



North Carolina Department of Environment and Natural Resources

Dexter R. Matthews, Director

Division of Waste Management

Beverly Eaves Perdue, Governor
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SOLID WASTE SECTION

January 27, 2009

Mr. Stephen King
Haywood County Solid Waste Director
278 Recycle Road
Clyde, North Carolina 28721

Subject: Engineering Technical Review – Permit to Construct
Haywood County White Oak Landfill, Phases 3 & 4
Haywood County, Permit #44-07, Document ID No. 6638

Mr. King:

The Division of Waste Management, Solid Waste Section (Section) has completed the engineering technical review of the document titled *White Oak MSW Landfill, Haywood County, North Carolina, Permit to Construct MSW Phases 3 and 4*, September 2008. It should be noted the Section cannot permit or approve plans for an operating capacity in excess of five years. The application submitted covers Phases 3 and 4 with five years operating capacity in each. Therefore, this review will only cover plans for the five years of operating capacity of Phase 3. Regarding Phase 3, it has been determined the Section requires clarification or additional information in order to complete the technical review. Please provide a response for each of the followings items:

Facility Plan

1. Rule .1619(e)(1)(D) requires a discussion of *procedures for segregated management at different on-site facilities*.
2. Rule .1619(e)(4)(C)(i) requires *leachate pipeline operating capacity*.
3. Rule .1619(e)(4)(C)(iii) requires *final disposal plans and applicable discharge limits, including documented prior approval of the waste water treatment plant which may be designated in the plan*. Section 4.5 of the Facility Plan states the correspondence with the Town of Waynesville concerning leachate disposal in found in Appendix C. There is no Appendix C in the Facility Plan.

Engineering Plan

4. Rule .1620(b) requires *the plan to meet the requirements of this Rule and the design engineer shall incorporate a statement certifying this fact and bearing his or her seal of registration*.
5. Rule .1620(e)(2) requires *grading plans: proposed limits of excavation, subgrade elevations, boring locations, intermediate grading for partial construction*. Sheet C3 shows proposed grading contours, but there is a Note within Cell 3 stating *contours within Phase 3 consist of existing, proposed top of clay, ground water and rock elevations*. Please provide a drawing with subgrade elevations as required.

Construction Quality Assurance Plan

6. Section 6.3 states *soils used in clay liners shall consist of clean, select material free of debris, excessive coarse particles or other deleterious matter*. Please provide maximum grain size limits for the compacted clay liner material.

7. Section 6.3 states *if a nuclear gauge is used as the primary method for construction testing of the clay liner, the test data shall be verified by alternate test methods at least once for every 25 tests performed.* The Section would prefer a frequency of one out of every 10 tests performed, or 10 percent, for all such verification tests.
8. Section 6.4.1 states *permeability tests shall be performed at a confining pressure of 25 psi +/- 1 psi.* Please provide documentation that the proposed confining pressures are realistic relative to this proposed landfill phase.
9. Rule .1624(b)(8)(c)(3) requires *any tests resulting in the penetration of the compacted clay liner shall be repaired using bentonite or as approved by the Division.* Please specify the proposed repair method for compacted clay liner test locations.
10. Rule .1624(b)(2)(D) requires *the leachate collection system shall be operated to remove leachate from the landfill in such a way as to ensure that the leachate head on the composite liner does not exceed one foot under normal operating conditions.* Please indicate how you will determine functionality of the leachate collection system prior to opening the landfill.

Operations Plan

11. Page 6 states *daily cover will be the combination of soil, synthetic cover, and mulched material.* Just to be clear, the Section will only approve the use of a soil/mulch mixture with at least a 3:1 soil to mulch ratio for use as daily cover.
12. Item 1.d states asbestos wastes will be *put in a hole dug out of the existing waste and buried immediately.* This operation may contradict Rule .1626(1)(d) which requires asbestos wastes to be disposed of *(i) at the bottom of the working face, or (ii) in an area not contiguous with other disposal areas.* Also,
13. Item 2.b states a daily cover of soil/mulch mixture *consisting of 1.5 inches of mulched material combined with 4.5 inches of soil.* Just to be clear, the soil/mulch mixture must be mixed such that the mulch is completely incorporated into the soil. Also, please provide a description of the procedure to measure, mix and place the soil/mulch mixture.
14. Item 3.a states *Haywood County will prevent or control on-site populations of disease vectors using techniques appropriate for the protection of human health and the environment.* Please list any techniques and describe any techniques that may be used other than covering with soil.
15. Item 8.e provides a note on the 404/401 permits required for impacting wetlands and jurisdictional waters. This note is not required or relevant to the Operations Plan.
16. Item 9.a(ii) states liquid waste will not be placed in the landfill unless *the waste is leachate or gas condensate derived from the landfill.* Rule .1626(9)(a)(ii) places additional restrictions on the placing leachate or gas condensate in the landfill.
17. Item 12.a states *the leachate collection system test wells will be checked on a quarterly basis for blockages and leachate lines will be cleaned as necessary.* Please qualify the procedure used to check for blockages and quantify the criteria that will be used to determine proper operation of the LCS. The Section recommends annual camera inspections to insure proper functionality of the LCS.
18. There is no discussion of the procedures used to dispose of the baled wastes currently being placed in the landfill. At a minimum, a discussion of the transport, disposal and cover of the bales should be presented.
19. The Operations Plan should be revised to include all recent revisions (i.e. treatment and processing, composting, etc.).

Closure and Post-closure Plan

20. Rule .1629(b)(1)(B) requires *an estimate of the largest area of the MSWLF unit ever requiring the specified cap system at any time during the active life.*
21. Rule .1629(c)(1) requires *a description of the monitoring and maintenance activities required in Paragraph (d) of Rule .1627 for each MSWLF unit, and the frequency at which these activities shall be performed.* Please refer to Paragraph (d) of Rule .1627 to ensure all required components are covered.

Water Quality Monitoring Plan

22. The review of the Design Hydrologic Report and Water Quality Monitoring Plan will be sent under separate cover by Mr. Zinith Barbee.

I would like to note, the Section has received and accepted the following documents related to the wetlands and jurisdictional waters to be impacted by Phase 3 construction:

- US Army Corps of Engineers (Wilmington District), General Permit (Regional and Nationwide) Verification. Action ID 2008-02370. Nationwide Permit Number: 39. Signed by: Lori Beckwith, November 12, 2008. Expiration Date of Verification: November 12, 2010.
- NC Division of Water Quality, Approval of 401 Water Quality Certification with Additional Conditions. DWQ Project #98-1070, Ver. 2. Signed by: Coleen H. Sullins, September 26, 2008.

However, the 404 and 401 approvals do not necessarily mean all the requirements of Rule .1622(3) have been met. Please review, and or provide the documentation necessary to ensure all of the location restriction requirements of Rule .1622 have been met.

If you should have any questions regarding this matter please contact me at (828) 296-4703, or by email at allen.gaither@ncmail.net .

Sincerely,



Allen Gaither
Environmental Engineer

Cc: Jeff Bishop – McGill Associates
Zinith Barbee – SWS/RCO
Andrea Keller – SWS/ARO