William G. Ross Jr., Secretary

Solid Waste Section

December 04, 2008

Ms. Jeryl W. Covington, P.E., Director
Environmental Services Department
P.O. Box 3136
Greensboro, NC 27402-3136

Re: Comments on the Construction and Demolition Landfill (C&DLF) Permit Renewal Application (the permit application), White Street Landfill Facility, Guilford County, North Carolina
Permit No. 41-03, Document ID No. 6334

Dear Ms. Covington:

The Division of Waste Management (the Division), Solid Waste Section (SWS) has received the above-referenced permit application and conducted a review of compliance with the Solid Waste Management Rule (Rule), 15A NCAC 13B .0547(4). The SWS hydrogeologist will review the Corrective Action Plan and may request any additional information related to corrective action, water quality monitoring and hydro-geology in a separate letter upon completion of his or her review. This letter is a review of the engineering related portions of the permit application and the SWS needs the following additional information:

Operation Plan

1. The Applicant needs to describe the proposed facility plan approved by the Greensboro City Council. The facility plan is a conceptual plan for the development of the entire C&DLF facility and is prepared in accordance with Rules .0537 (d)(1), (e)(1), (e)(2), and (e)(3). Please also provide the information of approved service areas and approved daily or weekly disposal rate.

2. The Section 10.0 and Figures C-1 to C-5 describe the proposed waste placement/fill sequence. When will each proposed fill sequence be completed? What is the relationship between the proposed fill sequence and the total gross capacity of the proposed C&DLF in its projected active life terms and estimated gross capacity for the next 5-year developing phase? Topographic and/or cross-section drawings to show the each proposed 5-year phased development are required.

3. (Section 8.0 & Section 12.1) What will be the thickness of the in-place earthen cover material which will be applied over working face at least weekly and when the working face exceeds one-half acre or at more frequent intervals as needed. Please clarify.

4. (Section 12.2) According to Rule .0542(f)(2) the minimum 12-inch-thick intermediate earthen cover must be placed over the areas which will not have additional wastes placed on them for three (3) months or more, not 12 months or more stated in the Section. Please revise the Section 12.2 accordingly.

5. In compliance with Rule .0542(h) the Operational Plan (Plan) shall propose measures, techniques, and practices to prevent and control on-site populations of disease vectors. Please add a section in the Plan to describe disease vector control.

6. (Section 14.0) The Operational Plan (Plan) needs to address if the C&D landfill unit has complied with any applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the U.S. EPA Administrator pursuant to Section 110 of the Clean Act, as amended. Additionally the Plan needs to address what types of fire fighting equipments (such as fire extinguishes, stockpile soil, water from sediment basins, etc.) are available on-site. Are the compactors, dozers, and other facility equipment equipped with proper fire extinguishers? The written agreement or proof of arrangement for the fire-fighting services at the C&DLF from the Greensboro Fire Department. The document shall be a portion of the permit application. In the event fires or explosions occur at the site, the contents of the written notification required by Rule .0542(i)(4) must be described in the Plan. Please clarify.

7. (Section 18.0 & Map CD-80B) There are two SB #6 shown on Map CD-80B. NPDES is the acronym of the National Pollutant Discharge Elimination System. Please make necessary corrections.

8. The Applicant needs to provide the Division the written agreement or proof of arrangement for handling hazardous wastes and substances found at the C&DLF from the hazardous material emergency response team for Guilford County.

9. If there is a recycling program proposing to be conducted at the C&DLF site, the recycling processes including, but not limited to, segregation procedures, estimated waste amount per week, stockpile and storage locations, schedule of off-site removal need to be incorporated to the waste screening and segregation plan. The information of the companies that have contracted to City of Greensboro to haul the recyclable wastes off-facility need to be provided in the Operations Plan. The total amount of each of the recyclable wastes must be documented in the operating record. Scales shall be used to weigh the amount of recyclable waste.

10. (Section 16.0 & Appendix C) There is a typographic error of the NCDENR- Winston Salem phone number; the correct one is 336-771-5000. Please make the necessary correction.

11. (Section 22.0) According to Rule .0542(n)(1) any cost estimates and all audit records, compliance records, and inspections records must be added to the "Record Keeping" Section. Please revise the section 22.0.

12. What kinds of provisions are there to handle leachate seeping out of the closed MSWLF overlain by the C&DLF unit? Please clarify.

Closure Plan

13. Please define the largest area to be closed at any time during the C&DLF active life that is consistent with drawings prepared for and matching the cost estimate for the proposed closure activities.

14. The Rule .0547(4)(d) requires the C&DLF on top of a closed MSWLF to be closed in accordance with Rule .1627; therefore the closure notification, verification, and schedule must be implemented in accordance with Rules .1627(c) (4) – (7) not Rule.0543 which stated in the second paragraph of Section 1.0. Please make necessary corrections.

15. Will there be an intermediate soil cover to be placed, compacted, and grade for surface flow over the C&D wastes prior to install the final cap system? Will portions of the $400,000 of the costs for backfill/grading/stormwater (See cost estimate) be used for the construction of intermediate soil cover? Please clarify.

16. The Rule .1627 (c)(1) requires the cap has " a permeability less than or equal soils underlying the landfill, or the permeability specified for the final cover in the effective permit, or a permeability no greater than 1.0×10^{-5} cm/sec, **whichever is less**." What is the permeability of the foundation soil underlying the C&DLF which is the final cover for the closed Phase II MSWLF? Please provide the permeability testing results of the foundation soil and sample locations relative to the landfill footprint to support the proposed permeability of soil cap. If the

above-requested data are not available, the alternative soil cap system consisting geosynthetic material and earthen material may be warranted and proposed in the Closure Plan. Additionally, the groundwater underneath the landfill property has been contaminated due to leachate seeping to groundwater. Should the Closure Plan propose a site specific alternative final cover system, rather than a prescribe one stated in the Rule, to incorporate and enforce the proposed final remedy- monitored natural attenuation that is proposed in the Corrective Action Plan by mitigating or eliminating additional amount leachate resulting from external water percolating and infiltrating through the final cover during the post closure period? Please clarify.

17. Please provide the slope stability analysis data (including the veneer slope stability and global stability) to support the final cap design. And the soil engineering properties including shear strength, density, internal friction angle used for designing the final soil cover system must be considered as the minimum criteria to select the earthen or synthetic material and be field tested in according to the requirements specified in the Construction Quality Control and Quality Assurance (CQA) Plan.

18. A CQA plan, appended to the Closure Plan shall be prepared in accordance with Rule .1621. The CQA plan must describe the specifications and certification of proposed cap construction material and products, construction procedures and sequences (demonstrated by the test pad results), observations and tests (frequencies and methods) that will be used before, during, and upon completion of the final cap construction to ensure that the completed final cap system meets or exceeds the requirements stated in Rule .1624. This CQA Plan will be one of the bases for the preparing CQA Report [Rule .1624(b)(16)] described in the Section 2.0-Closure Verification of the proposed Closure Plan. Please submit a CQA Plan for constructing the final cap system accordingly.

19. The installation of gas venting system below the low permeability barrier of the closed landfill is required by Rule1627(c)(3)(B). Additionally the costs for installing methane gas control – passive extraction is considered in the closure activities. Therefore, please provide a plan (with a typical gas vent/probe detail sketch, a layout map, and specifications) to construct gas venting system over the closed C&DLF in the Closure Plan.

20. (Sections1.0 & 4.0) Will the construction, maintenance, and repair of stormwater drainage systems and sedimentation and erosion control devices for closure & post-closure activities be coordinated with the site-specific Storm Water Pollution and Prevention Plan (SWPPP) mentioned in the Operational Plan? If so, please make a reference and summarize the requirements stated in the SWPPP in the Sections 1.0 & 4.0. If not, the erosion and sediment control plan required by Rules .1627(c)(3) & .1624(b)(15) needs to be described in the Sections 1.0 & 4.0.

Post-Closure Plan

21. Which landfill unit (Phases 1, 2, or 3, or all of them) has been included and covered by the Post-Closure Plan? Please be specific.

22. The Post-Closure Plan must provide the name, address, and telephone number of the person or office to contact about the facility during the post-closure period [Rule .1629(c)(2)].

23. Please describe the future planned land use on the closed landfill during the post-closure period [Rule .1629(c)(3)].

24. What kinds of provisions are there to handle leachate seeping out of the final cap (the C&DLF and the unlined MSWLF units) during the post-closure period? Does the cost estimate for post-closure cares cove the expanse for manage leachate management?

25. What kinds of provisions are there to maintain the landfill gas control system during the post-closure period which will ultimately be the City Greensboro's responsibility? Does the cost estimate for post-closure cares cove the expanse for long-term management and maintenance of the landfill gas control system? Please clarify.

Financial Assurance

26. (Cost Estimate for C&DLF Closure) Does the cost estimate take into account soil shrinkage factors for the infiltration layer and vegetative support layer?

27. (Cost Estimate for C&DLF Closure) Has there any costs associated with closure verification (described in the Section 2.0 of the Closure Plan) been considered in the cost estimates for closure activities? The costs for installation of temporary and permanent erosion and sediment control measures are not included in the cost estimate. The cost items for Mobilization, CQC, Project Administrative, Bonds and CQA are confusion (4% for unit price, CQA quantity is 5 & unit is "%"). Please clarify.

28. The City Greensboro letter (the last sentence on page 1 and continued to the following paragraph on page 2) dated June 23, 2008 indicated that the annual costs of $248,880 will cover post-closure cares over Phase II MSWLF and C&DLF unit; however, the enclosed table containing the cost estimate for post-closure activities indicated the annual costs of $248,880 will cover both Phases I & II (205 acres) MSWLF (assumed including the C&DLF unit on top of the closed Phase II MSWLF). Please clarify and make necessary correction.

Appendix D – Water Quality Monitoring Plan (WQMP)

29. (Section 3) The WQMP needs to provide a table of summary data of each monitoring well; the data includes, but not limited to, elevations of ground surface, top of casing, top & bottom of the well screen, & well bottom, survey coordinates, total well depth, soil formation around well screen.

30. (Section 3) What provisions of sample sequences, storage, and transport are there to avoid cross-contamination when sampling groundwater from monitoring wells and surface water from the designated monitoring points along Buffalo Creek? Please clarify.

31. (Section 3) The WQMP needs to address how to manage the handling, storage, and disposal of investigated derived wastes (such as spent PPE, decontamination wastes, purged well water, etc) in the sampling event.

32. There are many discrepancies found between Figure CD-81B and Figures 1 & 2 in WQMP:
    - Monitoring well ID is not consistent. GWMW-XX, GWMWI-XX, and GWMWII-XX are used on Figure CD-81B, and MW-XX, I-XX and II-XX are used on Figure 1 of WQMP.
    - There are three GWMWII-3 shown on Figure CD-81B.
    - A well GWMWI-5 and new wells II-9, II-10, II-11shown on Figure CD-81B are not found on Figure 1 of WQMP.
    - The surface water monitoring point, SW-1 is not on Figure 2 of WQMP.

    Please make necessary corrections.

33. Please provide Attachments 1 (Daily Field Report Form) and 2 (Chain of Custody) to the WQMP.

34. (Sections 3.4.1 & 5) The Section 5.4 of the WQMP proposes to use the North Carolina groundwater quality standards (15A NCAC 2L, .0202) as the groundwater quality protection standards for the facility. However, the Section 3.4.1 and Tables 3A & 3B listed Solid Waste Section Limits as the groundwater quality protection standards. Please clarify.

35. What will be the surface water quality protection standards for surface water in the drainage features – especially Buffalo Creek in the vicinity of the facility? The WQMP must present the proposed surface water quality protection standards.

36. The Section 3.2.1.1 of the WQMP proposes the groundwater parameters to be field measured including temperature, pH, conductivity, oxidation reduction potential and dissolved oxygen; however, the Table 3B only listed three parameters temperature, pH, conductivity to be measured in field. Please clarify.

37. Please provide the proposed upstream (or background) surface water monitoring point for the facility-specific WQMP.

38. The well logs and boring logs for monitoring wells II-2 & II-5 are not provided in the Appendix III of the WQMP. The well log for well MW-13 is not available, either. Please provide the missing logs.

39. Why there are two water quality monitoring plans – the WQMP in Appendix D and Revised WQMP (aka CAMP) proposing for the site? The Permittee may want to arrange and prepare the CAMP by incorporating both site-wide detection monitoring program and corrective monitoring plan into a single WQMP.

Corrective Action Plan (CAP)

40. Tables 1 through 6 summarize historical groundwater quality monitoring results of constituents of concern (COCs) in well I-5; however, the well location is not shown on Figures 3 & 4. The Section 2.3 does not describe 1,4-dichlorobenzene and thallium detection and exceedance of respective NC 2L standards in well I-5. Please make necessary corrections.

The Division 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,

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

cc: Ed Mussler, DWM
Donna Wilson, DWM
Jackie Drummond, DWM
Hugh Jernigan, DWM
Jason Watkins, DWM
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