

15A NCAC 13B .0543 CLOSURE AND POST-CLOSURE REQUIREMENTS FOR C&DLF FACILITIES

(a) Purpose. This Rule shall establish criteria for the closure of all C&DLF units and subsequent requirements for post-closure compliance. The owner and operator shall develop specific plans for the closure and post-closure of the C&DLF facility or units that comply with this Rule and submit them to the Division for review and approval.

(b) Scope.

- (1) This Rule shall establish standards for the scheduling and documenting of closure of all C&DLF units and design of the cap system. Construction requirements for the cap system shall incorporate requirements from Rules .0540 and .0541 of this Section.
- (2) This Rule shall establish standards for the monitoring and maintenance of the C&DLF unit(s) following closure.

(c) Closure criteria.

- (1) A C&DLF unit shall have a cap system installed that shall be designed and constructed to:
 - (A) have a permeability less than or equal to 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;
 - (B) minimize infiltration through the closed C&DLF unit by the use of a low-permeability barrier that contains a minimum 18 inches of earthen material; and
 - (C) minimize erosion of the cap system and protect the low-permeability barrier from root penetration by use of an erosion layer that contains no less than 18 inches of earthen material that is capable of sustaining native plant growth.
- (2) Construction of the cap system for all C&DLF units shall conform to the plans prepared in accordance with Rules .0539 and .0541 of this Section and the following requirements:
 - (A) post-settlement surface slopes shall be a minimum of five percent and a maximum of 25 percent; and
 - (B) a gas venting or collection system shall be installed below the low-permeability barrier to minimize pressures exerted on the barrier.
- (3) The owner or operator may submit a request for an alternative cap system or alternative post-settlement slopes in the closure and post-closure care plan required to be submitted by Rule .0535 of this Section. The request shall include a demonstration of the following:
 - (A) the alternative cap system will achieve a reduction in infiltration equivalent to or greater than the low-permeability barrier specified in Subparagraph (1) of this Paragraph;
 - (B) the erosion layer will provide protection equivalent to or greater than the erosion layer specified in Subparagraph (1) of this Paragraph; and
 - (C) the alternative post-settlement slopes will be stable, encourage runoff, be safe to operate, and be safe to construct during operation and closure activities.
- (4) Prior to beginning closure of each C&DLF unit as specified in Subparagraph (5) of this Paragraph, an owner or operator shall notify the Division in writing that a notice of the intent to close the unit has been placed in the operating record.
- (5) The owner or operator shall begin closure activities for that portion of each C&DLF unit meeting one or more of the following requirements, unless an extension has been granted by the Division:
 - (A) no later than 30 days after the date on which the C&DLF unit receives the known final receipt of wastes;
 - (B) no later than 30 days after the date that a 10 acre or greater area of waste is within 15 feet of final design grades; or
 - (C) no later than one year after the most recent receipt of wastes, if the C&DLF unit has remaining capacity.

Extensions beyond the deadline for beginning closure may be granted by the Division if the owner or operator demonstrates that the portion of the C&DLF unit has the capacity to receive additional wastes and the owner or operator has and will continue to prevent threats to human health and the environment from the unclosed C&DLF unit.

- (6) The owner and operator of all C&DLF units shall complete closure activities of each C&DLF unit in accordance with the closure plan within 180 days following the beginning of closure as specified in Subparagraph (5) of this Paragraph. Extensions of the closure period may be granted by the Division if the owner or operator demonstrates that closure will, of necessity, take longer than 180 days and they have and will continue to prevent threats to human health and the environment from the unclosed C&DLF unit.

- (7) Following closure of each C&DLF unit, the owner or operator shall notify the Division that a certification, signed by the project engineer verifying that closure has been completed in accordance with the closure plan, has been placed in the operating record.
- (8) One hundred and eighty days prior to beginning closure of the final permitted C&DLF unit, an owner or operator shall submit to the Division in writing a notice of intent to close the final unit; and place a copy of the notice in the operating record. The notice shall include the anticipated date that the facility shall cease waste acceptance, and a statement identifying the plans that were incorporated into the permit that the owner or operator shall comply with during the closure and post-closure care period. The notice shall include the dates that the plans were incorporated into the facility's permit and the file identification numbers that were assigned by the Division to the files containing these plans. If the owner or operator determines that updates or revisions to the plans are necessary, the owner or operator shall submit any changes to the plans to the Division as a permit modification in accordance with Rules .0533(a)(3) and .0535(d) of this Section.
- (9) Recordation. Following closure of all C&DLF units, the owner or operator shall record a notice for the landfill facility property at the local county Register of Deeds office; and notify the Division that the notice has been recorded and a copy has been placed in the operating record. The notice may be a notation on the deed to the landfill facility property, or may be some other instrument such as a declaration of restrictions on the property that is discoverable during a title search for the landfill facility property. The notice shall notify any potential purchaser of the property that the land has been used as a landfill facility and future use is restricted under the closure plan approved by the Division. The owner or operator may request approval from the Division to remove the notice. The Division shall approve removal of the notice if all wastes are removed from the landfill facility property.

(d) Closure plan contents. The owner and operator shall prepare a written closure plan that describes the steps necessary to close all C&DLF units at any point during their active life in accordance with the cap system requirements in Paragraph (c) of this Rule. The closure plan shall include the following information:

- (1) a description of the cap system and the methods and procedures to be used to install the cap that conforms to the requirements set forth in Paragraph (c) of this Rule;
- (2) an estimate of the largest area of the C&DLF unit requiring the specified cap system at any time during the active life that is consistent with the drawings prepared for the operation plan for an existing C&DLF unit, or the engineering plan or facility plan for a lateral expansion or new C&DLF unit;
- (3) an estimate of the maximum inventory of wastes on-site over the active life of the landfill facility;
- (4) a schedule for completing all activities necessary to satisfy the closure criteria set forth in Paragraph (c) of this Rule; and
- (5) the cost estimate for closure activities as required under Section .1800 of this Subchapter.

(e) Post-closure criteria.

- (1) Following closure of each C&DLF unit, the owner and operator shall conduct post-closure care. Post-closure care shall be conducted for 30 years, except as provided under Subparagraph (2) of this Paragraph, and consist of the following:
 - (A) maintaining the integrity and effectiveness of any cap system including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing rainwater that drains over land from or onto any part of the facility or unit from eroding or damaging the cap system;
 - (B) monitoring the surface water and groundwater in accordance with the requirements of Rules .0544 and .0545 of this Section and maintaining the groundwater monitoring system;
 - (C) maintaining and operating the gas monitoring system in accordance with the requirements of Rule .0544 of this Section; and
 - (D) maintaining, operating, and decommissioning the leachate collection system, if present, in accordance with the requirements of Rule .0544 of this Section. The owner and operator may submit a request to stop managing leachate in writing to the Division. The request shall include a demonstration with supporting documentation that the operation and maintenance of leachate management systems during the active life, closure, and any post-closure care period of the C&DLF unit complied with the permit including the plans incorporated into the permit, the rules of this Subchapter, and 15A NCAC 02B and 02L;

and that the current and projected volume of leachate generated and the results of leachate sample analysis during the post-closure care period indicate that the leachate no longer poses a threat to human health and the environment. The demonstration shall also include the certifications required by Subparagraph (3) of this Paragraph. The Division shall consider the information required to be submitted in the demonstration and the owner or operator's compliance history to make a determination on approval of the request.

- (2) The length of the post-closure care period may be:
 - (A) decreased by the Division if the owner or operator demonstrates that the reduced period is protective of human health and the environment and this demonstration is approved by the Division; or
 - (B) increased by the Division if the Division determines that the lengthened period is necessary to protect human health and the environment.
 - (3) Every five years during the post-closure care period and following completion of the post-closure care period for each C&DLF unit, the owner or operator shall notify the Division that a certification verifying that post-closure care has been conducted in accordance with the post-closure plan has been placed in the operating record. If required by G.S. 89C, the certification shall be signed by a licensed professional engineer.
- (f) Post-closure plan contents. The owner and operator of all C&DLF units shall submit a written post-closure plan to the Division that includes the following information:
- (1) a description of the monitoring and maintenance activities required for each C&DLF unit, and the frequency at which these activities shall be performed;
 - (2) name, address, and telephone number of the person or office responsible for the facility during the post-closure period;
 - (3) a description of the planned uses of the property during the post-closure period. Post-closure use of the property shall not disturb the integrity of the cap system, base liner system, or any other components of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in Rules .0531 through .0546 of this Section. The owner or operator may submit a request in writing to the Division for a disturbance. The request shall include a demonstration that disturbance of the cap system, base liner system, or other component of the containment system, including any removal of waste, will not increase the potential for fires, vector attraction, damage to these systems, or the release of dust, odors, waste, or leachate to the environment; and
 - (4) the cost estimate for post-closure activities required under Section .1800 of this Subchapter.

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