

### **15A NCAC 13B .0539 ENGINEERING PLAN FOR C&DLF FACILITIES**

(a) Purpose. The engineering plan must incorporate the detailed plans and specifications relative to the design and performance of the C&DLF's containment and environmental control systems. This plan must set forth the design parameters and construction requirements for the components of the C&DLF's systems and must establish the responsibilities of the design engineer. The engineered components must be described in Rule .0540 of this Section. As required under Rule .0535 of this Section, the owner or operator must submit an engineering plan, which meets the requirements of this Rule.

(b) Responsibilities of the design engineer. The engineering plan must be prepared by a Professional Engineer licensed to practice engineering in accordance with G.S. 89C and must meet the requirements of this Rule. The design engineer must incorporate a statement certifying this fact and bearing his or her seal of registration.

(c) Scope. An engineering plan must be prepared for a phase of development not to exceed approximately five years of operating capacity consistent with the development phases and design criteria defined in the facility plan. The engineering plan shall contain a report and a set of drawings which consistently represent the engineering design.

(d) An engineering report must contain:

- (1) A summary of the facility design that includes:
  - (A) a discussion of the analytical methods used to evaluate the design,
  - (B) definition of the critical conditions evaluated and assumptions made,
  - (C) a list of technical references used in the evaluation, and
  - (D) completion of any applicable location restriction demonstrations in accordance with Rule .0536 of this Section.
- (2) A description of the materials and construction practices that conforms to the requirements set forth in Rule .0540 of this Section.
- (3) A copy of the Design Hydrogeologic Report prepared in accordance with Paragraph (b) of Rule .0538 of this Section.

(e) Engineering drawings must illustrate:

- (1) existing conditions: site topography, features, existing disposal areas, roads, and buildings;
- (2) grading plans: proposed limits of excavation, subgrade elevations, intermediate grading for partial construction;
- (3) stormwater segregation system, if required: location and detail of features;
- (4) cap system: base and top elevations, landfill gas devices, infiltration barrier, surface water removal, protective and vegetative cover, and details;
- (5) temporary and permanent sedimentation and erosion control plans;
- (6) vertical separation requirement estimates including:
  - (A) Cross-sections, showing borings, which indicate existing ground surface elevations, base grades, seasonal high ground-water level, estimated long-term seasonal high ground-water level in accordance with Part (b)(2)(E) of Rule .0538 of this Section, and bedrock level in accordance with Part (b)(2)(F) of Rule .0538 of this Section; and
  - (B) A map showing the existing ground surface elevation and base grades. The map must include labeled boring locations which indicate seasonal high ground-water level, estimated long term high ground-water level in accordance with Part (b)(2)(E) of Rule .0538 of this Section, and bedrock level in accordance with Part (b)(2)(F) of Rule .0538 of this Section.

(f) The engineering plan must also describe and illustrate additional engineering features and details including, if proposed by the applicant, the cap system, leachate collection system and base liner system. Cap systems, leachate collection systems and base liner systems must be designed in accordance with NC Solid Waste Management Rules 15A NCAC 13B .1620 and .1621.

*History Note:* Authority G.S. 130A-294;  
Eff. January 1, 2007.