



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

March 5, 2015

Mr. Michael Plummer
HDR Engineers
440 S. Church St, Suite 1000
Charlotte, NC 28202

Ref: Amendment to Permit (3416-CDLF-1995)
Old Salisbury Road Construction & Demolition Landfill - Forsyth County NC
Hydrogeology Review **DIN 23910**

The Division of Waste Management, Solid Waste Section (SWS) has completed review of the amendment to permit submittal package for the referenced facility in regards to hydrogeological considerations: specifically as contained in Appendix D – Monitoring Plan of the permit amendment application (DIN 21523); and in the Design Hydrogeological Report for Phases IV, V, & VI (December 2003). According to the permit application submittal, the City of Winston-Salem City/County Utility Commission is requesting an amendment to the operations permit for continuing operations through the next five-year permitting cycle. The current PTO (DIN 8562) covers the vertical expansion for Phases IV, V, and VI.

The Design Hydrogeologic Report for Phases IV-VI (December 2003) provided a complete hydrogeological characterization for this area that meets the criteria required in the Rules (15A NCAC 13B .1623(b) and .1624(b)(4). No design changes to base grades or other design aspects that impact vertical separation are currently planned. No further hydrogeological study is necessary at this time.

The current groundwater, surface water, and landfill gas monitoring network for the CDLF facility was last approved in 2009. The monitoring network consists of fourteen (14) monitoring wells, four surface water monitoring locations, and fourteen (14) LFG monitoring probes. The monitoring plan is designed to detect early release of constituents to the uppermost aquifer and dangerous levels of explosive gases. Sample collection is performed semiannually and reported to SWS. LFG measurements are taken quarterly. Currently the facility is operating under an approved assessment monitoring plan (DIN 15819) due to detection of constituents above protection standards in one well starting in 2011. The current monitoring plan incorporates changes as requested for the Assessment Monitoring Plan. No further changes to the facility monitoring system or operations are required with the exception of LFG monitoring as noted below:

- Appendix D – Monitoring Plan Section 2.3 Landfill Gas

Due to the nature of materials disposed in them, C&D landfills are a source of the explosive gas hydrogen sulfide (H₂S). Please revise text to include hydrogen sulfide gas (H₂S) monitoring in addition to methane gas monitoring for all LFG probes. Also, revise *Table 2 – Sampling Schedule* to include H₂S as a parameter to be monitored along with other gases.

If you have any questions or would care to discuss prior to responding, please do not hesitate to contact me at (919) 707.8258 or by email at perry.sugg@ncdenr.gov.

Sincerely,



W Perry Sugg, PG
Permitting Hydrogeologist
Solid Waste Section

Cc: Jan McHargue, Winston-Salem Solid Waste Administrator
Ed Gibson, Winston-Salem Solid Waste Engineer
Ed Mussler, SWS Permitting Branch Head
John Murray, SWS Permitting Engineer
CT Gerstell, SWS Environmental Specialist