



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

Division of Waste Management
Dexter R. Matthews
Director

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Solid Waste Section

February 28, 2011

Mr. Edward Mann
Public Works Director
Dare County
P.O. Box 1000
Manteo, NC 27954

Subject: Comments on Cell No. 4 Construction and Demolition Debris Landfill (C&DLF)
Construction Quality Assurance Report, Dare County C&DLF
Dare County, North Carolina
Permit No. 28-03, Document ID (Doc ID) No. 13041

Dear Mr. Mann:

On February 15, 2011 the Division of Waste Management (DWM), Solid Waste Section received the “*Cell No. 4 Construction and Demolition Debris Landfill Construction Quality Assurance Report*” (Doc ID 12971) dated February 2011. This Construction Quality Assurance (CQA) Report was prepared and submitted by Camp Dresser & McKee (CDM) on behalf of Dare County.

Solid Waste Section conducted a review of the above-referenced CQA Report in accordance with the Solid Waste Management Rules 15A NCAC 13B .0540 & .0541, the approved CQA Plan (Doc ID 9831), the permit conditions of the Permit To Construct for Cell No. 4 (Doc ID 9251) and the acceptable engineering practices. Based on the review, the Solid Waste Section needs the following additional information:

1. (Appendix A-4) Please provide the final letter dated June 28, 2010 with the signature and seal of the NC licensed surveyor.
2. (Appendix A-5) The Section 6.1A of the approved CQA Plan specified that the compacted fill material shall have the minimum internal friction angle of 35 degree according to testing method ASTM D4767; however, the test result of the sample - Proctor No. 3 has the internal friction angle of 31 degree. Please explain why the sample result is acceptable and provide any remedial approaches.
3. (Appendices A-5 & A-8; Compaction Test Report dated June 11, 2010; Location Cell 4 Pad, Sub Lots – 5, 6, 7, 8, 9, 10) The dry density for Test Sample 1 shall be **101.7** pcf, not the reported 105.3 pcf, if the wet density is 119.8 pcf and moisture content is 17.8%. Then,

the calculated “% Proctor” is approximately **93.7%** of the maximum dry density, which is less than the specified criterion – 95% of the maximum dry density in the approved CQA plan. Please explain why the sample result is acceptable and provide any remedial approaches.

4. (Appendix A-6, Geotechnics Lab Data Sheet for Moisture-Density Relationship dated June 15, 2010. Boring No. ACRE 1; Lift 5; Lab ID 2010-652-09-03) The Sample Identification Number - Upper CF-01 is likely a typographic error of Upper CF-11. Please clarify.
5. (Appendix A-7) In the Summary Table (CFFDR-01, Page 1 of 10, dated April 23, 2010), the values of in-placed moisture content (12.4%) & density (119.9 pcf) of the sample SC-02 are inconsistent with those stated in the Raw Data Sheet (14.2% & 121.9 pcf). Please clarify.
6. (Appendix A-7) The descriptions of the following sample locations - ND-51, ND-52, ND-55, ND-56, ND-63, & ND-64 stated in the Summary Table (CFFDR-02, Page 1 of 8, dated May 4, 2010) are inconsistent with the attached sample location drawings. Please clarify.
7. (Appendix A-7) In the Summary Tables (CFFDR-04, Page 2 of 15, dated June 7, 2010 & CFFDR-05, Page 1 of 8, dated June 9, 2010) the Proctor ID (652-07-02) and related moisture & density data are not provided in the CQA report. Please provide the data.
8. (Appendix A-7) In the Summary Table (CFFDR-08, Page 1 of 5, dated June 29, 2010) the sample ND-387 has referenced the maximum dry density of 112.9 pcf (the Proctor ID 652-09-03) for the compaction effort. However, the measured maximum dry density for the sample - Proctor ID 652-09-03 is 109.4 pcf. Please make necessary correction.

Additionally, in the February 14 2011 cover letter that came along with the CQA Report indicated that there were two pre-operational conditions of the Permit To Construct for Cell No. 4 had not been completed by the County at this time, which included:

1. Modification of the Operations Plan by adding the provisions and day-to-day management practices of recyclable material including, but not limited to, white goods/scrap metals, used/scrap tires as described in the December 31 2009 response letter (Doc ID 9246), prepared by CDM on behalf of Dare County to DWM’s Comment Nos. 7, 8, and 9. Dare County must submit the Solid Waste Section the revised Operations Plan for review and approval.
2. Modification of the Operations Plan by removing the scrap tire from the waste stream for disposal of at Cell 4 and future cells.

Please provide the modified Operations Plan including the above-mentioned information as an addendum or supplemental to the Application of Permit To Construction for Cell No. 4.

Furthermore, please identify if **B-103** is a soil boring or a piezometer that is located in the footprints of the Cell No.4 (Refer Sheet No. 1 “Site Map” in the approved Hydrogeologic Report and Water Quality Monitoring Plan for Cell No. 4 [Doc ID 6910]). If B-103 is a piezometer, please provide the related well abandonment record which was not provided in the “*Dare County Construction and Demolition*

Debris Landfill Phase No. 4 Expansion Well Abandonment Record" dated April 14, 2010 and prepared by Froehling & Robertson, Inc.

Please incorporate requested information, document, revisions, and responses to a new submittal including a written hard copy and an electronic copy. The Solid Waste Section appreciates your efforts and cooperation in this matter. If you have any questions or would like to schedule a meeting to discuss this matter further, please contact me at (919) 508- 8507.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ming-Tai Chao', written in a cursive style.

Ming-Tai Chao, P.E.
Environmental Engineer II
Solid Waste Section

cc: W. Michael Brinchek, P.E., CDM
Donna Wilson, DWM
Ray Williams, DWM
Central Files

Ed Mussler, Permitting Branch Supervisor
Christine Ritter, DWM
Dennis Shackelford, DWM