obtaining soil from on-site. Please revise these cost estimates accordingly.

c. Stormwater Control System: Please provide a copy of the stormwater management system design drawing that shows the system that the closure cost estimates provided are based upon.

d. Site Specific Costs: In accordance with Rule 62-701.630(3)(a), closure and long-term care costs estimates are based on "... the time period in the landfill operations when the extent and manner of its operation making closing most expensive." In the case of leachate disposal, this assumes that a third-party will be responsible for continued leachate disposal during the closure of the facility. The leachate generation rate during closure, should be based on the actual per acre leachate generation rate for the previous year calculated for the total acreage to be closed. Please revise the site specific closure costs to include the cost for third-party leachate collection and disposal during closure.

e. Leachate Collection/Treatment Systems Maintenance - Disposal: In accordance with Rule 62-701.630(3)(a), closure and long-term care costs estimates are based on "... the time period in the landfill operations when the extent and manner of its operation making closing most expensive." In the case of leachate generation rates during long-term care, the time of maximum generation rate is immediately upon completion of closure activities. This generation rate corresponds to the leachate generation rate during closure, which should be based on the actual per acre leachate generation rate for the previous year calculated for the total acreage to be closed. During the facility's long-term care period, as the average annual leachate generation rate decreases, long-term care costs for leachate disposal can be reduced accordingly. Please revise the leachate quantities provided for long-term care costs accordingly.

f. Landscaping: Please identify the mowing frequency assumed for this estimate and provide the third-party quote or information that the cost estimate is based upon.

ATTACHMENT 17 - Landfill Operations Plan (RULE 62-701.730(9), F.A.C.)

Please provide the following additional information and revisions to the facility Operations Plan. Please provide a complete revised Operations Plan that incorporated the revised made and the revised date of the plan. **The revised Operations Plan will be review in its entirety.**

5. **§1.0**: This section indicates that the operation plan "is specifically for disposal unit Cell A-4." Section XIV D.5. of the Conditions of Certification provides that the facility shall be operated in accordance with the "current Department-approved Operations Plan." Therefore the Operations Plan shall include the operation procedures for the facility including the MSW disposal areas. Please revise the Operation Plan provided accordingly.

6. **§3.3**: Please revise this section clarify how the operators of the waste-to-energy facility check for prohibited waste and how and where prohibited wastes discovered are managed.

7. **§3.6.1**:

a. Phase I:

1) **§6.**: Please revise this section to clarify that only portion of the access road within the landfill footprint will be constructed of ash.

2) **§9.**: Wood chips are not clean-fill and therefore the proposed spillway shall not be constructed of a mix of soil and wood chips. Please revise this section accordingly.

- b. Please explain the timing of the installation of stormwater pumps in sub-cells 3-6. The installation of the stormwater pump in sub-cell 4 is described in both Phase II and III. Please verify and revise accordingly.
- c. Phases VII-IX & IXA:
- 1) §2.: Please revise these sections to specifically describe on which slope the separation berm will be extended.
8. §3.10: Please revise this or an appropriate section of the operations plan to specifically describe how the "leachate management system levels, pumping units, etc." are checked and what are they checked for.
9. §4.0: Section XIV D.7. of the Conditions of Certification provides that the operating records for the facility shall be kept at the facility. Please revise this section accordingly.
10. §7.0: Please revise this section to clarify that the random load checking describes in this section is in addition to the routine spotting of incoming waste.
11. §8.2:
- a. Please revise this section to specifically describe the large, sharp objects typically found in the ash that will be removed from the ash utilized in the initial lift of waste.
- b. This section states, "As the cell is filled, two feet of protective soil shall be placed on the berm side slopes just prior to placement of ash or solid waste so as to protect the geomembrane liner system." Please clarify whether this two foot layer is in addition the required two foot protective layer placed during cell construction or whether it is the intention to delay placement of the required two foot protective layer on the berm side slopes until waste placement. If the latter is the case, please explain how the liner system will be protection from damage and UV degradation.
12. §8.6: Please revise this section to specifically describe the procedures for dealing with leachate seeps that may occur at overlap and/or holes or tears in the rain tarps.
13. §8.7:
- a. Please revise this section to indicate that at least 90 days before the date when waste will no longer be accepted, a closure plan, consistent with the requirements of Rule 62-701.600(3), F.A.C. shall be provided.
- b. The reference to Chapter 62-701.619, F.A.C. rather than Rule 62-701.610, F.A.C. appears to be typographic error. Please verify and revise accordingly.
- c. Please revise this section to indicate that long-term care will also be provided in accordance with the approved long-term care plan.

14. **§9.2:**

a. Please provide the supporting information and calculations that the specified leakage action rate in this section (1000 gal/ac/day) is based upon.

b. The leachate is proposed to be pumped from the leak detection manhole to the common pump station. Please verify and revise this section accordingly.

15. **§9.5:** Please revise this section to also reference pump failure in the leak detection manhole.

16. **§9.6 and 9.7:** Please revise this section to indicate that leachate quantity and rainfall data will be submitted to the Department on a quarterly basis.

17. **§9.8:** Please revise this section to indicate that new leachate collection system shall be pressure cleaned and video inspected after construction and submitted as part of construction certification and that the results of the five-year pressure cleaning or inspection will be submitted to the Department.

18. **§14.5, 14.8, & 14.10:** Please revise these sections, as applicable to address operation of the MSW cells.

19. **§14.6:** While the provisions for acceptance of biomedical waste in Rule 62-701.300(6), F.A.C. are not applicable to a facility that does not accept biomedical waste, the prohibition from acceptance of biomedical waste is applicable to the facility. Please revise this section accordingly.

20. **§14.7:** Figure 3 of Attachment 23 does not appear to identify the Class I surface water bodies as indicated in this section. Please verify and address this apparent discrepancy.

SECTION 1 - Permit Application Rule 62-701.320(7), F.A.C.

21. **Items B.14. - B.19.:** Please revise Items B.14 through B.19. based on the information provided in the July 28, 2008 submittal.

22. **Item D.1.:** Please revise Item D.1. to reference the information provided in Section 14 of the Operations Plan.

23. **Items L.8.c. & L.10.:** Please revise these items to reference the information provided in the Operations Plan.

24. **Part M:** Please revise Part M based on the information provided in the July 28, 2008 submittal.

SECTION 3 - Leachate Control and Removal System Performance, Rules 62-701.400, 62-701.500(8), F.A.C.

25. **§3.5.:**

a. The HELP model input appears to have assumed only one defect hole. Please verify and revise this section accordingly.

b. Based on a review of the Sheet C-1 of the construction drawings, the drainage length appears to be approximately 95 ft. and the subgrade slope (i.e. drainage slope) appears to be 1.33%. Please verify and revise this section and the applicable drainage calculations, as appropriate.

c. The reference to a 4:1 slope in this section appears to be a typographic error. Please verify and revise accordingly.

d. Please revise the HELP Model results provided in this section, if applicable, based on your response to the comments in this letter.

26. Geocomposite Transmissivity Calculations:

a. Based on a review of the Sheet C-1 of the construction drawings, the drainage length appears to approximately 95 ft. and the subgrade slope (i.e. drainage slope) appears to be 1.33%. Please verify and revise the geocomposite transmissivity calculations, as appropriate.

27. HELP Model Runs:

a. Please provide the supporting basis for the assumed surface slope and slope length for each of the model runs.

b. Based on a review of the Sheet C-1 of the construction drawings, the drainage length appears to approximately 95 ft. and the subgrade slope (i.e. drainage slope) appears to be 1.33%. Please verify and revise the HELP Model analyses, as appropriate.

28. Appendix A - Pipe Strength Calculations:

a. Static Loading from Waste: Please explain why the diameter of the pipe is subtracted from the depth of the overlying soils in the calculations and revise the calculations, as appropriate.

b. Dynamic Loading from Waste Trucks: The typically worst-case dynamic loading is from a landfill compactor. Please provide supporting information the loading from a H2O waste truck is equivalent to a landfill compactor or revise the calculations accordingly.

29. Appendix D:

a. Pipe Conveyance Calculations:

1) Please provide revised pipe conveyance calculations, based the revised HELP Model and/or settlement calculations provided in response to based on your response to the comments regarding the HELP Model and settlement calculations in the letter. Please provide the pre-settlement and post settlement values assumed for each scenario and the source of the values presented.

2) Pipe conveyance calculations should be conducted assuming the maximum peak and average flow through the pipe. Each of the leachate collection pipe will be conveying flow from one half of three cells. Based on the proposed fill sequence, it would appear that the maximum flow in each will occur at the time that two cells are filled with 40 feet of waste and the third cell has five feet of waste (e.g. initial Phase III filling - Sheet C-8). Please verify that this would be the condition of maximum flow and provide pipe conveyance calculations for this condition.

3) The reference to " $\cos 15 = x/(D/2)$ " appears to be a typographic error. Please verify and revise accordingly.

4) Please identify the source of the Chart 9.

b. Settlement Calculations:

- 1) The pipe settlement calculations provided appear to be based on the settlement calculations provided in geotechnical engineering report provided in Appendix F. However the geotechnical engineering report concluded that "the settlement estimates should be considered reliable to +/- 50% to 200% of the calculate value." Therefore please provide revised pipe settlement calculations that are based on +200% of the calculated settlement.
- 2) Please identify and provide the support design drawings upon which the assumed waste elevations and heights reported in the settlement table provided are based.
- 3) Based on a review of the Sheet C-1 of the construction drawings, it appears that the leachate collection pipe will be installed at an approximately 0.4% slope. Please explain why the pre-settlement slope will vary along the distance of the pipe as reported in the settlement table provided.

APPENDIX E - Stormwater Calculations, Rule 62-701.400(9) and 62-701.500(10), F.A.C.

30. **Assumptions:**

- a. Please revise the section to verify whether the FLMOD Type-2 rainfall distribution was used.
- b. Please explain how channel and culvert geometry are incorporated into the ICPR model.

31. **Sheet C-15:**

- a. Although drainage flow arrows are shown on this sheet along the north and east sides of Cell A-4, no drainage swales appear to be proposed at the toe of the north and east slopes, runoff from the north slope is indicated to "sheet flow off Cell A-4", it appears that the existing swale on the west side of Cell A-3 will be removed as part Cell A-4 construction, and the stormwater runoff volumes from the north and east slopes do not appear to be included in the stormwater calculations provided in Appendix E. The approved 1987 site-wide stormwater management system appears to indicate the all stormwater runoff from the Cell A-4 footprint would be directed to and managed by the conveyance swales on the south and west sides on Cell A-4. Please explain how stormwater runoff from Cell A-4 will be directed and managed, consistent with the approved stormwater management system for the facility and why runoff from the entire footprint does not appear to be considered in the stormwater calculation provided.
- b. Please revise this sheet to identify the stormwater basins corresponding to the identified stormwater nodes.
- c. Please identify the stormwater conveyances structures shown on the south and west sides of Cell-A4. These structures do not appear to be shown on Sheet C-15 of the construction drawings, but appear to be considered in the stormwater calculations. Please explain.
- d. This sheet reference cross-sections on Sheet C-5A, however Sheet C-5A does not appear to be provided. Please verify and provide Sheet C-5A with these cross-sections.

APPENDIX F - Geotechnical Investigation, Rule 62-701.410, F.A.C. Please note that the geotechnical investigation and report provided in Appendix F does not appear to meet the requirements of Rules 62-701.410(2)& (3), F.A.C. Please provide a revised geotechnical investigation, signed and sealed, that meet the criteria of Rules 62-701.410(2)&(3), F.A.C. and addresses the following comments. The revised report will be reviewed in its entirety based on these responses and the revised information provided.

32. **§2.4.**

a. Although it does not appear that a reliable conclusion on settlement at the facility can be obtained assuming a +/- 50% to 200% margin of error in the predicted settlement, the supporting calculations provided in geotechnical report conclude that because several assumptions were required as part of the settlement calculations, the settlement estimates can only be considered reliable to +/- 50% to 200% of the calculate value." Based on that conclusion all design calculations and considerations for this facility must be revised to take into consideration a +/- 200% margin of error in the predicted settlement for the facility. Please revise all design calculations and considerations for this facility based on this conclusion or provide a revised settlement analysis that provides more reliable results.

b. Please provide supporting references, information, and or calculations that demonstrate that the geosynthetic materials proposed for this facility will not be adversely impacted by the maximum predicted settlement with a +200% margin of error.

33. **§2.6.**

a. The use of higher groundwater elevations than measured in the geotechnical investigation, while conservative, is not representative of site conditions. Please revise the geotechnical analyses accordingly.

b. This section of the geotechnical report concludes, "If the landfill liner system has a friction angle of at least 30 degrees, the installation of the liner with not have a significant impact upon slope stability. If the liner friction angle is less than 30 degrees, the liner may have a negative impact upon the slope stability." Technical Specification Section 02275-1.03.a.3. specifies an internal friction angle of 14° for the GCL and an interface friction angle of 14° between GCL and HDPE for this project. Interface friction angle testing and specifications for the other liner system interfaces has not been provided for this project. Please revise the design and specifications for the liner system for this facility to specify a minimum 30° interface friction angle for all liner interfaces and associated conformance testing of the liner system that demonstrates that all liner interfaces meet a minimum 30° interface friction angle. Alternatively, the applicant may provide revised geotechnical analyses that demonstrate that lower interface friction angles are acceptable.

c. Please provide references for all assumptions (e.g. unit wt., cohesion, and internal friction angle of ash waste & soil layers) utilized in the slope stability analysis, as previously requested.

d. Please provide slope stability analyses that include the landfill liner system and related interfaces, as previously requested.

e. Please provide slope stability analyses considering block failure.

34. Appendix B.

- a. Please revise each slope stability figure to identify the case it represents.
- b. Based on a comparison of the slope stability figures provided with Sheet C-15 of the construction drawings it does not appear that any of the three cases considered are representative of the proposed configuration of the facility. Please verify and provide revised slope stability analyses, accordingly.

APPENDIX I - Water Quality Monitoring Plan, Rules 62-701.410(1) and 62-701.510, F.A.C.

35. Please respond to Mr. John Morris' memorandum dated August 29, 2008, (attached) concerning the Water Quality Monitoring Plan.

APPENDIX H - Construction Quality Assurance Manual, Rules 62-701.400(3), (7) and (8)

36. Please revise the CQA Plan, as appropriate, based on your response to comments regarding Appendix F and Appendix K.
37. The text on the replacement pages provided does not match up with the text on the adjoining pages. Please provide a complete copy of the CQA plan that incorporated the changes made.

38. Section 5 - Testing, Execution and Field Quality Control

- a. §5.7.2.5. Table A. The test frequency for GCL Peel Strength and the required values for GCL Grab Strength and GCL Peel Strength in Table A in this section appear to be inconsistent with those provided in Specification 02275 Table A-1A. Please revise Table A and/or the specifications accordingly.

APPENDIX K - Technical Specification Manual, Rules 62-701.400(3), (7) and (8)

39. Please revise the Technical Specification, as appropriate, based on your response to comments regarding Appendix F above.

40. Section 01390 - Construction Photographs

- a. §1.02.A. The reference to Cell A-3 and SW-2 in this section appears to be a typographic error. Please verify and revise accordingly.

41. Section 02274 - Composite Drainage Nets

- a. §2.02.E. Table 1. Please revise Table 1, as appropriate, based on your response to comment regarding the geocomposite transmissivity calculations above.

CONSTRUCTION DRAWINGS - Rule 62-701.320(f), 62-701.320(5)(b), 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. Please be advised that the drawings will be reviewed in their entirety after receipt of the information requested.

42. Sheet G-1.

- a. The rule reference in Note 26 does not appear to have been revised to reference the correct rule for well and piezometer abandonment (Rule 62-701.510(3)(d)5., F.A.C.). Please verify and revise accordingly.

43. Sheet C-1.

- a. It does not appear that grades and appropriate drainage are shown on this sheet as indicated in the July 28, 2008 response (See comments regarding Appendix E). Please verify and revise accordingly.

44. Sheet C-2.

- a. Please specify the elevations and details for the tie-in along Cells A-2/A-3, as previously requested.
- b. Please specify the invert elevations of each LCS pipe at the cleanout pipe on the eastern end of the cell, at each ball valve, at the connection to the LCS header, and at any grade break, either on this sheet or in a table.
- c. The location of southernmost LCS pipe appears to be outside the leachate collection and detection system sump. Please verify and revise this sheet, as appropriate.

45. Sheet C-3. The July 28, 2008 response states, "The maximum leachate level in the tank is always a few feet below this [79.36'] elevation." Please revise the procedures for operation of the leachate tank in the Operations Plan for the facility to confirm this.

46. Sheet C-4. Please revise the cross-section on this sheet to show the north and east stormwater conveyance ditches/structures, as applicable.

47. Sheet C-5. As previously indicated, based on the locations of Section D on Sheet C-1, it appears that the leachate collection/detection sump should be shown in Section D. Please verify and revise this sheet, as appropriate.

48. Sheets C-6 through C-15.

- a. Please revise these sheets to show the location of Detail K.
- b. Please provide a detail of the temporary tarp tie-in to the interim cell separation berm.

49. Sheet C-15. The reference to Sections 1 & 2 on Sheet C-5A, appears to be a typographic error. Please verify and revise this sheet accordingly.

50. Sheet C-15A. Please provide details references for the intermediate berm, intermediate berm access road, 10 ft. perimeter road, and 5 ft and 10 ft perimeter swales.

51. **Sheet CD-1.**

- a. Detail B. The July 28, 2008 response indicates that it would be confusing to the contractor to show the "additional 6' geocomposite on top of secondary liner system." Please explain how the contractor will know where to install the geocomposite if it is not shown on the drawings.
- b. Section C.
- 1) It does not appear that the plan view of the sump on Sheet C-1 includes the elevation and grades of the sump, as indicated in your July 28, 2008 response. Please verify and provide a plan view of the sump, including all elevations and grades, as applicable.
 - 2) Please provide the specified slope of the LCS and LDS header pipes, based on the slope used in the pipe conveyance calculations.
- c. Details D and H. Since the geocomposite is not continued under the berm, it appears that leachate will accumulate on the upstream side of each separation berm and will not be removed until it reaches the perforated pipe (Detail H) or the top of the berm (Detail D). The July 28, 2008 response was not responsive to this comment. Please explain.
- d. Detail H.
- 1) The length of solid wall pipe on the upstream side of each berm does not appear to be specified as indicated. Please verify and revise Detail H accordingly.
 - 2) Please revise Detail H to show the perforated pipe connected to each end of the solid wall pipe through the berm and to show where the aggregate under the perforated pipe ends.
- e. Detail I. The location of the termination of perforated pipe does not appear to be noted on Sheet C-2 as indicated. Please verify and revised Sheet C-2 accordingly.
- f. Detail G. Please clarify the dashed line, as previously requested.

52. **Sheet CD-2.**

- a. Detail L.
- 1) Please show the fabric cover on the bolt detail on Detail L.
 - 2) The June 28, 2008 response indicates that the flat stock will have thickness of 60 mil, however the bolt detail still shows a 1/4 inch flat plate. Please explain and provide specifications for the 1/4-inch plate and "flat stock" or revise the detail, as applicable.

53. **Sheet CD-3.**

a. Detail D. Please explain why the 20-mil rain cell cover would not be placed above the 24-inch thick common fill at the completion of Cell A-4.

b. Detail F.

1) Note 4 does not appear to be revised to delete the reference to 6 foot diameter manholes, as indicated. Please verify and revise accordingly.

2) Please explain why Section 1 and the "Leachate Flow" elevation view were deleted.

54. **Sheet CD-4.**

a. Many of the details on this sheet refer back to Sheet C-3. However, the locations of these details are not shown on Sheet C-3. Please verify and revise Sheet C-3 accordingly.

b. Detail H. Detail H does not appear to be reference on Sheet C-1 as indicated. Please verify and revise Sheet C-1 accordingly.

c. Detail J. Please revise this detail to identify the surrounding soil as liner protective soil rather than undisturbed earth.

55. **Sheet CD-5.** Detail E. The elevations, dimensions, and details shown on Sheet C-2 are difficult to follow. For clarity, please also provide all dimensions and elevations for this detail, show whether the area is enclosed by the security fence includes a concrete pad or containment around the pump station and manholes, and provide all piping details for the lift station and manholes on this detail.

56. **Sheet M-1.**

a. Plan view.

1) The size and type of pipe from the LCS manhole does not appear to specify on this plan view, as indicated. Please verify and revise, as appropriate.

2) The July 28, 2008 response states, "The location of the 1/2 inch pressure tap/gauge is now correctly shown on the plan view." However the location on the plan view has not changed. Please verify and revise, as appropriate.

3) It still appears that the plan view and Section 1 do not correlate. Please verify and revise accordingly.

4) The July 28, 2008 response states, "The downstream piping will be a minimum of 3 ft below the ground surface." The plan and section views appear to be inconsistent with this statement. Please verify and revise, as appropriate.

5) Response #18.n(1) in the July 28, 2006 response indicated that float switches "are provided to monitor the wetwell levels." Please clarify to which "wetwell" this refers, as previously requested.

57. **Sheet MD-1.** Detail I does not appear to be called out on Sheet M-1 as indicated. Please verify and revise, as applicable.

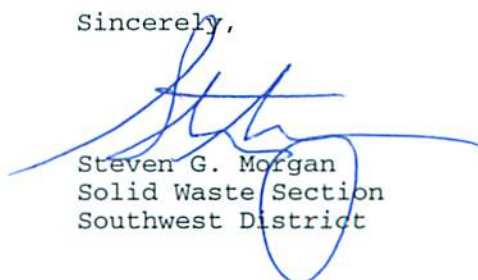
Please provide all responses that relate to engineering for design and operation, including plan sheets, signed and sealed by a professional engineer. Responses that relate to the facility operations should be included as part of the Operation Plan. All replacement pages should be numbered, and with 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 the date established in the meeting to be scheduled, as indicated below, 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 6 copies of your response to this letter as one complete package. Please 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

sgm

attachment

cc: Aamod Sonawane, P.E., CDM, sonawaneas@cdm.com
John Power, Pasco County, jpower@pascocountyfl.net
Donna Huber, Pasco County, jhuber@pascocountyfl.net
Cindy Mulkey, FDEP Siting, FDEP (e-mail)
Richard Tedder, P.E., FDEP Tallahassee (e-mail)
Fred Wick, FDEP, Tallahassee, (e-mail)
Mara Nasca, FDEP Tampa, Air (e-mail)
Jeff Greenwell, P.E., FDEP Tampa, Water Facilities (e-mail)
William Kutash, FDEP Tampa, Waste (e-mail)
John Morris, P.G., FDEP Tampa SW(e-mail)
Susan Pelz, P.E., FDEP Tampa SW (e-mail)

Memorandum

Florida Department of Environmental Protection

TO: Steve Morgan
FROM: John R. Morris, P.G. *JRM*
DATE: August 29, 2008
SUBJECT: Pasco County Resource Recovery Facility and Class I Landfills
Proposed Expansion – Cell A-4 Construction Submittal
Hydrogeologic and Monitoring Review Comments (Responses to RAI #2)
cc: Susan Pelz, P.E.

I have reviewed portions of the materials submitted to the Department in support of the referenced expansion of the West Pasco County Landfill, prepared by Camp, Dresser & McKee, Inc. (CDM), received July 28, 2008. The materials provided responses to the review comments presented in the Department's letter dated August 25, 2006. The portions of the submittals that were reviewed included:

- Letter prepared by CDM, re: "West Pasco County Landfill Cell A-4 Construction, Power Plant Site Certification No. PA 87-23 – Responses to RAI #2," dated July 28, 2006 [referred to as the "**CDM response letter**"]
- Attachment 20 – Report entitled "Updated Contamination Assessment Report, Shady Hills Wastewater Treatment Facility, Pasco county, Florida," prepared by QORE, Inc., dated March 20, 2003
- Attachment 21 – SWFWMD Well Inventory Printouts for Section 24, 25, Township 24S, Range 17E
- Attachment 23 – Site Related Figures [specifically Figure 4 entitled "Potable Water Well Setback," prepared by CDM, dated July 2008]
- Section 1 – DEP Form #62-701.900(1), replacement pages 4-6, 8, 11-17, 22, 24-26, 28-31, 33, 35, 38-39, undated
- Appendix I – document entitled "Water Quality Monitoring Plan for the West Pasco County Class I Landfill," prepared by CDM, dated July 2008 [referred to as the "**WQMP document**"]
- Site Plans prepared by CDM, dated July 2008

My review focused on the hydrogeologic and monitoring aspects of the proposed expansion. Additional information is needed to evaluate the adequacy of the proposed monitoring plan modification. Please have the applicant provide responses to all comments that do not contain the phrase: "**No additional information is requested.**" Please have the applicant provide revised submittals, or replacement pages to the submittals, that use a strike-through and underline format, or similar format, to facilitate review. Please also have the applicant include the revision date as part of the header/footer for all revised or replacement pages (including text, figures, tables, forms, attachments, site plans, etc.).

The review comment numbers presented below are consistent with my memoranda dated June 13, 2006 and August 25, 2006. The information requests have been referenced to sections of the permit application form and sections of the supporting documents, where appropriate, as presented below:

PERMIT APPLICATION – DEP FORM NO. 62-701.900(1)

PART A – GENERAL INFORMATION

1. **A.5.:** The CDM response letter referred to this item on revised page 4 of the application form (provided in Section 1) which included WACS facility ID #SWD-51-45799. **No additional information is requested.**
2. **A.7.:** The CDM response letter referred to the latitude and longitude coordinates listed in the original permit for the facility [28° 22' 16" N, 82° 33' 29" W] and also to the latitude and longitude coordinates that were indicated to represent the center of Cell A4 [28° 22' 30" N, 82° 33' 35" W] as included on this item on page 4 of the application form (provided in Section 1). Please note that the above-referenced coordinates provided in the CDM response letter for Cell A4 appear to represent a location to the north of Cell A1, approximately 1,575 feet NE of the center of Cell A4. Please submit a revised application form for this item that indicates the latitude and longitude coordinates that represent the approximate center of the Cell A4 footprint.

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PART B – DISPOSAL FACILITY GENERAL INFORMATION

3. **B.13.:** The CDM response letter indicated that a Declaration to the Public will be filed following the closure of the Class I landfill and that the property is currently recorded in the County Land Records as a disposal site. **No additional information is requested.**

PART I – HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS

(Rule 62-701.410(1), F.A.C.)

4. **I.1.a., I.1.b., I.1.d., I.1.e., I.1.f.:** The CDM response letter referred to the WQMP document for responses to comment #4.a., through #4.e. Please submit revisions to the WQMP document to address the following:

General Comments Regarding the WQMP Document:

- Please submit a revised WQMP document that includes pages numbers and the date of preparation or date of revision for each page, including figures and tables.
- Please submit a revised WQMP document that deletes the repeated paragraphs of Section 2.1.3 (Proposed Additional Monitor Wells), as follow:
 - Page 5 of text [starting “. . . side of the site, upgradient of the solid waste cells . . .”] includes ¶1, ¶2 and ¶3 of this section;
 - Page 6 of text [starting “. . . Services Report for the Proposed Landfill Expansion . . .”] includes a portion of ¶1, ¶2, ¶3, ¶4 and a portion of ¶5 of this section; and,
 - Page 7 of text [starting “. . . Most of the existing Upper Floridan Aquifer ground water wells . . .”] includes ¶4, ¶5, ¶6 and a portion of ¶7 of this section.
- Please submit a revised WQMP document that clarifies the references to Figure 2 and Figure 2A in Section 2.1.3, ¶1. While the text referred to the construction details for proposed shallow monitor wells [surficial aquifer] provided on Figure 2, it appears that Figures 2A, 2B, and 2C were provided for proposed wells 2MW-24S, 2MW-25S and 2MW-26S, respectively. Similarly, while the text referred to the construction details for proposed deep monitor wells [upper Floridan aquifer] provided on Figure 2A, it appears that Figure 2D was provided for proposed wells 2MW-24D and 2MW-25D and that Figure 2E was provided for proposed well 2MW-26D.
- Please submit a revised WQMP document that clarifies the proposed monitor well identification numbers. Please note that Figures 2A through 2E, Figure 3, and Figure 4 referred to proposed monitor wells 2MW-24S/D, 2MW-25S/D, and 2MW-26S/D, while Figure 5 referred to proposed monitor wells 2MW-21S/D, 2MW-22S/D and 2MW-23S/D.

Previous Comments Regarding the Hydrogeological Investigation:

- a. Direction and rate of ground water and surface water flow, including seasonal variations (Rule 62-701.410(1)(a)1, F.A.C.) – Section 6.0, ¶3 of the WQMP document referred to a consistent direction of ground water flow to the northwest with a horizontal hydraulic gradient of 0.0015 ft/ft for the surficial and Floridan aquifers. A review of the contour maps included in the reports for last four sampling events conducted at the West Pasco Class I landfill (October 2006, April 2007, September 2007 and March 2008) indicated ground water flow direction ranged from northwest to north-northeast across the facility and horizontal hydraulic gradient ranged from 0.0018 ft/ft to 0.0024 ft/ft across the ash cells (existing A1 through A3, and proposed A4). Please review the information provided in this section regarding the rate the direction of ground water flow and submit revisions, as appropriate.
- b. Background quality of ground water and surface water (Rule 62-701.410(1)(a)2, F.A.C.) – Section 2.1.2 of the WQMP document presented a general discussion of water quality reported for existing background wells 2MW-1, 2MW-2, 2MW-6, 4MW-1, 4MW-2, 4MW-6 and 2MW-15DA. Please submit revisions to this section to also include a summary of the existing monitor wells that are located within proposed Cell A4, including well 2MW-20D (part of the monitoring conducted for the Pasco County Resource Recovery Facility) and wells MW-11A and MW-11B (part of the monitoring conducted for the Shady Hills WWTF).

- c. Any on site hydraulic connections between aquifers (Rule 62-701.410(1)(a)3, F.A.C.) – Section 2.1.3, ¶3 of the WQMP document referenced the occurrence of the impermeable clayey sand unit that overlies the upper Floridan aquifer at each of the proposed monitor well locations. However, the soils encountered at boring B-4 in the southwest portion of Cell A4 did not encounter clayey sediments. Please submit revisions to this section to describe the potential absence of clayey sediments in portions of Cell A4 and how the construction details of the proposed monitor wells will be modified if the confining unit is absent in proximity to proposed wells 2MW-26S/D.
 - d. For all confining layers, semi-confining layers, and all aquifers below the landfill site that may be affected by the landfill, the porosity or effective porosity, horizontal and vertical permeabilities, and the depth to and lithology of the layers and aquifers (Rule 62-701.410(1)(a)4, F.A.C.) – Section 6.0, ¶1 and ¶2 of the WQMP document summarized the hydraulic conductivity values obtained from the recovery tests conducted at wells 4MW-13D and 2MW-18D. **No additional information is requested.**
 - e. Topography, soil types and characteristics, and surface water drainage systems of the site and surrounding the site (Rule 62-701.410(1)(a)5, F.A.C.) – Section 7.1 and Section 7.2 of the WQMP document presented a description of soils and topography at the facility. **No additional information is requested.**
5. **I.1.c.:** The CDM response letter referred to the WQMP document. Please refer to comment #4.c., above, regarding the characterization of background water quality within Cell A4.
6. **I.1.g., and I.1.i.:** The CDM response letter referred to Attachment 21 regarding well inventory information. It is noted that the cover page for Attachment 21 indicated that it summarized information from the Southwest Florida Water Management District for Sections 24 and 25 in Township 24S and Range 17E. Please note that the two referenced sections do not cover the entire area represented by a one-mile radius around Cell A4. Supplemental database queries are required for the areas to the west, south and east of Section 25, Township 24S, Range 17E. It is noted that the CDM response letter did not refer to Figure 4 in Attachment 23. Please submit revisions to Figure 4 to address any additional potable wells identified by the supplemental database queries. Please also revise Figure 4 to identify the information used to locate the potable wells.
7. **I.1.h.:** The CDM response letter referred to the document presented in Attachment 20 (entitled “Updated Contamination Assessment Report, Shady Hills Wastewater Treatment Facility,” prepared by QORE, Inc., dated March 2003) regarding the existing wells located within Cell A4 that will be abandoned. Please note that Section 4.0 of the QORE, Inc., document recommended the installation of additional wells within or in proximity to Cell A4 to further investigate potential ground water impacts and indicated a supplemental report would be submitted to provide the results of this additional investigation. Additionally, the response did not provide an indication that the Department’s Domestic Wastewater Section had been contacted to confirm that the abandonment of monitor wells within Cell A4 will not affect the investigation of ground water impacts at the Shady Hills Wastewater Treatment Facility.
8. **I.2.:** The CDM response letter referred to this item on revised page 25 of the application form (provided in Section 1) which included a reference to the WQMP document. **No additional information is requested.**

PART M – WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS (Rule 62-701.510, F.A.C.)

9. **M.1.a., M.1.b., M.1.c.(1) through M.1.c.(7), M.1.d.(1) and M.1.d.(2), M.1.f.(1) through M.1.f.(4), M.1.g., and M.1.h.(1):** The CDM response letter referred to the WQMP document regarding the revised monitoring plan for the West Pasco Class I landfill (existing cells and proposed Cell A4). Please submit a revised application form page 32 [for items M.1., through M.1.c.(8)] that include references to the WQMP document, as appropriate.

10. **M.1.c.(6):** The CDM response letter referred to the WQMP document regarding the proposed monitor well construction details. Please submit revisions to the WQMP document to address the following:
- a. Section 2.1.3, ¶5 presented the rationale used to develop the construction details for the proposed monitor wells. It is noted that the construction details for 2MW-26S/D utilized the lithology encountered at nearby boring B-4, where clayey sediments or limestone sediments were not encountered to a depth of 50 feet (~ -4 feet NGVD). Please submit revisions to this section to describe the basis for determining the bottom of the surficial aquifer used for the depth of well 2MW-26S, and the thickness of clay/top of rock used for determining the top of the well screen of well 2MW-26D. Based on the differences in the bottom of well screen at 2MW-26S and the top of well screen at 2MW-26D, it appears a 24-foot clay layer thickness was assumed (see also comment #4.c., above), which appears to be inconsistent with the information provided in Figures 3 and 4 regarding clay thicknesses at the facility.
 - b. Section 2.1.3, ¶5 and Figures 2D and 2E indicated the proposed deep monitor wells will be constructed with a 10-foot screen length, however Figures 3 and 4 indicated the proposed deep monitor wells will be constructed with a 15-foot screen length. Additionally, Site Plan sheet #CD-4 indicated a 13-foot screen length for deep well 2MW-26D. Please review these apparent inconsistencies and submit revisions, as appropriate.
11. **M.1.c.(8):** The CDM response letter referred to the revised application form provided for this item. It is noted that the revised application form provided in Section I omitted page 24. Please submit a revised application form for this item that indicates a "N/A" entry.
12. **M.1.e.:** The CDM response letter referred to the WQMP document regarding proposed leachate sampling locations. Section 2.2 indicated that leachate is currently sampled from five manhole locations, and that one additional manhole location will be sampled for Cell A4. Please note that the leachate monitoring reports submitted to the Department for the West Pasco Class I landfill include sampling locations identified as: A-1 primary, A-1 secondary, SW primary and SW secondary. Please submit revisions to the WQMP document and the appropriate sheets of the Site Plans to clarify the leachate sampling locations for the existing landfill cells and for proposed Cell A4.
13. **M.1.h.(2):** The CDM response letter referred to the WQMP document. Section 5.0 of the WQMP document provided the information requirements of Rule 62-701.510(9)(b), F.A.C., regarding the technical report to be submitted to summarize water quality and leachate monitoring results. **No additional information is requested.**

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 for further review.

I can be contacted at (813) 632-7600, extension 336, to discuss these review comments.

jrm