

SUBCHAPTER 13B - SOLID WASTE MANAGEMENT

SECTION .0100 - GENERAL PROVISIONS

15A NCAC 13B .0101 DEFINITIONS

The definitions in Article 9 of Chapter 130A of the General Statutes and the following definitions shall apply throughout this Subchapter, except for Section .1500 of this Subchapter:

- (1) "Aerated static pile composting" means the process in which decomposing organic material is placed in piles over an active aeration system that is used to supply oxygen and to control temperature for the purpose of producing compost.
- (2) "Agricultural waste" means waste materials produced from the raising of plants and animals, including animal manures, bedding, plant stalks, hulls, and vegetable matter.
- (3) "Airport" means public-use airport open to the public without prior permission and without restrictions within the physical capacities of available facilities.
- (4) "Anaerobic digestion" means the biological process in which microorganisms break down biodegradable organic material in the absence of oxygen.
- (5) "Backyard composting" means the on-site composting of yard waste and food residuals by the owner or tenant of a residential property. The waste material is generated only onsite, and the resulting compost is used only onsite or on the owner or tenant's property.
- (6) "Backyard vermicomposting" means the on-site vermicomposting by the owner or tenant of a residential property using organic material from the residential property with the product produced used only onsite or on the owner or tenant's property.
- (7) "Collection center" means a collection point for the temporary storage of solid waste for individual residential households who choose to transport solid waste generated on their own property to a facility owned or operated by a local government, rather than directly to a solid waste management facility permitted in accordance with the rules of this Subchapter. Collection centers are also known as "convenience centers" and "drop-off-centers," and are not transfer stations for the purpose of this Subchapter. A person, business, or local government facility that collects materials for the purpose of recycling, and does not collect any solid waste for the purpose of disposal, is not a collection center for the purpose of this Subchapter. A collection center shall operate in accordance with Rule .0208(a) of this Subchapter.
- (8) "Compost" means a decomposed, humus-like organic matter, produced in an aerobic composting process that is designed and monitored to ensure that the product is free from pathogens, toxins, or materials harmful at the point of end use. Compost is suitable for use as a soil conditioner and may have varying nutrient values.
- (9) "Compost facility" means a solid waste facility established in accordance with Section .1400 of this Subchapter that utilizes a controlled biological process of degrading non-hazardous solid waste. A compost facility may include:
 - (a) materials processing and hauling equipment;
 - (b) structures to control drainage;
 - (c) structures to collect and treat leachate; and
 - (d) storage areas for the incoming waste, the final products, and residual materials.
- (10) "Composting" means the biological decomposition of organic waste by naturally occurring bacteria under an aerobic process that is designed and monitored to yield a stable, humus-like, pathogen-free compost product.
- (11) "Composting pad" means a surface, whether soil or manufactured, where the process of composting takes place, and where raw and finished materials are stored.
- (12) "Construction and demolition debris landfill" and "C&DLF" mean a sanitary landfill unit established in accordance with Rules .0531 through .0546 of this Subchapter for the land disposal of C&D waste.
- (13) "Curing" means a continuation of the composting process after the high heat stage during which compost stability and maturity continue to increase. Curing occurs after completing the process to further reduce pathogens and the requirements for vector attraction reduction.
- (14) "C&D waste" means solid waste generated solely from the construction, remodeling, repair, or demolition operations on pavement and buildings or structures. C&D waste includes municipal

- and industrial solid wastes that are identical to materials generated from the construction, remodeling, repair, or demolition operations on pavement and buildings or structures.
- (15) "Demolition landfill" means a sanitary landfill that was limited to receiving stumps, limbs, leaves, concrete, brick, wood, uncontaminated earth or other solid wastes approved by the Division, which either ceased operation or was converted to a land clearing and inert debris landfill (LCIDLF).
 - (16) "Digestate" means the organic material produced during the anaerobic digestion process. The digestate is a wet mixture of solid and liquid that is rich in nutrients.
 - (17) "Division" means the Director of the Division of Waste Management or the Director's authorized representative.
 - (18) "Erosion control measure, structure, or device" means physical devices constructed, and management practices utilized, to control sedimentation and soil erosion such as silt fences, sediment basins, check dams, channels, swales, energy dissipation pads, seeding, mulching, and other similar items.
 - (19) "Explosive gas" means a landfill gas that will propagate a flame in air at 25 degrees Celsius and atmospheric pressure, such as methane or hydrogen sulfide.
 - (20) "Floodplain", "base floodplain", "one-hundred-year floodplain", or "100-year floodplain" mean "base floodplain" as defined in G.S. 143-215.52.
 - (21) "Foreign matter" means metals, glass, plastics, rubber, bones, and leather, but does not include sand, grit, rocks, or other similar materials.
 - (22) "Hazardous waste" means the term as defined in G.S. 130A-290(a)(8). The term does not include those solid wastes excluded from regulation pursuant to 40 CFR 261.4, incorporated by reference in 15A NCAC 13A .0106. The term does include hazardous waste generated by very small quantity generators as defined by 40 CFR 260.10, incorporated by reference in 15A NCAC 13A .0102(b).
 - (23) "Incineration" means the disposal of solid, semi-solid, or gaseous combustible wastes through a burning process designed to create a waste gas emission that complies with 15A NCAC 02D and a waste residue containing little or no combustible material; but is not open burning.
 - (24) "Incinerator" means a device designed to dispose of solid, semi-solid, or gaseous combustible wastes by incineration.
 - (25) "Industrial process waste" means any solid, semi-solid, or liquid waste generated by a manufacturing or processing plant that is a result of the manufacturing or processing process. This definition does not include packaging materials associated with such activities.
 - (26) "Industrial solid waste" means the term as defined in G.S. 130A-290(a)(13b). Such waste may include waste resulting from electric power generation, water treatment, and manufacturing processes for the following:
 - (a) fertilizer/agricultural chemicals;
 - (b) food and related products or byproducts;
 - (c) inorganic chemicals;
 - (d) iron and steel;
 - (e) leather and leather products;
 - (f) nonferrous metals or foundries;
 - (g) organic chemicals;
 - (h) plastics and resins;
 - (i) pulp and paper;
 - (j) rubber and miscellaneous plastic products;
 - (k) stone, glass, clay, and concrete products;
 - (l) textiles; and
 - (m) transportation equipment.This term does not include mining waste or oil and gas waste.
 - (27) "Industrial solid waste landfill" and "ISWLF" mean a sanitary landfill unit established in accordance with Rules .0503 through .0505 of this Subchapter for the disposal of industrial solid waste, or for the exclusive disposal of scrap tires also known as a tire monofill.
 - (28) "Inert debris waste" means inert debris that consists solely of asphalt, cured concrete, brick, concrete block, gravel, and rock. Inert debris waste shall not contain chemical adhesives or sealants, or lead-based paint.

- (29) "In-vessel composting" or "within-vessel" means the process in which decomposing organic material is enclosed in a drum, silo, bin tunnel, or other container for the purpose of producing compost under aerobic conditions.
- (30) "Land clearing and inert debris landfill" or "LCIDLF" mean a landfill unit established in accordance with Rules .0563 through .0567 of this Subchapter for the disposal of yard waste and inert debris waste.
- (31) "Land clearing waste" means land-clearing debris that consists solely of stumps, trees, limbs, brush, grass, and other naturally occurring vegetative material.
- (32) "Landfill gas" means a gas or mixture of gases generated by the decomposition of solid waste in a landfill.
- (33) "Licensed geologist" means the term as defined in G.S. 89E.
- (34) "Licensed professional engineer" means "professional engineer" as defined in G.S. 89C.
- (35) "Licensed professional land surveyor" means "professional land surveyor" as defined in G.S. 89C.
- (36) "Licensed soil scientist" means the term as defined in G.S. 89F.
- (37) "Lower explosive limit" means the lowest percent by volume of a mixture of explosive gases that will propagate a flame in air at 25 degrees Celsius and atmospheric pressure.
- (38) "Microbiological waste" means cultures and stocks of etiologic agents. The term includes cultures of specimens from medical, pathological, pharmaceutical, research, commercial, and industrial laboratories.
- (39) "Mulch" means a material generated from the chipping or grinding of naturally occurring wood waste such as tree stumps, limbs, and branches. Mulch shall not contain material generated from engineered, treated, or manufactured wood waste such as creosote telephone poles or railroad ties; laminated wood including flooring; painted, stained, or oiled wood; plywood; or composite boards such as particle board, medium-density fiberboard (MDF), oriented strand board (OSB), or similar products manufactured by binding or fixing the strands, particles, fibers, veneers, or boards of wood together to form a composite material. Mulch may contain material generated from the chipping or grinding of wooden pallets or skids only if the wood used in their construction is naturally occurring and has not been engineered, treated, or manufactured.
- (40) "Municipal solid waste landfill" and "MSWLF" mean a sanitary landfill unit established in accordance with Section .1600 of this Subchapter for the disposal of municipal solid waste.
- (41) "One-hundred-year flood", "100-year flood", or "base flood" means "base flood" as defined in G.S. 143-215.52.
- (42) "Open burning" means the term as defined in 15A NCAC 02D .1902.
- (43) "Pathogens" means organisms that are capable of producing infection or diseases, often found in waste materials.
- (44) "Pathological waste" means the following wastes that are removed during surgery and autopsies: human tissues, organs, body parts, secretions and excretions, and blood and body fluids. It also includes the carcasses and body parts of animals that have been exposed to pathogens in research, were used in the production of biologicals or in the in vivo testing of pharmaceuticals, or that died of a known or suspected infectious disease.
- (45) "Putrescible waste" and "putrescent" mean solid waste that is capable of or is generating odors and gases from the process of decomposition by microorganisms. Putrescible waste or solid waste that may become putrescent may include medical waste, kitchen and food waste, offal, and carcasses.
- (46) "Regulated medical waste" means blood and body fluids in individual containers in volumes greater than 20 milliliters, microbiological waste, and pathological waste that have not been treated pursuant to Rule .1204 of this Subchapter.
- (47) "Residues from agricultural products and processing" means solids, semi-solids, or liquid residues from food and beverage processing and handling, silviculture, agriculture, and aquaculture operations. The residues shall be non-toxic, non-hazardous, and shall contain no domestic wastewater.
- (48) "Respondent" means the person against whom an administrative penalty has been assessed.
- (49) "Sanitary landfill" means the term as defined in G.S. 130A-290(31). Landfills permitted in accordance with Rules .0503 through .0505 and .0510; Rules .0531 through .0546; and Section .1600 of this Subchapter are sanitary landfills. Land clearing and inert debris landfills are not sanitary landfills.
- (50) "Sediment" means the term as defined in G.S. 113A-52.

- (51) "Septage management facility" means land, personnel, and equipment used in the management of septage, including septage management firms as defined in G.S. 130A-290(a)(33), septage detention and treatment facilities, and septage land application sites established in accordance with Rules .0831 through .0846 of this Subchapter.
- (52) "Silt" means sediment resulting from accelerated erosion that is settleable or removable by control measures that are designed, constructed, and maintained and has been transported from its point of origin within the site land-disturbing activity and has been deposited, or is in suspension in water.
- (53) "Silviculture waste" means waste materials produced from the care and cultivation of forest trees, including bark and woodchips.
- (54) "Soil" means the unconsolidated mineral and organic material of the land surface. It consists of a mixture of organic matter and of sand, silt, and clay minerals.
- (55) "Solid waste collector" means any person who collects or transports solid waste by methods such as highway, rail, and navigable waterway.
- (56) "Solid waste generator" means any person who produces solid waste.
- (57) "Spoiled food" means any food that has been removed from sale by the United States Department of Agriculture, the N.C. Department of Agriculture and Consumer Services, or any other regulatory agency having jurisdiction in determining that food is unfit for consumption.
- (58) "Temporary debris storage and reduction site" means a site that complies with the requirements of Rule .0208(b) of this Subchapter for the storage and processing of additional waste generated from the following:
 - (a) an incident that caused a declaration of a state of emergency or disaster in accordance with Chapter 166A, Article 1A, Part 4 of the General Statutes to assist with local and State recovery and compliance with the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended; or
 - (b) a hurricane, tornado, severe storm, ice storm, or a 100-year flood event.
- (59) "Transfer station" means a permanent structure with mechanical equipment established in accordance with Section .0400 of this Subchapter that is used for the collection, consolidation, or compaction of solid waste prior to the transportation of solid waste for final disposal.
- (60) "Treatment and processing facility" means a facility established in accordance with Section .0300 of this Subchapter for the treatment and processing of solid waste prior to the transportation of solid waste for final disposal or for utilization by reclaiming or recycling.
- (61) "Vector" means a carrier, such as rodents, insects, and birds, that is capable of transmitting a pathogen from one organism to another.
- (62) "Vermicompost" means the product of the vermicomposting process that is a dark, fertile mixture of decomposed organic waste, bedding material, and granular castings.
- (63) "Vermicomposting" means the controlled and managed process by which live worms convert organic materials into vermicompost.
- (64) "Vermiculture" means raising of earthworms for the purpose of vermicomposting.
- (65) "Water supply watershed" means an area from which water drains to a point or impoundment, and the water is then used as a source for a public water supply.
- (66) "Water table" means the term defined in 15A NCAC 02L .0102.
- (67) "Windrow composting" means a process for compost production in which decomposing organic materials are placed in piles and are turned or agitated to assure all parts of the decomposing material meet the requirements of Section .1400 of this Subchapter for pathogen reduction and vector attraction reduction.
- (68) "Working face" means that portion of the solid waste disposal site where solid wastes are discharged, spread, and compacted prior to the placement of cover material.
- (69) "Yard waste" means land-clearing waste and yard trash.

History Note: Authority G.S. 130A-294;
 Eff. April 1, 1982;
 Amended Eff. August 1, 2008; October 1, 1995; January 4, 1993; December 1, 1991; February 1, 1991;
 Readopted Eff. January 1, 2021.

15A NCAC 13B .0102 APPLICABILITY

- (a) The management of solid waste is subject to Chapter 130A Article 1, Part 2, and Article 9 of the General Statutes, as well as the rules of this Subchapter.
- (b) The rules of this Subchapter shall not apply to the management of hazardous waste, with the exception of Rule .0103(h) of this Section. 15A NCAC 13A contains requirements for hazardous waste management.
- (c) The rules of this Section are applicable to the general management of solid waste by all persons in the State unless exempted by Article 9 of Chapter 130A of the General Statutes or the rules of this Subchapter.

History Note: *Authority G.S. 130A-294;*
 Eff. April 1, 1982;
 Amended Eff. February 1, 1991; October 1, 1984;
 Readopted Eff. January 1, 2021.

15A NCAC 13B .0103 GENERAL REQUIREMENTS

- (a) All solid waste shall be stored, collected, transported, separated, processed, recycled, recovered, and disposed of in a manner consistent with the requirements of the rules of this Subchapter. The Division is responsible for the enforcement of the rules of this Subchapter.
- (b) No solid waste containing radioactive material as defined in G.S. 104E-5 shall be collected and transported, stored, treated, processed, disposed of, or reclaimed, except as authorized by a radioactive material license issued by the Department of Health and Human Services, Division of Health Service Regulation, Radiation Protection Section.
- (c) Solid waste shall be disposed of in accordance with Article 9 of Chapter 130A of the General Statutes and the rules of this Subchapter. The disposal of solid waste shall be in accordance with the hierarchy of methods of managing solid waste in G.S. 130A-309.04(a)(1) through (6).
- (d) In addition to the requirements of G.S. 130A-309.10, hazardous waste, liquid waste as defined in Rule .0532 of this Subchapter, and regulated medical waste are prohibited from disposal at a solid waste disposal site. The Division may prohibit a waste stream of a particular type or from a particular source from being accepted at solid waste management facilities or disposed of at a solid waste disposal site if the Division determines that the waste stream contains an emerging contaminant or pathogen that may pose a risk to the environment or public health through the management or disposal of such waste at a particular solid waste management facility. If the Division prohibits such a waste stream, the Division shall notify all affected facilities in writing and shall post a notice on the Division's Solid Waste Section website at <https://deq.nc.gov/about/divisions/waste-management/solid-waste-section> no less than 48 hours prior to the effective date of the prohibition. The notice shall contain the type or source of the prohibited waste stream, the reason for the prohibition, the effective date of the prohibition, and the ending date of the prohibition or a statement that the prohibition shall be in effect until the Division removes the prohibition.
- (e) No person shall dispose or cause the disposal of solid waste in or on waters in a manner that results in solid waste's entering waters or being deposited upon lands of the State.
- (f) Solid waste disposal sites including sanitary landfills, land clearing and inert debris landfills, and incinerators shall comply with the same requirements as "new solid waste disposal facilities" provided in G.S. 143-215.54(c) in accordance with the effective date of S.L. 2000-150, s. 5.
- (g) All solid waste management facilities owned and operated by or on behalf of a local government shall have scales and shall weigh all solid waste when it is received at the facility.
- (h) When the Division assesses an administrative penalty for violations of Article 9 of Chapter 130A of the General Statutes and the rules adopted thereunder, the penalty shall be assessed in accordance with G.S. 130A-22 and the following assessment procedures:
 - (1) For all violations for which a penalty is assessed, a notice of the assessment shall be sent to the respondent by US Postal Service registered or certified mail, or hand-delivered. The notice shall describe the nature of the violation, state the amount of the penalty and the costs assessed in accordance with G.S. 130A-22(j) ("investigative costs"), state when the penalty and investigative costs are due, state that each day of a continuing violation will constitute a separate violation, and advise the respondent of the right to appeal in accordance with G.S. 150B.
 - (2) After the notice has been issued, the respondent may request to settle the penalty assessment and violations through informal procedures as set forth in G.S. 150B-22(a). The Division may reduce the amount of the assessed penalty as a part of a settlement agreement resulting from the informal procedure process.
 - (3) The assessed penalty and the investigative costs shall be due and payable within 60 days of receipt of the notice issued in accordance with Subparagraph (1) of this Paragraph.

- (4) The assessment of a penalty does not prevent the Division from also suspending or revoking a permit in accordance with G.S. 130A-23.

History Note: Authority G.S. 130A-294;
Eff. April 1, 1982;
Temporary Amendment Eff. October 28, 1988, for a Period of 180 Days to Expire on April 26, 1989;
Amended Eff. October 1, 1995; January 4, 1993; February 1, 1991; September 1, 1990;
Readopted Eff. January 1, 2021.

15A NCAC 13B .0104 SOLID WASTE STORAGE

- (a) The owner or occupant of any property, unless exempted from the rules of this Subchapter in accordance with G.S. 130A-294(b), shall be responsible for the sanitary storage of all solid waste accumulated on the property.
- (b) Unless another type of container is required by the unit of local government, garbage shall be stored in durable, rust-resistant, nonabsorbent, watertight, rodent proof, and cleanable containers with a close-fitting cover that is impervious to flies.
- (c) Refuse shall be stored in durable containers that are consistent with the requirements of the unit of local government.
- (d) All solid waste shall be stored using safe and sanitary practices for the preservation of the public health and welfare and the environment that prevents the generation of leachate, the attraction of vectors, the release of odors, and the release of waste or leachate to the environment.

History Note: Authority G.S. 130A-294;
Eff. April 1, 1982;
Amended Eff. February 1, 1988;
Readopted Eff. January 1, 2021.

15A NCAC 13B .0105 COLLECTION AND TRANSPORTATION OF SOLID WASTE

- (a) The solid waste collector shall be responsible for the collection and transportation of all solid waste to a solid waste management facility that is permitted by the Division.
- (b) The solid waste collector shall transport to a solid waste disposal site or solid waste management facility only those solid wastes that are allowed by the site or facility permit.
- (c) Vehicles or containers used for the collection of solid waste, and transportation by whatever means, including highway, rail, and navigable waterway, shall be constructed, operated, and maintained to be leak resistant in order to prevent the creation of a nuisance to public health from the escape of solid, semi-solid, or liquid waste. In order to meet the requirement to be leak resistant, the owner or operator of the vehicle or container shall adhere to the following standards:
- (1) All surfaces that come in contact with waste shall be smooth and non-absorbent.
 - (2) All drain holes and valves shall be closed, plugged, or sealed.
 - (3) The vehicle or container shall be equipped with seals, gaskets, or other devices pursuant to manufacturer specifications in order to prevent the escape of liquids. Such seals, gaskets, and other devices shall be maintained and replaced pursuant to manufacturer specifications.
 - (4) The vehicle or container body, waste holding area, and hopper, if so equipped, shall be free of holes, cracks, rusting, corrosion, or other evidence of damage or weakness that may allow the escape of solid, semi-solid, or liquid waste.
 - (5) The waste holding area, including the hopper and around the packer blade, if so equipped, shall be clear of debris to prevent vectors or the accumulation of litter.
 - (6) The vehicle or container shall be loaded, transported, operated, and maintained to prevent the escape of solid, semi-solid, or liquid waste to the environment.
 - (7) The vehicle or container shall be serviced, repaired, and cleaned to preserve the integrity of the door seal, to prevent the accumulation of mechanical fluids, dirt, leachate, and waste particulates on the vehicle's exterior, and to prevent contamination of the environment by fluids.

History Note: Authority G.S. 130A-294(b); S.L. 2013-413;
Eff. April 1, 1982;
Amended Eff. March 16, 2017; February 1, 1988;

Readopted Eff. January 1, 2021.

15A NCAC 13B .0106 GENERATOR OF SOLID WASTE

(a) Unless exempted from the rules of this Subchapter in accordance with G.S. 130A-294(b), a solid waste generator shall be responsible for storing, collecting, and disposing of solid waste in accordance with the rules of this Subchapter.

(b) Unless exempted from the rules of this Subchapter in accordance with G.S. 130A-294(b), the solid waste generator shall ensure that his or her waste is disposed of at a solid waste disposal site or solid waste management facility that is permitted by the Division to receive such waste in accordance with the rules of this Subchapter.

*History Note: Authority G.S. 130A-294;
Eff. January 1, 1985;
Readopted Eff. January 1, 2021.*

SECTION .0200 - PERMITS FOR SOLID WASTE MANAGEMENT FACILITIES

15A NCAC 13B .0201 PERMIT REQUIRED

(a) No person shall treat, process, store, or dispose of solid waste or arrange for the treatment, processing, storage, or disposal of solid waste except at a solid waste management facility permitted by the Division for such activity, except as provided in G.S. 130A-294(b).

(b) No person shall cause, suffer, allow, or permit the treatment, storage, processing, or disposal of solid waste upon any real or personal property owned, operated, leased, or in any way controlled by that person without obtaining a permit for a solid waste management facility from the Division authorizing such activity, except as provided in G.S. 130A-294(b).

(c) No solid waste management facility shall be established, operated, maintained, constructed, expanded, or modified without a valid permit issued by the Division for the specified type of activity. It is the responsibility of every owner or operator of a proposed solid waste management facility to apply for a permit for the facility. The term "owner" shall include record owners of the land where the facility is located or proposed to be located and holders of any leasehold interest, however denominated, in any part of the land or structures where the facility is located or proposed to be located.

(d) The solid waste management facility permit, except for permits authorizing LCIDLFs, septage management facilities, or compost facilities, shall have two parts, as follows:

- (1) A permit approval to construct a solid waste management facility or portion of a facility shall be issued by the Division after site and construction plans have been approved by the Division and it has been determined that the facility can be operated in accordance with Article 9 of Chapter 130A and the applicable rules set forth in this Subchapter, and other applicable State, federal, and local laws. An applicant shall not clear or grade land or commence construction for a solid waste management facility or a portion thereof until a permit approval to construct has been issued.
- (2) A permit approval to operate a solid waste management facility shall not be issued unless it has been determined that the facility has been constructed in accordance with the construction plans, that any pre-operation conditions of the permit to construct have been met, and that the permit has been recorded, if applicable, in accordance with G.S. 130A-301.

(e) LCIDLFs, septage management facilities, and compost facilities may be issued a combined permit that includes approval to construct and operate the facility.

(f) All solid waste management facilities shall be operated in conformity with the rules of this Subchapter and shall utilize safe and sanitary practices for the preservation of the public health and welfare and the environment by preventing the generation of leachate, the attraction of vectors, the release of odors, and the release of waste or leachate to the environment.

(g) Disposal area boundaries for landfills permitted in accordance with Sections .0500 or .1600 of this Subchapter shall be delineated with stationary markers affixed to the ground. The markers shall be of height and spacing so that they are distinguishable from the surrounding landscape, and so that the adjacent markers are visible when standing at a marker.

(h) The owner or operator shall notify the Department within 30 days of a significant change in accordance with G.S. 130A-295.2(g). The owner or operator shall submit an application to amend a permit for a change in ownership or corporate structure of a permitted solid waste management facility. If the facility is required to establish financial

assurance pursuant to Section .1800 of this Subchapter, then the facility shall not be released from the requirement to establish financial assurance until the Division has issued a permit to the new owner.

(i) Permits issued by the Division are subject to review by the Division to determine compliance with the rules of this Subchapter. The Division shall provide written notice to a facility no less than 180 days prior to an unscheduled review.

(j) Solid waste management facilities permitted by the Division in accordance with this Subchapter are subject to Article 1 Part 2 and Article 9 of Chapter 130A of the General Statutes, 15A NCAC 02C, 02L, 04, and the surface water quality standards in 15A NCAC 02B. [Note this list is not comprehensive, and is provided for information only.]

History Note: Authority G.S. 130A-294;
Eff. April 1, 1982;
Amended Eff. January 4, 1993; February 1, 1991; March 1, 1988;
Temporary Amendment Eff. May 19, 1993 to expire on October 9, 1993 or until the permanent rule becomes effective, whichever is sooner;
Temporary Amendment Expired Eff. October 9, 1993;
Amended Eff. September 1, 2016; August 1, 2008;
Readopted Eff. January 1, 2021.

15A NCAC 13B .0202 PERMIT APPLICATION

(a) Applications for permits required by Rule .0201 of this Section shall be submitted to the Department of Environmental Quality, Division of Waste Management, Solid Waste Section, 1646 Mail Service Center, Raleigh, North Carolina 27699-1646. Permit applications shall contain the following information:

- (1) site and construction plans;
- (2) an approval letter from the unit of local government having zoning authority over the area where the facility is to be located stating that the proposed facility meets all of the requirements of the local zoning ordinance, or that the site is not zoned;
- (3) plans and specifications for solid waste management facilities shall be prepared and certified by a licensed professional engineer if required by G.S. 89C, and is not under the purview of another licensed professional such as a licensed professional land surveyor. Geological studies shall be certified by a licensed geologist, if required by G.S. 89E, and is not under the purview of another licensed profession such as a licensed soil scientist in accordance with G.S. 89F;
- (4) any additional permit application information required to be submitted by the rules of this Subchapter based on the type of facility proposed by the applicant; and
- (5) other information that the Division may request in writing for the proposed facility, if it is necessary to determine compliance with the requirements of this Subchapter.

(b) All applications for a permit approval to construct as set forth in Rule .0201(d)(1) of this Section shall also include documentation necessary to determine compliance with G.S. 130A-295.2 and G.S. 130A-295.3, such as the following:

- (1) cost estimates for financial assurance if the facility is subject to Section .1800 of this Subchapter;
- (2) documentation that the Division may request to determine compliance with the requirements for financial qualifications in accordance with G.S. 130A-295.2(d), if any;
- (3) the environmental compliance history for the applicant as defined in G.S. 130A-295.3(a); and
- (4) if the applicant is a business entity, an organizational chart showing the structure of the applicant as defined in G.S. 130A-295.3(a)(i) through (iii).

(c) All applications for a permit approval to operate as set forth in Rule .0201(d)(2) of this Section shall also include documentation necessary to determine compliance with G.S. 130A-295.2 and G.S. 130A-295.3, such as the following:

- (1) updated cost estimates for financial assurance if the facility is subject to Section .1800 of this Subchapter;
- (2) the executed financial assurance mechanism if the facility is subject to Section .1800 of this Subchapter;
- (3) an updated environmental compliance history for the applicant as defined in G.S. 130A-295.3(a); and
- (4) if the applicant is a business entity, an updated organizational chart showing the structure of the applicant as defined in G.S. 130A-295.3(a)(i) through (iii).

(d) When a permit applicant submits a complete application for a permit to the Division prior to the expiration date of the existing permit for the facility, including the payment of an annual fee and permit application fee if required by G.S. 130A-291.1 or 130A-295.8, the existing permit shall not expire until a decision on the permit application is made by the Division.

*History Note: Authority G.S. 130A-294;
Eff. April 1, 1982;
Amended Eff. January 4, 1993; February 1, 1991; September 1, 1990; August 1, 1988;
Readopted Eff. January 1, 2021.*

15A NCAC 13B .0203 PERMIT APPROVAL OR DENIAL

(a) Upon receipt of a permit application, the Division shall review the request to assure that all provisions of the rules of this Subchapter, Article 9 of Chapter 130A of the General Statutes, and the Federal Resource Conservation and Recovery Act of 1976, Public Law 94-580, as amended, will be met. The Division shall review permit applications in accordance with the timelines established in G.S. 130A-295.8(e). Based on its review, the Division shall either approve or deny the request in writing.

(b) When an application is approved, the applicant shall be provided a permit. If the approval is contingent upon certain conditions being met by the applicant, such as a final construction inspection or obtaining a local government franchise approval, such conditions shall be noted on the permit.

(c) Before receiving solid waste at a newly permitted facility, an inspection shall be made by a representative of the Division to assure that the site is prepared in accordance with the permit, and the permit shall be recorded in accordance with G.S. 130A-301.

(d) By receiving solid waste at a permitted facility, the permittee shall be considered by the Department to have accepted the conditions of the permit and shall comply with the conditions of the permit.

(e) When the Division denies a permit for a solid waste management facility, it shall state in writing the reason for such denial and shall also state its estimate of the changes in the applicant's proposed activities or plans that will be required for the applicant to obtain a permit. A denial shall be without prejudice to the submission of a future application for a permit after revisions are made to meet objections specified as reasons for denial. The Division shall deny a permit as set forth in G.S. 130A-294(a)(4)c, or for the following reasons:

- (1) submission of incomplete information;
- (2) failure to meet the requirements of this Subchapter;
- (3) failure to meet a requirement or standard set forth in Article 9 of Chapter 130A of the General Statutes; or
- (4) siting, design, construction, or operation plans that would prevent the solid waste management facility or site from being operated in accordance with Article 9 of Chapter 130A of the General Statutes, the rules of this Subchapter, the Federal Resource Conservation and Recovery Act of 1976, Public Law 94-580, as amended, or any applicable standards and requirements of G.S. 89C, 89E, or 89F.

(f) Appeals of permit decisions shall be in accordance with Article 3 of Chapter 150B of the General Statutes and the rules adopted thereunder.

(g) The Secretary may suspend or revoke a permit in accordance with G.S. 130A-23. If the Secretary revokes or suspends a permit, the Department shall notify the owner or operator in writing of the reasons for the permit action.

*History Note: Authority G.S. 130A-294;
Eff. April 1, 1982;
Amended Eff. August 1, 2008; February 1, 1991; August 1, 1988; February 1, 1988;
Readopted Eff. January 1, 2021.*

15A NCAC 13B .0207 LIFE-OF-SITE PERMIT ISSUED FOR A SANITARY LANDFILL OR TRANSFER STATION

(a) A transfer station permit issued in accordance with Section .0400 of this Subchapter, or a sanitary landfill permit issued in accordance with Section .0500 of this Subchapter for industrial solid waste landfill facilities or construction and demolition landfill facilities or Section .1600 of this Subchapter for municipal solid waste landfill facilities shall be for the life-of-site as defined in G.S. 130A-294(a2).

(b) A permit application for a sanitary landfill for the life-of-site shall state the duration of the life-of-site in the site development or facility plan prepared in accordance with Section .0500 or .1600 of this Subchapter; and shall show the phases or progression of operation in periods of no less than five years and no greater than the life-of-site.

(c) A sanitary landfill that has an existing permit issued by the Division prior to July 1, 2016 shall be approved for a permit for the life-of-site within 90 days of submittal of the following updated permit information:

- (1) a specification of the duration of the life-of-site stated in the site development or facility plan;
- (2) landfill capacity in years, projected for the life-of-site;
- (3) average monthly disposal rates and estimated variances; and
- (4) a copy of the local government franchise agreement or approving resolution for the life-of-site.

(d) Each phase within a permit for sanitary landfills shall be designed and constructed in accordance with Sections .0500 or .1600 of this Subchapter. Site development plans shall show the phases or progression of construction and operation in periods of no less than five years and no greater than the life-of-site as stated in the site development or facility plan.

(e) A permit application for a transfer station for the life-of-site shall conform to the requirements of Section .0400 of this Subchapter. The duration of the life-of-site shall be stated in the site plan prepared in accordance with Section .0400 of this Subchapter. The site plan shall be for the life-of-site.

(f) A transfer station that has an existing permit issued by the Division prior to July 1, 2016 shall be approved for a life-of-site permit upon submittal of a written request for approval of a permit for the life of the site for the transfer station. The duration of the life-of-site shall be stated in the request.

*History Note: Authority G.S. 130A-294;
Eff. March 16, 2017;
Amended Eff. January 1, 2021.*

15A NCAC 13B .0208 PERMIT EXEMPTIONS

(a) A collection center shall not be required to obtain a permit from the Division for the construction or operation of these facilities if the facility operations comply with Article 9 of Chapter 130A of the General Statutes, the rules of this Subchapter, and the following conditions:

- (1) Collection centers shall not receive solid waste generated from non-residential activities or by commercial waste collection services. Facilities that receive such waste shall comply with the requirements for transfer stations in accordance with Section .0400 of this Subchapter.
- (2) Solid waste received at collection centers shall be stored in accordance with Rule .0104 of this Subchapter. Garbage shall not be stored at the collection center for more than seven days between the time of collection and the time of disposal at a solid waste management facility permitted in accordance with the rules of this Subchapter to accept such waste. Refuse shall not be stored at the collection center more than 90 days between the time of collection and the time of removal to a solid waste management facility permitted in accordance with the rules of this Subchapter to accept such waste.
- (3) Source-separated recyclables such as paper, plastic, and electronics that would be collected by a local curbside recycling collection program but are instead being collected at the collection center for the purpose of recycling are not subject to the requirements of Subparagraph (1) of this Paragraph, and shall be managed in accordance with G.S. 130A-309.05(c).
- (4) The following items shall not be accepted at collection centers for the purposes of disposal:
 - (A) construction, demolition, or industrial wastes from commercial or industrial sources;
 - (B) burning or smoldering waste;
 - (C) asbestos-containing materials, unless it is generated by an individual property owner and is packaged and handled to prevent the material from being friable;
 - (D) radioactive waste;
 - (E) hazardous waste;
 - (F) regulated medical waste;
 - (G) animal carcasses;
 - (H) liquid waste, unless it is in containers similar in size to containers found in household waste; and
 - (I) items banned from landfill disposal pursuant to G.S. 130A-309.10.

- (5) Owners and operators of collection centers shall allow the Division to enter the collection center property to inspect any facilities, equipment, practices, or operations to determine compliance with Article 9 of Chapter 130A of the General Statutes or the rules of this Subchapter.

This Rule does not exempt collection centers and their operations from any other applicable local, State, or federal permitting and operational requirements, if such requirements exist.

(b) A temporary debris storage and reduction site (site) shall not be required to obtain a permit from the Division for the temporary operation of these sites for solid waste management after a disaster event if the operations comply with Article 9 of Chapter 130A of the General Statutes, the rules of this Subchapter, and the following conditions:

- (1) A site shall accept only waste generated by a disaster event for storage, segregation, processing, and reduction. A site shall not be used for solid waste management at any time other than following a disaster event. For the purposes of this Rule, "disaster event" means one of the following:
 - (A) a natural or man-made event that causes a declaration of a state of emergency or disaster in accordance with Chapter 166A, Article 1A, Part 4 of the General Statutes; or
 - (B) a hurricane, tornado, severe storm, ice storm, or a 100-year flood event.
- (2) The landowner or operator of the site shall submit notification of the proposed site to the Division on a site evaluation form, which may be found on the Division's website at <https://deq.nc.gov/about/divisions/waste-management/waste-management-permit-guidance/solid-waste-section/disaster-debris>, that shall include the following:
 - (A) site name, address, city, county, parcel identification number, and latitude and longitude in decimal degrees, driving directions to the site, and acreage of the site;
 - (B) primary operator contact name, telephone number, and e-mail address, and any business name;
 - (C) local government contact name, telephone number, and e-mail address;
 - (D) landowner name, mailing address, telephone number, and e-mail address;
 - (E) waste types proposed to be accepted;
 - (F) proposed site operations and procedures for waste acceptance, handling, reduction, and removal;
 - (G) proposed destination of waste or materials removed from the site; and
 - (H) an aerial photograph indicating the proposed waste handling areas at the site and the buffer areas required in accordance with this Rule.
- (3) Unless a site is located at a solid waste management facility that has been permitted by the Division in accordance with the rules of this Subchapter, or that has submitted notification to the Division in accordance with Rule .1402(g)(1)(A) of this Subchapter, sites shall be owned or operated by one of the following:
 - (A) a county government as defined in G.S. 153A-10;
 - (B) a city government as defined in G.S. 160A-1;
 - (C) a State or federal agency or institution;
 - (D) a State or federally-recognized Indian tribe; or
 - (E) a third-party entity under contract with one of the entities in Parts (A) through (D) of this Subparagraph with authorization of the landowner.
- (4) A site shall meet the following siting requirements for the acceptance, storage, and processing of yard waste and demolition debris:
 - (A) Waste storage, processing, and handling areas shall be located no less than 100 feet from property boundaries, on-site structures, residences, private or public wells, septic tank systems, and surface waters.
 - (B) Waste storage, processing, and handling areas for demolition debris shall be located no less than 250 feet from potable wells.
 - (C) Grinding or chipping of waste shall not occur within 300 feet of a residence or business property or publicly owned roads or properties, unless the Division states a reduced buffer in the conditional approval letter because the type of grinding equipment or procedures proposed to be utilized will reduce the impacted area.
 - (D) A site shall not be located in wetlands as delineated by the U.S. Fish and Wildlife Service (FWS) National Wetlands Inventory Wetlands Mapper, which can be accessed from the U.S. FWS website at <https://www.fws.gov/wetlands/index.html>.

- (E) A site shall not be located in the floodway as defined in 44 CFR 9.4, which is incorporated by reference, including subsequent amendments and editions, and can be accessed free of charge at <https://www.ecfr.gov>.
 - (F) A site shall not be located in the 100-year floodplain as delineated by the NC Flood Risk Information System (FRIS) unless exempted from this requirement by the Division in the letter of conditional site approval. When making the determination to exempt a site, the Division shall consider the availability of other potential locations that are not in the 100-year floodplain, the need for additional sites following a disaster event, the amount and types of waste proposed to be stored at the site, and the proposed waste handling activities at the site. The NC FRIS mapping tool can be accessed from the NC Floodplain Mapping Program website at <https://fris.nc.gov/fris/?ST=NC>.
 - (G) A site shall not damage or destroy a property of archaeological or historical significance that has been listed on the National Register of Historic Places or included on the Study List for the Register pursuant to 07 NCAC 04R .0206 and .0300, which are incorporated by reference including subsequent amendments. The Division or the site operator shall obtain a site-specific survey from the State's Historic Preservation Office (SHPO) in the Department of Natural and Cultural Resources, and the Division shall include the site-specific survey response on SHPO letterhead with the letter of site pre-approval obtained in accordance with Subparagraph (8) of this Paragraph.
 - (H) The location, access, size, and operation of the site shall not have an adverse impact on any component included in the State Nature and Historic Preserve pursuant to G.S. 143-260.10. The Division or the site operator shall obtain a site-specific survey from the Natural Heritage Program (NHP) in the Department of Natural and Cultural Resources, and the Division shall include the site-specific survey response on NHP letterhead with the letter of site pre-approval obtained in accordance with Subparagraph (8) of this Paragraph.
 - (I) A site shall not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat protected under the Federal Endangered Species Act of 1973, Public Law 93-205, as amended. The Division or the site operator shall obtain a site-specific survey from the Natural Heritage Program (NHP) in the Department of Natural and Cultural Resources, and the Division shall include the site-specific survey response on NHP letterhead with the letter of site pre-approval obtained in accordance with Subparagraph (8) of this Paragraph.
 - (J) The site shall comply with 15A NCAC 04 for sedimentation and erosion control. 15A NCAC 04 is incorporated by reference including subsequent amendments.
- The Division may amend the buffer requirements of Parts (A) through (C) of this Subparagraph if it is necessary for the preservation of the public health and the environment, or if additional waste handling areas are necessary to expedite recovery from a disaster event. If the Division amends the buffer requirements, the Division shall notify the site owner or operator by email.
- (5) A site shall not accept any waste other than yard waste and demolition debris, except that it may accept household hazardous waste, white goods, or electronics under the following conditions:
 - (A) the solid waste management facility that accepted the household hazardous waste, white goods, or electronics prior to the disaster event is not able to accept these wastes after the disaster event;
 - (B) the site operator shall submit to the Division a plan for the handling and removal of household hazardous waste, white goods, and electronics in writing prior to accepting these wastes after a disaster event;
 - (C) the household hazardous waste, white goods, and electronics shall be stored in containers that comply with Rules .0104 and .0105 of this Subchapter; and
 - (D) the household hazardous waste, white goods, and electronics shall be removed from the site within 30 days of receipt and managed in accordance with Article 9 of Chapter 130A of the General Statutes and the rules of this Subchapter.
 - (6) A site shall comply with any local, State, and federal siting, permitting, and operational laws, rules, and ordinances, and with the requirements of the Federal Emergency Management Act.
 - (7) The open burning of solid waste is prohibited at a site unless approved by the Division of Air Quality or an EPA-delegated local air program prior to burning after a disaster event. The site

shall comply with 15A NCAC 02D, and any additional siting buffers that may apply to burning activities. Ash generated by the burning of solid waste at a site shall be handled in the same manner as ash generated by a solid waste management facility in accordance with G.S. 130A-309.05(b).

- (8) The site operator shall obtain a letter of site pre-approval from the Division stating that the Division has determined that the site meets the conditions of Subparagraphs (1) through (6) of this Paragraph, and providing the site identification number designated by the Division. The Division may provide additional conditions for site use in the letter of site pre-approval if it is necessary to comply with the requirements of this Subchapter, or to assist with local and State recovery and compliance with the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended.
- (9) The site operator shall notify the Division verbally or in writing that the site is accepting waste within 14 days of initial acceptance of waste after a disaster event.
- (10) All solid waste shall be removed from the site for disposal, recycling, or reuse within 180 days of initial waste acceptance after a disaster event, unless the owner or operator submits a written request for an extension of time for waste removal, and the Division grants the extension in writing. In making the determination to grant the extension, the Division shall consider factors such as:
 - (A) the type of disaster event;
 - (B) the effects on the part of the State in which the disaster event occurred;
 - (C) the amount and types of waste stored at the site;
 - (D) the efforts taken by the owner or operator to remove the waste;
 - (E) the compliance history of the owner or operator; and
 - (F) any extenuating circumstances that have caused the delay provided by the owner or operator in the request.
- (11) Yard waste that has been reduced or processed, such as chipped wood or mulch, and removed from a site is not subject to regulation as a solid waste or the requirements of this Subchapter if it is managed as a recovered material in accordance with G.S. 130A-309.05(c) by the person receiving the material.
- (12) Within 30 days of the removal of all solid waste, the site shall be graded to prevent ponding of surface water, and vegetative groundcover shall be established.

History Note: Authority G.S. 130A-294;
Eff. January 1, 2021.

SECTION .0300 – TREATMENT AND PROCESSING FACILITIES

15A NCAC 13B .0301 SITING AND APPLICATION REQUIREMENTS

(a) A treatment and processing facility (site) shall meet the following siting requirements:

- (1) Floodplain Restrictions: Any portions of the site property where storage or processing of solid waste occurs shall not be located in the 100-year floodplain.
- (2) Cultural Resources Restrictions: A site shall not damage or destroy a property of archaeological or historical significance that has been listed on the National Register of Historic Places or included on the Study List for the Register pursuant to 07 NCAC 04R .0206 and .0300, which are incorporated by reference including subsequent amendments.
- (3) State Nature and Historic Preserve Restrictions: The location, access, size, and operation of the site shall not have an adverse impact on any component included in the State Nature and Historic Preserve pursuant to G.S. 143-260.10.
- (4) Endangered and Threatened Species Restrictions: A site shall not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Federal Endangered Species Act of 1973, Public Law 93-205, as amended.
- (5) Clean Water Act Requirements: A site or site operations shall:
 - (A) not cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including the National Pollutant

- Discharge Elimination System (NPDES) requirements pursuant to Section 402 of the Clean Water Act;
 - (B) comply with Section 404 of the Clean Water Act; and
 - (C) not cause the discharge of a nonpoint source of pollution to waters of the United States, including wetlands, that violates any requirement of an area-wide or Statewide water quality management plan that has been approved under Section 208 or 319 of the Clean Water Act.
- (6) Buffer Requirements: Unless otherwise stated in the site permit or local zoning requires larger buffers, the waste handling, treatment, processing, and storage areas shall be:
- (A) no less than 100 feet from supply wells;
 - (B) no less than 100 feet from property lines;
 - (C) no less than 50 feet from waters of the State as defined in G.S. 143-212, or wetlands as defined in 40 CFR 232.2; and
 - (D) surrounded by an unused and cleared area of no less than 25 feet to allow access for fire or emergency response vehicles.
- (b) A permit applicant shall submit to the Division one electronic copy of a permit application, which shall contain the plans described in Paragraphs (c) and (d) of this Rule.
- (c) Site Plan. An application for a permit for a site shall contain a site plan that includes the following information:
- (1) an aerial photograph, representative of existing conditions, at a scale of at least one inch equals 400 feet, showing the area within one quarter mile of the proposed site's boundaries with the following identified:
 - (A) property lines of the entire property where the site will be located;
 - (B) waste treatment, processing, and storage areas;
 - (C) buffer areas and distances to wells, residences, wetlands and water bodies, and descriptions of any buffer requirements by local government zoning regulations;
 - (D) existing land use and zoning;
 - (E) location of all private residences, commercial and industrial buildings, public or private utilities, roads, and schools;
 - (F) on-site easements;
 - (G) location of potable wells and public water supplies;
 - (H) historic sites described in Subparagraph (a)(2) of this Rule;
 - (I) State nature and historic preserves described in Subparagraph (a)(3) of this Rule;
 - (J) the existing topography and features of the site including general surface water drainage patterns and watersheds, 100-year floodplains, perennial and intermittent streams, rivers, and lakes; and
 - (K) the classification of the surface water drainage from the site in accordance with 15A NCAC 02B .0300;
 - (2) a letter from the unit of government having zoning jurisdiction over the site that states that the proposed use is allowed within any existing zoning and that any necessary zoning approval or permit has been obtained, and that states the local zoning buffers that apply to the site; and
 - (3) letters from both the State Historic Preservation Office and the Natural Heritage Program within the Department of Natural and Cultural Resources stating whether the proposed use of the site will impact the historic sites described in Subparagraph (a)(2) of this Rule; State nature and historic preserves described in Subparagraph (a)(3) of this Rule; or the endangered or threatened species described in Subparagraph (a)(4) of this Rule located at the site.
- (d) Operations Plan. An application for a permit for a site shall contain an operations plan that shall include the following information:
- (1) the type and quantity of wastes that will be accepted, the anticipated sources of the waste accepted, and the intended destination of recyclables and waste removed from the site;
 - (2) the procedures for receiving, screening, processing, handling, salvaging, storage, treating, and removal of waste and recovered materials, including the anticipated processing, treatment, and storage times,
 - (3) procedures for handling recyclables, wastes banned from landfill disposal in accordance with G.S. 130A-309.10(f), and special wastes as defined in G.S. 130A-290(a)(40);
 - (4) the solid waste treatment, processing, and storage areas, and the buffer areas required by Subparagraph (a)(6) of this Rule;

- (5) the hours of operation, staffing, parking for visitors and employees, and traffic routing;
 - (6) methods for vector control, dust and odor control, drainage and erosion control, fire prevention, and daily cleanup;
 - (7) record keeping procedures;
 - (8) a description of how the site will comply with the operational and closure requirements of Rule .0302 of this Section;
 - (9) for sites that will accept, process, or recycle construction and demolition wastes, a description of how the site will comply with 40 CFR 61, Subpart M, and G.S. 130A-444 through 452;
 - (10) a contingency plan that shall address planned operations in the event of loss of power, loss of communications, storm surges, scale malfunctions, and scale software malfunctions; in the event that the disposal site, haul route, or transfer equipment is not available; or during conditions exceeding design parameters. The owner or operator of the site shall provide back-up equipment, contact information to obtain the equipment, and plans to by-pass the site in case of equipment breakdown. The contingency plan shall be kept updated on-site and shall include site-specific emergency procedures and contact information in case of emergencies;
 - (11) additional information for activities or features that the owner or operator is proposing that are not otherwise described in this Paragraph, or that the Division may request in writing if it is necessary to determine compliance with the rules of this Subchapter;
 - (12) in addition to the information required in this Paragraph, sites that are proposing to accept scrap tires shall also include the information required by Rule .1106(d) of this Subchapter in the operations plan, if it is not already required to be submitted by this Rule; and
 - (13) in addition to the information required in this Paragraph, sites that are proposing to accept medical waste shall also include the information required by Rule .1204(b)(4) of this Subchapter in the operations plan, if it is not already required to be submitted by this Rule.
- (e) The Division shall review all permit applications in accordance with Rule .0203 of this Subchapter.
- (f) Plans and documents submitted in the permit application in accordance with this Rule shall be incorporated into the permit and the site shall comply with the permit in accordance with Rule .0203(d) of this Subchapter.
- (g) Permits issued by the Division for treatment and processing facilities shall be valid for five years; and shall be subject to the permit fees set forth in G.S. 130A-295.8.
- (h) Modifications to the plans. The owner or operator may request to modify plans that were incorporated into the permit by submitting a written request to the Division that includes the modified plan and a demonstration showing how the proposed modifications comply with the rules of this Section. The Division shall respond to the request in writing within the timeline provided in G.S. 130A-295.8(e); and the response shall either approve or deny the request as submitted or request that additional information be submitted for the Division to consider the request. The Division's approval shall be based on whether the modification complies with the rules of this Subchapter. If the Division approves the request as submitted or upon receiving the additional information requested, the Division's written approval and the revised pages of the plan shall be added to the site's operating record. The owner or operator shall not implement the modification until the Division has issued an approval.
- (i) Sites that received a permit from the Division prior to the readopted effective date of this Rule shall comply with the rules of this Section with the following exceptions:
- (1) buildings, structures, and waste handling areas constructed prior to the readopted effective date of this Rule shall not be required to comply with Paragraph (a) of this Rule for the permitted operational boundary of the site existing on the readopted effective date of this Rule, or any replacements or modifications within that existing permitted operational boundary; and
 - (2) if a building, structure, or waste handling area was constructed prior to the readopted effective date of this Rule, and is expanded beyond the existing permitted operational boundary after the readopted effective date of this Rule, the permitted operational boundary that was existing on the readopted effective date of this Rule shall not be required to comply with Paragraph (a) of this Rule, but the expansion areas shall comply with these requirements.
- (j) Site buildings, structures, and waste handling areas that are exempt from the requirements of Paragraph (a) of this Rule shall continue to comply with any siting and buffer requirements stated in their permit issued prior to the readoption date of this Rule.

*History Note: Authority G.S. 130A-294;
 Eff. April 1, 1982;
 Amended Eff. February 1, 1991;*

Readopted Eff. January 1, 2021.

15A NCAC 13B .0302 OPERATIONAL AND CLOSURE REQUIREMENTS

(a) The owner or operator of a treatment and processing facility (site) shall maintain and operate the site in accordance with the permit conditions and the plans incorporated into the permit in accordance with Rule .0301(f) of this Section, and the following requirements:

- (1) a site shall only accept wastes that it is permitted to receive;
- (2) leachate shall be contained on-site or treated prior to discharge from the site. A National Pollutant Discharge Elimination System (NPDES) permit may be required by the Department's Division of Water Resources prior to discharge to surface waters;
- (3) equipment for fire control shall be available;
- (4) vector control measures shall be applied to control flies, rodents, and other insects or vermin;
- (5) the owner or operator shall provide equipment to operate and maintain the site using safe and sanitary practices for the preservation of the public health and welfare and the environment by preventing the generation of leachate, the attraction of vectors, the release of odors, and the release of waste or leachate to the environment;
- (6) barrier methods such as fencing or diking shall be provided to confine material subject to be blown by the wind within the site. At the conclusion of each day of operation, all windblown material resulting from the operation shall be collected and disposed of or containerized by the owner or operator;
- (7) sites that are permitted by the Division to accept scrap tires shall also comply with Section .1100 of this Subchapter;
- (8) sites that are permitted by the Division to accept medical waste shall also comply with Section .1200 of this Subchapter;
- (9) sites shall comply with 15A NCAC 02D, 02L, and the surface water quality standards in 15A NCAC 02B, as well as 15A NCAC 04;
- (10) the owner or operator shall submit to the Division upon request any information or records required to be kept under the conditions of the permit or the rules of this Section; and
- (11) the owner or operator shall only conduct the solid waste management activities that the site is permitted to conduct.

(b) When a site ceases the acceptance of waste, closure of the site shall comply with the following requirements:

- (1) The owner or operator shall remove all waste from the site property and dispose of it at a facility permitted by the Division to receive such waste no less than 120 days after the date the site ceased the acceptance of waste.
- (2) The owner or operator shall comply with the closure requirements specified in the permit issued by the Division.
- (3) For a site that accepts medical waste, the owner or operator shall also meet the requirements of Section .1200 of this Subchapter.
- (4) The owner or operator shall notify the Division in writing that the site has been closed in accordance with this Rule.
- (5) The Division shall conduct an inspection to determine compliance with Subparagraphs (1) through (3) of this Paragraph.
- (6) When a site has been closed in accordance with this Paragraph, the permit is terminated, and any future solid waste management at the site shall require a new permit.

*History Note: Authority G.S. 130A-294;
Eff. April 1, 1982;
Readopted Eff. January 1, 2021.*

SECTION .0400 - TRANSFER STATIONS

15A NCAC 13B .0401 PURPOSE AND APPLICABILITY

(a) Owners or operators of transfer stations shall comply with applicable federal, State, and local laws, rules, regulations, and ordinances, and shall comply with the rules of this Section as follows:

- (1) Transfer stations that did not receive a permit to operate from the Division prior to the readopted effective date of this Rule shall comply with the rules of this Section.
- (2) Transfer stations that received a permit to operate from the Division prior to the readopted effective date of this Rule shall comply with the rules of this Section with the following exceptions:
 - (A) buildings, structures, and waste handling areas constructed prior to the readopted effective date of this Rule shall not be required to comply with Rule .0403(a), (b)(1), or (b)(2) of this Section for the permitted operational boundary of the transfer station existing on the readopted effective date of this Rule, or any replacements or modifications within that existing permitted operational boundary; and
 - (B) if a building, structure, or waste handling area was constructed prior to the readopted effective date of this Rule, and is expanded beyond the existing permitted operational boundary of the transfer station after the readopted effective date of this Rule, the permitted operational boundary that was existing on the readopted effective date of this Rule shall not be required to comply with Rule .0403(a), (b)(1), or (b)(2) of this Section, but the expansion areas shall comply with these requirements.

Transfer station buildings, structures, and waste handling areas that are exempt from the requirements of Rule .0403(a), (b)(1), and (b)(2) of this Section by this Subparagraph shall continue to comply with the comparable siting, buffer, and construction requirements stated in their permit issued prior to the readopted effective date of this Rule.
- (b) Transition period: Transfer stations that have an effective permit issued by the Division prior to the readopted effective date of this Rule shall submit to the Division an assessment report demonstrating compliance with the following conditions and the rules of this Section by no later than six months from the readopted effective date of this Rule:
 - (1) The assessment report shall include an assessment of the status of the building, access roads, parking, and leachate collection system of the current operations compared to the design of the site as stated in the site permit, the plans incorporated into the permit by Rule .0404(d) of this Section, and the rules of this Section. If required by G.S. 89C or G.S. 89E and not under the purview of another licensed profession, the assessment report or parts thereof shall be prepared by a licensed professional engineer or a licensed geologist.
 - (2) The assessment report shall contain recommendations for any actions necessary to comply with the rules of this Section. The Division shall notify the owner or operator of the site in writing within 12 months of receipt of the report of any changes required to comply with the rules of this Section.
 - (3) The site shall complete the actions required to comply with the rules of this Section within three years of receipt of the Division's notification of the required changes. The site may submit a request to extend this deadline to the Division in writing. The request shall include the reasons for the request and the anticipated date that the work will be completed. The Division shall approve an extension of the deadline in writing if the Division determines that the scope of work needed to comply with the rules of this Section cannot be completed in three years.
- (c) Unless otherwise prohibited from accepting waste by local ordinance, transfer stations are not subject to service area restrictions if the receiving disposal site permit includes the origin of waste as identified by franchise or local government approval.
- (d) Wastes entering the State via a transfer station are out-of-state waste to the point of disposal, regardless of any further processing, recycling, or other reduction activity.
- (e) The transportation of regulated medical waste shall not be subject to the rules of this Section, but shall comply with Section .1200 of this Subchapter. Transfer stations that receive or transport solid waste by rail, roadway, or water shall be subject to the rules of this Section.

*History Note: Authority G.S. 130A-294;
 Eff. April 1, 1982;
 Amended Eff. February 1, 1991;
 Readopted Eff. January 1, 2021.*

15A NCAC 13B .0402 GENERAL REQUIREMENTS

- (a) The owner or operator of a transfer station (site) shall comply with the conditions of the permit issued by the Division. In the event of noncompliance with the permit, the owner or operator shall minimize the release of waste, leachate, or contaminants to the environment, and shall prevent adverse impacts to human health or the environment.
- (b) The owner or operator shall submit to the Division upon written request any information or records required to be kept under the conditions of the permit or the rules of this Section.
- (c) In an enforcement action, necessity to halt or reduce the permitted activity to maintain compliance with the conditions of the permit shall not be a defense. Notification of anticipated noncompliance does not stay any existing permit condition.
- (d) The owner or operator may submit an application for a permit amendment or modification in accordance with G.S. 130A-294(a3). The filing of an application for a permit modification or amendment, or a notification of a significant change in accordance with G.S. 130A-295.2(g), does not stay any existing permit condition.
- (e) The Division shall deny an application for a permit for the reasons provided in G.S. 130A-294(a)(4)c. The Division may suspend or revoke a permit in accordance with G.S. 130A-23. If the Division denies a permit application or revokes or suspends a permit, the Division shall notify the owner or operator in writing of the reasons for the permit action.
- (f) If construction is not commenced within 18 months following the issuance date of the permit approval to construct, or an amendment to the permit approval to construct, then the permit shall expire.
- (g) The owner or operator shall operate and maintain all sites and related appurtenances that are installed or used by the owner or operator to achieve compliance with the conditions of the permit, the plans incorporated in the permit in accordance with Rule .0404(d) of this Section, and any documents referenced in the permit and the rules of this Section.
- (h) The site shall only conduct the solid waste management activities that the site is permitted to conduct. Construction and operation of additional solid waste management activities at the site shall not impede site operations.
- (i) Site permits issued by the Division in accordance with this Section shall be valid for the life-of-site operations in accordance with Rule .0207 of this Subchapter, not to exceed 60 years from the date of the first permit issued for the site.
- (j) Sites permitted under the rules of this Section shall be subject to the permit fees set forth in G.S. 130A-295.8.
- (k) The owner or operator shall report to the Division verbally or in writing within 24 hours from the time the owner or operator becomes aware of the circumstances of any release or discharge of leachate or contaminants outside the leachate collection system or other containment component at the site.

*History Note: Authority G.S. 130A-294;
Eff. April 1, 1982;
Readopted Eff. January 1, 2021.*

15A NCAC 13B .0403 SITING AND DESIGN REQUIREMENTS

- (a) A transfer station (site) shall meet the following siting requirements:
 - (1) Floodplain Restrictions: The portions of the site containing the buildings, leachate collection systems, and any areas where storage or processing of solid waste occurs shall not be located in the 100-year floodplain.
 - (2) Cultural Resources Restrictions: A site shall not damage or destroy a property of archaeological or historical significance that has been listed on the National Register of Historic Places or included on the Study List for the Register pursuant to 07 NCAC 04R .0206 and .0300.
 - (3) State Nature and Historic Preserve Restrictions: The location, access, size, and operation of the site shall not have an adverse impact on any component included in the State Nature and Historic Preserve pursuant to G.S. 143-260.10.
 - (4) Endangered and Threatened Species Restrictions: A site shall not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Federal Endangered Species Act of 1973, Public Law 93-205, as amended.
 - (5) Clean Water Act Requirements: A site or site operations shall:
 - (A) not cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including the National Pollutant

- Discharge Elimination System (NPDES) requirements pursuant to Section 402 of the Clean Water Act;
 - (B) comply with Section 404 of the Clean Water Act; and
 - (C) not cause the discharge of a nonpoint source of pollution to waters of the United States, including wetlands, that violates any requirement of an area-wide or Statewide water quality management plan that has been approved under Section 208 or 319 of the Clean Water Act.
- (6) Buffer Requirements: Unless otherwise stated in the site permit or local zoning requires larger buffers, the waste loading, unloading, and storage areas at the site shall be:
- (A) no less than 100 feet from supply wells;
 - (B) no less than 100 feet from property lines;
 - (C) no less than 50 feet from waters of the State as defined in G.S. 143-212, or wetlands as defined in 40 CFR 232.2; and
 - (D) surrounded by an unused and cleared area of no less than 25 feet to allow access for fire or emergency response vehicles.
- (b) Sites shall meet the following design requirements:
- (1) Sites shall be designed and constructed so that all solid waste receiving, handling, transfer, and storage occurs on an impervious surface, such as concrete or asphalt, unless otherwise stated in the site permit.
 - (2) Tipping floors shall be located within an enclosed building or covered area to prevent precipitation from coming into contact with waste, and all waste shall be managed on the tipping floors unless otherwise stated in the site permit. For the purpose of the rules of this Section, "tipping floor" means the area where waste is offloaded from residential or commercial vehicles, and staged and consolidated for transport to its intended disposal location.
 - (3) All recovered materials and recyclables stored at the site shall comply with G.S. 130A-309.05(c).
 - (4) The site shall be designed to operate within the capacity specified in the permit to accommodate estimated waste volumes, and within schedules prescribed in the permit for removal of all waste streams and materials permitted to be handled at the site. Other activities occurring at a site shall not prohibit compliance with the operational requirements in Rule .0405 of this Section.
 - (5) A water supply shall be provided for cleaning site floors, walls, and equipment.
 - (6) Leachate, including wash water and process water, shall be collected and contained within the site's collection and containment system described in the site permit.
 - (7) All vehicles and containers that contain solid waste shall be staged within the perimeter of a leachate collection system or shall comply with Rule .0405(c) of this Section.
 - (8) Leachate collection and treatment systems shall be designed to facilitate the removal of leachate and wastewater, and may include pipes, manholes, trenches, berms, collection sumps or basins, pumps, risers, liners, and liner splices.
 - (9) The site design shall include barriers such as fencing and gates to prevent unauthorized entry and to minimize the escape of windblown materials off site.
 - (10) In accordance with G.S. 130A-295.5, sites shall be designed and operated so that traffic congestion from loading and unloading of collection and transportation vehicles is minimized beyond the site entrance onto the public road, and beyond any egress ramp approved by the N.C. Department of Transportation.
 - (11) An all-weather road that is accessible by the Division and loaded collection vehicles shall be provided from the entrance gate to the unloading, receiving, and tipping areas.
 - (12) Storage areas for waste materials shall be designed to prevent potential fires from spreading outside the storage area, to prevent vectors, and to prevent the escape of waste, leachate, odors, dust, and litter from the site.
 - (13) If materials banned from landfill disposal in accordance with G.S. 130A-309.10(f) or recyclable materials will be stored on site, the site design shall include a storage area for these materials that is separate from the areas used for handling of waste meant for disposal.
 - (14) Sites shall be designed and operated to prevent the attraction of vectors.
 - (15) Sites shall be designed and operated to minimize the spread of odors and fugitive dust emissions generated by solid waste over the property line to comply with 15A NCAC 02D .0540 and .1806.
 - (16) Sites shall be designed, operated, and maintained to direct surface water run-on and run-off to prevent ponding or collection of surface water in waste handling and storage areas.

- (17) Sites that intend to accept, process, or recycle construction and demolition wastes shall be designed to comply with 40 CFR 61, Subpart M, and G.S. 130A-444 through 452.

*History Note: Authority G.S. 130A-294;
Eff. January 1, 2021.*

15A NCAC 13B .0404 APPLICATION REQUIREMENTS

- (a) Applications for transfer station permits submitted in accordance with Paragraph (c) of this Rule shall be submitted to the Division of Waste Management Solid Waste Section for review and approval prior to commencement of construction or operation of a transfer station (site).
- (b) Permit applications for transfer stations shall be subject to the permit application fees required by G.S. 130A-295.8.
- (c) In accordance with Rule .0201 of this Subchapter, a permit for a transfer station shall have two parts:
- (1) Permit Approval to Construct. An application for a permit approval to construct a transfer station shall meet the requirements of Paragraphs (g) through (m) of this Rule and shall be submitted to the Division prior to commencing construction of the site. A permit applicant shall submit to the Division one electronic copy of a permit application, which shall contain the plans required in Paragraphs (g) through (j) of this Rule.
 - (2) Permit Approval to Operate. The owner or operator shall meet the pre-operative requirements listed in the permit approval to construct to qualify for a permit approval to operate. Construction documentation as outlined in Paragraph (n) of this Rule shall be submitted to the Division prior to receiving waste at the site. The site shall not begin receiving waste until a permit approval to operate has been issued by the Division.
- (d) Permits issued by the Division in accordance with this Section shall incorporate all plans approved by the Division that are required to be submitted by Paragraphs (g) through (j) of this Rule, and a Corrective Action Plan if required in accordance with Rule .0405(a)(2) of this Section.
- (e) Amendment to the permit. The owner or operator shall submit an application to amend the permit for a change in ownership or corporate structure of a permitted site. The owner or operator shall notify the Division within 30 days of a change in ownership or corporate structure in accordance with G.S. 130A-295.2(g).
- (f) Modifications to the plans. The owner or operator may request to modify plans that were incorporated into the permit by submitting a written request to the Division that includes the modified plan and a demonstration showing how the proposed modifications comply with the rules of this Section. The Division shall respond to the request in writing within the timeline provided in G.S. 130A-295.8(e); and the response shall either approve or deny the request as submitted or request that additional information be submitted for the Division to consider the request. The Division's approval shall be based on whether the modification complies with the rules of this Subchapter. If the Division approves the request as submitted or upon receiving the additional information requested, the Division's written approval and the revised pages of the plan shall be added to the site's operating record. The owner or operator shall not implement the modification until the Division has issued an approval.
- (g) Site Plan. An application for a permit for a site shall contain a site plan that includes the following information:
- (1) an aerial photograph, representative of existing conditions, at a scale of at least one inch equals 400 feet, showing the area within one quarter mile of the proposed site's boundaries with the following identified:
 - (A) property lines of the entire property where the site will be located;
 - (B) existing land use and zoning;
 - (C) location of all private residences, commercial and industrial buildings, public or private utilities, roads, and schools;
 - (D) on-site easements;
 - (E) location of potable wells and public water supplies;
 - (F) historic sites described in Rule .0403(a)(2) of this Section;
 - (G) State nature and historic preserves described in Rule .0403(a)(3) of this Section;
 - (H) the existing topography and features of the site including general surface water drainage patterns and watersheds, 100-year floodplains, perennial and intermittent streams, rivers, and lakes; and
 - (I) the classification of the surface water drainage from the site in accordance with 15A NCAC 02B .0300.

- (2) a siting report demonstrating compliance with the siting criteria of Rule .0403(a) of this Section, including a letter from the unit of government having zoning jurisdiction over the site that states that the proposed use is allowed within any existing zoning and that any necessary zoning approval or permit has been obtained, and that states the local zoning buffers that apply to the site.
 - (3) letters from both the State Historic Preservation Office and the Natural Heritage Program within the Department of Natural and Cultural Resources stating whether the proposed use of the property will impact the historic sites described in Rule .0403(a)(2) of this Section; State nature and historic preserves described in Rule .0403(a)(3) of this Section; or the endangered or threatened species described in Rule .0403(a)(4) of this Section located at the site.
- (h) Construction Plan. An application for a permit for a site shall contain a construction plan that includes the following items:
- (1) Site construction drawings showing:
 - (A) existing and proposed contours;
 - (B) property boundaries;
 - (C) the location of barriers, fences, or other structures that control access to the site;
 - (D) buffer areas and distances to wells, residences, wetlands and water bodies, and descriptions of any buffer requirements by local government zoning regulations;
 - (E) the water diversion, collection, conveyance, erosion and sedimentation control, treatment, storage, and discharge facilities that will be used, such as drainage patterns and surface water drainage control structures both within the area and at the site perimeter, including berms, ditches, sedimentation basins, pumps, sumps, culverts, pipes, inlets, velocity breaks, sodding, erosion matting, or other methods of erosion control;
 - (F) the solid waste storage, loading, and unloading areas, including the tipping floor;
 - (G) buildings and facilities that will be used in the operation, including their horizontal and vertical dimensions;
 - (H) concrete foundations or pads and identification of all other ground cover for the site operation;
 - (I) location of scales and weigh stations that will be used in the operation;
 - (J) a survey grid with base lines and monuments that will be used for field control;
 - (K) access roads and traffic flow patterns to and within the site;
 - (L) leachate collection, control, and treatment systems including pipes, manholes, trenches, berms, collection sumps or basins, pumps, risers, liners, and liner splices; and
 - (M) materials management handling areas for sites that will manage pre-sorted recyclables and any materials diverted from the incoming waste stream; and
 - (2) a description of how the site will comply with the design requirements of Rule .0403(b) of this Section.
- (i) Operations Plan. An application for a permit for a site shall contain an operations plan that shall include the following information:
- (1) the type and quantity of waste that will be accepted, the anticipated sources of the waste accepted, the intended destination of waste removed from the site, and the intended destination of recovered materials if any are proposed to be removed from the site;
 - (2) the procedures and anticipated processing and storage times for the activities that the site is proposing to conduct, such as receiving, screening, processing, handling, salvaging, storage, and removal of waste and recovered materials including recyclables, wastes banned from landfill disposal in accordance with G.S. 130A-309.10(f), and special wastes as defined in G.S. 130A-290(a)(40);
 - (3) the hours of operation, staffing, parking for visitors and employees, and traffic routing;
 - (4) methods for vector control, dust and odor control, drainage and erosion control, fire prevention, and daily cleanup;
 - (5) record-keeping procedures;
 - (6) groundwater and surface water monitoring and corrective action, if required by the Division in accordance with Rule .0405(a)(2) of this Section;
 - (7) a description of how the site will comply with the operational requirements of Rule .0405 of this Section;
 - (8) for sites that will accept, process, or recycle construction and demolition wastes, a description of how the site will comply with 40 CFR 61, Subpart M, and G.S. 130A-444 through 452;

- (9) for sites designed with a leachate collection system, a leachate management plan that includes the following information:
 - (A) the performance and design concepts for the leachate collection system and any storm water segregation included in the engineering design;
 - (B) monitoring procedures for leachate storage tanks, if present;
 - (C) operational control methods to ensure that surface water is diverted from the operational area, and the tipping floor is free of standing water; and
 - (D) a process to abandon or remove the leachate collection system upon closure of the site. The Division may allow leachate collection systems to remain in place for future use if the owner or operator provides documentation of measures taken to comply with the requirements of this Section and to protect human health and safety and the environment, such as capping or blocking of any discharge points or open-ended piping to prevent unintended collection, storage, or discharge of leachate. The Division may also require recordation and land use restrictions in accordance with Rule .0406(b)(4) of this Section;
 - (10) a contingency plan that shall address planned operations in the event of loss of power, loss of communications, storm surges, scale malfunctions, and scale software malfunctions; in the event that the disposal site, haul route, or transfer equipment is not available; or during conditions exceeding design parameters. The owner or operator of a site shall provide back-up equipment, and contact information to obtain the equipment, and plans to by-pass the site in case of equipment breakdown. The contingency plan shall be kept updated on-site and shall include site-specific emergency procedures and contact information in case of emergencies; and
 - (11) additional information for activities or features that the owner or operator is proposing that are not otherwise described in this Paragraph, or that the Division may request in writing if it is necessary to determine compliance with the rules of this Subchapter.
- (j) Closure Plan. An application for a permit for a site shall contain a closure plan that describes the steps necessary to close the site at any point during the active life of the site in accordance with the requirements in Rule .0406 of this Section. The closure plan shall include the following information:
- (1) a description of all activities, including the removal of any remaining solid wastes or materials from the site, activities required for the closure of the site, and abandonment of all on-site systems;
 - (2) a schedule for completing the closure activities as set forth in Rule .0406 of this Section;
 - (3) the cost estimate for closure and post-closure care activities; and
 - (4) a plan for retention of operating record and receipts including those from closure activities.
- (k) Sites shall comply with financial responsibility requirements in accordance with G.S. 130A-295.2 and Section .1800 of this Subchapter. If the Division requires the site to conduct post-closure care in accordance with Rule .0406(c) of this Section, the site shall maintain financial assurance during the post-closure care period until released from post-closure care by the Division.
- (l) Owners or operators of sites are subject to the compliance history review requirements in G.S. 130A-295.3.
- (m) Sites shall comply with the traffic study requirements in G.S. 130A-295.5.
- (n) Following completion of construction but prior to commencing operations, the owner or operator shall submit to the Division the as-built drawings and a final construction report that the site has been constructed in accordance with the Division-approved drawings and specifications in the permit to construct. If required by G.S. 89C, these items shall be certified by a licensed professional engineer.

*History Note: Authority G.S. 130A-294;
Eff. January 1, 2021.*

15A NCAC 13B .0405 OPERATIONAL REQUIREMENTS

- (a) The owner or operator of a transfer station (site) shall maintain and operate the site in accordance with the operations plan incorporated into the permit by Rule .0404(d) of this Section and the following conditions:
- (1) Dust and Odor Control. Fugitive dust emissions generated by site operations shall comply with 15A NCAC 02D .0540. The site shall comply with 15A NCAC 02D .1806 for odors.
 - (2) Groundwater and Surface Water Requirements. The site shall prevent the release of leachate and contaminants to groundwater and surface water and shall not cause an exceedance of the groundwater quality standards in 15A NCAC 02L or the surface water quality standards in 15A NCAC 02B. In the event of a release of leachate or contaminants to the environment, the site shall comply with 15A NCAC 02L.

- (3) Fire Protection and Control.
 - (A) Open burning of solid waste is prohibited at all sites, unless approval has been obtained from the Division, and from the Division of Air Quality in accordance with 15A NCAC 02D .1900, and from the local government prior to any burning activity.
 - (B) Hot ashes, cinders, and waste that is smoldering, smoking, or burning shall not be accepted at a site. The waste screening procedures required in accordance with Subparagraph (8) of this Paragraph and described in the operations plan shall address identification and rejection of this waste.
 - (C) The operator of a site shall provide equipment on-site to control fires and make arrangements with a local fire protection agency to provide fire-fighting services.
 - (D) The operator shall verbally notify the Division of fires that occur at a site within 24 hours of the fire and shall submit a written report to the Division within 15 days of the fire. The report shall include the site name and permit number; the date and time of the fire; actions taken by the operator in response to the fire; the cause of the fire; the location and size of the fire; the type and amount of waste that caught fire; a plan of action to prevent fires in the future; the name and title of the person submitting the information; and the date the information is submitted.
- (4) Vector Control. Owners or operators of a site shall operate and maintain the site to prevent on-site populations of vectors.
- (5) Noise Control. Noise levels shall meet local ordinances if they exist. If local ordinances for noise do not exist, noise levels for site operations, except fire and safety alarms, shall not exceed 85 decibels at the property line.
- (6) Erosion and Sedimentation Control Requirements. The site shall comply with 15A NCAC 04, and the owner or operator shall utilize erosion and sedimentation control measures that prevent sediment from leaving the site and prevent on-site erosion.
- (7) Training. During hours of operation, an operator trained in accordance with G.S. 130A-309.25 shall be on-site. Sites shall provide all staff with no less than eight hours of training updates annually that includes a review of the operations plan and permit documents. Documentation of the training shall be placed in the operating record and provided to the Division upon written request.
- (8) Waste Screening. Sites shall comply with the following waste screening requirements:
 - (A) Site personnel shall screen incoming loads weekly at a rate of no less than five percent of the average daily waste tonnage reported in the site's annual report for the previous year. Site personnel shall be trained annually to identify liquid waste, hazardous waste, polychlorinated biphenyl (PCB) wastes, special wastes as defined in G.S. 130A-290(a)(40), wastes banned from landfill disposal in accordance with G.S. 130A-309.10(f) if the site receiving the waste for disposal is a landfill, and wastes that the intended final disposal site is not permitted by the Division to accept. The screening shall be conducted as described in the approved operations plan prepared in accordance with Rule .0404(i) of this Section. Waste screening and rejected wastes shall be recorded in writing, and the records shall be kept on site for no less than five years and shall be made available to the Division during a site inspection or upon request.
 - (B) The owner or operator shall include in the operations plan a plan to manage any identified hazardous and liquid wastes. The plan shall address identification, removal, storage, and final disposal of the waste.
- (9) Waste Acceptance: Sites shall not accept the following:
 - (A) hazardous waste unless the site is permitted by the Division in accordance with 15A NCAC 13A to receive such waste;
 - (B) polychlorinated biphenyl (PCB) wastes as defined in 40 CFR 761.3, which is incorporated by reference, including subsequent amendments and editions, and may be accessed at www.ecfr.gov at no cost;
 - (C) asbestos waste unless the waste is received and handled in compliance with the requirements of 40 CFR 61.150, which is incorporated by reference, including subsequent amendments and editions, and may be accessed at www.ecfr.gov at no cost. Bags shall be no less than six mil thick and shall be labeled with the warning required by

- 40 CFR 61.150(a)(1)(iv) that they contain asbestos-containing materials. Sites shall provide notice to the landfill facility receiving the asbestos waste prior to disposal;
- (D) waste banned by G.S. 130A-309.10 at the disposal destination; and
 - (E) waste banned by local law or ordinance at the disposal destination.
- (10) Windblown waste: Site staff shall conduct daily inspections for windblown waste on the site property. Windblown litter from site operations discovered during the daily inspections or observed on adjacent properties shall be picked up and containerized for disposal by the end of each operating day, unless the landowner of the adjacent property denies access to site staff. The site shall prevent waste from being blown outside the waste handling areas by the wind, using methods such as:
- (A) requiring that vehicles entering and leaving the site keep waste covered;
 - (B) providing skirts, such as rubber belting or brushes, around the top of chutes to minimize the space between the chute and the hauling trailer at sites with chutes and hoppers; or
 - (C) preventing waste from leaving the site using methods such as fencing, netting, or diking.
- (11) Site Cleaning and Maintenance: Unless otherwise stated in the site permit, all waste shall be removed from the tipping floor, the truck loading bays, and from behind push walls by the end of each day of operation and disposed of in accordance with this Subchapter. The tipping floor, push walls, and truck loading bays shall be cleaned with a pressure washer no less than once per month. The remaining areas of the site building including side walls and any material storage areas outside of the building shall be cleaned with a pressure washer no less than twice per year. Wash water generated from cleaning waste handling areas shall be contained and treated as leachate. Cleaning and maintenance records shall be maintained and made available to the Division upon written request.
- (b) Water that comes into contact with solid waste is leachate and shall be collected from the site for disposal to an approved facility or discharged directly from the site into a sanitary sewer line. A National Pollutant Discharge Elimination System (NPDES) permit may be required prior to the discharge of leachate to surface waters, as provided by 40 CFR 258.26 and 258.27, which are incorporated by reference, including subsequent amendments and editions, and may be accessed at www.ecfr.gov at no cost.
- (c) All vehicles and containers being used for the temporary storage of solid waste shall be maintained to be leak-resistant in accordance with Rule .0105 of this Subchapter, or shall be stored so that any leachate from the vehicles or containers will be collected to prevent the release of leachate to the environment.
- (d) Operating Record and Recordkeeping requirements. The owner or operator of a site shall retain an operating record in electronic or hard copy format at the site, or in an alternative location stated in the permit. The records required by Subparagraphs (1) and (2) of this Paragraph shall be maintained for no less than five years. The records required by Subparagraphs (3) through (9) of this Paragraph shall be maintained for the life-of-site. The operating record shall contain the following information:
- (1) records of waste inspections, monitoring results, certifications of training, and training procedures required by the rules of this Section;
 - (2) amounts by weight of solid waste received at the site including county and state of generation, in accordance with G.S. 130A-309.09D;
 - (3) demonstrations, certifications, findings, monitoring, testing, or analytical data required by the rules of this Section;
 - (4) closure or post-closure care monitoring, testing, or analytical data required by the rules of this Section;
 - (5) cost estimates and financial assurance documentation required by Section .1800 of this Subchapter;
 - (6) site audit records, compliance records, maintenance records, and inspection reports;
 - (7) a copy of the current Permit to Construct and Permit to Operate;
 - (8) a copy of the plans that have been incorporated into the permit in accordance with Rule .0404(d) of this Section; and
 - (9) a Corrective Action Plan, if required by 15A NCAC 02L .0106.
- (e) Access requirements.
- (1) Sites shall be secured to prevent unauthorized entry by means such as gates, chains, berms, or fences.
 - (2) An attendant shall always be on duty at the site while it is open for public use to ensure compliance with operational requirements.

- (3) The access roads shall be of all-weather construction and maintained to be accessible by loaded collection vehicles and by the Division.
- (4) Signs shall be posted at the site entrances unless otherwise stated in the site permit. The signs shall be constructed of a durable, weather-resistant material. The signs shall be clear and legible to the public. The signs shall state the name of the operator of the site, emergency contact information, the operating hours of the site, the permit number of the current permit authorizing operations at the site, the types of waste that can be accepted under the permit, and that hazardous waste and liquid waste cannot be accepted at the site.

*History Note: Authority G.S. 130A-294;
Eff. January 1, 2021.*

15A NCAC 13B .0406 CLOSURE REQUIREMENTS

(a) The owner or operator of a transfer station (site) shall schedule and document closure of the site in accordance with the following criteria:

- (1) The owner or operator shall submit written notification of closure to the Division no less than 90 days prior to the proposed date of cessation of waste acceptance at the site.
- (2) The owner or operator shall begin closure activities in Paragraph (b) of this Rule no later than 30 days after the date of the final receipt of waste at the site.
- (3) The owner or operator shall complete closure activities in Paragraph (b) of this Rule within 180 days after beginning the closure activities as specified in Subparagraph (2) of this Paragraph.
- (4) When the requirements of Paragraph (b) have been met, the owner or operator shall notify the Division in writing that the requirements have been met. The notification shall state how the requirements were met and shall be placed in the operating record.
- (5) A final inspection for closure shall be conducted by the Division to verify that the conditions of closure in this Rule have been met.

(b) The owner or operator shall complete the following closure activities to close the site:

- (1) The owner or operator shall remove all waste from the site in accordance with the requirements of this Subchapter.
- (2) Leachate collection systems, if present, shall be closed in accordance with the leachate management plan incorporated into the permit by Rule .0404(d) of this Section.
- (3) The owner or operator shall complete any closure activities stated in the closure plan incorporated into the permit by Rule .0404(d) of this Section.
- (4) If the site has been required by the Division to conduct a corrective action program following closure of the site in accordance with this Rule, or elects to leave a leachate collection system or tank in place for future use, the owner or operator shall submit to the Division a notice for the site property that has been recorded at the county Register of Deeds office that meets the following criteria:
 - (A) The notice shall be discoverable during a title search for the site property deed.
 - (B) The notice shall be in accordance with G.S. 130A-310.71(e) or G.S. 143B-279.10.
 - (C) The notice shall notify any potential purchaser of the property that the land has been used as a solid waste management facility and its use may be restricted by the Division.

(c) If the Division requires groundwater or surface water monitoring or corrective action at the site in accordance with Rule .0405(a)(2) of this Section, the monitoring and corrective action at the site shall continue in a post-closure care period until the Division authorizes termination of corrective action at the site in accordance with 15A NCAC 02L .0106.

(d) The owner or operator may submit a written request to the Division after closure to remove the land-use restrictions required by Subparagraph (b)(4) of this Rule. If the Division approves removal of the land-use restrictions, the Division shall provide approval documentation to the landowner stating that the land-use restrictions at the site have been removed, and the landowner may record the approval documentation with the county Register of Deeds. The Division shall approve the removal of land-use restrictions if the following conditions are met:

- (1) all post-closure care activities required by the rules of this Section have been completed;
- (2) the Division authorizes termination of any corrective action program in accordance with 15A NCAC 02L .0106; and
- (3) any leachate collection system has been removed.

*History Note: Authority G.S. 130A-294;
Eff. January 1, 2021.*

SECTION .0500 - DISPOSAL SITES

15A NCAC 13B .0503 SITING AND DESIGN REQUIREMENTS FOR INDUSTRIAL SOLID WASTE LANDFILLS

(a) An industrial solid waste landfill (ISWLF) unit (site) shall comply with the following siting requirements for a permit to be issued:

- (1) Floodplain Restrictions: A site shall not be located in the 100-year floodplain in accordance with G.S. 143-215.54(c) and S.L. 2000-150.
- (2) Cultural Resources Restrictions: A site shall not damage or destroy a property of archaeological or historical significance that has been listed on the National Register of Historic Places or included on the Study List for the Register pursuant to 07 NCAC 04R .0206 and .0300.
- (3) State Nature and Historic Preserve Restrictions: A site shall not have an adverse impact on any component included in the State Nature and Historic Preserve pursuant to G.S. 143-260.10.
- (4) Endangered and Threatened Species Restrictions: A site shall not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Federal Endangered Species Act of 1973, Public Law 93-205, as amended.
- (5) A site disposing of putrescible wastes shall not be located within 10,000 feet of an airport runway used by turbojet aircraft or within 5,000 feet of an airport runway used by piston-type aircraft; and
- (6) A site shall have available soils for cover either on-site or from off-site.

(b) A site shall comply with the following design requirements for a permit to be issued:

- (1) If the site accepts waste types that are expected to generate explosive gases, the concentration of explosive gases generated by the site shall not exceed:
 - (A) twenty-five percent of the lower explosive limit for the explosive gases in on-site structures, excluding gas control or recovery system components; and
 - (B) the lower explosive limit for the explosive gases at the property boundary;
- (2) A site shall be secured to prevent unauthorized entry by means such as gates, chains, berms, and fences.
- (3) A site shall meet the following surface water requirements:
 - (A) a site shall not cause a discharge of pollutants into waters of the State that is in violation of the requirements of the National Pollutant Discharge Elimination System (NPDES), under Section 402 of the Clean Water Act, as amended, or that is in violation of 15A NCAC 02B;
 - (B) a site shall not cause a discharge of dredged material or fill material into waters of the State that is in violation of the requirements under Section 404 of the Clean Water Act, as amended, or G.S. 113A, 130A, or 143;
 - (C) a site shall not cause non-point source pollution of waters of the State that violates 15A NCAC 02B; and
 - (D) a site shall comply with Rule .0602 of this Subchapter.
- (4) A site shall meet the following groundwater protection requirements:
 - (A) A site shall comply with G.S. 130A-295.6(f).
 - (B) A site that has not previously been permitted by the Division for an ISWLF unit, or a lateral expansion of an existing permitted site, shall be designed with a leachate collection system, a closure cap system, and a composite liner system consisting of an upper component and lower component. The upper component of the composite liner system shall consist of a flexible membrane liner (FML) no less than 30 mil thick. FML components consisting of high-density polyethylene (HDPE) shall be no less than 60 mil thick. The lower component of the composite liner system shall consist of a layer of compacted soil no less than two feet thick with a hydraulic conductivity of no more than 1×10^{-7} centimeters per second. The FML component shall be installed in direct and uniform contact with the compacted soil component.

- (C) An owner or operator applying for a permit for a site that has not previously been permitted by the Division as an ISWLF unit, or a lateral expansion of an existing permitted site, may submit a request to the Division to be exempt from the requirements of Part (B) of this Subparagraph. The request shall be submitted in writing with the proposed site information required to be submitted in accordance with Rule .0504(c) of this Section. The request shall include a description of the types of waste proposed to be disposed of at the site, and a proposed site design that demonstrates that the post-settlement bottom elevation of the waste will be a minimum of four feet above both the seasonal high groundwater table, as defined in Rule .0532 of this Section, and the bedrock datum plane contours as required by G.S. 130A-295.6(f). The site design shall also demonstrate that the groundwater quality standards or interim maximum allowable contaminant levels established under 15A NCAC 02L will not be exceeded in the uppermost aquifer at the compliance boundary established by the Division in accordance with 15A NCAC 02L. The site design shall be based upon modeling methods that include the hydrogeologic characteristics of the site and surrounding lands; the climatic factors of the area; and the volume and physical and chemical characteristics of the leachate. The Division shall approve the request if the request and the proposed site design comply with Article 9 of Chapter 130A of the General Statutes and the rules of this Subchapter.
- (D) A site shall comply with Rule .0601 of this Subchapter.
- (5) A site shall not engage in open burning of solid waste unless approval has been obtained from the Division, and from the Division of Air Quality in accordance with 15A NCAC 02D .1900, and from the local government prior to any burning activity.
- (6) A site shall meet the following buffer requirements:
 - (A) A site that received site study approval from the Division in accordance with Rule .0504(a)(1) of this Section prior to the readopted effective date of this Rule shall maintain a buffer of 50 feet between all property lines and disposal areas. A site that receives site study approval after the readopted effective date of this Rule shall maintain a buffer of no less than 200 feet between all property lines and disposal areas;
 - (B) A site shall have a buffer of no less than 500 feet between the disposal area and residential structures and supply wells existing at the time that the Division issues the site study approval in accordance with Rule .0504(a)(1) of this Section; and
 - (C) A site shall have a buffer of no less than 50 feet between the disposal area and any stream, river, lake, pond, or other waters of the State as defined in G.S. 143-212; and
- (7) A site shall comply with the requirements in 15A NCAC 04 for sedimentation and erosion control.

*History Note: Authority G.S. 130A-294;
 Eff. April 1, 1982;
 Amended Eff. October 1, 1995; January 4, 1993; February 1, 1991; September 1, 1990;
 Readopted Eff. January 1, 2021.*

15A NCAC 13B .0504 APPLICATION REQUIREMENTS FOR INDUSTRIAL SOLID WASTE LANDFILLS

(a) The permit applicant for an industrial solid waste landfill (ISWLF) unit (site) permit shall prepare a site study in accordance with Paragraph (c) of this Rule, and submit the site study to the Division. The Division shall review the site study for a proposed new site prior to consideration of an application for a permit. Following review of the site study, the Division shall notify the applicant in writing that either:

- (1) the site is deemed suitable for establishing an ISWLF unit and the applicant may prepare an application for a permit in accordance with Paragraph (b) of this Rule, as well as any site-specific conditions and design requirements stated in the notification; or
- (2) the site is deemed unsuitable for establishing an ISWLF unit and the reasons that prevent the ISWLF unit from being operated in accordance with Article 9 of Chapter 130A of the General Statutes, the rules of this Subchapter, and any applicable federal laws and regulations.

(b) When the site has been deemed suitable for an ISWLF unit by the Division in accordance with Subparagraph (a)(1) of this Rule, the permit applicant shall submit to the Division one electronic copy of a permit application, which shall contain the plans described in Paragraphs (d) through (f) of this Rule. A permit for a site shall be based upon a particular type and source of waste, as identified in the operation plan required by Paragraph (e) of this Rule.

(c) The site study shall contain the following information:

- (1) An aerial photograph on a scale of at least one inch equals 400 feet showing the area within one-fourth mile of the proposed site's boundaries with the following identified:
 - (A) entire property owned or leased by the person proposing the site;
 - (B) land use and zoning;
 - (C) location of all homes, industrial buildings, public or private utilities, and roads;
 - (D) location of wells, watercourses, dry runs, and other details regarding the general topography; and
 - (E) floodplains.
- (2) A map on a scale of at least one inch equals 1,000 feet showing the area within two miles of the proposed site's boundaries that identifies known groundwater users, potential or existing sources of groundwater and surface water pollution, water intakes, airports and runways, and subdivisions.
- (3) A geological and hydrological study of the site that provides:
 - (A) soil borings for which the numbers, locations, and depths provide an understanding of the subsurface conditions and groundwater flow regime of the uppermost aquifer at the site. The number and depths of borings required will depend on the hydrogeologic characteristics of the site. The borings and lab testing of selected soil samples from the borings shall provide:
 - (i) standard penetration resistance;
 - (ii) particle size analysis;
 - (iii) soil classification using the Unified Soil Classification System;
 - (iv) geologic considerations such as slopes and solution features;
 - (v) undisturbed representative geologic samples of the unconfined or confined or semiconfined hydrological units within a depth of 50 feet that provide for each major lithologic unit the saturated hydraulic conductivity or by in-situ; volume percent water, and porosity; and
 - (vi) remolded sample of cover soils that provide the saturated hydraulic conductivity, total porosity, and atterberg limits;
 - (B) boring logs;
 - (C) stratigraphic cross sections identifying hydrogeologic and lithologic units and stabilized water table elevations;
 - (D) water table information, including:
 - (i) tabulation of water table elevations at time of boring, 24 hours after boring, and seven days after boring;
 - (ii) tabulations of stabilized water table elevations over time in order to develop an understanding of seasonal fluctuations in the water table;
 - (iii) an estimation of the seasonal high water groundwater table, as defined in Rule .0532 of this Section, based on stabilized water table readings, hydrographs of wells in the area, precipitation and other meteorological data, and any other information available; and
 - (iv) a description of any natural or man-made activities that have the potential for causing water table fluctuations, including tidal variations, river stage changes, flood pool changes of reservoirs, high volume production wells, and injection wells;
 - (E) a groundwater contour map based on the estimated long-term seasonal high water groundwater table that is superimposed on a topographic map and includes the location of all borings and rock cores and the water table elevations or potentiometric data at each location used to generate the groundwater contours;
 - (F) a topographic map of the site locating soil borings with horizontal and vertical controls that are tied to a permanent onsite benchmark; and
 - (G) a report summarizing the geological and hydrological evaluation.
- (4) A conceptual design plan for the development of the facility including any special engineering features that the applicant is proposing.
- (5) A copy of the franchise or local government approval from each unit of local government in whose jurisdiction the site is located in accordance with G.S 130A-294(b1). No franchise or local

government approval shall be required for a site used to dispose of waste generated solely by the permit applicant.

- (6) A letter from the unit of government having zoning jurisdiction over the site that states that the proposal meets all of the requirements of the local zoning ordinance, or that the site is not zoned.
 - (7) A description of how the site complies with the siting standards in Rule .0503(a) of this Section.
 - (8) A report that includes the following information:
 - (A) population and area to be served;
 - (B) type, quantity, and source of waste that will be disposed of at the site;
 - (C) the equipment that will be used for operating the site; and
 - (D) a proposed water quality monitoring plan including surface water sampling locations, well locations, and well schematics showing proposed screened interval, depth, and construction.
 - (9) Letters from both the State Historic Preservation Office and the Natural Heritage Program within the Department of Natural and Cultural Resources stating whether the proposed use of the property will impact the historic sites described in Rule .0503(a)(2) of this Subchapter; State nature and historic preserves described in Rule .0503(a)(3) of this Subchapter; or the endangered or threatened species described in Rule .0503(a)(4) of this Subchapter located at the site.
 - (10) Additional information for activities or features that the owner or operator is proposing that are not otherwise described in this Rule, or that the Division may request if it is necessary to determine compliance with the rules of this Subchapter.
- (d) Construction Plan. An application for a permit for the site shall contain a construction plan that shall include the following information:
- (1) a map showing existing features including existing topography of the site on a scale of at least one inch equals 200 feet with five-foot contours, benchmarks, springs, streams, potential groundwater monitoring sites, pertinent geological features, and soil boring locations;
 - (2) a grading plan that provides proposed excavated contours, soil boring locations, locations and elevations of dikes or trenches, designated buffer zones, diversion and controlled removal of surface water from the work areas, and proposed utilities and structures;
 - (3) a site development plan showing the following:
 - (A) phases or progression of construction and operation in increments of five years up to the life-of-site of the ISWLF;
 - (B) engineering design for liners and leachate collections systems;
 - (C) proposed final contours showing removal of surface water runoff; and
 - (D) locations of slope drains or other drop structures;
 - (4) an erosion control plan that identifies the following:
 - (A) locations of temporary erosion control measures such as sediment basins, stone filters, terraces, or silt fences;
 - (B) locations of permanent erosion control measures such as rip rap, energy dissipators, ditch stabilization, or pipe drains; earthwork calculations; calculations for temporary and permanent erosion control measures; a description of how the site complies with 15A NCAC 04 for sedimentation and erosion control; and
 - (C) seeding specifications and schedules;
 - (5) engineering diagrams showing sections of dikes, trenches, diversions, and sediment basins;
 - (6) two cross sections per operational area showing soil borings, original elevations, proposed excavated depths, proposed final elevations, and the seasonal high groundwater table and bedrock datum plane contours in accordance with Rule .0503(b)(4)(C) of this Section; and
 - (7) a description of how the site complies with the design requirements in Rule .0503(b) of this Section.
- (e) Operations Plan. An application for a permit for the site shall contain an operations plan that shall include the following information:
- (1) a copy of the deed for the site property, including the property owner's name, the parcel identification number, and a legal description of the property;
 - (2) name and emergency contact information for the individual responsible for operation, maintenance, and closure of the site;
 - (3) type, quantity, and source of waste that will be disposed of at the site;

- (4) a description of how the site complies with the operational requirements in Rule .0505 of this Section; and
 - (5) a description of how the site complies with the monitoring requirements of Section .0600 of this Subchapter;
- (f) Closure and Post-Closure Care Plan. An application for a permit for the site shall contain a closure and post-closure plan that shall include the following information:
- (1) a description of the closure of the site, including quantification of the life-of-site, closure and final cover procedures, and projected use of the land after closure;
 - (2) a description of the post-closure care period of the site, including maintenance and monitoring procedures, and a description of how the site will comply with Section .0600 of this Subchapter; and
 - (3) the cost estimate for closure and post-closure activities as required under Section .1800 of this Subchapter.
- (g) If required by G.S. 89C or 89E and not under the purview of another licensed profession, a licensed professional engineer or licensed geologist shall certify the information submitted in accordance with Paragraphs (c) through (f) of this Rule.
- (h) The Division shall review all permit applications in accordance with Rule .0203 of this Subchapter.
- (i) Plans and documents submitted in the permit application in accordance with this Rule shall be incorporated into the permit and the site shall comply with the permit in accordance with Rule .0203(d) of this Subchapter.
- (j) Modifications to the plans. The owner or operator may request to modify plans that were incorporated into the permit by submitting a written request to the Division that includes the modified plan and a demonstration showing how the proposed modifications comply with the rules of this Section. The Division shall respond to the request in writing within the timeline provided in G.S. 130A-295.8(e); and the response shall either approve or deny the request as submitted or request that additional information be submitted for the Division to consider the request. The Division's approval shall be based on whether the modification complies with the rules of this Subchapter. If the Division approves the request as submitted or upon receiving the additional information requested, the Division's written approval and the revised pages of the plan shall be added to the site's operating record. The owner or operator shall not implement the modification until the Division has issued an approval.

*History Note: Authority G.S. 130A 294;
 Eff. April 1, 1982;
 Amended Eff. January 1, 1985;
 Temporary Amendment Eff. October 1, 1987, For a Period of 180 Days to expire on March 29, 1988;
 Amended Eff. July 1, 2013; February 1, 1991; September 1, 1990; March 1, 1988;
 Readopted Eff. January 1, 2021.*

15A NCAC 13B .0505 OPERATIONAL AND CLOSURE REQUIREMENTS FOR INDUSTRIAL SOLID WASTE LANDFILLS

- (a) The owner or operator of an industrial solid waste landfill unit (site) shall maintain and operate the site in conformance with the permit and the plans incorporated into the permit in accordance with Rule .0504(i) of this Section, and with Sections .0600 and .1800 of this Subchapter, and the following:
- (1) Solid waste shall be managed within the disposal area throughout the life-of-site and post-closure care period to prevent the escape of waste and the attraction of vectors and scavenging, and to minimize fires and the generation of odors. The owner or operator shall comply with this requirement using either the following compaction and cover procedures, or other procedures that the owner or operator may include in the operations plan and the closure and post-closure plan required by Rule .0504 of this Section that shall be as effective as the compaction and cover procedures:
 - (A) Solid waste shall be compacted.
 - (B) Solid waste shall be covered at the end of each day of operation with a compacted layer of no less than six inches of soil.
 - (C) Areas that will not have additional wastes placed on them for the next 12 months, but where final termination of disposal operations has not occurred, shall be covered with no less than one foot of compacted soil.

- (D) After final termination of disposal operations at the site or upon revocation of a permit, the area shall be covered with no less than two feet of compacted soil.
- (2) Erosion Control Requirements:
 - (A) Erosion control measures shall be practiced to prevent silt from leaving the site.
 - (B) Erosion control measures shall be practiced to prevent on-site erosion.
 - (C) The site shall comply with 15A NCAC 04.
- (3) Drainage Control Requirements:
 - (A) Surface water shall be diverted from the operational area.
 - (B) Surface water shall not be impounded over or in waste.
 - (C) Areas that have been covered in accordance with Subparagraph (1) of this Paragraph shall be sloped to allow surface water runoff in a controlled manner.
- (4) Vegetation Requirements:
 - (A) After final termination of disposal operations at the site or upon revocation of a permit, the site shall be stabilized with native grasses within the timeframe established in the construction plan incorporated into the permit in accordance with Rule .0504(i) of this Section.
 - (B) Temporary seeding shall be utilized if it is necessary to stabilize the site or prevent erosion.
- (5) Water Protection Requirements:
 - (A) The separation distance of four feet between waste and the seasonal high groundwater table as defined in Rule .0532 of this Section shall be maintained.
 - (B) Solid waste shall not be disposed of in water.
 - (C) Leachate shall be contained on site or treated prior to discharge. A National Pollutant Discharge Elimination System (NPDES) permit issued by the Department of Environmental Quality, Division of Water Resources in accordance with 15A NCAC 02B may be required prior to the discharge of leachate to surface waters.
- (6) Access and Security Requirements:
 - (A) The site shall be secured to prevent unauthorized entry by means such as gates, chains, berms, or fences.
 - (B) An individual trained in landfill operations in accordance with G.S. 130A-309.25 shall be on duty at the site while the site is open for public use and during any waste management operations to ensure compliance with operational requirements.
 - (C) The access road to the site shall be of all-weather construction and maintained to allow access by Division staff and fire-fighting vehicles.
 - (D) Dust control measures shall be implemented.
- (7) Sign Requirements:
 - (A) Signs providing information on disposal procedures, the hours during which the site is open for public use, the permit number, emergency contact information, and other information specified in the permit conditions shall be posted at the site entrance.
 - (B) Signs shall be posted stating the types of waste that shall not be accepted at the site, such as hazardous waste, liquid waste, construction and demolition waste, or municipal solid waste.
 - (C) Traffic signs or markers shall be provided to direct traffic to and from the discharge area to minimize traffic congestion.
- (8) Safety Requirements:
 - (A) Open burning of solid waste is prohibited unless approval has been obtained from the Division, and from the Division of Air Quality in accordance with 15A NCAC 02D .1900, and from the local government prior to any burning activity.
 - (B) The owner or operator of the site shall maintain equipment on-site to control accidental fires and arrangements shall be made with the local fire protection agency to provide fire-fighting services.
 - (C) Fires that occur at the site shall be reported to the Division by verbal notice within 24 hours and a written notification shall be submitted within 15 days.
 - (D) The removal of solid waste from the site is prohibited unless the owner or operator approves and the removal is not performed on the working face.

- (E) Containers such as tubes, barrels, drums, tanks, cans, and bottles shall not be disposed of unless they are empty and perforated to ensure that no liquid waste or hazardous waste is contained therein.
- (9) Waste Acceptance and Disposal Requirements:
 - (A) A site shall only accept those wastes that it is permitted to receive. The site owner or operator shall notify the Division within 24 hours of attempted disposal of any waste the site is not permitted to receive, including waste from outside the area the site is permitted to serve.
 - (B) No hazardous waste or liquid waste shall be accepted or disposed of at a site.
 - (C) If the site has been permitted by the Division to receive putrescible waste, this waste shall be covered upon receipt.
 - (D) Asbestos waste shall be managed in accordance with 40 CFR 61, Subpart M. Asbestos waste shall be covered upon receipt with soil or compacted waste to prevent airborne conditions. Asbestos waste shall be disposed of using methods that prevent unintended exposure of asbestos by future land-disturbing activities, such as disposal in a marked area separate and apart from other solid wastes or recording the latitude and longitude coordinates of the asbestos area within the existing landfill footprint. The disposal methods shall be described in the operations plan required by Rule .0504(e) of this Section.
 - (E) Wastewater treatment sludges shall not be accepted for disposal, unless otherwise specified in the site permit.
- (10) Other Requirements:
 - (A) Vector control measures shall be applied to control flies, rodents, and other insects or vermin.
 - (B) Barrier methods such as fencing and diking shall be provided at the site to confine solid waste subject to be blown by the wind. At the conclusion of each day of operation, all windblown material resulting from the operation shall be collected and disposed of by the owner or operator.
 - (C) The owner or operator of a site shall comply with the financial responsibility requirements set forth in G.S. 130A-295.2.
 - (D) A site that accepts scrap tires shall also comply with Section .1100 of this Subchapter.
 - (E) The owner or operator shall submit to the Division upon written request any information or records required to be kept under the conditions of the permit or the rules of this Section.
- (b) When a site has ceased the acceptance of waste, closure of the site shall comply with the following requirements:
 - (1) The owner or operator shall notify the Division in writing that the site has been closed in accordance with the rules of this Section and the closure and post-closure care plan required in accordance with Rule .0504(f) of this Section.
 - (2) The owner or operator shall provide certification that final cover has been installed as described in the construction plan required in accordance with Rule .0504(d) of this Section.
 - (3) The Division shall conduct an inspection to determine compliance with closure requirements. If the site has been closed in accordance with the rules of this Section and the closure and post-closure care plan required in accordance with Rule .0504(f) of this Section, the Division shall issue a closure letter to the owner or operator that confirms closure of the site, and provides post-closure conditions for the site as set forth in Paragraph (c) of this Rule.
- (c) When a site has been closed in accordance with the requirements of this Rule, post-closure maintenance and water quality monitoring shall be the responsibility of the owner or operator. The owner or operator shall comply with Section .0600 of this Subchapter. The site-specific post-closure maintenance requirements shall be specified in the closure letter issued by the Division in accordance with Subparagraph (b)(3) of this Rule.
- (d) When a site has been closed in accordance with this Rule, the permit is terminated. Any future solid waste management or disposal at the site shall require a new permit.

*History Note: Authority G.S. 130A-294;
 Eff. April 1, 1982;
 Amended Eff. January 1, 1985;*

Temporary Amendment Eff. November 1, 1987, For a Period of 180 Days to Expire on April 28, 1988;
Amended Eff. September 1, 1990; February 1, 1988;
Readopted Eff. January 1, 2021.

15A NCAC 13B .0508 SITING AND APPLICATION REQUIREMENTS FOR INCINERATORS

- (a) An incinerator (site) shall meet the following siting requirements:
- (1) Floodplain Restrictions: Any portions of the site property containing the incinerator building and areas where storage or processing of solid waste occurs shall not be located in the 100-year floodplain.
 - (2) Cultural Resources Restrictions: A site shall not damage or destroy a property of archaeological or historical significance that has been listed on the National Register of Historic Places or included on the Study List for the Register pursuant to 07 NCAC 04R .0206 and .0300.
 - (3) State Nature and Historic Preserve Restrictions: The location, access, size, and operation of the site shall not have an adverse impact on any component included in the State Nature and Historic Preserve pursuant to G.S. 143-260.10.
 - (4) Endangered and Threatened Species Restrictions: A site shall not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Federal Endangered Species Act of 1973, Public Law 93-205, as amended.
 - (5) Clean Water Act Requirements: A site or site operations shall:
 - (A) not cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including the National Pollutant Discharge Elimination System (NPDES) requirements pursuant to Section 402 of the Clean Water Act;
 - (B) comply with Section 404 of the Clean Water Act; and
 - (C) not cause the discharge of a nonpoint source of pollution to waters of the United States, including wetlands, that violates any requirement of an area-wide or Statewide water quality management plan that has been approved under Section 208 or 319 of the Clean Water Act.
 - (6) The permit issued by the Division for the site shall state the site-specific buffer requirements for the site. When determining the site-specific buffers, the Division shall include any buffers required by the incinerator permit issued by the Division of Air Quality for the site.
- (b) A permit applicant shall submit to the Division one electronic copy of a permit application, which shall contain the plans described in Paragraphs (c) and (d) of this Rule.
- (c) Site Plan. An application for a permit for a site shall contain a site plan that includes the following information:
- (1) an aerial photograph, representative of existing conditions, at a scale of at least one inch equals 400 feet, showing the area within one quarter mile of the proposed site's boundaries with the following identified:
 - (A) property lines of the entire property where the site will be located;
 - (B) existing land use and zoning;
 - (C) location of all private residences, commercial and industrial buildings, public or private utilities, roads, and schools;
 - (D) on-site easements;
 - (E) location of potable wells and public water supplies;
 - (F) historic sites described in Subparagraph (a)(2) of this Rule;
 - (G) State nature and historic preserves described in Subparagraph (a)(3) of this Rule;
 - (H) the existing topography and features of the site, including general surface water drainage patterns and watersheds, 100-year floodplains, perennial and intermittent streams, rivers, and lakes; and
 - (I) the classification of the surface water drainage from the site in accordance with 15A NCAC 02B .0300;
 - (2) a letter from the unit of government having zoning jurisdiction over the site that states that the proposed use is allowed within any existing zoning and that any necessary zoning approval or permit has been obtained, and that states the local zoning buffers that apply to the site;

- (3) letters from both the State Historic Preservation Office and the Natural Heritage Program within the Department of Natural and Cultural Resources stating whether the proposed use of the property will impact the historic sites described in Subparagraph (a)(2) of this Rule; State nature and historic preserves described in Subparagraph (a)(3) of this Rule; or the endangered or threatened species described in Subparagraph (a)(4) of this Rule located at the site; and
 - (4) a copy of the valid air quality permit for the operation of the incinerator issued by the Department of Environmental Quality, Division of Air Quality in accordance with 15A NCAC 02D.
- (d) Operations Plan. An application for a permit for a site shall contain an operations plan that shall include the following information:
- (1) the type and quantity of wastes that will be accepted, including the anticipated sources of the wastes accepted, and the intended destination of materials and ash removed from the site;
 - (2) the procedures for receiving, storing, incineration, and removal of waste and ash, including the anticipated storage and incineration times;
 - (3) the hours of operation and staffing;
 - (4) methods for daily cleanup;
 - (5) record-keeping procedures;
 - (6) a description of how the site will comply with the operational and closure requirements of Rule .0509 of this Section;
 - (7) a contingency plan that shall address planned operations in the event of loss of power, loss of communications, storm surges, scale malfunctions, and scale software malfunctions; in the event that the disposal site, haul route, or transfer equipment is not available; or during conditions exceeding design parameters. The owner or operator of the site shall provide back-up equipment, and contact information to obtain the equipment, and plans to by-pass the site in case of equipment breakdown. The contingency plan shall be kept updated on-site and shall include site specific emergency procedures and contact information in case of emergencies;
 - (8) additional information that the Division may request in writing pertaining to the site operations if it is necessary to determine compliance with the rules of this Subchapter; and
 - (9) in addition to the information required in this Paragraph, incinerators that are permitted by the Division to accept medical waste shall also include the information required by Rule .1204(b)(4) of this Subchapter in the operations plan.
- (e) The Division shall review all permit applications in accordance with Rule .0203 of this Subchapter.
- (f) Plans and documents submitted in the permit application in accordance with this Rule shall be incorporated into the permit and the site shall comply with the permit in accordance with Rule .0203(d) of this Subchapter.
- (g) Permits issued by the Division for incinerators shall be valid for five years, and shall be subject to the permit fees set forth in G.S. 130A-295.8.
- (h) Sites that received a permit from the Division prior to the readopted effective date of this Rule shall comply with the rules of this Section with the following exceptions:
- (1) buildings, structures, and waste handling areas constructed prior to the readopted effective date of this Rule shall not be required to comply with Paragraph (a) of this Rule for the permitted operational boundary existing on the readopted effective date of this Rule, or any replacements or modifications within that existing permitted operational boundary; and
 - (2) if a building, structure, or waste handling area was constructed prior to the readopted effective date of this Rule, and is expanded beyond the existing permitted operational boundary after the readopted effective date of this Rule, the permitted operational boundary that was existing on the readopted effective date of this Rule shall not be required to comply with Paragraph (a) of this Rule, but the expansion areas shall comply with these requirements.
- (i) Site buildings, structures, and waste handling areas that are exempt from the requirements of Paragraph (a) of this Rule shall continue to comply with any siting and buffer requirements stated in their permit issued prior to the readoption date of this Rule.

*History Note: Authority G.S. 130A-294;
 Eff. April 1, 1982;
 Amended Eff. February 1, 1991; September 1, 1990;
 Readopted Eff. January 1, 2021.*

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15A NCAC 13B .0509 OPERATIONAL AND CLOSURE REQUIREMENTS FOR INCINERATORS

(a) An owner or operator of an incinerator (site) shall comply with the permit conditions, the plans incorporated into the permit in accordance with Rule .0508(f) of this Section, and the following requirements:

- (1) All sites shall be sited, designed, operated, and maintained using safe and sanitary practices for the preservation of the public health and welfare and the environment by preventing the generation of leachate, the attraction of vectors, the release of odors, and the release of waste or leachate to the environment.
- (2) The storage of solid waste at the site shall comply with Rule .0104 of this Subchapter and the conditions of the permit issued by the Division.
- (3) Sites that are permitted by the Division to accept medical waste shall also comply with Section .1200 of this Subchapter.
- (4) Vector control measures shall be applied to prevent or control on-site populations of flies, rodents, and other insects or vermin.
- (5) The owner or operator shall provide equipment to operate and maintain the site in compliance with Subparagraph (1) of this Paragraph.
- (6) All ash and waste residue from the site shall be disposed of at a solid waste management facility permitted by the Division to receive such waste.
- (7) An air quality permit issued by the Department of Environmental Quality, Division of Air Quality shall be obtained prior to site operation.
- (8) A site shall only accept those solid wastes that it is permitted to receive.
- (9) Leachate shall be contained on-site or treated prior to discharge. A National Pollutant Discharge Elimination System (NPDES) permit issued by the Department of Environmental Quality, Division of Water Resources in accordance with 15A NCAC 02B may be required prior to discharge to surface waters.
- (10) The owner or operator shall submit to the Division upon written request any information or records required to be kept under the conditions of the permit or the rules of this Section.

(b) When a site ceases the acceptance of waste, closure of the site shall comply with the following requirements:

- (1) The owner or operator shall remove all waste, including ash, from the site property and dispose of the waste at a facility permitted by the Division to receive such waste within 120 days after the date the incinerator ceased the acceptance of waste.
- (2) The owner or operator shall comply with any closure requirements specified in the permits issued by the Division and the Division of Air Quality.
- (3) For a site that accepts medical waste, the owner or operator shall also meet the requirements of Section .1200 of this Subchapter.
- (4) The owner or operator shall notify the Division in writing that the site has been closed in accordance with this Rule.
- (5) The Department shall conduct an inspection to determine compliance with Subparagraphs (1) through (3) of this Paragraph.
- (6) When a site has been closed in accordance with this Paragraph, the permit is terminated, and any future solid waste management at the site shall require a new permit.

*History Note: Authority G.S. 130A-294;
Eff. April 1, 1982;
Amended Eff. September 1, 1990;
Readopted Eff. January 1, 2021.*

15A NCAC 13B .0510 POST-CLOSURE CARE REQUIREMENTS FOR CLOSED C&DLF AND MSWLF UNITS EXEMPTED FROM OTHER C&DLF AND MSWLF RULES

The owner or operator of a closed construction and demolition landfill unit or municipal solid waste landfill unit that is required to comply with this Rule in accordance with Rule .0531 of this Section or Rule .1601 of this Subchapter (collectively "site") shall comply with the post-closure care requirements specified in the permit conditions, the closure plan for the site, and the closure letter or permit for closure issued by the Division to the site at the time of closure. The owner or operator shall also comply with Section .0600 of this Subchapter. The owner or operator shall submit to the Division upon written request any information or records that are required to be kept under either the permit conditions, the closure letter, or the rules of this Subchapter.

History Note: Authority G.S. 130A-294;
Eff. April 1, 1982;
Amended Eff. September 1, 1990; February 1, 1988;
Readopted Eff. January 1, 2021.

15A NCAC 13B .0531 PURPOSE AND APPLICABILITY FOR CONSTRUCTION AND DEMOLITION LANDFILLS

(a) Purpose. Rules .0531 through .0546 of this Section shall govern the permitting procedures, siting, design, construction, performance standards, operation, closure, and post-closure of all construction and demolition solid waste landfill (C&DLF) facilities and units.

(b) Applicability. Owners and operators of C&DLF facilities and units shall conform to the requirements of Rules .0531 through .0546 of this Section as follows:

- (1) C&DLF units that stopped receiving waste before June 30, 2008 are exempt from Rules .0531 through .0546 of this Section and shall comply with the solid waste permit and Rule .0510 of this Section.
- (2) C&DLF units permitted after December 31, 2006 shall comply with the requirements of Rules .0531 through .0546 of this Section.
- (3) C&DLF units permitted to operate prior to January 1, 2007 that continued to receive waste on or after June 30, 2008 shall comply with Rules .0531 through .0546 of this Section, except that C&DLF units on top of closed MSWLFs are subject to the corrective action requirements of Rules .1635, .1636, and .1637 of this Subchapter, and the closure and post-closure requirements of Rule .1627 of this Subchapter.

(c) In addition to the requirements of G.S. 130A-295.3, owners and operators of a C&DLF facility shall comply with local laws, ordinances, rules, regulations, and orders that are applicable to the location and operation of the C&DLF facility, including zoning and property requirements, floodplain requirements, wetland requirements, sedimentation and erosion control requirements, and mining requirements.

(d) Incorporation by Reference. References to Title 40 of the U.S. Code of Federal Regulations (CFR) in Rules .0531 through .0546 of this Section are incorporated by reference including subsequent amendments or editions, and can be obtained free of charge at the US Government Publishing Office website at www.ecfr.gov.

History Note: Authority G.S. 130A-294;
Eff. January 1, 2007;
Readopted Eff. September 16, 2021.

15A NCAC 13B .0532 DEFINITIONS FOR C&DLF FACILITIES

The definitions in Article 9 of Chapter 130A of the General Statutes, the definitions in Rule .0101 of this Subchapter, and the following definitions shall apply to Rules .0531 through .0546 of this Section.

- (1) "Active life" means the period of operation beginning with the initial receipt of C&D solid waste and ending at completion of closure activities in accordance with Rule .0543 of this Section.
- (2) "Active portion" means that part of a facility or unit(s) that has received or is receiving wastes and that has not been closed in accordance with Rule .0543 of this Section.
- (3) "Aquifer" means a geological formation, group of formations, or portion of a formation capable of yielding groundwater.
- (4) "Areas susceptible to mass movement" means those areas characterized as having an active or substantial possibility of mass movement where the movement of earth material at, beneath, or adjacent to the C&DLF unit(s), because of natural or man-induced events, results in the downslope transport of soil and rock material by means of gravitational influence. Areas of mass movement may include landslides, avalanches, debris slides and flows, soil fluction, block sliding, and rock fall.
- (5) "Base liner system" means the liner system installed on the C&DLF unit's foundation to control the flow of leachate.
- (6) "Cap system" means a liner system installed over the C&DLF unit(s) to minimize infiltration of precipitation and contain the wastes.
- (7) "C&D solid waste" means solid waste generated solely from the construction, remodeling, repair, or demolition operations on pavement and buildings or structures. C&D solid waste may include

municipal and industrial solid wastes that are identical to materials generated from the construction, remodeling, repair, or demolition operations on pavement and buildings or structures.

- (8) "Construction and demolition debris landfill unit" or "C&DLF unit" means a discrete area of land or an excavation that receives C&D solid waste, and is not a land application unit, surface impoundment, injection well, or waste pile, as defined under 40 CFR 257.2. Such a C&DLF unit may be publicly or privately owned; and may be located at a municipal solid waste landfill facility, an industrial solid waste landfill facility, or other waste management facility.
- (9) "Groundwater" means water below the land surface in a zone of saturation.
- (10) "Karst terranes" means areas where karst topography, with its characteristic surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present in karst terranes may include sinkholes, sinking streams, caves, large springs, and blind valleys.
- (11) "Landfill facility" means all contiguous land and structures, waste management unit(s), other appurtenances, and improvements on the land within the legal description of the site included in or proposed for the permit issued in accordance with this Subchapter.
- (12) "Landfill unit" means a discrete area of land or an excavation that receives a particular type of waste such as C&D, industrial, or municipal solid waste, and is not a land application unit, surface impoundment, injection well, or waste pile, as defined under 40 CFR Part 257.2. Such a landfill unit may be publicly or privately owned, and may be located at a municipal solid waste landfill facility, a construction and demolition debris landfill facility, an industrial solid waste landfill facility, or other waste management facility.
- (13) "Lateral expansion" means a horizontal expansion of the waste boundaries of a C&DLF unit(s).
- (14) "Liner system" means an engineered environmental control system which can incorporate filters, drainage layers, compacted soil liners, geomembrane liners, piping systems, and connected structures.
- (15) "Liquid waste" means any waste material that is determined to contain "free liquids" as defined by EPA SW-846 Test Method 9095B (Paint Filter Liquids Test), which is incorporated by reference including subsequent amendments or editions; and can be obtained free of charge at the US EPA website at www.epa.gov/hw-sw846/sw-846-test-method-9095b-paint-filter-liquids-test.
- (16) "Poor foundation conditions" means those areas where features exist that indicate that a natural or man-induced event may result in a loss or reduction of foundation support for the structural components of a C&DLF unit(s).
- (17) "Project engineer" means the licensed professional engineer that represents the permittee and is responsible for observing, documenting, and certifying that activities related to the quality assurance of the construction of the solid waste management unit conform to the permit to construct, incorporated plans, and Rules .0531 through .0546 of this Section. All certifications shall bear the seal and signature of the licensed professional engineer and the date of certification.
- (18) "Seasonal high groundwater table" and "SHGT" means the highest level of the uppermost aquifer during a year with normal rainfall. SHGT may be determined in the field through identification of redoximorphic features in the soil profile, monitoring of the water table elevation, or modeling of predicted groundwater elevations.
- (19) "Structural components" means liners, leachate collection systems, final covers, systems that manage rainwater that drains over land from or onto any part of the facility or unit and any other component used in the construction and operation of the C&DLF facility.
- (20) "Unstable area" means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas may include poor foundation conditions, areas susceptible to mass movements, and Karst terranes.
- (21) "Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

*History Note: Authority G.S. 130A-294;
Eff. January 1, 2007;
Readopted Eff. September 16, 2021.*

15A NCAC 13B .0533 GENERAL APPLICATION REQUIREMENTS AND PROCESSING FOR C&DLF FACILITIES

(a) An owner or operator of a C&DLF unit or facility shall submit an application document as detailed in Rule .0535 of this Section in accordance with the following criteria and scheduling requirements:

- (1) New permit.
 - (A) An applicant for a new permit as defined by G.S. 130A-294(a3)(1)a, c, d, and e shall submit a site study and subsequently an application for a permit to construct as set forth in Rule .0535(a) of this Section.
 - (B) An applicant for a new permit as defined by G.S. 130A-294(a3)(1)b shall submit an application for a permit as set forth in Rule .0535(b) of this Section.
 - (C) The Division shall review all permit applications in accordance with Rule .0203 of this Subchapter.
 - (D) An application for a new permit is subject to the application fees set forth in G.S. 130A-295.8(d2).
- (2) Amendment to the permit. The owner or operator shall submit an application to amend the permit to construct in accordance with Rule .0535(c) of this Section for the following circumstances:
 - (A) A subsequent stage of landfill development. A permit to construct issued in accordance with Paragraph (c) of this Rule approves the life-of-site development of the C&DLF unit indicated in the facility plan plus a set of plans defined in Rule .0534(b)(1) of this Section as the Division approved plans submitted by the applicant for either the entire C&DLF unit or a portion of the C&DLF unit. For any subsequent stage of landfill development that the applicant has not included in the plans required by Rule .0534(b)(1) of this Section for any prior stage of landfill development, the owner or operator shall submit the amended permit application no less than 180 days prior to the date scheduled for commencing construction.
 - (B) A change in ownership or corporate structure of a permitted C&DLF facility in accordance with G.S. 130A-294(a3)(2)b. The owner or operator shall notify the Division within 30 days of a change in ownership or corporate structure in accordance with G.S. 130A-295.2(g).
- (3) Modifications to the permit. An owner or operator proposing changes to the plans approved in the permit shall request prior approval from the Division in accordance with Rule .0535(d) of this Section.
- (4) Permit for Closure and Post-Closure Care. Within 180 days following receipt of the notice submitted to the Division in accordance with Rule .0543(c)(8) of this Section, the Division shall issue a permit for closure and post-closure care that incorporates the plans identified by the owner or operator in the notice. Owners or operators that closed all C&DLF units at the facility prior to the readopted effective date of this Rule shall not be required to submit the notice described in Rule .0543(c)(8) of this Section. If a closure and post-closure care permit has not already been issued, the Division shall issue a permit for closure and post-closure care for these facilities that incorporates the plans that were incorporated into the most recent permit to operate for the facility.

(b) Application format requirements. All applications and plans required by Rules .0531 through .0546 of this Section shall be prepared in accordance with the following:

- (1) The application shall:
 - (A) contain a cover sheet stating the project title and location, the applicant's name and address, and the engineer's name, address, signature, date of signature, and seal;
 - (B) contain a statement defining the purpose of the submittal signed and dated by the applicant;
 - (C) contain a table of contents or index outlining the body of the application and the appendices;
 - (D) be paginated consecutively; and
 - (E) identify any revised text by noting the date of revision on the page.
- (2) Drawings. The engineering drawings for all landfill facilities shall be submitted using the following format:
 - (A) the cover sheet shall include the project title, applicant's name, sheet index, legend of symbols, and the engineer's name, address, signature, date of signature, and seal; and

- (B) maps and drawings shall be prepared at a scale that illustrates the subject requirements, and that is legible if printed at a size of 22 inches by 34 inches.
 - (3) Number of copies. An applicant shall submit one copy of the application to the Division in an electronic format that is accessible and viewable by the Division. The Division may request that the applicant submit up to three paper copies of the application in three-ring binders.
- (c) Permitting and Public Information Procedures.
- (1) Purpose and Applicability.
 - (A) Purpose. During the permitting process, the Division shall provide for public review of and input to permit documents containing the applicable design and operating conditions. The Division shall provide for consideration of comments received and notification to the public of the permit design as set forth in Subparagraph (4) of this Paragraph.
 - (B) Applicability. Applications for a new permit as defined in G.S. 130A-294(a3)(1), or for a modification to the permit involving corrective remedy selection required by Rule .0545(g)(1) of this Section shall be subject to the requirements of this Paragraph. Applications submitted in accordance with Subparagraphs (a)(2), (a)(3), and (a)(4) of this Rule are not subject to the requirements of this Paragraph.
 - (2) Draft Permits.
 - (A) The Division shall review all permit applications for compliance with Rules .0531 through .0546 of this Section and Rule .0203 of this Subchapter. Once an application is complete, the Division shall either issue a notice of intent to deny the permit to the applicant or prepare a draft permit.
 - (B) If the Division issues a notice of intent to deny the permit to the applicant, the notice shall include the reasons for permit denial in accordance with Rule .0203(e) of this Subchapter and G.S. 130A-294(a)(4)c.
 - (C) If the Division prepares a draft permit, the draft permit shall contain all applicable terms and conditions for the permit.
 - (D) All draft permits shall be subject to the procedures of Subparagraphs (3) through (9) of this Paragraph, unless otherwise specified in those Subparagraphs.
 - (3) Fact Sheet. The Division shall prepare a fact sheet for every draft permit, and shall send this fact sheet to the applicant and post the fact sheet on the Division website. The fact sheet shall include:
 - (A) a description of the type of facility or activity that is the subject of the draft permit;
 - (B) a description of the area to be served, the volume and characteristics of the waste stream, and a projection of the useful life of the landfill;
 - (C) a summary of the basis for the draft permit conditions, including references to statutory or regulatory provisions and supporting references to the permit application;
 - (D) the beginning and ending dates of the comment period under Subparagraph (4) of this Paragraph;
 - (E) the address where comments will be received;
 - (F) the name, phone number, and e-mail address of a person to contact for additional information;
 - (G) the procedures for requesting a public hearing; and
 - (H) other procedures by which the public may provide comments during the comment period under Subparagraph (4) of this Paragraph, such as social media or a web-based meeting, if the Division or the applicant elects to use such procedures.
 - (4) Public Notice of Permit Actions and Public Hearings.
 - (A) The Division shall give public notice of each of the following: a draft permit has been prepared; a public hearing has been scheduled under Subparagraph (6) of this Paragraph; or a notice of intent to deny a permit has been prepared under Part (2)(B) of this Paragraph.
 - (B) No public notice is required when a request for a permit modification is denied.
 - (C) The Division shall give written notice of denial to the applicant.
 - (D) Public notices may describe more than one permit or permit action.
 - (E) Public notice of the preparation of a draft permit or a notice of intent to deny a permit shall allow at least 45 days for public comment.
 - (F) The Division shall give public notice of a public hearing at least 15 days before the hearing; and the notice shall contain the date, time, and place of the public hearing; a

description of the nature and purpose of the public hearing, including the applicable rules and procedures; and a statement of the issues raised by the persons requesting the hearing. Public notice of the hearing may be given at the same time as public notice of the draft permit and the two notices may be combined.

- (G) Public notice of activities described in Part (A) of this Subparagraph shall be given by publication on the Division website, by posting in the post office and public places of the municipalities nearest the site under consideration, or publication by a local news organization. The Division may also provide notice by posting on other State or local government websites or social media to give actual notice of the activities to persons potentially affected.
 - (H) All public notices issued under this Subparagraph shall contain the name, address and phone number of the office processing the permit action for which notice is being given; the name and address of the owner and operator applying for the permit; a description of the business conducted at the facility or activity described in the permit application including the size and location of the facility and type of waste accepted; a description of the comment procedures required by Subparagraphs (5) and (6) of this Paragraph, including a statement of procedures to request a public hearing unless a hearing has already been scheduled, and other procedures by which the public may participate in the permit decision; the name, address, and telephone number of the Division contact from whom interested persons may obtain further information; and a description of the time frame and procedure for making an approval or disapproval decision of the application.
- (5) Public Comments and Requests for Public Hearings. During the public comment period any interested person may submit written comments on the draft permit and may request a public hearing if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Division shall consider all comments in making a final permit decision. The Division shall respond to all comments as provided in Subparagraph (9) of this Paragraph.
- (6) Public Hearings.
- (A) The Division shall hold a public hearing on a draft permit(s) when a hearing is requested. The Division may also hold a public hearing whenever such a hearing might clarify one or more issues involved in the permit decision. Public hearings held pursuant to this Rule shall be at a location accessible to the residents of the municipality closest to the subject facility. Public notice of the hearing shall be given as specified in Subparagraph (4) of this Paragraph.
 - (B) Any person may submit oral or written statements and data concerning the draft permit. The Division shall extend the public comment period under Subparagraph (4) of this Paragraph to the close of any public hearing conducted under this Subparagraph. The Division may also extend the public comment period by so stating at the hearing, when information is presented at the hearing which indicates the importance of extending the period to receive additional comments, to allow potential commenters to gather more information, to allow time for submission of written versions of oral comments made at the hearing, or to allow time for rebuttals of comments made during the hearing. The Division shall publish the end date of the extended comment period on the Division's website prior to the end of the existing public comment period.
 - (C) The Division shall make available to the public a recording or written transcript of the hearing upon request.
- (7) Reopening of the Public Comment Period.
- (A) In response to data, information, or arguments received during the public comment period, the Division may prepare a revised draft permit under Subparagraph (2) of this Paragraph, prepare a revised fact sheet under Subparagraph (3) of this Paragraph, and reopen or extend the comment period under Subparagraph (4) of this Paragraph.
 - (B) Comments filed during the reopened comment period shall be limited to the information that was revised in the draft permit following the original comment period. The public notice shall be in accordance with Subparagraph (4) of this Paragraph and shall define the scope of the reopening.
- (8) Permit Decision.

- (A) After the close of the public comment period under Subparagraph (4) of this Paragraph on a draft permit or a notice of intent to deny a permit, the Division shall issue a permit decision. The Division shall notify the applicant and each person who has submitted a written request for notice of the permit decision. For the purposes of this Subparagraph, a permit decision means a decision to issue, deny, or modify a permit in accordance with Paragraph (d) of this Rule.
- (B) A permit decision shall become effective upon the date of the service of notice of the decision unless a later date is specified in the decision.
- (9) Response to Comments.
 - (A) At the time that a permit decision is issued under Subparagraph (8) of this Paragraph, the Division shall issue a written response to comments. This response shall specify which provisions, if any, of the draft permit have been changed in the permit decision, and the reasons for the change. The response shall also describe and respond to all comments pertaining to the requirements in the draft permit raised during the public comment period, or during any public hearing.
 - (B) The Division shall publish the response to comments on the Division website upon request.
- (d) Permit approval or denial. The Division shall review all permit applications in accordance with Rule .0203 of this Subchapter.

*History Note: Authority G.S. 130A-294;
 Eff. January 1, 2007;
 Readopted Eff. September 16, 2021;
 Amended Eff. March 15, 2023.*

15A NCAC 13B .0534 GENERAL REQUIREMENTS FOR C&DLF FACILITIES AND UNITS

- (a) Permits issued by the Division for C&DLF facilities and units shall be subject to the general requirements set forth in this Rule.
- (b) Terms of the Permit. The Solid Waste Management Permit shall incorporate requirements necessary to comply with this Subchapter and the North Carolina Solid Waste Management Act including the provisions of this Paragraph.
 - (1) Division Approved Plans. Permits issued after December 31, 2006 shall incorporate the Division approved plans.
 - (A) The scope of the Division approved plans shall include the information necessary to comply with the requirements set forth in Rule .0535 of this Section.
 - (B) The Division approved plans shall be subject to and may be limited by the conditions of the permit.
 - (C) The Division approved plans for a C&DLF facility shall be described in the permit and shall include the Facility Plan required by Rule .0537 of this Section, the Design Hydrogeologic Report required by Rule .0538(b) of this Section, the Engineering Plan required by Rule .0539 of this Section, the Construction Quality Assurance Plan required by Rule .0541 of this Section, the Operation Plan required by Rule .0542 of this Section, the Closure and Post-Closure Plan required by Rule .0543 of this Section, and the Monitoring Plans required by Rule .0544 of this Section.
 - (2) Permit provisions. All C&DLF facilities and units shall conform to the specific conditions set forth in the permit and the following general provisions.
 - (A) Duty to Comply. The permittee shall comply with all conditions of the permit. Any permit noncompliance, except as otherwise authorized by the Division, constitutes a violation of the Act and is grounds for enforcement action or for permit revocation, modification, or suspension.
 - (B) Duty to Mitigate. In the event of noncompliance with the permit, the permittee shall minimize the release of waste, leachate, or contaminants to the environment, and shall prevent adverse impacts on human health or the environment.
 - (C) Duty to Provide Information. The permittee shall furnish to the Division any information that the Division may request to determine whether cause exists for modifying, revoking or suspending the permit, or to determine compliance with the permit. The permittee shall

also furnish to the Division, upon request, copies of records required to be kept under the conditions of the permit.

- (D) Recordation Procedures. The permittee shall comply with the requirements of G.S. 130A-301 for a new permit to be effective.
- (E) Need to Halt or Reduce Activity. It shall not be a defense for a permittee in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of the permit.
- (F) Permit Actions. The permit may be modified, reissued, revoked, suspended, or terminated in accordance with G.S. 130A-23. The filing of a request by the permittee for a permit modification, or a notification of planned changes or anticipated noncompliance, does not stay any existing permit condition.
- (G) Not Transferable. A permit for a solid waste management facility is transferable only with prior approval of the Department in accordance with G.S. 130A-294(a1).
- (H) Construction. If construction is not commenced within 18 months from the issuance date of the permit to construct, or an amendment to the permit to construct, then the permit shall expire. The applicant may re-apply for the permit, which shall be subject to statutes and rules in effect on the date of the re-application.
- (I) Proper Operation and Maintenance. The permittee shall at all times operate and maintain all facilities and systems of treatment and control and related appurtenances which are installed or used by the permittee in compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures, in accordance with the conditions of the permit. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.
- (J) Inspection. The permittee shall allow the Department to enter the permittee's premises where a regulated unit or activity is located or conducted, or where records are kept under the conditions of the permit. The Department shall have access to copy any records required to be kept under the conditions of the permit. The permittee shall allow the Department to inspect any facilities, equipment including practices, operations, or monitoring and control equipment that are required or regulated by the facility permit or the rules of this Subchapter. The permittee shall allow the Department to take photographs for documenting items of compliance or noncompliance at permitted facilities. At the request of the Department, the permittee shall take such photographs and submit them to the Department.
- (K) Monitoring. Samples and measurements taken for monitoring shall be representative of the monitored activity. For the purpose of assuring compliance with the permit or with Chapters 113A, 130A, and 143 of the General Statutes and the rules adopted under the authority of those General Statutes, the permittee shall allow the Department to sample or monitor, at any location under the operation or control of the permittee, any materials, substances, wastes, leachate, soil, groundwater, surface water, gases, gas condensates, or ambient air to the extent authorized by Chapters 113A, 130A, and 143 of the General Statutes and the rules adopted under the authority of those General Statutes. The Department may allow the permittee to split samples with the Department. If the Department allows the permittee to split samples, the permittee and the Department shall collect the samples on a schedule that allows the permittee and the Department to obtain sample containers and equipment prior to sampling.
- (L) Waste Exclusions. Waste to be excluded from disposal in a C&DLF is listed in Rule .0542 of this Section. Permit conditions may include additional exclusions if they are necessary to protect the public health and the environment or to ensure proper landfill operation.
- (M) Additional Solid Waste Management Activities. Construction and operation of additional solid waste management activities at the landfill facility shall not impede operation or monitoring of the C&DLF unit(s). Any proposed additional activities shall be submitted to the Division for review, approval, and permitting, as applicable, before construction and operation.

*History Note: Authority G.S. 130A-294;
Eff. January 1, 2007;
Readopted Eff. September 16, 2021.*

15A NCAC 13B .0535 APPLICATION REQUIREMENTS FOR C&DLF FACILITIES

(a) New permit as defined in G.S. 130A-294(a3)(1)a, c, d, and e. An applicant for a new C&DLF permit as defined in G.S. 130A-294(a3)(1)a, c, d, and e shall meet the requirements of Rule .0536 of this Section prior to submitting an application for a permit to construct.

- (1) Permit to Construct. An application for a permit to construct for a new permit as defined in G.S. 130A-294(a3)(1)a, c, d, and e shall contain the following:
 - (A) a facility plan that describes the comprehensive development of the C&DLF facility prepared in accordance with Rule .0537 of this Section;
 - (B) a design hydrogeologic report prepared in accordance with Rule .0538(b) of this Section;
 - (C) an engineering plan for the initial phase of landfill development prepared in accordance with Rule .0539 of this Section;
 - (D) a construction quality assurance plan prepared in accordance with Rule .0541 of this Section;
 - (E) an operation plan prepared in accordance with Rule .0542 of this Section;
 - (F) a closure and post-closure plan prepared in accordance with Rule .0543 of this Section;
 - (G) monitoring plans prepared in accordance with Rule .0544 of this Section;
 - (H) an environmental compliance history for the applicant in accordance with G.S. 130A-295.3; and
 - (I) for an applicant that is not a federal, State, or local government, an organization chart showing the ownership structure of the applicant.
- (2) Permit to Operate. The owner and operator shall meet the pre-operative requirements of the permit to construct to qualify the constructed C&DLF unit for a permit to operate.

(b) New permit as defined in G.S. 130A-294(a3)(1)b. An application for a new C&DLF permit as defined in G.S. 130A-294(a3)(1)b shall identify the proposed expansion of the permitted activity and shall contain:

- (1) a facility plan that describes the comprehensive development of the C&DLF facility prepared in accordance with Rule .0537 of this Section;
- (2) local government approval in accordance with Rule .0536(c)(11) of this Section;
- (3) an environmental compliance history for the applicant in accordance with G.S. 130A-295.3;
- (4) for an applicant that is not a federal, State, or local government, an organization chart showing the ownership structure of the applicant;
- (5) if the applicant is proposing changes to the final elevations in the existing facility permit as a part of the proposed expansion:
 - (A) an updated engineering plan prepared in accordance with Rule .0539 of this Section;
 - (B) an updated construction quality assurance plan prepared in accordance with Rule .0541 of this Section; and
 - (C) an updated closure and post-closure plan prepared in accordance with Rule .0543 of this Section; and
- (6) if the applicant is proposing changes to the facility operations as a part of the proposed expansion, an updated operation plan prepared in accordance with Rule .0542 of this Section.

(c) Amendment to the permit.

- (1) An application for an amendment to the permit for a subsequent stage of landfill development in accordance with Rule .0533(a)(2)(A) of this Section shall contain the following:
 - (A) an updated design hydrogeologic report prepared in accordance with Rule .0538(b) of this Section;
 - (B) an updated engineering plan prepared in accordance with Rule .0539 of this Section;
 - (C) an updated construction quality assurance plan prepared in accordance with Rule .0541 of this Section;
 - (D) an updated operation plan prepared in accordance with Rule .0542 of this Section;
 - (E) an updated closure and post-closure plan prepared in accordance with Rule .0543 of this Section;
 - (F) an updated monitoring plan prepared in accordance with Rule .0544 of this Section;

- (G) an updated environmental compliance history for the applicant in accordance with G.S. 130A-295.3; and
 - (H) for an applicant that is not a federal, State, or local government, an updated organization chart showing the ownership structure of the applicant.
- (2) An application for an amendment to the permit for a change in ownership or corporate structure in accordance with Rule .0533(a)(2)(B) of this Section shall contain the following:
- (A) a description of the proposed ownership change including affected facilities and permit numbers, the schedule for the change in ownership or corporate structure, and contact name and information for the applicant;
 - (B) any changes to the facility name, property owner, facility operator, or billing contact names and contact information;
 - (C) if the property owner changes, a copy of the recorded property deed for the new property owner;
 - (D) for an applicant that is not a federal, State, or local government, an organization chart showing the ownership structure of the applicant, which shall be a business entity registered with the NC Secretary of State;
 - (E) an environmental compliance history for the applicant in accordance with G.S. 130A-295.3;
 - (F) any documentation that the Division may request to determine compliance with the requirements for financial responsibility for the applicant in accordance with G.S. 130A-295.2 and Section .1800 of this Subchapter, including an executed financial assurance mechanism for the applicant;
 - (G) any updates to the cost estimates required to be submitted in accordance with Section .1800 of this Subchapter;
 - (H) any modifications to the plans incorporated into the permit if changes are proposed by the applicant, or to correct any information included in the plans that has changed because of the change in ownership or corporate structure, such as the owner or operator names and contact information;
 - (I) for any plans for which no changes or corrections are being made, a statement that the applicant shall continue to comply with the plans incorporated into the existing permit, which shall be identified in the statement by the date they were incorporated, and the file identification number assigned by the Division to the file containing the incorporated plan;
 - (J) copies of any federal, State, or local government permits or approvals that were required for the facility permit approval to operate, and that have been revised because of the change to ownership or corporate structure, or a statement that these documents have not changed; and
 - (K) any additional information that the Division may request if it is necessary to determine whether any additional changes to the permit are necessary to comply with the rules of this Section.
- (d) Modifications to the permit. The owner or operator may propose to modify plans that were prepared and approved in accordance with the requirements set forth in Rules .0531 through .0546 of this Section. A complete application shall identify the requirement(s) proposed for modification and provide information that demonstrates compliance with Rules .0531 through .0546 of this Section.

History Note: Authority G.S. 130A-294;
 Eff. January 1, 2007;
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 Amended Eff. March 15, 2023.

15A NCAC 13B .0536 SITE STUDY FOR C&DLF FACILITIES

(a) Purpose. As required under Rule .0535 of this Section, the owner or operator shall prepare a site study that meets the requirements of this Rule. The Division shall review the site study for a proposed new facility prior to consideration of an application for a permit to construct to determine if the site is suitable for establishing a C&DLF unit because nothing would prevent the C&DLF unit from being able to be constructed and operated in accordance with Article 9 of Chapter 130A of the General Statutes, the rules of this Subchapter, and the Federal Resource

Conservation and Recovery Act, as amended. Following review of the site study, the Division shall notify the applicant that either:

- (1) the site is deemed suitable for establishing a C&DLF unit and the applicant is authorized to prepare an application for a permit to construct in accordance with Rule .0535 of this Section and the site-specific conditions and design requirements stated in the notification, if any; or
 - (2) the site is deemed unsuitable for establishing a C&DLF unit and shall specify the reasons that would prevent the C&DLF unit from being constructed and operated in accordance with Article 9 of Chapter 130A of the General Statutes, the rules of this Subchapter, and any applicable federal laws and regulations.
- (b) Scope. The site shall be the land that is proposed for the landfill facility. The site study shall present a characterization of the land, incorporating various investigations and requirements pertinent to suitability of a C&DLF facility. The scope of the site study shall include criteria associated with the public health, public welfare, and the environment. The economic feasibility of a proposed site shall not be within the scope of this study. The information in the site study shall represent site characteristics and, if required by G.S. 89C, 89E, or 89F and not under the purview of another licensed profession, shall be prepared by licensed professional engineers, licensed geologists, licensed soil scientists, or licensed professional land surveyors. A C&DLF unit shall comply with the location restrictions set forth in Subparagraphs (c)(4) through (c)(10) of this Rule. To demonstrate compliance with specific criteria for each of the respective location restrictions, documentation or approval by agencies other than the Division of Waste Management, Solid Waste Section may be required. The scope of demonstrations including design and construction performance shall be addressed in the site study.
- (c) The site study prepared for a C&DLF facility shall include the information required by this Paragraph.
- (1) Characterization study. The site characterization study area includes the landfill facility and a 2000-foot perimeter measured from the proposed boundary of the landfill facility. The study shall include an aerial photograph taken within one year of the date the site study is submitted to the Division, a report, and a local map. The map and photograph shall be at a scale of at least one inch equals 400 feet. The study shall identify the following:
 - (A) the entire property proposed for the disposal site and any on-site easements;
 - (B) existing land use and zoning;
 - (C) the location of residential structures and schools;
 - (D) the location of commercial and industrial buildings, and other potential sources of contamination;
 - (E) the location of potable wells and public water supplies;
 - (F) historic sites;
 - (G) state nature and historic preserves;
 - (H) the existing topography and features of the disposal site including: general surface water drainage patterns and watersheds, 100-year floodplains, perennial and intermittent streams, rivers, and lakes; and
 - (I) the classification of the surface water drainage from landfill site in accordance with 15A NCAC 02B .0300.
 - (2) Proposed Facility Plan. A conceptual plan for the development of the facility shall be prepared that includes the drawings and reports described in Rule .0537(d)(1), (e)(1), (e)(2), and (e)(3) of this Section.
 - (3) Site Hydrogeologic Report. The study shall be prepared in accordance with the requirements set forth in Rule .0538(a) of this Section.
 - (4) Floodplain Location Restrictions. A C&DLF unit shall meet the floodplain requirements of G.S. 130A-295.6(c)(1) in accordance with the effective date and applicability requirements of S.L. 2007-550, s. 9.(b). C&DLF units that are not subject to the requirements of G.S. 130A-295.6(c)(1) shall not be located in floodplains unless the owners or operators demonstrate that the unit will not restrict the flow of the flood, reduce the temporary water storage capacity of the floodplain, or result in the carrying away of solid waste by flood waters.
 - (5) Wetlands Location Restriction. For purposes of this Rule, "wetland" or "wetlands" shall mean the areas defined in 40 CFR 232.2(r). C&DLF units shall meet the wetland location restrictions of G.S. 130A-295.6(c)(2) in accordance with the effective date and applicability requirements of S.L. 2007-550, s. 9.(b). C&DLF units exempt from G.S. 130A-295.6(c)(2) shall not be located in wetlands, unless the owner or operator demonstrates the following for Division approval.

- (A) Where applicable under Section 404 of the Clean Water Act or G.S. 113A, 130A, or 143, the presumption that a practicable alternative to the proposed landfill facility is available which does not involve wetlands is rebutted.
 - (B) The construction and operation of the C&DLF unit shall not cause or contribute to violations of any applicable State water quality standards and shall not violate any applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act.
 - (C) The construction and operation of the C&DLF unit shall not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Federal Endangered Species Act of 1973, or violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.
 - (D) The construction and operation of the C&DLF unit shall not cause or contribute to degradation of wetlands.
 - (E) The owner or operator shall demonstrate the integrity of the C&DLF unit and its ability to protect ecological resources by addressing the following factors: erosion, stability, and migration potential of native wetland soils, muds, and deposits used to support the C&DLF unit; erosion, stability, and migration potential of dredged and fill materials used to support the C&DLF unit; the volume and chemical nature of the waste managed in the C&DLF unit; impacts on fish, wildlife, and other aquatic resources and their habitat from release of the solid waste; the potential effects of release of waste to the wetland and the resulting impacts on the environment; and any additional factors to demonstrate that ecological resources in the wetland are protected to the extent required under Section 404 of the Clean Water Act and G.S. 113A, 130A, and 143.
 - (F) The owner or operator shall demonstrate that steps have been taken to attempt to achieve no net loss of wetlands, as defined by acreage and function, by avoiding impacts to wetlands as required by Parts (A) through (D) of this Subparagraph and offsetting remaining unavoidable wetland impacts through compensatory mitigation actions such as restoration of existing degraded wetlands or creation of man-made wetlands.
 - (G) The Division may request additional information if it is necessary to determine compliance with this Subparagraph.
- (6) Unstable Area Location Restrictions. Owners and operators of C&DLF units proposed for location in an unstable area shall demonstrate that the C&DLF unit's design ensures that the integrity of any structural components of the C&DLF unit will not be disrupted. The owner and operator shall consider the following factors when determining whether an area is unstable:
- (A) on-site or local soil conditions that may result in differential settling;
 - (B) on-site or local geologic or geomorphologic features; and
 - (C) on-site or local human-made features or events, both surface and subsurface.
- (7) Cultural Resources Location Restrictions. A C&DLF unit shall not damage or destroy a property of archaeological or historical significance which has been listed on the National Register of Historic Places or included on the Study List for the Register pursuant to 07 NCAC 04R .0206 and .0300, which are incorporated by reference including subsequent amendments and editions. A letter from the State Historic Preservation Office within the Department of Natural and Cultural Resources stating whether the proposed use of the property will impact properties of archaeological or historical significance shall be included in the site study.
- (8) State Nature and Historic Preserve Location Restrictions. The location, access, size, and operation of the C&DLF unit shall not damage, destroy, or degrade any lands included in the State Nature and Historic Preserve pursuant to G.S. 143-260.10. A letter from the Natural Heritage Program Office within the Department of Natural and Cultural Resources stating whether the proposed use of the property will damage, destroy, or degrade state nature and historic preserve locations shall be included in the site study.
- (9) Water Supply Watersheds Location Restrictions.
- (A) At the time that an C&DLF unit receives the first permit approval to construct, a C&DLF unit shall not be located in the critical area of a water supply watershed, or in the watershed for a stream segment classified as WS-I, or in watersheds of other water bodies

- which indicate that no new landfills are allowed in accordance with 15A NCAC 02B .0200.
- (B) A C&DLF unit that proposes to discharge leachate to surface waters shall obtain a National Pollution Discharge Elimination System (NPDES) Permit from the Department pursuant to Section 402 of the United States Clean Water Act.
 - (C) At the time that a C&DLF unit receives the first permit approval to construct, an C&DLF unit that proposes to discharge leachate to surface waters shall not be located within watersheds classified as WS-II or WS-III, or in watersheds of other water bodies which indicate that no new discharging landfills are allowed, in accordance with 15A NCAC 02B .0200.
- (10) Endangered and Threatened Species Location Restrictions. A C&DLF unit shall not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Federal Endangered Species Act of 1973, Public Law 93-205, as amended.
- (11) Local government approvals for C&DLFs.
- (A) If the permit applicant is a unit of local government and the proposed C&DLF unit is located within the permit applicant's jurisdiction, the approval of the local governing board shall be required. Approval may be in the form of a resolution or a vote on a motion. A copy of the resolution or the minutes of the meeting where the vote was taken shall be submitted to the Division as part of the site study. Prior to issuance of approval, the jurisdictional local government where the C&DLF unit is to be located shall hold at least one public meeting to inform the community of the proposed waste management activities as described in the proposed facility plan prepared in accordance with Subparagraph (2) of this Paragraph. The local government where the C&DLF unit is to be located shall provide a public notice of the meeting at least 30 days prior to the meeting, shall place the proposed facility plan in a location accessible by the public, and shall make the location known in the public notice.
 - (B) A permit applicant other than the unit of local government with jurisdiction over the proposed C&DLF unit shall obtain a franchise in accordance with G.S. 130A-294(b1). A copy of the franchise shall be submitted to the Division as part of the site study. Prior to issuance of a franchise, the jurisdictional local government where the C&DLF unit is to be located shall conduct a public hearing in accordance with the public notification requirements of G.S. 130A-294(b1)(3) and in accordance with the publication and documentation requirements of Parts (C) and (D) of this Subparagraph.
 - (C) Public notice required by this Subparagraph shall be given by publication on the jurisdictional local government website, publication by a local news organization, and by other methods that the Division may request, such as posting in the post office and public places of the municipalities nearest the site under consideration, or posting on social media or mass mailings, if it is necessary to give actual notice of the activities to potentially affected persons. Public notice shall include time, place, and purpose of the meetings required by this Subparagraph.
 - (D) Public notice shall be documented in the site study. A recording or a written transcript of the meeting, all written material submitted representing community concerns, and all other written material distributed or used at the meeting pertaining to the proposed C&DLF unit shall be submitted as part of the site study.
 - (E) A letter from the unit of local government(s) having zoning jurisdiction over the site which states that the proposal meets all the requirements of the local zoning ordinance, or that the site is not zoned, shall be submitted to the Division as part of the site study.

*History Note: Authority G.S. 130A-294;
Eff. January 1, 2007;
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15A NCAC 13B .0537 FACILITY PLAN FOR C&DLFS

- (a) Purpose. A permit applicant shall prepare a facility plan which meets the requirements of this Rule.
- (b) Scope.

- (1) The facility plan shall define the comprehensive development of the property proposed for a permit or described in the permit of an existing facility. The plan shall include a set of drawings and a report that present the long-term, general design concepts related to construction, operation, and closure of the C&DLF unit(s). The scope of the plan shall span the active life of the unit(s). Additional solid waste management activities located at the C&DLF facility shall be identified in the plan and shall meet the requirements of this Subchapter. The facility plan shall define the waste stream proposed for management at the C&DLF facility. If different types of landfill units or non-disposal activities are included in the facility design, the plan shall describe general waste acceptance procedures.
 - (2) The areal limits of the C&DLF unit(s), total capacity of the C&DLF unit(s), and the proposed waste stream shall be consistent with the Division's approval in accordance with Rule .0536(a)(1) of this Section for a new facility.
- (c) Use of Terms. The terminology used in describing areas of the C&DLF unit(s) shall be defined as follows and shall be used consistently throughout a permit application:
- (1) "phase" means an area constructed that describes approximately five years of operating capacity. An applicant may request a permit to construct for any number of phases up to the entire extent of the disposal boundary for the life-of-site.
 - (2) "cell" means a subdivision of a phase, which describes modular or partial construction.
 - (3) "subcell" means a subdivision of a cell, which describes leachate and stormwater management, if required, for active or inactive areas of the constructed C&DLF.
- (d) Facility Drawings. The facility plan shall include the following drawings:
- (1) Site Development. The drawings that plot site development shall be prepared on topographic maps representative of existing site conditions; and the maps shall locate or delineate the following:
 - (A) delineate the areal limits of all landfill units, and incorporate the buffer requirements set forth in Rule .0540(1) of this Section;
 - (B) locate all solid waste management facilities and facility infrastructure, including landfill units;
 - (C) delineate the areal limits of grading, including borrow and stockpile areas;
 - (D) define phases of development of approximately five years of operating capacity each;
 - (E) delineate proposed final contours for the C&DLF unit(s) and facility features for closure; and
 - (F) delineate physical features including floodplains, wetlands, unstable areas, and cultural resource areas as defined in Rule .0536(c) of this Section.
 - (2) Landfill Operation. The following information related to the long-term operation of the C&DLF unit shall be included in facility drawings:
 - (A) proposed transitional contours for each phase of development including operational grades for existing phase(s) and construction grading for the new phase; and
 - (B) stormwater segregation features and details for inactive landfill subcells, if included in the design or required.
 - (3) Survey. A survey locating all property boundaries for the proposed landfill facility certified by a licensed professional land surveyor if required by G.S. 89C.
- (e) Facility Report. The facility plan shall include the following information:
- (1) Waste stream. A discussion of the characteristics of the wastes received at the facility and facility specific management plans shall incorporate:
 - (A) the types of waste specified for disposal;
 - (B) average yearly disposal rates in tons and a representative daily rate that is consistent with the local government approval in accordance with Rule .0536(c)(11) of this Section;
 - (C) the area served by the facility;
 - (D) procedures for segregated management at different on-site facilities; and
 - (E) equipment requirements for operation of the C&DLF unit(s).
 - (2) Landfill Capacity. An analysis of landfill capacity and soil resources shall be performed.
 - (A) The data and assumptions used in the analysis shall be included with the facility drawings and disposal rates specified in the facility plan and representative of operational requirements and conditions.
 - (B) The conclusions shall provide estimates of gross capacity of the C&DLF unit; gross capacity for each phase of development of the C&DLF unit; the estimated operating life

of all C&DLF units in years; required quantities of soil for landfill construction, operation, and closure; and available soil resources from on-site. "Gross capacity" is defined as the volume of the landfill calculated from the elevation of the initial waste placement through the top of the final cover, including any periodic cover.

- (3) Containment and environmental control systems. A general description of the systems designed for proper landfill operation, system components, and corresponding functions shall be provided.
- (4) Leachate management systems, if required in accordance with the effective dates and applicability requirements in S.L. 2007-550 s. 9.(b) and S.L. 2013-413 s. 59.1 as amended by S.L. 2013-410 s. 47.6, or if proposed by the applicant. The performance of and design concepts for the leachate collection system within active areas of the C&DLF unit(s) and any storm water segregation included in the engineering design shall be described. Normal operating conditions shall be defined. A contingency plan shall be prepared for storm surges or other considerations exceeding design parameters for the storage or treatment facilities.
- (5) Base liner systems, if required in accordance with the effective dates and applicability requirements in S.L. 2007-550 s. 9.(b) and S.L. 2013-413 s. 59.1 as amended by S.L. 2013-410 s. 47.6, or if proposed by the applicant, shall be described.
- (6) Special engineering features. A description of any special engineering features specific to the landfill that the applicant is proposing shall be provided.
- (7) Traffic study. A traffic study and NC Department of Transportation certification shall be prepared as required by G.S. 130A-295.5 and in accordance with the effective date and applicability requirements in S.L. 2007-550 s. 8.(b).
- (8) Study of Environmental Impacts. A study of environmental impacts shall be conducted as required by G.S. 130A-295.6(a) in accordance with the effective dates and applicability requirements in S.L. 2007-550 s. 9.(b) and S.L. 2013-413 s. 59.1 as amended by S.L. 2013-410 s. 47.6.

History Note: Authority G.S. 130A-294;
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15A NCAC 13B .0538 GEOLOGIC AND HYDROGEOLOGIC INVESTIGATIONS FOR C&DLF FACILITIES

(a) Site Hydrogeologic Report. In accordance with Rule .0536(c)(3) of this Section, a permit applicant shall conduct a hydrogeologic investigation and prepare a report. An investigation shall assess the geologic and hydrogeologic characteristics of the parcel on which the C&DLF unit is proposed to be constructed (hereinafter "site") to determine the suitability of the site for solid waste management activities, which areas of the site are most suitable for C&DLF units, and the general groundwater flow paths and rates for the uppermost aquifer. The report shall provide an understanding of the relationship of the site groundwater flow regime to local and regional hydrogeologic features with special emphasis on the relationship of C&DLF units to groundwater receptors such as drinking water wells and to groundwater discharge features. Additionally, the scope of the investigation shall include the general geologic information necessary to address compliance with the location restrictions described in Rule .0536(c)(4) through (c)(10) of this Section. The site hydrogeologic report shall provide the following information:

- (1) A report on the geology and hydrogeology of the regional and local study areas as defined in Rule .1618(c)(1) and (2) of this Subchapter based on research of available literature for the area. This information is to be used in planning the field investigation. For sites located in piedmont or mountain regions, this report shall include an evaluation of structurally controlled features identified on a topographic map of the area.
- (2) A report on field observations of the site that includes information on the following:
 - (A) topographic setting, springs, streams, drainage features, existing or abandoned wells, rock outcrops including trends in strike and dip, and other features that may affect site suitability or the ability to effectively monitor the site; and
 - (B) groundwater discharge features. For a proposed site where the owner or operator does not control the property from any landfill unit boundary to the controlling, downgradient, groundwater discharge features additional borings, geophysical surveys, or other hydrogeological investigations shall be required to characterize the nature and extent of groundwater flow; and

- (C) the hydrogeological properties of the bedrock, if the water table of the uppermost aquifer is in the bedrock. For the purpose of this Rule, "bedrock" means material below auger refusal.
- (3) Borings for which the numbers, locations, and depths provide an understanding of the subsurface conditions and groundwater flow regime of the uppermost aquifer at the site. The number and depths of borings required shall depend on the hydrogeologic characteristics of the site. There shall be no less than an average of one boring for each 10 acres of the proposed landfill facility. All borings intersecting the water table shall be converted to piezometers or monitoring wells in accordance with 15A NCAC 02C .0108. Boring logs, field logs and notes, and well construction records for all onsite borings, wells, and piezometers shall be placed in the operating record, and shall also be provided to the Division upon request. Field logs and notes shall be legible; and may be typewritten.
- (4) A testing program for the borings that describes the frequency, distribution, and type of samples taken and the methods of analysis, such as ASTM Standards provided at <https://www.astm.org>, used to obtain the following information:
 - (A) standard penetration - resistance using a method such as ASTM D 1586;
 - (B) particle size analysis using a method such as ASTM D 6913;
 - (C) soil classification: Unified Soil Classification System using a method such as ASTM D 2487;
 - (D) formation descriptions; and
 - (E) saturated hydraulic conductivity, porosity, and effective porosity for each lithologic unit of the uppermost aquifer including the vadose zone.
- (5) In addition to borings, other investigation techniques may be used to obtain an understanding of the subsurface conditions at the site, including geophysical well logs, surface geophysical surveys, and tracer studies.
- (6) Stratigraphic cross-sections identifying hydrogeologic and lithologic units, and stabilized water table elevations.
- (7) Water table information, including:
 - (A) tabulations of water table elevations measured at the time of boring, 24 hours, and stabilized readings for all borings, measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater flow direction and rate;
 - (B) tabulations of stabilized water table elevations over time to develop an understanding of seasonal fluctuations in the water table;
 - (C) an estimation of the long-term seasonal high groundwater table based on stabilized water table readings, hydrographs of wells in the area, precipitation and other meteorological data, streamflow measurements from the site frequent enough to demonstrate infiltration and runoff characteristics, and any other information available; and
 - (D) a discussion of any natural or man-made activities that have the potential for causing water table fluctuations, including tidal variations, river stage changes, flood pool changes of reservoirs, high volume production wells, and injection wells.
- (8) The horizontal and vertical dimensions of groundwater flow including flow directions, rates, and gradients.
- (9) Groundwater contour map(s) to show the occurrence and direction of groundwater flow in the uppermost aquifer and any other aquifers identified in the hydrogeologic investigation. The groundwater contours shall be superimposed on a topographic map. The location of all borings and rock cores and the water table elevations or potentiometric data at each location used to generate the groundwater contours shall be shown on the groundwater contour map(s).
- (10) A topographic map of the site locating soil borings with accurate horizontal and vertical control, which are tied to a permanent onsite benchmark.
- (11) Information for public potable wells and public water supply surface water intakes within the site characterization study area in accordance with Rule .0536(c)(1) of this Section, including:
 - (A) available information and records for well construction, number and location served by wells, and production rates for public potable water wells; and
 - (B) available information for all surface water intakes, including location, use, and production rate.

- (12) Identification of other geologic and hydrologic considerations including slopes, streams, springs, gullies, trenches, solution features, karst terranes, sinkholes, dikes, sills, faults, mines, groundwater discharge features, and groundwater recharge and discharge areas.
 - (13) A report summarizing the geological and hydrogeological evaluation of the site that includes the following:
 - (A) a description of the relationship between the uppermost aquifer of the site to local and regional geologic and hydrogeologic features;
 - (B) a discussion of the groundwater flow regime of the site focusing on the relationship of C&DLF units to groundwater receptors and to groundwater discharge features;
 - (C) a discussion of the overall suitability of the proposed site for solid waste management activities and which areas of the site are most suitable for C&DLF units; and
 - (D) a discussion of the groundwater flow regime of the uppermost aquifer at the site and the ability to monitor the C&DLF units to ensure early detection of any release of monitored constituents to the uppermost aquifer.
- (b) Design Hydrogeologic Report. A geological and hydrogeological report shall be submitted in the application for a permit to construct in accordance with Rule .0535(a)(1) of this Section, and shall meet the following criteria.
- (1) The number and depths of borings required to characterize the geologic and hydrogeologic conditions of the site shall be based on the site-specific geologic and hydrogeologic characteristics of the site, and there shall be no less than an average of one boring for each acre of the area of investigation. The area of investigation shall be the area within the C&DLF unit footprint and the C&DLF unit relevant point of compliance, as defined in Rule .0544(b)(1)(B) of this Section. The scope and purpose of the investigation shall be as follows:
 - (A) The investigation shall provide information to demonstrate compliance with the vertical separation and foundation standards set forth in Rule .0540(2) and (5) of this Section.
 - (B) The investigation shall provide detailed and localized data of the hydrogeologic characteristics of the uppermost aquifer for the proposed phase of C&DLF development and any leachate management systems to design an effective water quality monitoring system.
 - (2) The Design Hydrogeologic Report shall provide the following information:
 - (A) the information required in Subparagraphs (a)(4) through (a)(12) of this Rule;
 - (B) any technical information that is necessary to determine the design of the monitoring system as required by Rule .0544(b) of this Section;
 - (C) any technical information that is necessary to determine the relevant point of compliance as required by Rule .0544(b)(1)(B) of this Section;
 - (D) for sites located in the piedmont or mountain regions, rock cores of no less than the upper 10 feet of the bedrock to provide an understanding of the fractured bedrock conditions and groundwater flow characteristics of the area of investigation. Testing for the rock corings shall provide rock types, recovery values, rock quality designation (RQD) values, saturated hydraulic conductivity and secondary porosity values, and rock descriptions, including fracturing and jointing patterns;
 - (E) a groundwater contour map based on the estimated long-term seasonal high groundwater table that is superimposed on a topographic map and includes the location of all borings and rock cores and the water table elevations or potentiometric data at each location used to generate the groundwater contours;
 - (F) for sites located in piedmont or mountain regions, a bedrock contour map illustrating the contours of the upper surface of the bedrock that is superimposed on a topographic map and includes the location of all borings and rock cores and the top of rock elevations used to generate the upper surface of bedrock contours;
 - (G) a three-dimensional groundwater flow net or several hydrogeologic cross-sections that characterize the vertical groundwater flow regime for this area;
 - (H) a report on the groundwater flow regime for the area including groundwater flow paths for both horizontal and vertical components of groundwater flow, horizontal and vertical gradients, flow rates, and groundwater recharge and discharge areas;
 - (I) a report on the soils in the four feet immediately underlying the waste with relationship to properties of the soil. Soil testing cited in Subparagraph (a)(4) of this Rule shall be used as a basis for this discussion; and

- (J) if required by G.S. 89E, a certification by a licensed geologist that all borings that intersect the water table at the site have been constructed and maintained as permanent monitoring wells in accordance with 15A NCAC 02C .0108, or that the borings and temporary piezometers will be abandoned prior to landfill construction in accordance with the procedures for permanent abandonment of wells as delineated in 15A NCAC 02C .0113, except that at the time of abandonment, all piezometers within the C&DLF unit footprint area shall be overdrilled to the full depth of the boring or to the top of bedrock, whichever is encountered first, prior to grout placement. The level of the grout within the boring shall not exceed in height the elevation of the proposed base grade.

*History Note: Authority G.S. 130A-294;
Eff. January 1, 2007;
Readopted Eff. September 16, 2021.*

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

- (a) Purpose. The engineering plan that is required to be submitted in accordance with Rule .0535 of this Section shall incorporate the detailed plans and specifications relative to the design and performance of the C&DLF's containment and environmental control systems. The engineering plan shall set forth the design parameters and construction requirements for the components of the C&DLF's systems, shall meet the requirements of this Rule, and shall establish the responsibilities of the design engineer. The engineered components shall be described in Rule .0540 of this Section. (b) Responsibilities of the design engineer. The engineering plan shall be prepared by a licensed professional engineer if required by G.S. 89C. The design engineer shall incorporate a statement certifying this fact and bearing his or her seal of registration.
- (c) Scope. An engineering plan shall be prepared for the proposed area of development that provides no less than five years of operating capacity and no more than the total facility 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 that represent the engineering design in accordance with Paragraphs (d) and (e) of this Rule.
- (d) An engineering report shall 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 aspects and conditions of the facility design evaluated by the design engineer 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.
- (e) Engineering drawings shall illustrate:
- (1) existing conditions: site topography, features, existing disposal areas, roads, and buildings;
 - (2) grading plans: proposed limits of excavation, subgrade elevations, and intermediate grading for partial construction;
 - (3) location and feature details of any stormwater segregation systems;
 - (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 groundwater table, estimated long-term seasonal high groundwater level in accordance with Rule .0538(b)(2)(E) of this Section, and bedrock level in accordance with Rule .0538(b)(2)(F) of this Section; and
 - (B) A map showing the existing ground surface elevation and base grades. The map shall include labeled boring locations which indicate seasonal high groundwater level, estimated long term high groundwater level in accordance with Rule .0538(b)(2)(E) of this Section, and bedrock level in accordance with Rule .0538(b)(2)(F) of this Section.
- (f) The engineering plan shall also describe and illustrate additional engineering features and details including the cap system, leachate collection system, and base liner system, if present. A leachate collection system and a liner

system shall be required pursuant to G.S. 130A-295.6 in accordance with the effective dates and applicability requirements in S.L. 2007-550 s. 9.(b) and S.L. 2013-413 s. 59.1 as amended by S.L. 2013-410 s. 47.6. Cap systems, leachate collection systems, leachate storage, and base liner systems shall be in accordance with Rules .1620 and .1621 of this Subchapter.

History Note: Authority G.S. 130A-294;
Eff. January 1, 2007;
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15A NCAC 13B .0540 CONSTRUCTION REQUIREMENTS FOR C&DLF FACILITIES

This Rule shall establish the performance standards and criteria for designing and constructing a C&DLF unit. Additional standards for the cap system are described in Rule .0543 of this Section.

- (1) Horizontal separation requirements.
 - (a) Property line buffer. C&DLF unit(s) permitted after January 1, 2007 shall have a buffer of no less than 200 feet between the C&DLF unit and all property lines for monitoring purposes. Existing operating units shall maintain existing upgradient buffers of 50 feet or more.
 - (b) Offsite residential structures and wells. C&DLF units shall have a buffer of no less than 500 feet between the C&DLF unit and residential structures and wells existing at the time that the Division issues a notification of site suitability in accordance with Rule .0536(a)(1) of this Section.
 - (c) Surface waters. C&DLF units shall have a buffer of no less than 50 feet between the C&DLF unit and any stream, river, lake, pond, or other waters of the State as defined in G.S. 143-212.
 - (d) Other landfill units. A buffer shall be established between a proposed C&DLF unit and any existing landfill units to establish a groundwater monitoring system to allow monitoring of each unit separately as set forth in Rule .0544 of this Section.
 - (e) C&DLF units shall meet the horizontal separation requirements of G.S. 130A-295.6(b) and (d) in accordance with the effective dates and applicability requirements of S.L. 2007-550 s. 9.(b) and S.L. 2013-413 s. 59.1 as amended by S.L. 2013-410 s. 47.6, and S.L. 2007-543.
- (2) Vertical separation requirements.
 - (a) C&DLF units shall be constructed so that the post-settlement bottom elevation of waste is no less than four feet above the seasonal high groundwater table and the bedrock datum plane contours established in the Design Hydrogeological Report prepared in accordance with Rule .0538(b) of this Section. C&DLF units shall meet the vertical separation requirements of G.S. 130A-295.6(f) in accordance with the effective date and applicability requirements of S.L. 2007-550 s. 9.(b).
 - (b) In-situ or modified soils making up the upper two feet of separation as required by Sub-Item (a) of this Item, shall consist of the following: SC, SM, ML, CL, MH, or CH soils per Unified Soil Classification System or as specified in the approved construction plan.
- (3) Survey control. One permanent benchmark of known elevation measured from a U.S. Geological Survey benchmark shall be established and maintained for each 50 acres of developed landfill, or part thereof, at the landfill facility. This benchmark shall be the reference point for establishing vertical elevation control. Any survey performed pursuant to this Sub-Item shall be performed by a licensed professional land surveyor if required by G.S. 89C. Latitude and longitude, expressed in decimal degrees, shall be indicated at the approximate center of the facility.
- (4) Location coordinates. The North Carolina State Plane (NCSP) coordinates shall be established and one of its points shall be the benchmark of known NCSP coordinates.
- (5) Landfill subgrade. The landfill subgrade is the in-situ or modified soil layer(s), constructed embankments, and select fill providing the foundation for construction of the unit. The landfill subgrade shall be graded in accordance with the engineering plan prepared in accordance to Rule .0539 of this Section, which is incorporated into the permit to construct in accordance with Rule .0534(b)(1) of this Section, and as follows:
 - (a) The owner or operator of the C&DLF unit shall have the subgrade inspected by a qualified geologist or engineer when excavation is completed.

- (b) The owner or operator of the C&DLF unit shall notify the Division via email no less than 24 hours before subgrade inspection.
- (c) Compliance with the requirements of Sub-Item (2)(b) of this Rule shall be in accordance with Rule .0538(b) of this Section or by placement of soil in accordance with this Sub-Item and verified in accordance with Rule .0541 of this Section.
- (6) Other engineering structures. The design of any liners, cap systems, leachate collection systems, and stormwater segregation systems, if required in accordance with the effective dates and applicability of S.L. 2007-550, s. 9.(b) and S.L. 2013-413, s. 59.1, as amended by S.L. 2013-410, s. 47.6, and any other engineering structures proposed by the applicant shall be specified in the engineering plan. Material, construction, and certification requirements necessary to ensure that the structure is constructed in accordance with the design and acceptable engineering practices and the rules of this Section shall be included in the plans prepared in accordance with Rule .0539 of this Section.
- (7) Sedimentation and erosion control. Structures and measures shall be designed and maintained to manage the rainwater that drains over land from or onto any part of the facility or unit generated by the 24-hour, 25-year storm event, and conform to the requirements of the Sedimentation Control Law (15A NCAC 04) and any required NPDES permits.
- (8) Construction quality assurance (CQA) report. A CQA report shall be submitted in accordance with Rule .0541 of this Section.
- (9) Maximum capacity, disposal area, and height for applications submitted on or after August 2007. Landfills shall meet the requirements of G.S. 130A-295.6(i) regarding maximum allowed capacity, disposal area and height in accordance with the effective date and applicability requirements of S.L. 2007-550, s. 9.(b).

*History Note: Authority G.S. 130A-294;
Eff. January 1, 2007;
Readopted Eff. September 16, 2021.*

15A NCAC 13B .0541 CONSTRUCTION QUALITY ASSURANCE FOR C&DLF FACILITIES

- (a) The construction quality control and quality assurance (CQA) plan shall describe the observations and tests that will be used before, during, and upon completion of construction to ensure that the construction and materials meet the design specifications and the construction and certification requirements set forth in Rule .0540 of this Section. The CQA plan shall also describe the procedures to ensure that the integrity of the landfill systems will be maintained prior to waste placement.
- (b) For construction of each cell, the CQA plan shall include the following information:
 - (1) The designation of responsibilities for the construction management organization shall be included in the CQA plan. A pre-construction meeting shall be conducted prior to beginning construction of the initial cell unless otherwise indicated in the permit. The meeting shall include a discussion of the construction management organization, respective duties during construction, and periodic reporting requirements for test results and construction activities.
 - (2) A description of all field observations, tests, equipment, and calibration procedures for field testing equipment that will be used to ensure that the construction meets or exceeds all design criteria established in accordance with Rules .0539, .0540, and .0543 of this Section shall be included in the CQA plan.
 - (3) A description of all sampling protocols, sample size, methods for determining sample locations, and frequency of sampling shall be included in the CQA plan.
 - (4) A description of reporting required by the rules of this Section for CQA activities shall be included in the CQA plan.
 - (5) A description of planned progress and troubleshooting meetings, including the frequency, shall be included in the CQA plan. The meetings shall occur no less than twice per week, and the proceedings of the meetings shall be documented.
- (c) Purpose of the CQA report. The CQA report shall contain the results of all the construction quality assurance and construction quality control testing including documentation of any failed test results, descriptions of procedures used to correct the improperly installed material, and results of all retesting performed. The CQA report shall contain as-built drawings noting any deviation from the approved engineering plans, and shall also contain a

comprehensive narrative including daily reports from the project engineer, a series of color photographs of major project features, and documentation of proceedings of all progress and troubleshooting meetings.

(d) For construction of each cell, the CQA report shall be submitted:

- (1) after completion of landfill construction to qualify the constructed C&DLF unit for a permit to operate;
- (2) after completion of construction of the cap system in accordance with the requirements of Rule .0543 of this Section; and
- (3) in accordance with the reporting schedule developed in accordance with Paragraph (b) of this Rule.

(e) The CQA report shall include a statement by the project engineer that construction was completed in accordance with the CQA plan, the conditions of the permit to construct, and the requirements of the rules of this Section. If required by G.S. 89C, the statement shall be certified and bear the seal of the project engineer.

(f) The Division shall review the CQA report within 30 days of a complete submittal to ensure that the report meets the requirements of this Rule.

*History Note: Authority G.S. 130A-294;
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15A NCAC 13B .0542 OPERATION PLAN AND REQUIREMENTS FOR C&DLF FACILITIES

(a) The owner or operator of a C&DLF unit shall maintain and operate the facility in accordance with the operation plan prepared in accordance with this Rule.

(b) Operation Plan. The owner or operator of a C&DLF unit shall prepare an operation plan for each proposed area of landfill development consistent with the engineering plan submitted in accordance with Rule .0539 of this Section. The operation plan shall be submitted in accordance with Rule .0535 of this Section and shall include the following:

- (1) Operation drawings. Drawings shall be prepared for each proposed area of landfill development. The drawings shall be consistent with the engineering plan and shall illustrate the following:
 - (A) existing conditions including the known limits of existing disposal areas;
 - (B) progression of operation including initial waste placement, daily operations, yearly contour transitions, and final contours;
 - (C) any stormwater controls for active and inactive subcells, if included in the engineering plan;
 - (D) special waste handling areas, such as any asbestos disposal area, within the C&DLF unit;
 - (E) buffer zones, noting restricted use;
 - (F) stockpile and borrow operations; and
 - (G) other solid waste activities, such as tire disposal or storage, yard waste storage, white goods storage, and recycling pads.
- (2) Operation report. The report shall provide a narrative discussion of the operation drawings and contain a description of the facility operation that conforms to the requirements of Paragraphs (c) through (o) of this Rule.

(c) Waste Acceptance and Disposal Requirements.

- (1) A C&DLF shall accept only those solid wastes that it is permitted to receive. The landfill owner or operator shall notify the Division within 24 hours of attempted disposal of any waste the C&DLF is not permitted to receive, including waste from outside the area the C&DLF is permitted to serve.
- (2) Owners or operators of C&DLF units shall develop and implement a waste screening plan as required by G.S. 130A-295.6(g) in accordance with the effective date and applicability requirements of S.L. 2007-550, s. 9.(b).
- (3) Asbestos waste shall be managed in accordance with 40 CFR 61(M). Asbestos waste shall be covered upon receipt, with soil or compacted waste, to prevent airborne conditions. Asbestos waste shall be disposed of using methods that prevent unintended exposure of asbestos by future land-disturbing activities, such as disposal in a marked area separate and apart from other solid wastes or recording the latitude and longitude coordinates of the asbestos area within the existing landfill footprint. The disposal methods shall be described in the operations plan required by Paragraph (b) of this Rule.

(d) Wastewater treatment sludge shall not be accepted for disposal. If it is stated in the permit, wastewater treatment sludge may be accepted for utilization as a soil conditioner and incorporated into or applied onto the vegetative growth layer. The wastewater treatment sludge shall neither be applied at greater than agronomic rates nor to a depth greater than six inches.

(e) Waste Exclusions. The following wastes shall not be disposed of in a C&DLF unit:

- (1) containers such as tubes, drums, barrels, tanks, cans, and bottles unless they are empty and perforated to ensure that no liquid waste, hazardous waste, or municipal solid waste is contained therein;
- (2) garbage;
- (3) hazardous waste, including hazardous waste from very small quantity generators as defined by 40 CFR 260.10, incorporated by reference at 15A NCAC 13A .0102(b);
- (4) industrial solid waste unless a demonstration has been made and approved by the Division that the landfill meets the requirements of Rule .0503 of this Section;
- (5) liquid wastes;
- (6) medical waste;
- (7) municipal solid waste;
- (8) polychlorinated biphenyl (PCB) wastes as defined in 40 CFR 761.3;
- (9) wastes containing radioactive material as defined in G.S. 104E-5(14);
- (10) septage;
- (11) sludge;
- (12) special wastes;
- (13) white goods;
- (14) yard trash; and
- (15) the following wastes shall not be received if separate from C&DLF waste: lamps or bulbs including halogen, incandescent, neon, or fluorescent; lighting ballast or fixtures; thermostats and light switches; batteries including those from exit and emergency lights and smoke detectors; lead pipes; lead roof flashing; transformers; capacitors; and copper chrome arsenate (CCA) and creosote treated woods.
- (16) Waste accepted for disposal in a C&DLF unit shall be identifiable as C&D waste and shall not have been shredded, pulverized, or processed to such an extent that the composition of the original waste cannot be ascertained except as specified in Subparagraph (17) of this Paragraph.
- (17) C&D waste that has been shredded, pulverized, or otherwise processed may be accepted for disposal from a facility that has received a permit from a State or local government regulatory authority which specifies such activities are inspected by the authority, and whose primary purpose is recycling and reuse of the C&D material. A waste screening plan and waste acceptance plan shall be made available to the Division upon request.
- (18) The owner or operator of a C&DLF shall not knowingly dispose any type or form of C&D waste that is generated within the boundaries of a unit of local government that by ordinance:
 - (A) prohibits generators or collectors of C&D waste from disposing that type or form of C&D waste; or
 - (B) requires generators or collectors of C&D waste to recycle that type or form of C&D waste.

(f) Compaction and cover material requirements. Solid waste shall be managed within the disposal area throughout the life-of-site and post-closure care period to prevent the escape of waste and the attraction of vectors and scavenging, and to minimize fires and the generation of odors. The owner or operator shall comply with this requirement using the following compaction and cover procedures:

- (1) The owner or operator shall compact the solid waste.
- (2) Except as provided in Subparagraph (4) of this Paragraph, the owners and operators of all C&DLF units shall cover the solid waste with six inches of earthen material when the waste disposal area exceeds one-half acre and no less than once weekly. Cover shall be placed at more frequent intervals if necessary to prevent the escape of waste and the attraction of vectors and scavenging, and to minimize fires and the generation of odors. A notation of the date and time of the cover placement shall be recorded in the operating record as specified in Paragraph (n) of this Rule.
- (3) Areas that will not have additional wastes placed on them for three months or more, but where final termination of disposal operations has not occurred, shall be covered and stabilized with

vegetative ground cover or other stabilizing material as provided for in Subparagraph (4) of this Paragraph.

- (4) Alternative materials or an alternative thickness of cover are allowed with prior approval of the Division if the owner or operator demonstrates that the alternative material or thickness prevents the escape of waste and the attraction of vectors and scavenging, and minimizes fires and the generation of odors without presenting a threat to human health and the environment. Alternative materials that have been approved by the Division for use at any C&DLF may be used at all C&DLFs in accordance with G.S. 130A-295.6(h1).
- (g) Windblown waste requirements. Methods such as fencing and diking shall be provided within the area to confine solid waste that is subject to be blown by the wind. At the conclusion of each operating day, all windblown material resulting from the operation shall be collected and disposed of by the owner or operator.
- (h) Vector control. Owners or operators of all C&DLF units shall prevent or control on-site populations of vectors.
- (i) Air Criteria and Fire Control.
 - (1) Owners or operators of C&DLF units shall ensure that the units do not violate 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 Air Act, as amended.
 - (2) Open burning, as defined in 15A NCAC 02D .1900, of solid waste, except for the approved burning of land clearing debris generated on-site or debris from emergency clean-up operations, is prohibited at all C&DLF facilities. Prior to any burning, a request shall be sent to the Division for review. The Division shall approve the burning if the Division determines that the burning is one of the two types of burning described in this Subparagraph. A notation of the date of approval and the name of the Division personnel who approved the burning shall be included in the operating record.
 - (3) C&DLF units shall maintain equipment on site to control accidental fires and arrangements shall be made with the local fire protection agency to provide fire-fighting services.
 - (4) Fires and explosions that occur at a C&DLF require verbal notice to the Division within 24 hours and written notification within 15 days. Written notification shall include the suspected cause of fire or explosion, the response taken to manage the incident, and the action(s) to be taken to prevent the future occurrence of fire or explosion.
- (j) Access and safety requirements.
 - (1) The C&DLF shall be secured to prevent unauthorized entry by means such as gates, chains, berms, fences, or natural barriers such as rivers.
 - (2) In accordance with G.S. 130A-309.25, an individual trained in landfill operations shall be on duty at the site while the C&DLF is open for public use and at all times during active waste management operations at the C&DLF to ensure compliance with operational requirements.
 - (3) The access road to the C&DLF shall be of all-weather construction and maintained to allow access by Department vehicles or vehicles containing waste. The access roads or paths to monitoring locations shall be maintained to allow access by the Department.
 - (4) Fugitive dust emissions generated by site operations shall comply with 15A NCAC 02D .0540.
 - (5) Signs providing information on disposal procedures, the hours during which the site is open for public use, the permit number, and any information specified in the permit conditions to be included on the sign shall be posted at the site entrance.
 - (6) Signs shall be posted stating the types of waste that shall not be accepted at the C&DLF unit, such as liquid waste, hazardous waste, and municipal solid waste.
 - (7) Traffic signs or markers shall be provided to direct traffic to and from the discharge area to minimize traffic congestion.
 - (8) The removal of solid waste from a C&DLF unit is prohibited unless the operational plan includes a recycling program. The general public is prohibited from removal activities on the working face.
- (k) Erosion and sedimentation control requirements. Erosion control measures consisting of vegetative cover, materials, structures, or other devices shall be utilized to prevent silt from leaving the site and to prevent on-site erosion, and shall comply with 15A NCAC 04, which is incorporated by reference including subsequent amendments and editions.
- (l) Drainage control and water protection requirements.
 - (1) Surface water shall be diverted from the operational area.
 - (2) Surface water shall not be impounded over or in waste.
 - (3) Solid waste shall not be disposed of in water.

- (4) Leachate shall be contained on-site or treated prior to discharge. A National Pollutant Discharge Elimination System (NPDES) permit may be required in accordance with 15A NCAC 02B prior to the discharge of leachate to surface waters.
 - (5) C&DLF units shall not:
 - (A) cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including the NPDES requirements, pursuant to Section 402 of the Clean Water Act; or
 - (B) cause the discharge of a nonpoint source of pollution to waters of the United States, including wetlands, that violates any requirement of an area-wide or State-wide water quality management plan that has been approved under Section 208 or 319 of the Clean Water Act, as amended.
- (m) Survey for Compliance. Within 60 days of the permittee's receipt of the Division's written request for a survey, the permittee shall have a survey conducted of active or closed portions of the facility to determine whether operations are being conducted in accordance with the approved design and operational plans. The permittee shall report the results of such survey, including a map produced by the survey, to the Division within 90 days of receipt of the Division's request.
- (1) A survey may be required by the Division: if there is reason to believe that operations are being conducted in a manner that deviates from the plans included in the effective permit, or no more than once per year as a verification that operations are being conducted in accordance with the plans included in the effective permit.
 - (2) If required by G.S. 89C, any survey performed pursuant to this Paragraph shall be performed by a licensed professional land surveyor.
- (n) Operating Record and Recordkeeping requirements.
- (1) The owner and operator of a C&DLF unit shall record and retain at the facility or in an alternative location stated in the permit an operating record that shall contain the following information:
 - (A) records of random waste inspections, monitoring results, certifications of training required by G.S. 130A-309.25, and documentation of training required by Rule .0544(e)(3) of this Section;
 - (B) amounts by weight of solid waste received at the facility including county of generation consistent with G.S. 130A-309.09D;
 - (C) any demonstration, certification, finding, monitoring, testing, or analytical data required by Rules .0544 through .0545 of this Section;
 - (D) any closure or post-closure monitoring, testing, or analytical data as required by Rule .0543 of this Section;
 - (E) any cost estimates and financial assurance documentation required by Rule .0546 of this Section and Section .1800 of this Subchapter.
 - (F) notation of date and time of placement of cover material; and
 - (G) all audit records, compliance records, and inspection reports.
 - (2) All information contained in the operating record shall be furnished to the Division according to the permit, or shall be made available for review by the Division at the time and place of an inspection of the C&DLF or upon request. The information contained in the operating record shall be recorded and retained in a format that is accessible and viewable by the Division.
 - (3) The operating record shall also include:
 - (A) a copy of the approved operation plan required by this Rule and the engineering plan required by Rule .0539 of this Section;
 - (B) a copy of the current permit to construct and permit to operate; and
 - (C) a copy of the monitoring plan, in accordance with Rule .0544 of this Section, included as appendices to the operation plan.
- (o) Leachate Management Plan. The owner or operator of a C&DLF unit designed with a leachate collection system shall establish and maintain a leachate management plan that includes the following:
- (1) periodic maintenance of the leachate collection system;
 - (2) maintaining records for the amount of leachate generated;
 - (3) annual leachate quality sampling and analysis;
 - (4) approval documentation for final leachate disposal; and
 - (5) a contingency plan for extreme operational conditions.

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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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15A NCAC 13B .0544 MONITORING PLANS AND REQUIREMENTS FOR C&DLF FACILITIES

- (a) The owner or operator of a C&DLF unit shall submit a water quality monitoring plan to the Division in the application for the permit to construct in accordance with Rule .0535(a)(1) of this Section that shall apply to all C&DLF units. The water quality monitoring plan shall be prepared in accordance with this Rule, and shall include information on the proposed groundwater monitoring systems, surface water sampling locations, sampling and analysis requirements, and detection monitoring requirements provided in Paragraphs (b) and (c) of this Rule.
- (b) Groundwater monitoring shall be as follows:
 - (1) A groundwater monitoring system shall be installed that consists of no less than one background and three downgradient wells installed at locations and depths that yield groundwater samples from the uppermost aquifer that:
 - (A) represent the quality of the background groundwater that has not been affected by leakage from the unit. Determination of background water quality shall be based on

sampling of a well or wells that are hydraulically upgradient of the waste management area. However, the determination of background water quality may include sampling of wells that are not hydraulically upgradient of the waste management area where hydrogeologic conditions do not allow the owner and operator to determine which wells are hydraulically upgradient, or hydrogeologic conditions do not allow the owner and operator to place a well in a hydraulically upgradient location, or sampling at other wells will provide an indication of background groundwater quality that is as representative as that provided by the upgradient well(s); and

- (B) represent the quality of groundwater passing the relevant point of compliance as approved by the Division. The downgradient monitoring system shall be installed at the relevant point of compliance to ensure detection of groundwater contamination in the uppermost aquifer. The relevant point of compliance shall be established no more than 250 feet from a waste boundary, or shall be at least 50 feet within the facility property boundary, whichever point is closer to the waste boundary. In determining the relevant point of compliance, the Division shall consider recommendations made by the owner and operator based upon consideration of at least the hydrogeologic characteristics of the facility and surrounding land; the quantity, quality, and direction of flow of the groundwater; the proximity and withdrawal rate of the groundwater users; the existing quality of the groundwater, including other sources of contamination and their cumulative impacts on the groundwater, and whether the groundwater is currently used or expected to be used for drinking water; public health, safety, and welfare effects; and practicable capability of the owner and operator.
 - (C) A water quality monitoring plan shall include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of groundwater quality at the background and downgradient wells. The plan shall include procedures and techniques for sample collection; sample preservation and shipment; chain-of-custody control; and quality assurance and quality control.
 - (D) The detection groundwater monitoring program shall include sampling and analytical methods for groundwater sampling that accurately measure target constituents and other monitoring parameters in groundwater samples. Detection monitoring shall be conducted at C&DLF units at all groundwater monitoring wells that are part of the detection monitoring system as established in the approved water quality monitoring plan. The detection groundwater monitoring program shall include monitoring for the constituents listed in Appendix I of 40 CFR 258, and the following constituents: mercury, chloride, manganese, sulfate, iron, specific conductance, pH, temperature, alkalinity, and total dissolved solids. The monitoring frequency for all detection monitoring constituents shall be no less than annual during the active life of the facility, and during closure and the post-closure period. To establish baseline, no less than four independent samples from each background and downgradient monitoring well shall be collected within a twelve-month period and analyzed for the constituents required in this Paragraph, with no less than one sample collected from each new monitoring well before waste placement in each new cell or phase. The water quality monitoring plan shall include a description of the procedures used to establish baseline at the C&DLF unit. No less than one sample from each background and downgradient monitoring well shall be collected and analyzed during subsequent annual sampling events. C&DLF units shall comply with the groundwater quality standards set forth in 15A NCAC 02L .0202 and the groundwater protection standards established in Rule .0545(c) of this Section.
 - (E) The sampling procedures and frequency shall be protective of human health and the environment.
- (2) Each time groundwater is sampled, elevations shall be measured in each well prior to purging. Groundwater elevations in wells which monitor the same waste management area shall be measured within a 24-hour period of time to avoid temporal variations in groundwater flow that could preclude accurate determination of groundwater flow rate and direction. In order to determine accurate groundwater elevations for each monitoring well, the wells shall have been surveyed by a licensed professional land surveyor if required by G.S. 89C. The survey of the wells shall conform to the following levels of accuracy: horizontal location to the nearest 0.1 foot,

vertical control for the ground surface elevation to the nearest 0.01 foot, and vertical control for the measuring reference point on the top of the inner well casing to the nearest 0.01 foot. In order to determine the rate of groundwater flow, the owner or operator shall provide data for hydraulic conductivity and porosity for the formation materials at each of the well locations.

- (3) The owner or operator shall establish existing conditions of groundwater quality in hydraulically upgradient or background well(s) for each of the monitoring parameters or constituents required in Part (1)(D) of this Paragraph. Statistical analysis used to establish existing conditions of groundwater quality shall be in accordance with Subparagraphs (4) and (5) of this Paragraph and the minimum number of samples required by the statistical method used shall be met.
- (4) Should the owner or operator choose to perform statistical analysis of groundwater quality data for the purpose of establishing background concentrations or to determine if there is an exceedance of the groundwater quality standards established in 15A NCAC 02L .0202 or the groundwater protection standards established in Rule .0545(c) of this Section, the owner or operator shall select one of the following statistical methods to be used in evaluating groundwater monitoring data for each constituent of concern. The statistical test chosen shall be conducted separately for each constituent of concern in each well.
 - (A) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method shall include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.
 - (B) A parametric analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method shall include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.
 - (C) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.
 - (D) A control chart approach that gives control limits for each constituent.
 - (E) Another statistical test method that meets the performance standards of this Rule. The owner or operator shall submit a justification for an alternative test method to the Division for approval to determine compliance with this Rule. The justification shall demonstrate that the alternative statistical test method meets the performance standards in Subparagraph (5) of this Paragraph. If approved, the owner or operator shall place a copy of the justification for an alternative test method in the operating record.
- (5) Any statistical method chosen to evaluate groundwater monitoring data shall comply with the following performance standards:
 - (A) The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of chemical parameters or constituents of concern. If the distribution of the chemical parameters or constituents of concern is shown by the owner or operator or the Division to be inappropriate for a normal theory test, then the data shall be transformed or a distribution-free theory test shall be used. If the distributions for the constituents differ, more than one statistical method shall be considered.
 - (B) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a groundwater protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experiment wise error rate for each testing period shall be no less than 0.05. However, the Type I error of no less than 0.01 for individual well comparisons shall be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.
 - (C) If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated parameter values shall be protective of human health and the environment. The parameters shall be determined by the analyst after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

- (D) If a tolerance interval or a prediction interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval shall contain, shall be protective of human health and the environment. These parameters shall be determined by the analyst after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.
 - (E) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantitation limit (pql) that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.
 - (F) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.
- (6) Within 120 days of completing a groundwater sampling event, the owner or operator shall submit to the Division a monitoring report in an electronic format that is accessible and viewable by the Division that includes information from the sampling event including field observations relating to the condition of the monitoring wells; field data; a summary of the laboratory analytical data report; statistical analysis (if utilized), field sampling methods and quality assurance and quality control data; information on groundwater flow direction; calculations of groundwater flow rate; and for each well, any constituents that exceed groundwater quality standards set forth in 15A NCAC 02L .0202 or the groundwater protection standards established in Rule .0545(c) of this Section.
- (7) If the owner or operator determines upon evaluation of laboratory data or by a verification sampling event that there is an exceedance of the groundwater quality standards established in accordance with 15A NCAC 02L .0202, or the groundwater protection standards established in accordance with Rule .0545(c) of this Section for one or more of the constituents being monitored at any monitoring well, the owner or operator:
- (A) shall, within 14 days of this finding, report to the Division and place a notice in the operating record indicating which constituents have exceeded groundwater quality standards established in accordance with 15A NCAC 02L .0202, or the groundwater protection standards established in accordance with Rule .0545(c) of this Section;
 - (B) shall establish an assessment monitoring program in accordance with Rule .0545 of this Section except as provided for in Part (C) of this Subparagraph; and
 - (C) may demonstrate that a source other than a C&DLF unit caused the exceedance, or the exceedance resulted from an error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. A report documenting this demonstration shall be submitted to the Division for review. If required by G.S. 89C or G.S. 89E, a licensed professional engineer or licensed geologist shall prepare these documents. [Note: The North Carolina Board of Examiners for Engineers and Surveyors and the Board of Licensing of Geologist has determined, via letters dated July 16, 2010 and November 30, 2010 respectively, that preparation of documents pursuant to this Paragraph constitutes practicing engineering or geology under G.S. 89C and G.S. 89E.] A copy of this report shall also be placed in the operating record. If a successful demonstration is made, documented, and approved by the Division, the owner or operator may continue detection monitoring. If after 90 days of the initial determination of exceedance, a successful demonstration is not made, the owner or operator shall initiate an assessment monitoring program as required by Rule .0545 of this Section.
- (8) Monitoring wells shall be designed and constructed in accordance with 15A NCAC 02C.
- (A) Owners and operators shall obtain approval from the Division for the design, installation, development, and decommission of any monitoring well or piezometer. Documentation shall be placed in the operating record and provided to the Division.
 - (B) The monitoring wells and piezometers shall be operated, maintained, and accessible so that they perform to design specifications throughout the life of the monitoring program.
- (9) The number, spacing, and depths of groundwater monitoring points shall be determined based upon site-specific technical information that shall include an investigation of:

- (A) aquifer thickness, groundwater flow rate, and groundwater flow direction, including seasonal and temporal fluctuations in groundwater flow; and
 - (B) thickness, stratigraphy, lithology, hydraulic conductivities, porosities, and effective porosities of the saturated and unsaturated geologic units, including fill materials overlying and comprising the uppermost aquifer.
 - (10) In addition to groundwater monitoring wells, the use of alternative monitoring systems may be:
 - (A) required by the Division at sites where the owner or operator does not control the property from any landfill unit to the groundwater discharge features; or
 - (B) allowed by the Division at sites with hydrogeologic conditions favorable to detection monitoring by alternative methods.
 - (11) Owners and operators of C&DLF units shall comply with the groundwater monitoring, assessment, and corrective action requirements under Rules .0544 and .0545 of this Section according to the following schedule:
 - (A) new C&DLF units shall be in compliance with the requirements before waste can be placed in the unit; and
 - (B) lateral expansions to existing C&DLF units shall be in compliance with the requirements before waste can be placed in the expansion area.
 - (12) Groundwater quality standards established under 15A NCAC 02L .0202 and groundwater protection standards established in accordance with Rule .0545(c) of this Section shall not be exceeded.
- (c) Surface water monitoring shall meet the following criteria:
- (1) The monitoring shall include sample collection from surface water features on or bordering the facility property and include no less than one upstream and one downstream sampling location. Surface water samples shall be analyzed for constituents that include those listed in Part (b)(1)(D) of this Rule. The monitoring frequency shall be no less than annual during the active life of the facility, and no less than annual during the closure and post-closure care period.
 - (2) Responsibility for sample collection and analysis shall be defined as a part of the monitoring plan.
 - (3) Information used for the development of the surface water monitoring system shall include:
 - (A) drainage patterns and other hydrological conditions in the area;
 - (B) proximity of surface water to the facility;
 - (C) uses that are being or may be made of any surface water that may be affected by the facility; and
 - (D) any other factors that relate to the potential for surface water impacts from the facility.
 - (4) The C&DLF unit shall not cause an exceedance of the surface water standards established under 15A NCAC 02B .0200.
- (d) The owner or operator of a C&DLF unit shall submit a landfill gas monitoring plan to the Division prepared in accordance with this Rule that shall apply to all C&DLF units. Landfill gas monitoring shall be as follows:
- (1) Owners and operators of C&DLF units shall ensure that:
 - (A) the concentration of explosive gases generated by the facility does not exceed 25 percent of the lower explosive limit in on-site facility structures, excluding gas control or recovery system components; and
 - (B) the concentration of explosive gases does not exceed the lower explosive limit at the facility property boundary.
 - (2) Owners and operators of all C&DLF units shall implement a routine landfill gas monitoring program to ensure that the standards of Subparagraph (1) of this Paragraph are met as follows:
 - (A) The type of monitoring shall be determined based on soil conditions, the hydrogeologic conditions under and surrounding the facility, the hydraulic conditions on and surrounding the facility, the location of facility structures and property boundaries, and the location of all off-site structures adjacent to property boundaries.
 - (B) The concentration of methane in landfill gas shall be monitored. The monitoring shall be conducted at a frequency of no less than quarterly.
 - (C) The Division may also require quarterly monitoring of landfill gas for explosive gases other than methane, such as hydrogen sulfide, if it is necessary to ensure compliance with Subparagraph (1) of this Paragraph. If the Division requires monitoring of additional explosive gases, the Division shall provide written notice to the facility of the requirement.

- (3) If explosive gas levels exceeding the limits specified in Subparagraph (1) of this Paragraph are detected, the owner and operator shall:
 - (A) upon discovery of detection, notify the Division and take any steps that may be necessary to ensure protection of human health, such as evacuation or monitoring of offsite structures for explosive gases;
 - (B) within seven days of detection, place in the operating record the explosive gas levels detected and a description of the steps taken to protect human health; and
 - (C) within 60 days of detection, implement a remediation plan for the explosive gas releases, place a copy of the plan in the operating record, and notify the Division that the plan has been implemented. The plan shall describe the nature and extent of the problem and the proposed remedy.
 - (4) The owner or operator may submit a request in writing to the Division for an extension or alternate schedule for compliance with Parts (3)(B) and (3)(C) of this Paragraph, and the request shall include a justification for the alternate schedule. In making the determination on approval of the request, the Division shall consider the following factors:
 - (A) the justification submitted by the owner or operator;
 - (B) actions taken by the owner or operator upon discovery of the exceedances;
 - (C) the explosive gas levels measured and reported; and
 - (D) the circumstances and use of properties surrounding the facility.
- (e) Owners or operators of C&DLF units shall develop and implement a waste screening plan as required by G.S. 130A-295.6(g) in accordance with the effective date and applicability requirements of S.L. 2007-550, s. 9.(b). The plan shall meet the same requirements as municipal solid waste landfills set forth in 40 CFR 258.20 and shall include screening for the wastes prohibited by Rule .0542(e) of this Section. Owners and operators of C&DLF units that are not subject to G.S. 130A-295.6(g) shall develop and implement a waste screening plan that shall comply with 40 CFR 258.20, and shall include screening and a contingency plan for the wastes prohibited by Rule .0542(e) of this Section.
- (f) The water quality monitoring plan shall include any other monitoring plan or program which is necessary according to the operating plan or the effective permit.
- (g) Water quality monitoring plans and landfill gas monitoring plans shall be prepared under the charge of and bear the seal of a licensed professional engineer or licensed geologist if required by G.S. 89C or 89E, respectively.
- (h) Water quality monitoring plans and landfill gas monitoring plans shall be capable of providing detection of any release of monitored constituents from any point in a disposal cell or leachate surface impoundment to the uppermost aquifer, air, surface waters, or proximal area.
- (i) Water quality monitoring plans and landfill gas monitoring plans shall be submitted to the Division for review. The Division shall date and stamp the water quality monitoring plan and landfill gas monitoring plan "approved" if they meet the requirements of this Rule. A copy of the approved monitoring plan shall be placed in the operating record.
- (j) Once established at a C&DLF facility, all monitoring shall be conducted throughout the active life and post-closure care period for all C&DLF units.

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15A NCAC 13B .0545 ASSESSMENT AND CORRECTIVE ACTION PROGRAM FOR C&DLF FACILITIES AND UNITS

- (a) Assessment Program. Assessment monitoring shall be required if, in any sampling event, one or more constituents being monitored in any monitoring well are detected above the groundwater quality standards established in accordance with 15A NCAC 02L .0202, or the groundwater protection standards established in accordance with Paragraph (c) of this Rule. The owner and operator shall:
- (1) within 30 days of obtaining the results of any sampling event, notify all persons who own land or reside on land that directly overlies any part of the plume of contamination if contaminants have migrated off-site or are thought to have migrated off-site; and
 - (2) within 90 days of triggering an assessment monitoring program in accordance with this Paragraph, the owner and operator shall submit an assessment monitoring work plan for Division review. The

Division shall date and stamp the assessment monitoring plan "approved" if the requirements in Paragraph (b) of this Rule are met. The owner and operator shall place the approved program in the operation record, and notify appropriate local government officials, such as the county manager, city manager, and county health department.

(b) Assessment Monitoring Work Plan. The assessment monitoring work plan shall be in accordance with the following:

- (1) Install additional wells downgradient of the compliance wells where exceedances have been detected to characterize the nature and extent of the contamination. The additional wells shall include no less than one additional groundwater monitoring well or methane gas monitoring well at the facility's property boundary or the compliance boundary, as defined in 15A NCAC 02L .0102, in the direction of contaminant migration most likely to show impact based on the established geology and hydrogeology. The additional monitoring wells shall characterize the nature and extent of the release by determining the following factors:
 - (A) lithology of the aquifer and unsaturated zone;
 - (B) hydraulic conductivity of the aquifer and unsaturated zone;
 - (C) groundwater flow rates;
 - (D) horizontal and vertical extent of the release;
 - (E) resource value of the aquifer; and
 - (F) nature, fate, and transport of any detected constituents.
- (2) No less than one sample from each monitoring well, including any well installed in accordance with Subparagraph (1) of this Paragraph, shall be collected and analyzed for the constituents listed in 40 CFR 258 Appendix II during the initial sampling event for assessment monitoring. After the initial sampling event, for any constituent detected in the downgradient wells as the result of the Appendix II analysis, no less than three additional independent samples from each background and downgradient monitoring well shall be collected and analyzed to establish a baseline for the new detected constituents. Once determined, baseline data for the new detected constituents shall be reported to the Division.

(c) For constituents that do not have a groundwater quality standard established in accordance with 15A NCAC 02L .0202, the Division shall establish a groundwater protection standard as follows:

- (1) The groundwater protection standard shall be the most protective of the following:
 - (A) for constituents for which a maximum contaminant level (MCL) has been promulgated under 40 CFR 141, the MCL for that constituent;
 - (B) for constituents for which a public water quality standard has been established under 15A NCAC 18C, the public water quality standard for that constituent;
 - (C) for constituents for which no MCLs or public water quality standards have been promulgated, the background concentration for the constituent established from the monitoring wells required in accordance with Rule .0544(b)(1)(A), (b)(4), and (b)(5) of this Section; or
- (2) The Division may establish an alternative groundwater protection standard for constituents for which no MCL or water quality standard have been established. These groundwater protection standards shall be health-based levels that satisfy the following criteria:
 - (A) The level is derived in a manner consistent with U.S. E.P.A. guidelines provided in 40 CFR 258.55(i)(1) for assessing the health risks of environmental pollutants;
 - (B) The level is based on scientifically valid studies conducted in accordance with 40 CFR 792, or equivalent;
 - (C) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level due to continuous lifetime exposure of 1×10^{-6} ;
 - (D) For systemic toxicants, the level represents a concentration to which the human population, including sensitive subgroups, could be exposed on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime. For the purposes of this Rule, systemic toxicants include toxic chemicals that cause effects other than cancer or mutation.
- (3) In establishing groundwater protection standards under this Paragraph the Division may consider the following:
 - (A) multiple contaminants in the groundwater;
 - (B) exposure threats to sensitive environmental receptors; and

- (C) other site-specific exposure or potential exposure to groundwater.
- (4) The owner or operator may request the Division approve a background level for the unit that is higher than the standard established in 15A NCAC 02L .0202, or the standard established in Subparagraph (1) of this Paragraph, or health-based levels identified under Subparagraph (2) of this Paragraph. The background level shall be established in accordance with Rule .0544(b)(1)(A), (b)(4), and (b)(5) of this Section. The approved background level shall be the established groundwater protection standard.
- (d) Assessment Monitoring. After obtaining the results from the initial sampling event required in Subparagraph (b)(2) of this Rule, the owner and operator shall perform assessment monitoring in accordance with the following:
 - (1) For each assessment monitoring event, including the sampling required in Subparagraph (b)(2) of this Rule, the owner or operator shall submit an assessment monitoring report to the Division that complies with Rule .0544(b)(6) of this Section. If required by G.S. 89E, the report shall be certified by a licensed geologist.
 - (2) Within 14 days of receipt of analytical results, the owner or operator shall submit notice to the Division in writing and place the notice in the operating record identifying the 40 CFR 258 Appendix II constituents that have not previously been detected and reported to the Division.
 - (3) Within 90 days, and no less than semiannually thereafter until the Division approves a return to detection monitoring in accordance with Subparagraphs (6) or (7) of this Paragraph, the owner or operator shall sample all of the monitoring wells for the unit in the detection monitoring system established in Rule .0544 of this Section for all constituents listed in 40 CFR 258 Appendix I and for those constituents in Appendix II not listed in Appendix I that have been detected. Any well with a reported groundwater standard exceedance shall be sampled for all constituents in 40 CFR 258 Appendix II at least annually unless otherwise approved in accordance with Subparagraphs (4) or (5) of this Paragraph. A report from each sampling event shall be submitted to the Division as specified in Subparagraph (1) of this Paragraph and placed in the facility operating record.
 - (4) The Division may approve a subset of wells to be sampled and analyzed during assessment monitoring if the owner or operator demonstrates that the proposed wells to be sampled meet the requirements for assessment monitoring in accordance with this Paragraph. The Division may remove any of the additional monitoring parameters not listed in Rule .0544(b)(1)(D) of this Section from the monitoring list for a C&DLF unit if the owner or operator can show that the constituents proposed for removal are not expected to be in or derived from the waste contained in the unit.
 - (5) The Division may approve an alternate frequency or subset of wells for repeated sampling and analysis for 40 CFR 258 Appendix II constituents, not listed in Appendix I, required during the active life and post-closure care of the unit considering all of the following factors:
 - (A) lithology of the aquifer and unsaturated zone;
 - (B) hydraulic conductivity of the aquifer and unsaturated zone;
 - (C) groundwater flow rates;
 - (D) minimum distance between the upgradient edge of the C&DLF unit and the downgradient monitor well screened interval;
 - (E) resource value of the aquifer; and
 - (F) nature, fate, and transport of any detected constituents.
 - (6) During assessment monitoring, the owner or operator may demonstrate, in accordance with Rule .0544(b)(7) of this Section for any constituent not previously reported to have a groundwater standard exceedance, that a source other than a C&DLF unit caused the exceedance of the groundwater quality standards established in accordance with 15A NCAC 02L .0202 or the groundwater protection standards established in accordance with Paragraph (c) of this Rule, or that the exceedance resulted from error in sampling, analysis, or natural variation in groundwater quality. If a successful demonstration is made for each exceedance, the owner or operator shall continue the existing assessment monitoring that was required by this Paragraph unless and until the requirements of Subparagraph (7) of this Paragraph are met.
 - (7) The Division shall give approval to the owner or operator to return to detection monitoring in accordance with Rule .0544(b)(1)(D) of this Section if all of the following are met:
 - (A) for two consecutive sampling events, the concentrations of the constituents are shown to be at or below groundwater quality standards established in accordance with 15A NCAC

02L .0202, or the groundwater protection standards established in accordance with Paragraph (c) of this Rule;

(B) the plume is not migrating horizontally or vertically; and

(C) the plume has not exceeded the compliance boundary.

- (8) After completion of Paragraphs (a) and (b) of this Rule and if one or more constituents are detected for two consecutive semiannual sampling events above background, the groundwater quality standards established in 15A NCAC 02L .0202, or the groundwater protection standards established in accordance with Paragraph (c) of this Rule, the owner or operator shall initiate within 90 days an Assessment of Corrective Measures in accordance with Paragraph (e) of this Rule, and shall continue to monitor in accordance with the approved assessment monitoring program.

(e) Assessment of Corrective Measures. If the assessment of corrective measures is required in accordance with Subparagraph (d)(8) of this Rule, the assessment of corrective measures shall include an analysis of the effectiveness of potential corrective measures in meeting all of the requirements and objectives of the remedy as described under this Rule. An assessment of corrective measures document shall be completed within 120 days, or as approved by the Division, and shall address the following:

- (1) the performance, reliability, ease of implementation, and potential impacts of potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;
- (2) the time required to begin and to complete the remedy;
- (3) the costs of remedy implementation; and
- (4) the institutional requirements such as State and local permit requirements or other environmental or public health requirements that may affect implementation of the remedy(s).

(f) Within 120 days of completion of the assessment of corrective measures in accordance with Paragraph (e) of this Rule, the owner and operator shall discuss the results of the assessment of corrective measures, prior to the selection of the remedy, in a public meeting with interested and affected parties. The owner and operator shall provide a public notice of the meeting at least 30 days prior to the meeting. The notice shall include the time, place, date, and purpose of the public meeting. A copy of the public notice shall be forwarded to the Division at least five days prior to publication. The owner and operator shall mail a copy of the public notice to those persons requesting notification. Public notice shall be in accordance with Rule .0533(c)(4) of this Section.

(g) Selection of Remedy. Based on the results of the Assessment of Corrective Actions, the owner and operator shall select a remedy as follows:

- (1) Within 30 days of selecting a remedy, the permittee shall submit an application to modify the permit describing the selected remedy to the Division for evaluation and approval. The application shall be subject to the processing requirements set forth in Rule .0533(c) of this Section. The application shall include the demonstrations necessary to comply with the financial assurance requirements in accordance with Rule .0546 of this Section and Section .1800 of this Subchapter.
- (2) Remedies shall:
 - (A) be protective of human health and the environment;
 - (B) attain the approved groundwater protection standards in accordance with Rule .0544(b)(12) of this Section;
 - (C) control the source(s) of releases to reduce or eliminate, to the maximum extent practicable, further releases of 40 CFR 258 Appendix II constituents into the environment; and
 - (D) comply with standards for management of wastes as specified in Paragraph (n) of this Rule.
- (3) In selecting a remedy that meets the standards of Subparagraph (2) of this Paragraph, the owner and operator shall consider the following factors:
 - (A) The long-term and short-term effectiveness and protectiveness of the potential remedy(s), along with the degree of certainty that the remedy will prove successful based on consideration of the magnitude of reduction of existing risks; magnitude of residual risks in terms of likelihood of further releases due to wastes remaining following implementation of a remedy; the type and degree of long-term management required, including monitoring, operation, and maintenance; short-term risks that might be posed to the community, to workers, or to the environment during implementation of such a remedy, including potential threats to human health and the environment associated with

- excavation, transportation, and redisposal or containment; time until full protection is achieved; potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal, or containment; long-term reliability of the engineering and institutional controls; and potential need for replacement of the remedy.
- (B) The effectiveness of the remedy in controlling the source to reduce further releases, based on consideration of the extent to which containment practices will reduce further releases, and the extent to which treatment technologies may be used.
 - (C) The ease or difficulty of implementing a potential remedy, based on consideration of the degree of difficulty associated with constructing the technology; the expected operational reliability of the technologies; the need to coordinate with and obtain necessary approvals and permits from other agencies; the availability of necessary equipment and specialists; and available capacity and location of needed treatment, storage, and disposal services.
 - (D) The practicable capability of the owner and operator, including a consideration of the technical and economic capability.
- (4) The owner and operator shall specify as part of the selected remedy a schedule for initiating and completing remedial activities included in a corrective action plan. This schedule shall be submitted to the Division for review and approval to determine compliance with this Rule. The owner and operator shall consider the following factors in determining the schedule of remedial activities:
- (A) nature and extent of contamination;
 - (B) practical capabilities of remedial technologies in achieving compliance with the approved groundwater protection standards and other objectives of the remedy;
 - (C) availability of treatment or disposal capacity for wastes managed during implementation of the remedy;
 - (D) desirability of utilizing technologies that are not currently available, but which may offer advantages over already available technologies in terms of effectiveness, reliability, safety, or ability to achieve remedial objectives;
 - (E) potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;
 - (F) resource value of the aquifer, including current and future uses; proximity and withdrawal rate of users; groundwater quantity and quality; the potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to contaminants; the hydrogeologic characteristics of the facility and surrounding land; groundwater removal and treatment costs; the costs and availability of alternative water supplies; and
 - (G) practical capability of the owner and operator.
- (h) The Division may determine that active remediation of a release of any detected constituent from a C&DLF unit is not necessary if the owner or operator demonstrates to the Division that:
- (1) the groundwater is contaminated by substances that have originated from a source other than a C&DLF unit and those substances are present in concentrations such that active cleanup of the release from the C&DLF unit would provide no reduction in risk to actual or potential receptors;
 - (2) the constituent or constituents are present in groundwater that is not currently or expected to be a source of drinking water and is not hydraulically connected with water to which the constituents are migrating or are likely to migrate in concentrations that would exceed the approved groundwater protection standards;
 - (3) remediation of the release is technically impracticable; or
 - (4) remediation results in unacceptable cross-media impacts.
- (i) A determination by the Division pursuant to this Paragraph shall not affect the authority of the State to require the owner and operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to the groundwater, to prevent exposure to the groundwater, or to remediate groundwater to concentrations that are technically practicable and reduce threats to human health or the environment.
- (j) Implementation of the Corrective Action Program. Based on the approved schedule for initiation and completion of remedial activities, the owner and operator shall:

- (1) within 120 days after the approval of the selected remedy or as approved by the Division, submit a corrective action plan that establishes and implements a corrective action groundwater monitoring program that:
 - (A) meets the requirements of an assessment monitoring program under Paragraphs (a), (b), and (d) of this Rule;
 - (B) indicates the effectiveness of the corrective action remedy; and
 - (C) demonstrates compliance with groundwater quality standards established in accordance with 15A NCAC 02L .0202 and groundwater protection standards established in accordance with Paragraph (c) of this Rule, pursuant to Paragraph (o) of this Rule;
 - (2) implement the approved corrective action remedy; and
 - (3) take any interim measures necessary to ensure the protection of human health and the environment. Interim measures shall be consistent with the objectives of and contribute to the performance of any remedy that may be required. The following factors shall be considered by an owner and operator in determining whether interim measures are necessary:
 - (A) time required to develop and implement a final remedy;
 - (B) actual or potential exposure of nearby populations or environmental receptors to constituents;
 - (C) actual or potential contamination of drinking water supplies or sensitive ecosystems;
 - (D) further degradation of the groundwater that may occur if remedial action is not initiated;
 - (E) weather conditions that may cause constituents of concern to migrate or be released;
 - (F) risks of fire or explosion, or potential for exposure to constituents of concern resulting from an accident or failure of a container or handling system; and
 - (G) other situations that may pose threats to human health or the environment.
- (k) The owner or operator shall submit a corrective action evaluation report to the Division in an electronic format that is accessible and viewable by the Division no less than once every five calendar years until the owner and operator are released from the corrective action program in accordance with Paragraph (q) of this Rule. The report shall contain a description of the corrective measure remedies that have been implemented or completed since the initiation of the corrective action program; and an evaluation of the effectiveness of the corrective action program. The owner or operator may request to submit the corrective action evaluation report to the Division on an alternate schedule. The owner or operator shall submit the request in writing to the Division, and the request shall include a justification for the alternate schedule. In making the determination on approval of the request, the Division shall consider the following factors:
- (1) the schedules for corrective action established in the corrective action plan and changes to corrective actions;
 - (2) the justification submitted by the owner or operator;
 - (3) the size, direction, and rate of travel of the contaminant plume;
 - (4) the circumstances and use of properties, groundwater, and surface water downgradient of the contaminant plume; and
 - (5) whether the alternate schedule complies with Article 9 of Chapter 130A of the General Statutes and the rules adopted thereunder.
- (l) The owner or operator or the Division may determine, based on information developed after implementation of the remedy has begun or other information, that compliance with requirements of Subparagraph (f)(2) of this Rule are not being achieved through the remedy selected. In such cases, the owner and operator shall implement other methods or techniques to comply with Paragraph (g) of this Rule unless the Division determines that active remediation is not necessary in accordance with Paragraph (h) of this Rule.
- (m) If the owner or operator determines that compliance with requirements of Subparagraph (g)(2) of this Rule cannot be achieved with any currently available methods, the owner and operator shall:
- (1) obtain certification of a licensed professional engineer or licensed geologist, if required by G.S. 89C or 89E, and approval from the Division that compliance with the requirements under Subparagraph (g)(2) of this Rule cannot be achieved with any currently available methods;
 - (2) implement alternate measures to control exposure of humans or the environment to residual contamination, as necessary to protect human health and the environment;
 - (3) implement alternate measures for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures that are technically practicable and consistent with the overall objective of the remedy; and

- (4) submit a report justifying the alternative measures to the Division for review. The Division shall date and stamp the report "approved" if the conditions of this Paragraph are satisfied. The approved report shall be placed in the operating record prior to implementing the alternative measures.
- (n) All solid wastes that are managed pursuant to a remedy required under Paragraph (g) of this Rule, or an interim measure required under Paragraph (g) of this Rule, shall be managed in a manner that is protective of human health and the environment, and that complies with applicable State and federal requirements.
- (o) Remedies selected pursuant to Paragraph (g) of this Rule shall be considered complete when:
 - (1) the owner and operator complies with the groundwater quality and groundwater protection standards at all points within the plume of contamination that lie beyond the relevant point of compliance;
 - (2) compliance with the groundwater quality and groundwater protection standards has been achieved by demonstrating that concentrations of constituents have not exceeded these standards for a period of three consecutive years, consistent with performance standards in Subparagraph (g)(2) of this Rule; and
 - (3) all actions required to complete the remedy have been satisfied.
- (p) Upon completion of the remedy, the owner and operator shall submit a report to the Division documenting that the remedy has been completed in compliance with Paragraph (o) of this Rule. If required by G.S. 89C or 89E, a licensed professional engineer or licensed geologist shall prepare and sign these documents. This report shall also be signed by the owner or operator. Upon approval by the Division, this report shall be placed in the operating record.
- (q) When, upon completion of the certification, the Division determines that the corrective action remedy has been completed in accordance with Paragraph (o) of this Rule, the owner and operator shall be released from the requirements for financial assurance for the corrective action program under Rule .0546 of this Section and Section .1800 of this Subchapter. Nothing in this Paragraph shall release the owner or operator from the requirements for financial assurance for closure, post-closure care, or potential assessment and corrective action in accordance with Rule .0546 of this Section and Section .1800 of this Subchapter.

*History Note: Authority G.S. 130A-294;
 Eff. January 1, 2007;
 Readopted Eff. September 16, 2021;
 Amended Eff. March 15, 2023.*

15A NCAC 13B .0546 FINANCIAL ASSURANCE REQUIREMENTS FOR C&DLF FACILITIES AND UNITS

- (a) Owners and operators of construction and demolition landfill facilities permitted by the Division in accordance with this Subchapter shall comply with the financial responsibility requirements set forth in G.S. 130A-295.2.
- (b) Owners and operators of construction and demolition landfill facilities that received waste on or after June 30, 2008 and are permitted by the Division in accordance with this Subchapter shall comply with the financial assurance requirements set forth in Section .1800 of this Subchapter.

*History Note: Authority G.S. 130A-294; 130A-295.2(b);
 Eff. January 1, 2007;
 Readopted Eff. July 1, 2020.*

15A NCAC 13B .0562 BENEFICIAL FILL

- (a) "Beneficial fill" means a fill activity to level or bring an area to grade for the beneficial purpose of stabilizing the land or improving the land use potential using only inert debris waste.
- (b) A solid waste management permit is not required for beneficial fill that meets the following conditions:
 - (1) any soils mixed with the beneficial fill or used for cover shall meet unrestricted use standards for soils as defined in G.S. 130A-310.65;
 - (2) excavation shall not be conducted for the purpose of creating a beneficial fill area or expanding the footprint of the existing beneficial fill area;
 - (3) in the absence of local ordinances pertaining to beneficial fill, the activity shall be limited in duration to one year from the initial placement of material and no larger than one acre in size;

- (4) the beneficial fill shall be setback from an adjacent property line a distance that allows for slope construction and maintenance in accordance with Subparagraph (5) of this Paragraph and any local ordinances;
- (5) the beneficial fill shall be covered with a minimum of one foot of compacted soil and graded at a slope ratio that shall not exceed three horizontal to one vertical;
- (6) the beneficial fill shall comply with all other applicable federal, State, and local laws, ordinances, rules, and regulations, including local zoning restrictions, flood plain regulations, wetland regulations, mining regulations, and sedimentation and erosion control regulations;
- (7) the beneficial fill shall comply with the groundwater quality standards established in 15A NCAC 02L; and
- (8) beneficial fill shall not be placed in waters of the State, or at or below the seasonal high groundwater table as defined in Rule .0532 of this Section.

(c) Soil generated from properties where there has been no known release of contaminants shall not be subject to regulation as a solid waste. This Rule and the solid waste permitting requirements under this Subchapter shall not apply to fill activities solely consisting of soil generated from properties where there has been no known release of contaminants.

(d) This Rule and the solid waste permitting requirements under this Subchapter shall not apply to fill activities solely consisting of soil generated from properties where there has been a release of contaminants, if the soil meets unrestricted use standards for soils as defined in G.S. 130A-310.65.

(e) Fill activities using solid waste as the fill material that do not meet the requirements of this Rule are subject to permitting as a solid waste management facility in accordance with this Subchapter.

History Note: Authority G.S. 130A-294;
Eff. January 4, 1993;
Readopted Eff. January 1, 2021.

15A NCAC 13B .0563 GENERAL REQUIREMENTS FOR LCIDLFS

The owner or operator of a land clearing and inert debris landfill (site) shall obtain a permit from the Division, unless exempted from permitting pursuant to G.S. 130A-294(a)(4)a. A site shall comply with Rules .0564 through .0567 of this Section, and the following requirements:

- (1) The site shall accept only yard waste and inert debris waste for disposal.
- (2) The site shall comply with all other federal, State, and local laws, ordinances, rules, regulations, and orders, including zoning regulations, flood plain regulations, wetland regulations, sedimentation and erosion control regulations, and mining regulations.
- (3) Permits issued by the Division for land clearing and inert debris landfills shall be valid for five years, and shall be subject to the permit fees set forth in G.S. 130A-295.8.
- (4) A permit shall not be required for a site that meets the following conditions:
 - (a) the site is within the right-of-way of a N.C. Department of Transportation project;
 - (b) the site accepts only yard waste and inert debris waste that was generated from within the same N.C. Department of Transportation project right-of-way that the site is located in;
 - (c) the site disposal area does not exceed two contiguous acres in size; and
 - (d) the site complies with Rule .0564 of this Section.
- (5) Owners or operators shall not construct or operate more than one site that is exempted from permitting in accordance with G.S. 130A-294(a)(4)a. on any single parcel of land.
- (6) Within five years of the readopted effective date of this Rule, the owner or operator of a notified LCIDLF that was not closed prior to the readopted effective date of this Rule shall comply with the requirements of this Rule, or shall close the notified LCIDLF in accordance with Rule .0567(b) of this Section, except that the required notification of closure is not required to be certified. For the purpose of this Rule, "notified LCIDLF" means a site that was not required to obtain a permit from the Division prior to the readopted effective date of this Rule because the site was designed and constructed to be two acres or less in size, and was required to record a notification for the site with the Register of Deeds' office and submit the notification to the Division.

History Note: Authority G.S. 130A-294; 130A-301.1;
Eff. January 4, 1993;
Readopted Eff. January 1, 2021.

15A NCAC 13B .0564 SITING CRITERIA FOR LCIDLFS

A land clearing and inert debris landfill (site) shall meet the following siting criteria:

- (1) Floodplain Restrictions: A site shall not be located in the 100-year floodplain.
- (2) Cultural Resources Restrictions: A site and site operations shall not damage or destroy a property of archaeological or historical significance that has been listed on the National Register of Historic Places or included on the Study List for the Register pursuant to 07 NCAC 04R .0206 and .0300.
- (3) State Nature and Historic Preserve Restrictions: A site and site operations shall not have an adverse impact on any component included in the State Nature and Historic Preserve pursuant to G.S. 143-260.10.
- (4) Endangered and Threatened Species Restrictions: A site and site operations shall not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Federal Endangered Species Act of 1973, Public Law 93-205, as amended.
- (5) Clean Water Act Requirements: A site and site operations shall:
 - (a) not cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including the National Pollutant Discharge Elimination System (NPDES) requirements pursuant to Section 402 of the Clean Water Act;
 - (b) comply with Section 404 of the Clean Water Act; and
 - (c) not cause the discharge of a nonpoint source of pollution to waters of the United States, including wetlands, that violates any requirement of an area-wide or Statewide water quality management plan that has been approved under Section 208 or 319 of the Clean Water Act.
- (6) Buffer Requirements: A site shall maintain the following buffer requirements:
 - (a) 50 feet from the waste boundary to waters of the State as defined in G.S. 143-212.
 - (b) 100 feet from the waste boundary to property lines, residential dwellings, commercial or public buildings, and potable wells.

The Division may establish alternative site-specific buffers in the permit conditions if it is necessary for the preservation of public health and the environment.
- (7) The site shall establish and maintain an access road around the waste boundary for access by emergency or fire-fighting vehicles and equipment.
- (8) The site shall have soil available for cover either on site or from on or off site.
- (9) The site and site operations shall comply with 15A NCAC 02L for protection of groundwater quality. The bottom elevation of the waste shall be no less than four feet above the seasonal high groundwater table as defined in Rule .0532 of this Section.

History Note: Authority G.S. 130A-294;
Eff. January 4, 1993;
Readopted Eff. January 1, 2021.

15A NCAC 13B .0565 APPLICATION REQUIREMENTS FOR LCIDLFS

(a) A permit applicant for a proposed land clearing and inert debris landfill (site) permit shall submit to the Division one electronic copy of a permit application, which shall contain the following information:

- (1) a copy of the deed for the site property, including the property owner's name, the parcel identification number, and a legal description of the property;
- (2) an approval letter from the unit of local government having zoning authority over the area where the site is to be located stating that the site meets the requirements of the local zoning ordinance, or that the site is not zoned;
- (3) a county road map showing the location of the site;
- (4) letters from both the State Historic Preservation Office and the Natural Heritage Program within the Department of Natural and Cultural Resources stating whether the proposed use of the property will impact the historic sites described in Rule .0564(a)(2) of this Section; State nature and historic preserves described in Rule .0564(a)(3) of this Section; or the endangered or threatened species described in Rule .0564(a)(4) of this Section located at the site;
- (5) a description of how the site will comply with Rule .0564 of this Section;

- (6) a map or aerial photograph, representative of existing conditions, with a scale of at least one inch equals 400 feet showing the following in an area within one-fourth mile of the site:
 - (A) the entire property or portion thereof where the site is proposed to be located;
 - (B) the location of all homes, buildings, public or private utilities, roads, wells, watercourses, water or other impoundments, and any other features that the Division may request in writing if it is necessary to determine compliance with this Subchapter;
 - (C) the 100-year floodplain boundaries, if any;
 - (D) boundaries of wetlands as defined in Section 404(b) of the Clean Water Act, if any;
 - (E) the boundaries of sites described in Rule .0564(2) and (3) of this Section, if any;
- (7) development and design plans and drawings for the site, at a scale of at least one inch equals 100 feet, with specifications containing the following information:
 - (A) property boundaries, dimensioned with bearings and distances, tied to North Carolina grid coordinates where available;
 - (B) easements and rights-of-way;
 - (C) existing on-site and adjacent structures such as houses, buildings, wells, roads and bridges, water and sewer utilities, septic fields, and storm drainage features;
 - (D) proposed and existing roads, points of ingress and egress, and access controls such as gates, fences, or berms;
 - (E) buffer and set back lines and buffered boundaries or features;
 - (F) springs, streams, creeks, rivers, ponds, and other surface waters and impoundments;
 - (G) wetlands, if any;
 - (H) boundary of the proposed waste area;
 - (I) the proposed bottom elevation of the waste in relation to the seasonal high groundwater table as defined in Rule .0532 of this Section;
 - (J) existing topography with contours of five-foot intervals. A smaller interval shall be utilized if it is necessary to clarify existing topographic conditions;
 - (K) proposed excavation, grading, and final contours at five-foot intervals. A smaller interval shall be utilized if it is necessary to clarify proposed grading. Excavation, grading, and fill material side slopes shall not exceed a ratio of three horizontal to one vertical;
 - (L) where an on-site borrow pit for operational and final cover is proposed, indicate the borrow pit excavation and grading plan with contours of five-foot intervals. A smaller interval shall be utilized if it is necessary to clarify proposed grading;
 - (M) proposed surface water control features and devices such as slope drains, storm water pipes, inlets, culverts, and channels;
 - (N) information showing that the project meets the requirements of 15A NCAC 04 for sedimentation and erosion control;
 - (O) location of test borings or test pits, if used to determine the seasonal high groundwater table elevation; and
 - (P) no less than two cross-sections, one each along each major axis, per operational area showing original elevations, proposed excavation, and proposed final elevations;
- (8) an operations plan addressing the requirements in Rule .0566 of this Section that shall contain the following information:
 - (A) the name, address, phone number, and e-mail address of the site owner and operator;
 - (B) a description of systematic usage of disposal area, operation, and development of the site;
 - (C) the type, source, and quantity of waste to be accepted; and
 - (D) an emergency contingency plan, including fire-fighting procedures;
- (9) a closure and post-closure plan addressing the requirements in Rule .0567 of this Section that shall contain the following information:
 - (A) the procedures and schedule for closure of the site;
 - (B) the projected use of the property after closure of the site; and
 - (C) the procedures and schedule for post-closure care maintenance, and for post-closure groundwater, surface water, or explosive gas monitoring if it is required by the Division to determine compliance with Rule .0566(11) or (13) of this Section; and
- (10) other information that the Division may request in writing if it is necessary to determine compliance with the rules of this Subchapter.

- (b) If required by G.S. 89C or 89E and not under the purview of another licensed profession, a licensed professional engineer or licensed geologist shall certify the information submitted in accordance with Subparagraphs (a)(6) through (a)(10) of this Rule.
- (c) The Division shall review all permit applications in accordance with Rule .0203 of this Subchapter.
- (d) Plans and documents submitted in the permit application in accordance with this Rule shall be incorporated into the permit and the site shall comply with the permit in accordance with Rule .0203(d) of this Subchapter.
- (e) Modifications to the plans. The owner or operator may request to modify plans that were incorporated into the permit by submitting a written request to the Division that includes the modified plan and a demonstration showing how the proposed modifications comply with the rules of this Section. The Division shall respond to the request in writing within the timeline provided in G.S. 130A-295.8(e); and the response shall either approve or deny the request as submitted or request that additional information be submitted for the Division to consider the request. The Division's approval shall be based on whether the modification complies with the rules of this Subchapter. If the Division approves the request as submitted or upon receiving the additional information requested, the Division's written approval and the revised pages of the plan shall be added to the site's operating record. The owner or operator shall not implement the modification until the Division has issued an approval.
- (f) The permit issued by the Division shall be recorded with the Register of Deeds in the same manner as sanitary landfills in accordance with G.S. 130A-301.

*History Note: Authority G.S. 130A-294;
Eff. January 4, 1993;
Readopted Eff. January 1, 2021.*

15A NCAC 13B .0566 OPERATIONAL REQUIREMENTS FOR LCIDLFS

The owner or operator of a land clearing and inert debris landfill (site) shall comply with the permit conditions, the plans incorporated into the permit in accordance with Rule .0565(d) of this Section, and the following operational requirements:

- (1) The site shall only accept those solid wastes that it is permitted to receive.
- (2) Solid waste in the landfill shall be compacted. Slopes shall not exceed a ratio of three horizontal to one vertical at any time.
- (3) All waste shall be covered with no less than six inches of soil monthly, or when the working face reaches one acre in size, whichever occurs first. Any soils used for cover at the site shall meet unrestricted use standards for soils as defined in G.S. 130A-310.65.
- (4) Areas that will not have additional wastes placed on them for three months or more, but where final termination of disposal operations has not occurred, shall be covered with no less than one foot of soil cover sloped to direct the flow of surface water from the landfill, and stabilized with vegetative ground cover or other stabilizing material. The Division may require further action to correct any condition that the Division determines may be injurious to the public health, or a nuisance to the community.
- (5) erosion control measures, structures, or devices shall be utilized to prevent silt from leaving the site and to prevent on-site erosion, and shall comply with 15A NCAC 04.
- (6) The site shall be secured by barriers such as gates, chains, berms, and fences to prevent unauthorized access. An operator shall be on duty at all times while the site is open for public use to assure compliance with operational requirements and to prevent acceptance of unauthorized wastes.
- (7) Access roads shall be of all-weather construction and shall be maintained to allow access by vehicles transporting waste, Department staff, and fire-fighting vehicles.
- (8) Surface water shall be diverted from the working face and shall not be impounded over waste.
- (9) Solid waste shall not be disposed of in water.
- (10) Fire Protection and Control.
 - (a) Open burning of solid waste is prohibited, unless approval has been obtained from the Division, the local government, and the Division of Air Quality in accordance with 15A NCAC 02D .1900 prior to any burning activity.
 - (b) Hot ashes, cinders, and waste that is smoldering, smoking, or burning shall not be disposed of in the landfill. The waste screening procedures described in the operations plan in accordance with this Rule shall address identification and rejection of this waste.

- (c) The owner or operator shall provide equipment on-site to control fires and make arrangements with a local fire protection agency to provide fire-fighting services.
- (d) The owner or operator shall provide verbal notification to the Division of fires that occur at the site within 24 hours of the fire and shall submit written notification to the Division within 15 days of the fire. The notification shall include the site name and permit number; the date and time of the fire; actions taken by the owner or operator in response to the fire; the cause of the fire; the location and size of the fire; the type and amount of waste that caught fire; a plan of action to prevent fires in the future; the name and title of the person submitting this information; and the date the information is submitted.
- (11) The concentration of explosive gases generated by the site shall not exceed:
 - (a) twenty-five percent of the lower explosive limit for the gases in site structures; or
 - (b) the lower explosive limit for the gases at the property boundary.
 The Division may require quarterly monitoring of explosive gases if it is necessary to determine compliance with this Item. If the Division requires monitoring, the Division shall provide written notice of the requirement to the owner or operator.
- (12) Leachate shall be contained and managed on-site.
- (13) The site shall comply with 15A NCAC 02L for the protection of groundwater quality, and the surface water quality standards established in 15A NCAC 02B.
- (14) A sign shall be posted at the site entrance showing the site contact's name and phone number, the permit number, emergency contact information, and the waste types accepted for disposal at the site.
- (15) Inert debris waste accepted at the site shall be placed within the permitted landfill footprint unless it is being processed for recycling or reuse. Inert debris waste shall not be placed as beneficial fill as defined in Rule .0562 within the site buffer areas or elsewhere on the property unless stated in the site permit.
- (16) The owner or operator shall submit to the Division upon written request any information or records required to be kept under the conditions of the permit or the rules of this Section.

*History Note: Authority G.S. 130A-294;
 Eff. January 4, 1993;
 Readopted Eff. January 1, 2021.*

15A NCAC 13B .0567 CLOSURE AND POST-CLOSURE CARE REQUIREMENTS FOR LCIDLFS

- (a) The owner or operator of a land clearing and inert debris landfill (site) shall implement the closure of the site in accordance with this Rule and the closure and post-closure plans incorporated into the permit in accordance with Rule .0565(d) of this Section. The owner or operator shall notify the Division no less than 90 days prior to the expected closure of the site.
- (b) Closure Requirements.
 - (1) The owner or operator of a site shall begin closure activities no later than 30 days after the final receipt of wastes. Closure activities shall include the following:
 - (A) covering the disposal area with no less than one foot of soil cover sloped to direct the flow of surface water from the landfill;
 - (B) stabilizing the soil cover with vegetative ground cover or other stabilizing material; and
 - (C) any closure activities included in the closure and post-closure plan incorporated into the permit.
 - (2) The owner or operator of a site shall complete the closure activities within 120 days after beginning the closure activities as specified in Subparagraph (1) of this Paragraph.
 - (3) Within 30 days of completion of closure of the site, the owner or operator shall submit to the Division a certification verifying that closure has been completed in accordance with this Rule. If required by G.S. 89C, the certification shall be completed by a licensed professional engineer.
 - (4) When a site has been closed in accordance with this Rule, the permit is terminated. Any future solid waste management or disposal at the site shall require a new permit.
- (c) Post-Closure Care Requirements.
 - (1) Following closure of the site, the owner or operator shall conduct post-closure care in accordance with the closure and post-closure care plan incorporated into the permit and the following requirements:

- (A) maintenance of the cap system, including making repairs to the cover to correct the effects of settlement, subsidence, erosion, or other events, and preventing surface water run-on and run-off from eroding or otherwise damaging the cap system;
 - (B) maintenance of the vegetative cover of the cap, and ensuring that trees and other woody vegetation do not become established on the cap;
 - (C) maintenance of vehicle and fire-fighting lanes to allow access to the entire waste boundary of the site;
 - (D) groundwater, surface water, and explosive gas monitoring in accordance with the closure and post closure care plan, if it is required by the Division to determine compliance with Rule .0566(11) or (13) of this Section;
 - (E) maintenance of the operating record by the owner or operator. The operating record shall be made available to the Division for inspection upon request during the post-closure care period; and
 - (F) any additional actions that the Division may request in writing if the Division determines that the actions are necessary to correct any condition that may be injurious to the public health or a nuisance to the community. In making this determination, the Division shall consider the compliance history of the site, the circumstances and use of properties adjacent to the site, the use of groundwater and surface water downgradient of the site, and any groundwater, surface water, and explosive gas monitoring results.
- (2) Property lines shall not be altered to result in reduction of the buffer areas set forth in Rule .0564(6) of this Section or stated in the site permit.
 - (3) The buffer areas set forth in Rule .0564(6) of this Section or stated in the site permit shall not be developed or utilized for residential, commercial, industrial, or institutional purposes, including above-ground or below-ground construction or improvements such as utilities, roads, parking lots, and sidewalks.
 - (4) Post-closure care shall be conducted for 10 years.

History Note: Authority G.S. 130A-294;
Eff. January 1, 2021.

SECTION .0600 - MONITORING REQUIREMENTS

15A NCAC 13B .0601 GROUNDWATER MONITORING

- (a) This Rule shall apply to a sanitary landfill that is not subject to Rules .0531 through .0546 or Section .1600 of this Subchapter (site). This Rule shall apply for the life of the site and the post-closure care period of the site.
- (b) The site shall be subject to the groundwater requirements and standards in 15A NCAC 02L .0101 through .0114 and 15A NCAC 02L .0201 through .0202. The site shall not cause an exceedance of the groundwater quality standards and interim maximum allowable concentrations established under 15A NCAC 02L .0202 in the uppermost aquifer at the review boundary or compliance boundary as established in 15A NCAC 02L .0107 and .0108.
- (c) The site shall provide such groundwater monitoring capability as the Division determines to be necessary to detect the effects of the site on groundwater in the area. In making such a determination, the Division shall consider the following factors:
 - (1) the design of the site, the nature of the processes it will use, and the type of waste it will handle;
 - (2) soil and other geological conditions in the area;
 - (3) nearness of groundwater to the site;
 - (4) uses that are being or may be made of any groundwater that may be affected by the site; and
 - (5) any other factors that relate to the potential for groundwater effects from the site.
- (d) The construction of monitoring wells shall comply with 15A NCAC 02C .0108.
- (e) The owner or operator of a site shall submit a record of the monitoring well installation to the Division upon completion of the installation.

History Note: Authority G.S. 130A-294;
Eff. April 1, 1982;
Amended Eff. September 1, 1990; August 1, 1988; January 1, 1985;
Readopted Eff. January 1, 2021.

15A NCAC 13B .0602 SURFACE WATER MONITORING

(a) This Rule shall apply to a sanitary landfill that is not subject to Rules .0531 through .0546 or Section .1600 of this Subchapter (site). This Rule shall apply for the life of the site and the post-closure care period of the site.

(b) The owner or operator of the site shall provide such surface water monitoring capability as the Division determines to be necessary to detect the effects of the site on surface waters contained on or bordering the site property. In making this determination, the Division shall consider the following factors:

- (1) the design of the site, the nature of the processes it will use, and the type of waste it will handle;
- (2) drainage patterns and other hydrological conditions in the area;
- (3) nearness of surface water to the site;
- (4) uses that are being or may be made of any surface water that may be affected by the site; and
- (5) any other factors that relate to the potential for surface water effects from the site.

(c) The site shall not cause an exceedance of the surface water standards established under 15A NCAC 02B .0200.

*History Note: Authority G.S. 130A-294;
Eff. April 1, 1982;
Readopted Eff. January 1, 2021.*

SECTION .0800 - SEPTAGE MANAGEMENT

Rules .0801 - .0814 of Title 15A Subchapter 13B of the North Carolina Administrative Code (T15A.13B .0801 - .0814); have been transferred and recodified from Rules .0901 - .0914 of Title 10 Subchapter 10G of the North Carolina Administrative Code (T10.10G .0901 - .0914), effective April 4, 1990.

15A NCAC 13B .0830 INCORPORATION BY REFERENCE

(a) All Sections of the Code of Federal Regulations (CFR) cited in this Section are hereby incorporated by reference, including subsequent amendments or additions, and may be obtained free of charge at <https://www.gpo.gov/fdsys/>.

(b) US Environmental Protection Agency (EPA) and American Society for Testing Materials (ASTM) test methods and procedures, and other published standards referenced in this Section are hereby incorporated by reference, including subsequent amendments or additions.

(c) Copies of all material incorporated by reference in this Section are available for inspection free of charge at the Department of Environmental Quality Division of Waste Management, Solid Waste Section, 217 West Jones Street, Raleigh, N.C. 27603 or the Division's website at <https://deq.nc.gov/about/divisions/waste-management>.

*History Note: Authority G.S. 130A-291.1;
Eff. October 1, 2009;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. June 24, 2017;
Amended Eff. February 1, 2019.*

15A NCAC 13B .0831 DEFINITIONS

In addition to the terms defined in G.S. 130A-290, as used in this Section the following terms are defined as follows:

- (1) "Agronomic rates" means those rates that provide the nitrogen and other nutrient needs of the crop based on available realistic yield expectations (RYE) established for a soil series through published Cooperative Extension Service bulletins, Natural Resources Conservation Service publications, or county soil surveys, but do not overload the soil with nutrients or other constituents that may eventually leach to groundwater, limit crop growth, or degrade soil quality.
- (2) "Annual septage application rate" means the maximum amount, in gallons, of septage that may be applied to a unit area of land during a 365-day period.
- (3) "Land application" means the spraying or spreading of septage onto the land surface; the injection of septage below the land surface; or the incorporation of septage into the soil so that the septage conditions the soil or fertilizes crops or vegetation grown in the soil.
- (4) "Licensed Geologist" means licensed geologist as defined in G.S. 89E-3.

- (5) "Licensed Soil Scientist" means licensed soil scientist as defined in G.S. 89F-3.
- (6) "Nutrient Management Plan" means a plan to define the management requirements and nutrient needs of crops to be grown on a septage land application site, including the amount, sources, placement, and timing of nutrient applications to maximize the nutrient uptake of the crop. Plan implementation shall protect the environment and maintain crop productivity.
- (7) "Place of business" means place of business as defined in G.S. 130A-334.
- (8) "Place of public assembly" means place of public assembly as defined in G.S. 130A-334.
- (9) "Professional Engineer" means professional engineer as defined in G.S. 89C-3.
- (10) "Residence" means residence as defined in G.S. 130A-334.
- (11) "Rock" means the consolidated or partially consolidated mineral matter or aggregate, including bedrock or weathered rock, not exhibiting the properties of soil.
- (12) "Seasonal High Water Table" or "SHWT" means the highest level of the saturated zone in the soil during a year with normal rainfall. SHWT may be determined in the field through identification of redoximorphic features in the soil profile, monitoring of the water table elevation, or modeling of predicted groundwater elevations.
- (13) "Septage Management Facility" means land, personnel, and equipment used in the management of septage, including septage management firms as defined in G.S. 130A-290(a)(33), septage detention and treatment facilities, and septage land application sites.
- (14) "Soil" means the unconsolidated mineral and organic material of the land surface. It consists of sand, silt, and clay minerals and variable amounts of organic materials.
- (15) "Soil textural classes" means soil classification based upon size distribution of mineral particles in the fine-earth fraction less than two millimeters in diameter. The fine-earth fraction includes sand (2.0 – 0.05 mm in size), silt (0.05 mm – 0.002 mm), and clay (less than 0.002 mm in size) particles. The specific textural classes shall be defined as follows:
 - (a) "Sand" means soil material that contains 85 percent or more of sand; the percentage of silt plus 1.5 times the percentage of clay less than 15;
 - (b) "Loamy sand" means soil material that contains 70 to 91 percent sand, and the percentage silt plus 1.5 times the percentage of clay is not less than 15, and the percentage of silt plus twice the percentage of clay is less than 30;
 - (c) "Sandy loam" means soil material that contains either:
 - (i) 7 to 20 percent clay, 52 percent or more sand, and the percentage of silt plus twice the percentage of clay exceeds 30; or
 - (ii) less than 7 percent clay, less than 50 percent silt, and more than 43 percent sand;
 - (d) "Loam" means soil material that contains 7 to 27 percent clay, 28 to 50 percent silt, and 52 percent or less sand;
 - (e) "Silt loam" means soil material that contains either:
 - (i) 50 percent or more silt and 12 to 27 percent clay; or
 - (ii) 50 to 80 percent silt and less than 12 percent clay;
 - (f) "Silt" means soil material that contains 80 percent or more silt and less than 12 percent clay;
 - (g) "Sandy clay loam" means soil material that contains 20 to 35 percent clay, less than 28 percent silt, and more than 45 percent sand;
 - (h) "Clay loam" means soil material that contains 27 to 40 percent clay and 20 to 46 percent sand;
 - (i) "Silty clay loam" means solid material that contains 27 to 40 percent clay and 20 percent or less sand;
 - (j) "Sandy clay" means soil material that contains 35 percent or more clay and 45 percent or more sand;
 - (k) "Silty clay" means soil material that contains 40 percent or more clay and 40 percent or more silt; and
 - (l) "Clay" means soil material that contains 45 percent or less sand and less than 40 percent silt.
- (16) "Treatment of septage" means the preparation of septage for final use or disposal. Treatment may include thickening, stabilization, and dewatering of septage. Treatment shall not include storage of septage.

Definitions in 40 CFR 503.9(d), (g), (h), (j), (k), (l), (r), (t), (u), (v), (w), (bb), and in 40 CFR 503.11(a), (c), (d), (f), (g), (i), (k), (l), (m), (n) are incorporated by reference including subsequent amendments and editions.

*History Note: Authority G.S. 130A-291.1;
Eff. October 1, 2009;
Readopted Eff. February 1, 2019.*

15A NCAC 13B .0832 GENERAL PROVISIONS

(a) General permitting requirements.

- (1) No person shall manage septage, or any part of septage, or operate a Septage Management Firm without first obtaining a permit from the Division as required under G.S. 130A-291.1(c);
- (2) The permit requirement of G.S. 130A-291.1(c) applies to persons who remove septage, and other waste materials or spent media from wastewater systems permitted by the Department of Health and Human Services, under the authority of Article 11, Chapter 130A of the North Carolina General Statutes;
- (3) The permit requirement of G.S. 130A-291.1(c) applies to persons who manage septage generated from properties that they own, lease, or manage as part of a business, such as mobile homes, mobile home parks, restaurants, and other residential and commercial property;
- (4) The Division may deny a permit application in accordance with G.S. 130A-295.3(c);
- (5) The Division may require an applicant to demonstrate substantial compliance in accordance with G.S. 130A-294(b2)(2);
- (6) Permits issued in accordance with this Section shall be followed;
- (7) Where specified in this Section, permit applications or specific portions of applications shall be prepared in accordance with Rule .0202(a)(3) of this Subchapter; and
- (8) Initial septage land application site and detention and treatment facility permits shall be valid for one year. Subsequent permits shall be valid for 10 years. The Division may issue a subsequent permit for less than 10 years based on any of the following factors:
 - (A) the duration of the landowner authorization or wastewater treatment plant authorization;
 - (B) the compliance history of the operator;
 - (C) if any of the information for the permit application was received after the due date; or
 - (D) to allow the due date for a subsequent permit application to be the same date as the septage firm permit application due date.

(b) Portable sanitation permitting provisions.

- (1) A mobile or modular office that meets the criteria of G.S. 130A-291.2 shall be considered a chemical or portable toilet as defined in G.S. 130A-290(a)(1c). A storage tank at a mobile or modular office shall not release septage onto the ground. The owner and the lessee of the mobile or modular office shall be considered to be the responsible parties and shall be subject to the requirements of Paragraph (a) of this Rule.
- (2) No person shall rent or lease portable toilet(s) or contract or subcontract to rent or lease portable toilet(s) to another person or manage or dispose of waste from portable toilet(s), regardless of ownership of the toilet(s), unless that person is permitted to operate a septage management firm.
- (3) Placement of a chemical or portable toilet as defined in G.S. 130A-290(a)(1c) for potential use in North Carolina shall be considered operation of a septage management firm that requires a permit.

(c) Recreational vehicle waste provisions.

- (1) Domestic septage from a recreational vehicle shall be managed in accordance with this Section or shall flow directly into a wastewater treatment system permitted by the Department of Environmental Quality.
- (2) Wastewater from recreational vehicles that are tied down, blocked up, or that are not relocated, and that are not connected to an approved wastewater system shall be managed in accordance with Article 11, Chapter 130A of the NC General Statutes.
- (3) Recreational vehicle dump stations that do not discharge directly to a wastewater treatment system permitted by the Department of Environmental Quality shall be permitted as a septage detention and treatment facility in accordance with Rule .0837 of this Section.

(d) Alternate septage management method limitations.

- (1) Grease septage, or any part of grease septage, shall not be introduced or reintroduced into a grease trap, interceptor, separator, or other appurtenance used for the purpose of removing cooking oils,

- fats, grease, and food debris from the waste flow generated from food handling, preparation, and cleanup unless the Division has received written approval from the wastewater treatment plant operator or the onsite wastewater system permitting authority that reintroduction is acceptable.
- (2) Septage, or any part of septage, shall not be reintroduced into an onsite wastewater system unless approved pursuant to G.S. 130A-343(c).
 - (3) Septage, or any part of septage, shall not be placed in containers at restaurants designated for yellow grease.
 - (4) Septage, or any part of septage, shall not be disposed of in a municipal solid waste landfill unless the waste passes the Paint Filter Liquids Test as defined by EPA S.W. 846 Test Method 9095B which can be accessed at no cost at <https://www.epa.gov/hw-sw846>, and the landfill receiving the waste has provided the Division written documentation that the specific material will be accepted.
 - (5) Septage, or any part of septage, shall not be disposed of in a dumpster unless the waste passes the Paint Filter Liquids Test and the landfill receiving the waste is a permitted municipal solid waste landfill, in accordance with Section .1600 of this Subchapter.
 - (6) Septage, or any part of septage, managed through subsurface disposal shall be considered a treatment facility and shall require a permit in accordance with this Section and G.S. 130A-343.
 - (7) Facilities receiving septage, or any part of septage, for composting shall be permitted in accordance with Section .1400 of this Subchapter.
- (e) All training to meet the requirements of G.S. 130A-291.3(a) and (b) shall be pre-approved by the Division. Approval by the Division shall be based on whether the training is in accordance with the rules in this Section.
- (f) Waste from holding tanks not otherwise addressed in this Section, and from wastewater systems pumped more often than every 30 days, shall not be considered domestic septage and shall not be land applied at a permitted septage land application site.
- (g) Inspection and entry. The permit holder of a septage management firm or facility shall allow a representative of the Division to:
- (1) enter the permit holder's premises where a regulated facility or activity is located or conducted;
 - (2) access and copy any records required in accordance with this Section or conditions of the permit;
 - (3) inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated by the Division;
 - (4) sample or monitor for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or the North Carolina Solid Waste Management Act, any substances, parameters, or soils at any location; and
 - (5) photograph for the purpose of documenting times of compliance or noncompliance at septage management facilities or to require the permit holder to make such photos for the Division.
- (h) Washings from the interior of septage handling containers such as pump trucks shall be managed as septage.

History Note: Authority G.S. 130A-291.1; 130A-291.2; 130A-295.3(c); 130A-335;
 Eff. October 1, 2009;
 Amended Eff. January 1, 2014;
 Readopted Eff. February 1, 2019;
 Amended Eff. August 23, 2022.

15A NCAC 13B .0833 PERMIT FEES

- (a) Every septage management firm shall pay an annual permit fee by January 1 of each year in accordance with G.S. 130A-291.1(e) or (e1), unless the firm notifies the Division prior to January 1 that the firm will not operate during the next year. Fees shall be paid to the Division of Waste Management, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.
- (b) Annual fees are not pro-rated and shall not be refunded or credited to a subsequent year.
- (c) Failure to apply for permit renewal or failure to pay the permit fee by January 1 shall result in assessment of a late fee in accordance with G.S. 130A-291.1(e2). Failure to pay the appropriate fees within 45 days after January 1 shall result in an additional administrative penalty pursuant to G.S. 130A-22(a) of ten dollars (\$10.00) per day for each day thereafter that the fees are not paid.
- (d) Annual permit renewal, including fee payment, shall be the responsibility of the operator of the septage management firm. If the operator did not receive annual permit renewal forms, it shall not be a defense to assessment of late fees.

(e) A food service facility that is permitted to operate a septage detention facility in accordance with Rules .0834 and .0837 of this Section and that has paid the fee specified in G.S. 130A-291.1(e1) shall be allowed to empty their own grease interceptors, separators, traps, or other appurtenances used for the purpose of removing cooking oils, fats, grease, and food debris from the waste flow generated from food handling, preparation, and cleanup, that have a volume of 25 gallons or less, into the permitted detention facility. The permitted facility shall be constructed and located in accordance with the requirements of Rule .0838 of this Section and emptied at least quarterly by a permitted septage management firm.

*History Note: Authority G.S. 130A-291.1;
Eff. October 1, 2009;
Readopted Eff. February 1, 2019 (Recodified from 15A NCAC 13B .0834).*

15A NCAC 13B .0834 SEPTAGE MANAGEMENT FIRM PERMITS

(a) Septage management firm names shall be distinguishable upon the records of the Division from the name of other septage management firms, limited liability companies, non-profit corporations, business corporations, limited partnerships, sole proprietors, general partners, and limited liability partnerships operating in North Carolina. Naming preference shall be given to companies that are listed as incorporated with the NC Secretary of State's office.

(b) A person who has not operated a septage management firm during the previous calendar year shall obtain four hours of new operator training from the Division prior to receiving a permit to operate a septage management firm.

(c) To apply for a permit, a person proposing to operate a septage management firm shall submit the following information to the Division by January 1 of each year:

- (1) owner's name, address, and phone number;
- (2) business name, address, and phone number;
- (3) operator name, address, and phone number, if different from owner;
- (4) permit number, if existing firm;
- (5) type(s) of septage handled, and the quantity pumped the previous 12 months, if in operation;
- (6) number of pumper trucks;
- (7) capacity and type of septage handled by each pumper truck;
- (8) vehicle license and serial numbers of each pumper truck;
- (9) counties in which the firm operates;
- (10) disposal method(s) for septage;
- (11) permit number for each septage land application site to be used;
- (12) permit number for each septage detention and treatment facility to be used;
- (13) any other information that the Division may request that is pertinent to the operation of a septage management firm if it is necessary to determine compliance with the rules of this Section;
- (14) written authorization on official letterhead or a notarized wastewater treatment plant authorization form shall be submitted from an individual responsible for the operation of each wastewater treatment plant used for disposal indicating:
 - (A) type(s) of septage that may be discharged at the plant;
 - (B) where septage, including grease septage, may be discharged at the plant or in the collection system;
 - (C) geographic area from which septage will be accepted; and
 - (D) duration of authorization;
- (15) the appropriate annual permit fee in accordance with G.S. 130A-291.1(e); and
- (16) the date, location, number of hours, and provider of annual septage management firm training required in accordance with G.S. 130A-291.3(a).

(d) Persons that operate a septage land application site or a septage treatment and detention facility, but do not pump septage, shall submit the following information to the Division by January 1 of each year to apply for a permit:

- (1) facility name, address, phone number, and county;
- (2) owner's name, address, and phone number;
- (3) operator name, address, and phone number, if different from owner;
- (4) permit number, if existing firm;
- (5) type(s) of septage managed;
- (6) facility types and their permit numbers;

- (7) the name and permit number of all permitted septage management firms using the facility;
 - (8) the date, location, number of hours, and provider of annual training in accordance with G.S. 130A-291.3(b); and
 - (9) the appropriate annual permit fee in accordance with G.S. 130A-291.1(e1).
- (e) A septage management firm permit shall not be issued unless the applicant has submitted to the Division written documentation of authorized access to dispose or otherwise manage septage, or any part of septage, at a wastewater treatment plant, a permitted septage land application site, a permitted septage treatment facility, or other permitted solid waste management facility. Documentation from each plant, site, or other facility shall include the types and amount of septage that may be discharged.
- (f) Septage management firm permits shall not be issued until all parts of the application have been completed.
- (g) Prior to the issuance of a septage management firm permit to firms that pump septage, all pumper trucks for the firm shall be inspected and approved by the Division for compliance with Rule .0835 of this Section.
- (h) Permits shall not be transferable.
- (i) Septage management firm permits issued on or after January 1 shall be effective until December 31 of that calendar year.

*History Note: Authority G.S. 130A-291.1;
Eff. November 1, 2009;
Readopted Eff. February 1, 2019 (Recodified from 15A NCAC 13B .0833).*

15A NCAC 13B .0835 TRANSPORTATION OF SEPTAGE

- (a) Vehicles used for the transportation of septage shall be operated and maintained to prevent leaks and spills of septage and shall comply with the following:
- (1) all tanks shall be constructed of metal and affixed to the truck bed with permanent fixtures such as bolts;
 - (2) all valves shall be in working order and be closed during transportation;
 - (3) all access ports shall have lids in good repair in accordance with manufacturer specifications and sealed during transportation;
 - (4) portable toilet pump units that slide into pickup truck beds shall be bolted to the trucks in accordance with manufacturer specifications;
 - (5) boats used to pump or transport septage shall be United States Coast Guard approved or construction plans shall be available indicating that the specific craft is stable in the water when fully loaded with septage, and if required by G.S. 89C, a professional engineer shall prepare these documents; and
 - (6) tanks that are mounted on trailers for the pumping or transportation of septage shall meet all applicable State and federal requirements for highway use.
- (b) All permitted septage management firms shall display lettering on each side of every pumper vehicle operated by the firm. The lettering shall include the firm name, town name, phone number, and septage management firm permit number as shown on the firm application. All lettering required by this Rule on the pumper vehicle shall be no less than three inches in height and legible, distinguishable from the background, and not obstructed from view. Identification shall not be removable (i.e. no magnetic signs).
- (c) Applicants for septage management firm permits that were not permitted in the previous calendar year shall have each pump truck inspected prior to the Division's issuance of a permit.
- (d) Septage to be discharged at a wastewater treatment plant or any part of the collection system for that plant shall be handled in accordance with the plant rules and policies.
- (e) All vehicles used in the transportation of septage, including spare vehicles and tankers, shall meet the requirements of this Section and be included in the permit application.
- (f) Vehicles used in the transportation of septage, that are listed on an approved septage management firm permit application, may remain loaded or partially loaded on land owned by the septage management firm for up to seven days without obtaining a permit for a detention or treatment facility. Such vehicles shall comply with this Rule.

*History Note: Authority G.S. 130A-291.1;
Eff. October 1, 2009;
Readopted Eff. February 1, 2019 (Recodified from 15A NCAC 13B .0844).*

15A NCAC 13B .0836 RECORD KEEPING FOR SEPTAGE MANAGEMENT FIRMS

- (a) Each permit holder shall maintain a log that includes the following information for each septage pumping event:
- (1) the date, type, quantity, and location of septage pumped; the location for tanks shall be a street address and the location for portable toilets shall be a route; and
 - (2) location of the discharge of the septage.
- (b) A septage management firm shall make all records, documents, or logs required in accordance with this Section or conditions of the permit available for review by the Division at the time and place of an inspection of the firm's septage pumper truck(s) or upon the Division's request.

*History Note: Authority G.S. 130A-291.1;
Eff. October 1, 2009;
Readopted Eff. February 1, 2019 (Recodified 15A NCAC 13B .0839).*

15A NCAC 13B .0837 SEPTAGE DETENTION AND TREATMENT FACILITY PERMITS

- (a) No person shall establish, or allow to be established upon any real property owned, operated, leased, or controlled by that person, a septage detention and treatment facility, unless a permit has been obtained from the Division or the facility is operating in accordance with a NPDES permit issued by the NC Division of Water Resources.
- (b) Septage detention and treatment facilities shall be designed, located, constructed, and operated in accordance with the standards specified in Rule .0838 of this Section.
- (c) To apply for a permit to operate a septage detention facility the applicant shall submit the following information to the Division:
- (1) name, address, and phone number of
 - (A) the applicant;
 - (B) the landowner or the landowner's legal representative in control of the site; and
 - (C) the proposed operator;
 - (2) location of the facility;
 - (3) vicinity map or county road map showing the site location;
 - (4) types of septage to be stored or treated;
 - (5) a description of the facility including the size, number, and type of structures to be used at the site and construction materials to be used;
 - (6) an explanation of the methods for discharge into and removal from the detention or treatment facility, the methods for treating leaks or spills at the site, and methods for odor control;
 - (7) septage land application site permit number and the name of any wastewater treatment plant(s) where the septage will be disposed;
 - (8) written documentation of approved locations to manage any solid or liquid wastes generated at a treatment facility;
 - (9) an aerial photograph, extending for a distance of at least 1,000 feet in all directions from the site property lines;
 - (10) written authorization to operate a septage detention or treatment facility signed by each landowner (if other than the permit holder) or the landowner's legal representative;
 - (11) any other information that the Division may request that is pertinent to the suitability of the proposed facility if it is necessary to determine compliance with this Section; and
 - (12) an approval letter from the unit of local government having zoning authority over the area where the facility is to be located, stating that the proposed facility meets all of the requirements of the local zoning ordinance, or that the site is not zoned.
- (d) Treatment of septage shall include aerobic or anaerobic digestion, dewatering or thickening, pressing, centrifuging, the use of organisms or enzymes, and pathogen reduction methods or vector attraction reduction methods other than lime stabilization.
- (e) To apply for a permit to operate a septage treatment facility, plans and specifications shall be submitted. If required by G.S. 89C, a professional engineer shall prepare these documents. The plans shall include the information set forth in Paragraph (c) of this Rule and the following:
- (1) site plan at a scale appropriate to show the detail of the facility, but in no case greater than 100 feet per inch;
 - (2) engineering plans for the entire system, including treatment, storage, and disposal equipment, and containment structures;

- (3) drawings that shall be at a scale appropriate to show pumps, tanks, valves, controls, meters, pipes, and other items critical to the operation of the facility. As-built drawings shall be submitted if the facility construction is not consistent with the initial drawings;
- (4) an operation and maintenance manual signed by the applicant outlining information and instruction on how the facility is to be operated, equipment maintenance, minimization of odors, required safety and personnel training, and an outline of reports to be submitted to the Division. Contingency plans shall be included to address at least equipment failure, human error, inclement weather, and spill and leak cleanup;
- (5) a quality assurance plan signed by the applicant for the process and final product if treatment involves meeting pathogen reduction or vector attraction reduction standards.
- (6) compliance history for the facility showing no unresolved violations of Federal, State, or local laws, rules, regulations, or ordinances; and
- (7) certification that the construction of the treatment facility is complete and consistent with the plans submitted in accordance with this Paragraph;

[Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter and resolution dated March 11, 2010, that preparation of engineering design documents pursuant to this Paragraph constitutes practicing engineering under G.S. 89C.]

(f) A permit to operate a new septage detention and treatment facility shall not be issued until the proposed site has been approved by the Division. Approval by the Division shall be based on whether the facility is in accordance with the rules of this Section.

(g) Operation of a new septage detention or a new septage treatment facility shall not commence until the facility has been inspected by the Division and found to be consistent with the permit application.

(h) A permit to operate a treatment facility shall not be issued until the facility has been inspected by the Division and found to be consistent with the permit application and operation has been found to be consistent with the operation and maintenance manual.

(i) Application packages for permit renewals for septage treatment facilities shall include:

- (1) updated drawings, if there are changes to the facility;
- (2) updated site plans, if there are changes to the initial site plan;
- (3) updated operation and maintenance manual, if there are changes to the operation and maintenance manual; and
- (4) updated quality assurance plan, if there are changes to the quality assurance plan.

(j) Engineering plans and specifications for marina detention tanks that do not meet the minimum setbacks in Rule .0838(m) of this Section or are located below grade shall be submitted. If required by G.S. 89C, a professional engineer shall prepare these documents. The facilities shall be certified to be constructed in substantial compliance with the plans and specifications submitted in accordance with this Rule. If required by G.S. 89C, a professional engineer shall certify this compliance. [Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter and resolution dated March 11, 2010, that preparation of engineering design documents pursuant to this Paragraph constitutes practicing engineering under G.S. 89C.]

(k) Parts of detention and treatment facilities located below grade and lagoons shall be certified to be constructed in substantial compliance with the plans and specifications submitted in accordance with this Rule. If required by G.S. 89C, a professional engineer shall certify this compliance. [Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter and resolution dated March 11, 2010, that preparation of engineering design documents pursuant to this Paragraph constitutes practicing engineering under G.S. 89C.]

(l) Applications shall be submitted to the Division of Waste Management, Solid Waste Section, 1646 Mail Service Center, Raleigh NC 27699-1646. Applications for permits will not be reviewed until all parts of the application have been completed and submitted to the Division.

(m) Applications for renewal permits shall be submitted to the Division at least 90 days prior to the expiration of the permit. The Division shall notify permit holders of facility permit expiration dates 120 days prior to permit expiration.

(n) Applications for renewal permits submitted in accordance with Paragraphs (i) and (m) of this Rule and applications for permit modifications shall not be required to resubmit the information required in Subparagraphs (c)(3) and (9), and Paragraph (d) of this Rule unless changes are made in those plans.

(o) Septage detention and treatment facility permits shall not be transferable.

(p) Permit duration shall be in accordance with Rule .0832(a)(8) of this Section.

(q) Applications for permit modifications shall be required for the following changes:

- (1) property ownership;

- (2) treatment methods;
 - (3) types of septage to be stored or treated; or
 - (4) size and number of treatment or storage structures.
- (r) Applications for facilities that do not meet the standards set forth in this Section shall be denied.
- (s) An application requesting reduced setbacks in accordance with Rule .0838(m)(7) of this Section shall include a letter from the appropriate local zoning office approving proposed reduced setbacks.

*History Note: Authority G.S. 130A-291.1;
 Eff. April 1, 2010;
 Readopted Eff. February 1, 2019 (Recodified from 15A NCAC 13B .0836).*

15A NCAC 13B .0838 STANDARDS FOR SEPTAGE DETENTION AND TREATMENT FACILITIES

- (a) Septage detention facilities used to meet the requirements of Rule .0842(a)(19) of this Section shall have a minimum size equal to two percent of the maximum annual application rate. The Division shall increase the minimum size requirement for any increase in the maximum annual application rate or if it is demonstrated during site operation that this volume is inadequate or if specific site considerations would warrant such increases. The Division shall notify the owner or operator of the facility of the increase. This Paragraph does not limit the maximum capacity of a septage detention facility.
- (b) Each site shall have an all weather access road.
- (c) Septage treatment and detention facility containers shall be constructed of steel, concrete, plastic, or fiberglass; and shall be free of evidence of damage or weakness such as holes or cracks that may allow the escape of septage. If required by G.S. 89C, plans and specifications for proposed containers constructed of materials not specifically addressed in this Rule shall be prepared by a professional engineer. [Note: The North Carolina Board of Examiners for Engineers and Surveyors, has determined, via letter and resolution dated March 11, 2010, that certification of documents pursuant to this Paragraph constitutes practicing engineering, under G.S. 89C.]
- (d) A septage treatment and detention facility permit holder and operator shall be responsible for the actions of any septage management firm that uses the detention or treatment facility.
- (e) Each detention and treatment facility shall be designed, constructed, and maintained to:
- (1) prevent leaks or the flow of septage out of the facility into the seasonally high water table, onto the ground surface, or into any surface waters;
 - (2) minimize the attraction or admittance of vectors; and
 - (3) prevent unauthorized entry into septage containers or lagoons.
- (f) Septage detention and treatment facilities located below grade shall:
- (1) be constructed in substantial compliance with the plans and specifications prior to any waste being introduced into the system. If required by G.S. 89C, a professional engineer shall certify this compliance. [Note: The North Carolina Board of Examiners for Engineers and Surveyors, has determined, via letter and resolution dated March 11, 2010, that certification of documents pursuant to this Paragraph constitutes practicing engineering, under G.S. 89C.];
 - (2) be constructed to a traffic rated standard or protected from vehicular traffic; and
 - (3) not be constructed of used metal tanks. Used metal tanks may be located beside a wall or embankment for gravity access as long as the entirety of the tank is visible.
- (g) The permit holder of a septage treatment or detention facility shall minimize odors from the facility at the property boundary.
- (h) The Division may require that groundwater monitoring wells or a leak detection system be installed around treatment or detention systems for protection of public health and the environment if there is evidence of a leaking tank.
- (i) The area around tanks shall be free of debris and vegetation to allow for access and inspection for a distance of 5 feet.
- (j) Septage shall be transferred to and from a detention system in a manner that prevents leaks or spills of septage onto the ground surface or exterior surface of the detention system, including septage in pipes used for transferring waste to and from vehicles.
- (k) Access roads or paths crossing or leading to the facility shall be posted with "NO TRESPASSING" signs.
- (l) Requirements for lined lagoons:
- (1) Lined lagoons shall be permitted only at sites where the construction and use of a lagoon does not jeopardize the public health or environment.

- (2) Portions of lined lagoons located below grade shall be in substantial compliance with the plans and specifications prior to any waste being introduced into the system. If required by G.S. 89C, a professional engineer shall certify this compliance. [Note: The North Carolina Board of Examiners for Engineers and Surveyors, has determined, via letter and resolution dated March 11, 2010, that certification of documents pursuant to this Paragraph constitutes practicing engineering, under G.S. 89C.];
 - (3) Only lagoons designed, constructed and inspected in accordance with accepted engineering principles providing for the protection of the underlying groundwater will be considered for use in a septage treatment or detention system. If required by G.S. 89C, a professional engineer shall certify that the construction was completed in substantial compliance with the plans and specifications prior to any waste being introduced into the system. [Note: The North Carolina Board of Examiners for Engineers and Surveyors, has determined, via letter and resolution dated March 11, 2010, that certification of documents pursuant to this Paragraph constitutes practicing engineering under G.S. 89C.]
 - (4) Liners shall be a minimum of 12 inches of clay compacted to a maximum permeability of 10^{-7} cm/sec or equivalent synthetic liner.
 - (5) Synthetic liners shall have a minimum thickness of 30 mils. A synthetic liner shall have a demonstrated water vapor transmission rate of not more than 0.03 gm/m²/day. Liner material and any seaming materials shall have chemical and physical resistance not adversely affected by environmental exposure or waste placement.
 - (6) Clay liners with a permeability more than 10^{-7} cm/sec may be used in conjunction with a synthetic liner to meet the maximum permeability of 10^{-7} cm/sec or equivalent.
 - (7) The surface of the supporting soil on which the liner will be installed shall be free of stones, organic matter, protrusions, loose soil, and any abrupt changes in grade that could affect the integrity of the liner.
 - (8) Lagoons shall be designed and maintained to have adequate storage to handle the additional water from a 25-year storm.
 - (9) Lagoons shall be protected from entry by unauthorized individuals by fencing or other means.
- (m) Septage detention and treatment facilities shall adhere to the following minimum setback requirements:
- (1) residence, place of business, except septage firm business, or place of public assembly – 100 feet;
 - (2) well or water supply spring – 100 feet;
 - (3) surface waters – 100 feet;
 - (4) property lines – 50 feet;
 - (5) facilities permitted after April 1, 2010 shall not be located in the 100-year flood plain hazard area;
 - (6) soil wetness, as determined in of Rule .0841(a)(3)(A) of this Section – 12 inches;
 - (7) setbacks in Subparagraphs (1) and (4) of this Paragraph may be in accordance with local zoning ordinances if located in areas zoned for industrial use;
 - (8) setbacks in Subparagraphs (1) through (4) of this Paragraph shall be increased 100% for lagoons; and
 - (9) accurate property line location shall be the responsibility of the site operator.
- (n) At the time of initial permitting, septage detention and treatment facilities shall observe the minimum setback distances specified in this Rule. Minimum setbacks shall be maintained throughout the life of the facility only on land owned, operated, or controlled by the permittee or by the landowner(s) at the time of initial permitting. Any sale, lease, or other conveyance of land by the permittee, or by the landowner(s) if different from the permittee, subsequent to the initial permitting of the facility shall include restrictions to ensure continued maintenance of the setbacks.
- (o) The setbacks in Subparagraph (m)(1) through (4) of this Rule shall be increased for storage facilities with a capacity in excess of 25,000 gallons permitted after April 1, 2010 to prevent offsite contamination from major spills, or 100% containment shall be provided. Increased setbacks shall be twice the minimum distance as indicated in Subparagraph (m)(1) through (4) of this Rule, unless the permitted volume and the proximity to residences, wells or water supply springs, surface waters, or property lines dictate a reduced setback determined by the Division on a case-by-case basis.
- (p) Storage containers for individual restaurants shall be:
- (1) located above grade and protected from vehicular traffic;
 - (2) kept free of grease on the exterior surface of the container and the ground surface, maintained to be impervious to flies, and shall not attract vectors;

- (3) placed at a location and acceptable to and determined by the local health department and the NC Department of Health and Human Services; and
 - (4) no greater than 200 gallons in size.
- (q) Setbacks for detention tanks at marinas may be reduced for storage capacity of 2000 gallons or less when the facility is designed to prevent leaks or spills or has containment equaling 100% of the storage volume plus rainfall from a 25-year storm event. Setbacks shall in no case be less than what is approved by applicable local government, State, or federal laws or rules.
- (r) Permit holders of all septage detention and treatment facilities shall have all records required in accordance with this Section available for review during inspections by the Division or upon the Division's request.
- (s) Septage shall not be stored or treated at a new septage treatment or detention facility until a representative of the Division has inspected the facility to determine compliance with these Rules and consistency with the permit application and all permit conditions.
- (t) Septage detention and treatment facility closure shall include:
- (1) a written notification of cease of operations submitted to the Division that shall include the permit number, the date of cease of operations, and the signature of the operator;
 - (2) all liquids and solids, resulting from septage detention or treatment, removed from all portions of the facility and managed or disposed at an approved facility; and
 - (3) all parts of the facility removed from property under separate ownership, unless all landowners provide the Division with written documentation that the facility may remain at the site.
- (u) Record keeping for detention facilities that receive septage from more than one septage management firm shall include:
- (1) the date that the septage is received at and removed from the facility;
 - (2) name of the septage management firm that delivered the septage;
 - (3) type and amount, in gallons, of septage received; and
 - (4) where septage is discharged.
- (v) Record keeping for treatment facilities shall include:
- (1) date septage is received at the facility;
 - (2) name of the septage management firm that delivered the septage;
 - (3) type and amount, in gallons, of septage received;
 - (4) date processed material(s) is removed from the facility;
 - (5) type and amount, in tons or gallons, of material removed from the facility; and
 - (6) management methods for each type of material removed by the facility.
- (w) Alarms shall be required to detect high liquid levels, leaks and spills, or system operation parameters at detention or treatment facilities when the location, design, capacity, or operational complexities of the facility warrant the additional safety precautions.

*History Note: Authority G.S. 130A-291.1;
Eff. April 1, 2010;
Readopted Eff. February 1, 2019 (Recodified from 15A NCAC 13B .0841).*

15A NCAC 13B .0839 INNOVATIVE OR ALTERNATIVE TREATMENT OR STORAGE METHODS

- (a) Applications for permits for innovative or alternative treatment, storage, or land application methods that do not fit the criteria outlined in this Section shall be reviewed in accordance with G.S. 130A-291.1(i).
- (b) Applications shall include:
 - (1) the information required in Rule .0837(c) of this Section;
 - (2) an operation and maintenance manual consistent with the requirements of Rule .0837(e)(4) of this Section;
 - (3) means of demonstrating that the proposed method of treatment or storage will meet the appropriate standards for vector attraction reduction and pathogen reduction in this Section; and
 - (4) testing methods and schedule to document Subparagraph (3) of this Paragraph.

If required by G.S. 89C, a professional engineer shall prepare these documents. [Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via letter dated March 11, 2010, that preparation of engineering design documents for alternative treatment methods that do not fit the criteria outlined in this Section constitutes practicing engineering under G.S. 89C.]

- (c) Innovative or alternative design criteria shall be approved in cases where the applicant can demonstrate that the alternative design criteria will provide the following:

- (1) equal or better treatment of the waste;
- (2) equal or better protection of the waters of the state; and
- (3) no increased potential for nuisance conditions from noise, odor, or vermin.

*History Note: Authority G.S. 130A-291.1;
 Eff. April 1, 2010;
 Readopted Eff. February 1, 2019 (Recodified from 15A NCAC 13B .0842).*

15A NCAC 13B .0840 SEPTAGE LAND APPLICATION SITE PERMITS

(a) No person shall establish, or allow to be established upon any real property owned, operated, leased, or controlled by that person, a septage management facility to treat, manage, store, or dispose of septage, or any component of septage, unless a permit has been obtained from the Division. Septage shall not be disposed of by trenching or burial.

(b) Any person that has not operated as a septage land application site during the previous calendar year shall receive at least three hours of new land application site operator training from the Division prior to receiving a permit to operate a septage land application site.

(c) To apply for a permit for a septage land application site, the following information shall be submitted to the Division:

- (1) name, address, and phone number of:
 - (A) the applicant;
 - (B) the landowner or the landowner's legal representative in control of the site; and
 - (C) the proposed operator;
- (2) location of the site;
- (3) written authorization to operate a septage land application site signed by each landowner (if other than the permit holder) or the landowner's legal representative;
- (4) types of septage and the proposed annual volume of each type of septage proposed for land application per acre, based on the nutrient management plan submitted in accordance with Subparagraph (c)(12) of this Rule;
- (5) substances other than septage previously disposed of at this location, and the amounts of those substances;
- (6) aerial photography extending for a distance of at least 2500 feet in all directions from the site, with site property boundaries depicted;
- (7) alternative plan for the detention or disposal of septage, during conditions that cause the site to be unavailable for use, such as adverse weather conditions;
- (8) treatment method for each type of septage to be discharged and the permit number of any treatment facilities;
- (9) vicinity map (county road map) showing the site location;
- (10) a written report that documents compliance with Rule .0841 of this Section including:
 - (A) a representative soils analysis such as the Standard Soil Fertility Analysis, conducted within the last six months, on each proposed field of each proposed land application site. The representative soils analysis shall include acidity, base saturation (by calculation), calcium, cation exchange capacity, exchangeable sodium percentage (by calculation), magnesium, manganese, percent humic matter, pH, phosphorus, potassium, and sodium, and may include additional analyses;
 - (B) a total metal analysis for each proposed field shall be conducted for arsenic, cadmium, copper, lead, nickel, selenium, and zinc. A North Carolina Department of Agriculture & Consumer Services (NCDA & CS) mehlisch-3 extraction shall be an acceptable substitute for a total metal analysis. Mercury shall be sampled if the applicant proposes to land apply domestic or industrial or commercial treatment plant septage, or if warranted by previous site use;
 - (C) field description of soil profile(s), based on examinations of excavation pits and auger borings, within four feet of the land surface or to bedrock describing the following parameters by individual diagnostic horizons: thickness of the horizon; texture; color and other diagnostic features; structure; internal drainage; depth, thickness, and type of restrictive horizon(s); and presence or absence and depth of evidence of any seasonal

high water table. Applicants may be required to dig pits when necessary for evaluation of the soils at the site;

- (D) a soil map delineating major soil mapping units within each proposed land application site and showing all physical features, location of pits and auger borings, setbacks required in accordance with this Section, legends, scale, and a north arrow;
- (E) if the annual application rate is proposed to exceed 125,000 gallons per acre per year, field descriptions to a depth of six feet shall be required; and
- (F) Global Positioning System (GPS) data compatible with the Division's datalogger shall be provided for proposed sites 30 acres or more in size.

If required by G.S. 89F, G.S. 89C, and G.S. 89E, a licensed soil scientist, professional engineer, or licensed geologist shall prepare these documents. [Note: The North Carolina Board of Licensing of Soil Scientists, Board of Examiners for Engineers and Surveyors, and the Board of Licensing of Geologists has determined, via letters dated November 16, 2009, March 11, 2010, and January 7, 2010, that preparation of documents pursuant to this Paragraph constitutes soil science, practicing engineering, or geology under G.S. 89F, G.S. 89C, and G.S. 89E.]

- (11) applicants proposing to land apply 200,000 gallons per acre per year or more shall provide a plan for monitoring soil moisture levels and the depth to seasonal wetness to determine when land application may occur without impacting groundwater or hydraulic overloading. The plan shall include recommendations concerning annual and instantaneous loading rates of liquids, solids, other wastewater constituents, and amendments based on in-situ measurement of saturated hydraulic conductivity in the most restrictive horizon. If required by G.S. 89C, G.S. 89F, and G.S. 89E, a professional engineer, licensed soil scientist, or licensed geologist shall prepare these documents. [Note: The North Carolina Board of Examiners for Engineers and Surveyors, Board of Licensing of Soil Scientists, and the Board of Licensing of Geologists has determined, via letters dated March 11, 2010, November 16, 2009, and January 7, 2010, that preparation of documents pursuant to this Paragraph constitutes practicing engineering, soil science, or geology under G.S. 89C, G.S. 89F, and G.S. 89E.]
- (12) a nutrient management plan prepared by an environmental professional that shall include the following:
 - (A) crops that will be planted on the site, including cover crops, and where each crop will be planted. Crop planting locations shall be depicted on an aerial photograph or on a plat map;
 - (B) nitrogen needs of the crops based on the realistic yield expectations for the soils on the site, and crop management practices proposed;
 - (C) crop stand density required to meet the realistic yield expectations for the proposed crop;
 - (D) approximate crop planting times and the seeding or sprigging rates for crops to be established;
 - (E) crop harvest frequency appropriate for the proposed realistic yield expectations and nitrogen needs, and approximate crop harvest times;
 - (F) approximate monthly discharge rate to match the nitrogen needs and potential uptake of the crop;
 - (G) sites proposed to receive more than 50,000 gallons per acre per year of domestic or industrial or commercial treatment plant septage, or domestic or grease septage that has been treated to remove solids, fats, oils, and grease shall include nitrogen carry over when determining annual application rates;
 - (H) weed control recommendations;
 - (I) crop use or removal;
 - (J) results from at least four samples of treated septage if the application is proposing an increased application rate for the land application of septage treated to reduce nutrients; and
 - (K) the signature of the site operator.

For the purposes of this Rule, an environmental professional means a person who has received a post-secondary degree from a college or university and has training and experience in or related to agronomic principles utilized to manage wastewater. Preparation by an environmental professional shall not be required for nutrient management plans for renewal applications that do not contain changes that would affect nutrient uptake.

- (13) application rates for sites proposed to receive treated septage shall be determined based on the most limiting nutrient;
 - (14) erosion and runoff management plan showing:
 - (A) buffer locations and widths based on the direction and amount of slope adjacent to the land application site;
 - (B) vegetation type and stand density in the buffer areas; and
 - (C) buffer maintenance fertility requirements.
 - (15) proposed land application method;
 - (16) proposed distribution plan if required in Paragraph (e) of Rule .0841 of this Section;
 - (17) sites proposing to use spray irrigation as a land application method shall include:
 - (A) the location of all fixed irrigation heads or the location of traveling gun irrigation lanes;
 - (B) irrigation head spacing and traveling gun lane spacing shall be determined based on standards in NC Cooperative Extension Documents AG-553-6 and AG-553-7 which are hereby incorporated by reference including subsequent amendments and additions;
 - (C) the size of all spray nozzles;
 - (D) system operating pressure at the irrigation head;
 - (E) calculation of the wettable acres vs. permitted acreage;
 - (F) calibration methods and frequency; and
 - (G) irrigation system operation and maintenance plan.
 - (18) documentation from the Department of Natural and Cultural Resources that the land application site complies with Rule .0841(g) of this Section if any part of the site specified for land application is not agricultural land;
 - (19) the date, location, number of hours, and provider of annual septage land application site operator training required in accordance with G.S. 130A-291.3(b);
 - (20) any other information that the Division may request that is pertinent to the suitability of the proposed site if it is necessary to determine compliance with this Section;
 - (21) an applicant who proposes to land apply septage on a public contact site, shall provide the Division evidence of public notice and the applicant shall have completed the Land Application of Residuals Course and maintain a Land Application of Residuals Certificate issued by the Department of Environmental Quality;
 - (22) an applicant who proposes to land apply industrial or commercial treatment plant septage or domestic treatment plant septage shall have completed the Land Application of Residuals Course and maintain a Land Application of Residuals Certificate issued by the Department of Environmental Quality;
 - (23) an applicant who proposes to land apply septage in excess of 50,000 gallons per acre per year shall provide the Division with evidence of public notice which shall at a minimum be publication with a local news organization, and shall have completed the Land Application of Residuals Course and maintain a Land Application of Residuals Certificate issued by the Department of Environmental Quality; and
 - (24) an approval letter from the unit of local government having zoning authority over the area where the facility is to be located stating that the proposed facility meets all of the requirements of the local zoning ordinance, or that the site is not zoned.
- (d) The Division shall not issue a permit to land apply septage at a rate in excess of 50,000 gallons per acre per year or a permit to land apply domestic treatment plant septage or industrial or commercial treatment plant septage until the applicant has operated a septage land application site in accordance with this Section for at least a 12 month period.
- (e) Applications for permits issued in accordance with this Rule shall be submitted to the Division of Waste Management, Solid Waste Section, 1646 Mail Service Center, Raleigh NC 27699-1646. Applications for permits will not be reviewed until all parts of the application have been completed and submitted to the Division.
- (f) Applications for permits that do not meet the standards in accordance with this Section shall be denied.
- (g) Applications for renewal permits issued in accordance with this Rule shall be submitted to the Division at least 90 days prior to the expiration date of the permit. The Division shall notify permit holders of facility permit expiration dates 120 days prior to permit expiration.
- (h) Applications for permit modification shall be required for the following changes:
- (1) permitted area or field boundaries;
 - (2) property ownership;

- (3) annual application rates;
 - (4) receiver crop; or
 - (5) types of septage discharged.
- (i) Applications for renewal permits submitted in accordance with Paragraph (g) of this Rule and applications for permit modifications shall not be required to resubmit the information required in Subparagraphs (c)(6), (8), (9), (10), (16), (17), and (18) unless changes are made in those plans.
- (j) Septage land application site permits shall not be transferable.
- (k) Permit duration shall be in accordance with Rule .0832(a)(8) of this Section.

*History Note: Authority G.S. 130A-291.1;
 Eff. April 1, 2010;
 Readopted Eff. February 1, 2019 (Recodified from 15A NCAC 13B .0835).*

15A NCAC 13B .0841 LOCATION OF SEPTAGE LAND APPLICATION SITES

- (a) Soil characteristics (Morphology) that shall be evaluated are as follows:
- (1) Texture – The relative proportions of the sand, silt, and clay sized mineral particles in the fine-earth fraction of the soil are referred to as soil texture. The texture of the different horizons of soils shall be classified into three general groups and 12 soil textural classes based upon the relative proportions of sand, silt, and clay sized mineral particles.
 - (A) Soil Group I – Sandy Texture Soils: The sandy group includes the sand and loamy sand textural classes.
 - (B) Soil Group II – Coarse Loamy and Fine Loamy Texture Soils: The coarse loamy and fine loamy group includes sandy loam, loam, silt, silt loam, sandy clay loam, clay loam, and silty clay loam textural classes.
 - (C) Soil Group III – Clayey Texture Soils: The clayey group includes sandy clay, silty clay, and clay textural classes.
 - (2) The soil textural class shall be determined in the field by hand texturing samples of each soil horizon in the soil profile using the following criteria:
 - (A) Sand: Sand has a gritty feel, does not stain the fingers, and does not form a ribbon or ball when wet or moist;
 - (B) Loamy Sand: Loamy sand has a gritty feel, stains the fingers, forms a weak ball, and cannot be handled without breaking;
 - (C) Sandy Loam: Sandy loam has a gritty feel and forms a ball that can be picked up with the fingers and handled with care without breaking;
 - (D) Loam: Loam may have a slightly gritty feel but does not show a fingerprint and forms only short ribbons of from 0.25 inch to 0.50 inch in length. Loam forms a ball that can be handled without breaking;
 - (E) Silt Loam: Silt loam has a floury feel when moist and shows a fingerprint but does not form a ribbon and forms only a weak ball;
 - (F) Silt: Silt has a floury feel when moist and sticky when wet but does not form a ribbon and forms a ball that tolerates some handling;
 - (G) Sandy Clay Loam: Sandy clay loam has a gritty feel but contains enough clay to form a firm ball and may form ribbons from 0.75 inch to one-inch long pieces;
 - (H) Silty Clay Loam: Silty clay loam is sticky when moist and forms a ribbon from one to two inches. Rubbing silty clay loam with the thumbnail produces a moderate sheen. Silty clay loam produces a distinct fingerprint;
 - (I) Clay Loam: Clay loam is sticky when moist. Clay loam forms a thin ribbon of one to two inches in length and produces a slight sheen when rubbed with the thumbnail. Clay loam produces a nondistinct fingerprint;
 - (J) Sandy Clay: Sandy clay is plastic, gritty, and sticky when moist and forms a firm ball and produces a thin ribbon over two inches in length;
 - (K) Silty Clay: Silty clay is both plastic and sticky when moist and lacks gritty feeling. Silty clay forms a ball and ribbons to over two inches in length;
 - (L) Clay: Clay is both sticky and plastic when moist, produces a thin ribbon over two inches in length, produces a high sheen when rubbed with the thumbnail, and forms a strong ball resistant to breaking;

- (M) The Division shall allow laboratory determination of the soil textural class as defined in this Section by particle-size analysis of the fine-earth fraction (less than 2.0 mm in size) using the sand, silt, and clay particle sizes as defined in this Section for field testing when conducted in accordance with ASTM standard test methods D6913 for sieve analysis or D7928 for hydrometer analysis.
- (3) Wetness Condition:
 - (A) Soil wetness conditions caused by a seasonal high water table, perched water table, tidal water, or seasonally saturated soils shall be determined by observation of common soil mottles of colors of chroma 2 or less, using the Munsell color chart, in mottle or a solid mass. If drainage modifications have been made, the soil wetness conditions may be determined by direct observation of the water surface in monitoring wells during periods of typically high water elevations. However, colors of chroma 2 or less that are relic from minerals of the parent material shall not be considered indicative of a soil wetness condition.
 - (B) Soils that do not meet the required depths to a soil wetness condition as set forth in Subparagraphs (4) – (7) of this Paragraph shall be considered unsuitable and septage shall not be applied, unless the required depths may be maintained. Water table monitoring wells may be utilized to determine the actual depth to a soil wetness condition. The Division may limit discharges to certain months where soil wetness conditions are marginal for use.
 - (C) The required depth to a soil wetness condition is determined by the Soil Group Textural Classification, as set forth in Subparagraphs (4) – (7) of this Paragraph.
 - (4) Soil Group I soil shall be considered suitable where soil wetness conditions are deeper than 36 inches below the point of septage application or incorporation.
 - (5) Soil Group II soils shall be considered suitable where soil wetness conditions are deeper than 24 inches below the point of septage application or incorporation.
 - (6) Soil Group III soils shall be considered suitable where soil wetness conditions are deeper than 18 inches below the point of septage application or incorporation.
 - (7) Depth to rock: soil depth shall be considered suitable where depth to rock is deeper than 24 inches below the point of septage application or incorporation or deeper than 18 inches if the septage is pretreated to accomplish pathogen reduction and surface applied over vegetation.
 - (8) Mine reclamation sites shall be considered on a case-by-case basis, based on compliance with the Rules of this Section, the previous use of the mine, and the current condition of the mine.
- (b) Septage land application sites shall not be located in the watershed of a Class WS-I stream. New septage land application sites shall not be located in the water quality critical area of Class WS-II, WS-III, or WS-IV streams or reservoirs. This prohibition shall not apply to those portions of a water supply watershed that are drained by Class B or Class C streams.
- (c) At the time of initial permitting, septage land application sites shall observe the minimum setback distances specified in this Rule. Minimum setbacks shall be maintained throughout the life of the site only on land owned, operated, or controlled by the permittee or by the landowner(s) at the time of initial permitting. Any sale, lease, or other conveyance of land by the permittee, or by the landowner(s) if different from the permittee, subsequent to the initial permitting of the site shall include restrictions to ensure continued maintenance of the setbacks.
- (d) All septage disposal sites shall be located at least the minimum distance specified for the following:
 - (1) residence:
 - (A) not occupied by the applicant – 500 feet;
 - (B) occupied by the applicant – 100 feet;
 - (2) place of business, other than the septage management firm's office or related buildings, or place of public assembly – 500 feet;
 - (3) well or water supply spring – 500 feet;
 - (4) surface waters – stream classification shall be determined in accordance with 15A NCAC 02B .0301 through .0317 Assignment of Stream Classifications;
 - (5) fresh waters:
 - (A) Class WS-I, Class WS-II, or Class WS-III streams – 300 feet;
 - (B) Class B stream – 300 feet;
 - (C) Class C stream – 200 feet;
 - (D) other streams and bodies of water – 200 feet;

- (6) tidal salt waters:
 - (A) Class SA or Class SB – 300 feet from mean high water mark;
 - (B) Class SC and other coastal waters – 200 feet from mean high water mark;
 - (7) supplemental classifications:
 - (A) trout waters and swim waters – 200 feet;
 - (B) nutrient sensitive waters and outstanding resource waters – 300 feet;
 - (8) groundwater lowering ditches and devices – 100 feet;
 - (9) adjoining property under separate ownership or control – 50 feet;
 - (10) public road right of ways – 100 feet;
 - (11) food crops – 50 feet;
 - (12) wetlands – 50 feet;
 - (13) woods line – five feet, unless greater distance is required as part of an erosion and runoff control plan;
 - (14) land application site on the same tract of land, permitted to a different operator – 100 feet; and
 - (15) setbacks in Subparagraphs (d)(3), (4), (5), (6), (7), and (8) of this Rule may be reduced 50 percent when septage is pretreated to accomplish pathogen reduction and when the land within the setback area is in permanent, established grass with at least 95 percent cover or when the setback area is in forest with a continuous canopy and a 95 percent forest litter cover. Accurate property line locations shall be the responsibility of the site operator.
- (e) Septage land application sites less than five acres in size, individual fields of a site less than two acres in size, and sites with complex soil patterns or unusual shapes shall be permitted only if the applicant demonstrates to the Division that the site will be managed for crop production and that septage will be applied with uniform distribution over the entire permitted application area.
- (f) Septage land application sites shall not be located where the slope of the land is greater than 12 percent unless all of the conditions of this Paragraph are met:
- (1) the site is in permanent, established grass with at least 95 percent cover or is in forest with a continuous canopy and a 95 percent forest litter cover;
 - (2) the erosion and runoff management plans submitted to the Division in accordance with Rule .0840(c)(14) of this Section shall indicate the following:
 - (A) management practices and discharge methods that will be used to reduce the potential for run-off from the site and allow for the uniform distribution of septage over the entire permitted application area; and
 - (B) location of potential surface water monitoring devices upslope and downslope from the area proposed to be permitted and identification of sampling methods. Monitoring may be required if there is an indication that septage is entering surface waters.
 - (3) The Division may increase setbacks or decrease application rates for the protection of surface waters; and
 - (4) no site shall include slopes in excess of 25 percent.
- (g) A new septage land application site shall not jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of a critical habitat protected under the Federal Endangered Species Act of 1973. Agricultural land shall not be considered potential habitat.
- (h) Septage, or any part of septage, treated to meet the standard for Class A sewage sludge in accordance with the federal regulations for pathogen reduction and vector attraction reduction in 40 CFR Part 503, Subpart D, may be permitted by the Division for application to a public contact site, home lawns and gardens, or to be sold or given away in a bag or other container, provided it can be demonstrated that pollutant limits in 40 CFR 503.13(b)(3) Table 3 Pollutant Concentrations are not exceeded. Persons who prepare the septage, and persons who derive material from the septage, shall comply with the applicable record keeping requirements in 40 CFR 503.17(a)(1), (2) or (6). Documentation and certification by the operator that the treatment method meets the Class A standard shall be available to the Division upon request. All treatment methods and facilities shall obtain a permit from the Division in accordance with Rule .0837 of this Section.

*History Note: Authority G.S. 130A-291.1;
 Eff. October 1, 2009;
 Readopted Eff. February 1, 2019 (Recodified from 15A NCAC 13B .0837).*

15A NCAC 13B .0842 MANAGEMENT OF SEPTAGE LAND APPLICATION SITES

(a) General requirements for septage land application sites shall include the following:

- (1) only domestic septage, as defined in G.S. 130A-290, shall be land applied or otherwise placed on a septage land application site, unless specified in the permit;
- (2) each site shall be posted with visible and legible "NO TRESPASSING" signs. All access roads or paths crossing or leading to the disposal area shall be posted "NO TRESPASSING" and a visible and legible sign stating "SEPTAGE LAND APPLICATION SITE" shall be maintained at each entrance to the land application area;
- (3) each site shall have an all weather access road;
- (4) no hazardous wastes shall be permitted on the site;
- (5) no site shall be permitted for land application of industrial or commercial septage unless the applicant demonstrates to the Division that the strength of the organic and inorganic components of the septage is within the normal range for domestic septage;
- (6) treatment plant septage generated by the operation of a wastewater system permitted under Article 11 of Chapter 130A may be land applied at a septage land application site permitted under this Section;
- (7) septage shall be applied to the surface of the land from a moving vehicle to have no standing liquid or soil disturbance resulting from the waste flow after the discharge is complete;
- (8) septage shall not be applied to a site if any liquid is ponded on the site or if the site is flooded, frozen, or snow covered;
- (9) septage shall not be applied to a site if the application method will result in ruts greater than three inches in the soil surface;
- (10) disposal area boundaries shall be marked on the ground while a site or any portion of a site is in use. Markers shall be of adequate height and spacing such that they are visible and distinguishable from the surrounding landscape for determining the disposal boundaries when the site is in use;
- (11) all septage discharges shall be made at a location on the site consistent with the nutrient management plan;
- (12) all septage discharges, including aerial drift from discharges, shall be made within the permitted boundaries of the land application site;
- (13) land application of septage shall be limited to a maximum daily hydraulic application rate of one acre inch;
- (14) grease septage shall be diluted at least 1:1 from its concentration when pumped with domestic septage or water if land applied over perennial vegetation. This dilution shall be increased if crop damage occurs. This dilution requirement shall not apply to the liquid portion of grease septage that has been treated to remove solids, fats, oils, and grease as long as crop damage does not occur;
- (15) solids resulting from septage treatment shall not be land applied unless the solids are treated to meet pathogen reduction and vector attraction reduction requirements in 40 CFR 503, and the permittee has demonstrated to the Division that the solids will be land applied with uniform distribution over the entire permitted application area at agronomic rates with standard agricultural spreading equipment;
- (16) the site shall be managed to minimize soil erosion and surface water runoff. Appropriate soil and water management practices shall be implemented and maintained in accordance with the erosion and run-off management plan submitted in accordance with Rule .0840(c)(14) of this Section. All water control structures shall be designed, installed, and maintained to control the run-off resulting from a 10-year storm;
- (17) approved nutrient management plans shall be followed;
- (18) land application sites or portions of land application sites that do not follow the approved nutrient management plan shall not be used for land application until brought into compliance with the nutrient management plan;
- (19) land application sites permitted for the management of grease septage, or commercial or industrial septage, shall have a septage detention facility available, of adequate size to meet the requirement of Subparagraph (a)(14) of this Rule; and
- (20) a septage land application site permit holder or operator is responsible for the actions of any septage management firm that the permit holder or operator allows to use his or her land application site.

- (b) Maximum land application rates for septage shall be determined based upon the following:
- (1) domestic septage land application rates shall be in accordance with 40 CFR 503.12(c);
 - (2) land application of domestic treatment plant septage shall not exceed the rate in 40 CFR 503.14(d);
 - (3) pollutant limits for regulated metals in 40 CFR 503.13 shall not be exceeded for any type of septage;
 - (4) grease septage shall be land applied at a rate that is equal to or less than the agronomic rate, but in no case shall the application of untreated grease septage exceed 25,000 gallons per acre per year;
 - (5) sites permitted for the land application of grease septage shall meet the requirements of 40 CFR 257.3-5;
 - (6) land application rates for septage treated to reduce solids, nutrients, or pollutants shall be determined based on the analysis of the treated material;
 - (7) at least four analyses of treated liquid shall be required prior to receiving an adjusted land application rate. Additional samples may be required for inconsistent analysis results;
 - (8) each analysis shall include nitrogen panel, phosphorus, potassium, soluble salts, pH, and regulated metals except mercury, calcium, manganese, magnesium, iron, sulfur, boron and chlorine;
 - (9) after an adjusted land application rate is approved, sampling shall be required every 60 days for the initial 12 months of operation;
 - (10) after the initial 12 months, wastes with consistent sample results shall be sampled quarterly; and
 - (11) land application rates for industrial or commercial septage, or commercial or industrial treatment plant septage shall be determined as specified in Subparagraphs (b)(1) and (b)(2) of this Rule unless testing determines that a lower rate is necessary due to other non-domestic pollutants.
- (c) Septage treatment standards:
- (1) domestic septage shall be treated in accordance with the requirements in 40 CFR 503 D (including Appendix A and B) except that 503.33(b)(11) is not incorporated;
 - (2) grease septage, treated grease septage, industrial or commercial treatment plant septage, and industrial or commercial septage shall be treated in accordance with 40 CFR 257.3-6 or treated by an equivalent or more stringent process in 40 CFR 503 D;
 - (3) grease septage, or any part of grease septage, mixed with domestic septage shall be treated as grease septage; and
 - (4) domestic treatment plant septage shall be treated to meet the pathogen reduction and the vector attraction reduction requirements in 40 CFR 503 D.
- (d) No one other than the permit holder shall land apply septage at a permitted site unless approved in writing by the Division. The permit holder shall submit a written request and written authorization from the landowner(s), if different from the permit holder. The request shall include the name of the firm requesting approval and the type and amount of septage proposed to be discharged. The Division may approve the request if the land application activity, the permit holder, and the firm requesting approval to land apply are in compliance with rules of this Section.
- (e) Permit holders of septage land application sites shall develop and maintain records and reports to demonstrate compliance with this Section and the permit requirements of each site.
- (1) permit holders of sites receiving septage shall maintain a log which meets the requirements of 40 CFR 503.17(b);
 - (2) permit holders of all septage land application sites shall have all records and certifications and test results required in accordance with this Section available for review during inspections by the Division or upon the Division's request; and
 - (3) the permit holder of a site where more than one septage management firm has been authorized by the Division to discharge septage shall submit a monthly report to the Division that shall include the following information for each discharge: the date and quantity of each discharge, the type of septage discharged, and the name of the septage management firm discharging.
- (f) Septage shall not be land applied at a new septage land application site until a representative of the Division has inspected the site to determine compliance with these rules and consistency with the permit application and all permit conditions.

*History Note: Authority G.S. 130A-291.1;
Eff. October 1, 2009;
Readopted Eff. February 1, 2019 (Recodified from 15A NCAC 13B .0838).*

15A NCAC 13B .0843 SAMPLING AND ANALYSIS

- (a) Monitoring or sample collection, handling, and analysis required by this Section and all costs involved shall be the responsibility of the septage management firm permit holder.
- (b) The permit holder of a septage land application site shall obtain representative soil samples once every two years from each field, as designated in permit, during the last quarter of the calendar year.
- (c) Soil samples shall be analyzed for cation exchange capacity, pH, phosphorus, potassium, calcium, manganese, magnesium, zinc, and copper. If the results for zinc analysis are equal to or above 30 pounds per acre or the results for copper analysis are equal to or above 35 pounds per acre, analysis for the metals listed in Rule .0840(c)(10)(B) of this Section shall be required. Sites permitted to receive septage other than domestic septage shall be analyzed for cadmium to determine compliance with 40 CFR 257.3-5.
- (d) Domestic septage and grease septage shall be monitored in accordance with 40 CFR 503.16(b).
- (e) Domestic treatment plant septage proposed to be land applied at a permitted septage land application site shall be sampled before the initial application, and annually thereafter, prior to being removed from a treatment facility. Samples shall be analyzed for:
- (1) Metals listed in 40 CFR 503.13; and
 - (2) Total solids, pH, ammonia, nitrates, total kjeldahl nitrogen (TKN), biochemical oxygen demand (BOD), chemical oxygen demand (COD), total phosphorus, potassium, sodium, and magnesium.
- (f) Industrial or commercial septage proposed to be land applied at a permitted septage land application site shall be sampled prior to being removed from a wastewater system. Analytical results shall be submitted to the Division prior to the issuance of a permit or approval to land apply the septage. Samples shall be analyzed for:
- (1) Metals listed in 40 CFR 503.13;
 - (2) Total solids, pH, ammonia, nitrates, TKN, BOD, COD, total phosphorus, potassium, sodium, and magnesium; and
 - (3) Organic chemicals, using a complete EPA Test Method 1311 Toxicity Characteristic Leaching Procedure or other appropriate analysis, such as EPA Test Method 8260 Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry or 8270 Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry, unless an examination of the industrial process and the material used indicates less extensive analysis is acceptable.
- (g) Sample analysis required by this Section shall be performed either by the North Carolina Department of Agriculture and Consumer Services laboratory or by a laboratory certified by the North Carolina Division of Water Resources for waste analysis. Analysis for inorganic constituents shall be conducted in accordance with 40 CFR 503.8.

History Note: *Authority G.S. 130A-291.1;*
 Eff. October 1, 2009;
 Amended Eff. May 1, 2017;
 Readopted Eff. February 1, 2019 (Recodified from 15A NCAC 13B .0840).

15A NCAC 13B .0844 LAND APPLICATION SITE LAND USE AND SITE CLOSURE

- (a) Upon closure of a land application site permitted in accordance with this Section, the site shall meet the site restriction requirements set forth in 40 CFR 503.32(c)(1).
- (b) Nursery and horticultural products, trees and other forest products, such as pine straw and pine bark, shall not be harvested or gathered for 30 days after septage application.
- (c) Public access is to be controlled in accordance with 40 CFR 503.32(c)(1).
- (d) The permit holder or operator of the site shall submit a written notification to the Division at least 30 days prior to final closure of a septage land application site in order to schedule a site inspection for determination of compliance with this Section. The notification shall include the permit number, the date of cease of operations, and the signature of the operator.
- (e) Prior to final closure, the soil pH of the site shall be raised to 6.5, unless the fertility requirements for crops to be grown in the following year dictate less.

History Note: *Authority G.S. 130A-291.1;*
 Eff. October 1, 2009;
 Readopted Eff. February 1, 2019 (Recodified from 15A NCAC 13B .0843).

SECTION .1100 - SCRAP TIRE MANAGEMENT

15A NCAC 13B .1101 DEFINITIONS

The definitions in G.S. 130A-309.53 and the following definitions shall apply throughout this Section:

- (1) "Disposal site" means any place at which scrap tires are disposed of by sanitary landfill or incineration.
- (2) "Processing" means chopping, chipping, shredding, slicing, cutting, stamping, dyeing, pyrolizing, or other physicochemical processing of scrap tires either for disposal or production of useable materials.

History Note: Authority G.S. 130A-309.57;
Eff. October 1, 1990;
Readopted Eff. December 1, 2018.

15A NCAC 13B .1103 GENERATOR OF SCRAP TIRES

No person shall discard, deposit, or dispose of a scrap tire except at a site or facility permitted to receive scrap tires under these Rules, or at a business exempt from a permit under G.S. 130A-309.57(d).

History Note: Authority G.S. 130A-309.57;
Eff. October 1, 1990;
Readopted Eff. December 1, 2018.

15A NCAC 13B .1104 GENERAL CONDITIONS

(a) Landfilling of whole scrap tires is prohibited. Shreds or portions of scrap tires less than half of a whole scrap pneumatic tire shall be suitable for landfilling.

(b) The owner or operator of a scrap tire disposal site or processing facility may submit a request to the Division to use a scrap tire disposal or processing method other than the disposal methods in G.S. 130A-309.58. The request shall be included with a permit application or renewal submitted to the Division in accordance with Rule .1106 of this Section, and shall be approved by the Division if the owner or operator demonstrates that the proposed method meets the following conditions:

- (1) is protective of human health and the environment;
- (2) does not create a nuisance or safety hazard; and
- (3) complies with the requirements of this Subchapter.

(c) Scrap Tire Certification Forms in accordance with G.S. 130A-309.58(f) shall be obtained from the Division website at <https://deq.nc.gov/about/divisions/waste-management>.

History Note: Authority G.S. 130A-309.57; 130A-309.58;
Eff. October 1, 1990;
Readopted Eff. December 1, 2018.

15A NCAC 13B .1105 PERMIT REQUIRED

(a) No person, other than a person exempted by G.S. 130A-309.57(d), shall establish, operate, or maintain, or allow to be established, operated, or maintained upon land owned, leased, or otherwise controlled by that person, a scrap tire collection site or scrap tire disposal site unless a permit for the site has been obtained from the Division.

(b) Applications for permits submitted in accordance with Rule .1106 of this Section shall be forwarded to the Division of Waste Management, Solid Waste Section, 1646 Mail Service Center, Raleigh, North Carolina 27699-1646.

(c) A permit is issued to the permit applicant for a particular site and shall not be transferable.

(d) Trailers and covered roll-off containers used for the collection of scrap tires are exempt from the requirements of Rule .1106(c)(1), (c)(2), (c)(4), and (c)(6) of this Section.

(e) Scrap tire collection sites permitted by the Division in accordance with this Subchapter that are not operated by local governments shall comply with the financial responsibility requirements set forth in G.S. 130A-295.2 and the financial assurance requirements set forth in Section .1800 of this Subchapter. A demonstration of financial qualifications for operation of a site shall include documentation that the facility has liability coverage for potential property damage and bodily injury to third parties that may result from a fire occurring at the site.

*History Note: Authority G.S. 130A-309.57;
Eff. October 1, 1990;
Readopted Eff. December 1, 2018;
Amended Eff. July 1, 2020.*

15A NCAC 13B .1106 SCRAP TIRE COLLECTION SITE PERMIT REQUIREMENTS

- (a) A scrap tire collection site permit shall be issued for a period of five years. Permit renewal applications shall be submitted to the Division not less than 60 days prior to the expiration date of the permit.
- (b) A permit shall specify the storage limit for a scrap tire collection site.
- (c) Scrap tire collection sites shall meet the following siting and design requirements for a permit to be issued:
 - (1) a site shall not be located within either the 100-year floodplain or 100 feet of any surface water; A site shall not be located within any wetland as defined in the Federal Clean Water Act, section 404(b)(1), which is hereby incorporated by reference, including any subsequent amendments or additions.
 - (2) a site shall maintain a 50-foot buffer between all property lines and scrap tire storage areas;
 - (3) the site shall be served by an access road that shall be kept passable at all times for any motor vehicle, including fire trucks;
 - (4) the site shall be designed to prevent standing water on-site and prevent off-site drainage problems;
 - (5) access to the site shall be controlled to prevent unauthorized entry through the use of barriers such as fences, gates, or berms; and
 - (6) the site shall be designed to prevent liquid runoff from a potential tire fire from entering any surface water.
- (d) The following information shall be submitted to the Division in an application for a scrap tire collection site permit:
 - (1) name and location of proposed facility, including street address or state road number, city, county, and zip code;
 - (2) name, address, telephone number, and signature of site operator;
 - (3) name, address, telephone number, and signature of property owner, and a copy of the deed or other legal description of the site that would be sufficient as a description in an instrument of conveyance, showing property owner's name;
 - (4) a map or aerial photograph showing the area within one-fourth mile of the site, and identifying the following:
 - (A) the property owned or leased for use as a scrap tire collection site by the applicant; and
 - (B) the location of all homes, buildings, public or private utilities, roads, wells, water courses, floodplains, and other details regarding the topography;
 - (5) a description of the operation of the facility;
 - (6) quantity of tires, expressed in tons, for the following:
 - (A) the quantity expected to be received per month from each source;
 - (B) the quantity expected to be shipped off-site per month; and
 - (C) the quantity expected to be stored on-site.
 - (7) plans for disposition of all tires collected at the site, including the names, addresses, and permit information, if applicable, of all facilities where the tires will be recycled, processed, or disposed;
 - (8) the projected date of commencing operation;
 - (9) a description of how any waste resulting from the operation of the tire site will be disposed;
 - (10) a description of how the scrap tire collection site will meet the siting and design requirements of Paragraph (c) of this Rule;
 - (11) a letter stating that this use complies with local zoning from the unit of local government having zoning authority over the site. If no zoning is applicable, the unit of local government shall provide documentation to that effect;
 - (12) a letter from the local fire protection authority accepting the responsibility for fire protection services and an annual fire safety survey for the site;
 - (13) a description of how the scrap tire collection site will meet the operational requirements of Rule .1107 of this Section;
 - (14) documentation of the operator's ability to meet the financial responsibility requirements of Rule .1111 of this Section;

- (15) documentation that all processors or recyclers have access to a disposal site that is permitted to receive scrap tires; and
- (16) documentation from the Division of Energy, Land, and Mineral Resources within the Department stating that the planned site use and operations comply with the requirements of the Sedimentation Pollution Control Law (15A NCAC 04).

*History Note: Authority G.S. 130A-309.57;
Eff. October 1, 1990;
Readopted Eff. December 1, 2018.*

15A NCAC 13B .1107 SCRAP TIRE COLLECTION SITE OPERATIONAL REQUIREMENTS

Scrap tire collection sites shall meet the following operational requirements:

- (1) Owners and operators of collection sites that process scrap tires shall submit to the Division an annual report by August 1 of each year, for the previous calendar year. The report shall be submitted on a form prescribed by the Division. The following information shall be included in the report:
 - (a) the facility name, address, and permit number;
 - (b) the year covered by the report;
 - (c) the total quantity and type of scrap tires or processed tires received at the facility during the year covered by the report;
 - (d) the total quantity and type of scrap tires or processed tires shipped from the facility during the year covered by the report;
 - (e) the quantity of scrap tires or processed tires shipped to each receiving facility identified by name and address; and
 - (f) the total quantity and type of scrap tires or processed tires located at the facility on January 1 of the year covered by the report.
- (2) All scrap tire collection, processing, or disposal sites that store scrap tires or processed tires outdoors shall comply with the following technical and operational standards:
 - (a) Whole scrap tires shall be placed in an outdoor scrap tire pile(s) having dimensions no greater than 200 feet in length, 50 feet in width, and 15 feet in height.
 - (b) A 50-foot wide fire lane shall be placed around the perimeter of each scrap tire pile. Access to the fire lane for emergency vehicles shall be unobstructed and passable at all times.
 - (c) The owner or operator of any scrap tire collection site shall control mosquitoes and rodents to protect the public health and welfare. Whole and partial scrap tires capable of holding water shall be covered upon receipt with a water shedding material or disposed of, processed, or removed from the site within ten days of receipt. Sliced scrap tires stacked concave-side down shall not be required to be covered. The Division may approve other methods of rodent and mosquito control, if the owner or operator submits a request for the proposed method in writing to the Division, and demonstrates the effectiveness of this method to be protective of public health and the environment, and to comply with the requirements of this Subchapter.
 - (d) If the scrap tire collection site receives tires from persons other than the operator of the site, a sign shall be posted at the entrance of the site and the sign shall state the operating hours. An attendant shall be present when the site is open for receipt of tires.
 - (e) No operations involving the use of open flames, blow torches, or flammable substances shall be conducted within 50 feet of a scrap tire or processed materials pile.
 - (f) A fire safety survey shall be conducted annually by local fire protection authorities that accepted responsibility for fire protection services in the letter submitted in accordance with Rule.1106(d)(12) of this Section.
 - (g) Communication equipment shall be maintained at the scrap tire collection site to assure that the site operator is able to contact local fire protection authorities in case of a fire.
 - (h) Debris, grass, underbrush, and other potentially flammable vegetation shall not be within 10 feet of scrap tires or processed materials.

- (i) The operator of the scrap tire collection site shall prepare and keep an emergency preparedness manual at the site. The manual shall be updated at least once a year, or upon changes in operations at the site. The manual shall contain the following elements:
 - (i) a list of names and numbers of persons to be contacted in the event of a fire, flood, or other emergency;
 - (ii) a list of the emergency response equipment at the scrap tire collection site, its location, and how it should be used in the event of a fire or other emergency;
 - (iii) a description of the procedures to be followed in the event of a fire, including procedures to contain and dispose of the oily material generated by the combustion of large numbers of tires; and
 - (iv) a listing of all hazardous materials stored on-site, their location, and information regarding precautions.
- (j) The operator of the scrap tire collection site shall within 24 hours notify the Division in the event of a fire or other emergency if that emergency has potential off-site effects. Within two weeks of any emergency involving potential off-site impact, the operator of the site shall submit to the Division a written report describing the cause(s) of the emergency, actions taken to deal with the emergency, results of the actions taken, and an analysis of the success or failure of these actions.
- (k) The operator of the scrap tire collection site shall maintain the following records and make them available for inspection by the Division at the Division's request:
 - (i) a copy of the permit;
 - (ii) records of the quantity of scrap tires and processed tires received at the site, stored at the site and shipped from the site, including destination (name and address of facility); and
 - (iii) all certification forms applicable to any tires received, stored, or shipped from the site.
- (l) Unless otherwise specified by the Division in the facility permit, the number of scrap tires stored at a scrap tire collection site shall not exceed 60,000 tires on site at any time and shall not exceed the stated number of scrap tires shipped off-site per month plus the stated number of scrap tires disposed of on-site per month, except that the storage limit for collection sites associated with scrap tire processing facilities shall be determined by multiplying the daily through put of the processing equipment used by 30.
- (m) A scrap tire processing facility shall not accept any scrap tires for processing above the number that may be processed daily if it has reached its storage limit. At least 75 percent of both the scrap tires and processed tires that are delivered to or maintained on the site of the scrap tire processing facility site shall be processed and removed for recycling or disposal at a solid waste management facility permitted by the Division to receive such waste within one year of their receipt.
- (n) The temperature of any above ground piles of compacted, processed tires over 1,000 cubic yards in size shall be monitored and shall not exceed 300 degrees Fahrenheit. Temperature control measures shall be instituted so that pile temperatures do not exceed 300 degrees Fahrenheit. Temperature monitoring and controls shall not be required for processed tires disposed of in sanitary landfills permitted by the Division to receive such waste.
- (o) The operator of the scrap tire collection site shall prepare and keep a contingency plan stating disposal methods or other means to handle tires during adverse weather, equipment failure, or other conditions that cause the site to be unavailable.

*History Note: Authority G.S. 130A-309.57;
 Eff. October 1, 1990;
 Readopted Eff. December 1, 2018.*

15A NCAC 13B .1109 CLOSURE OF NON-CONFORMING SITES

- (a) Any scrap tire collection or disposal site that does not meet the requirements of this Section shall be closed.
- (b) In closing any non-conforming scrap tire site, the owner or operator shall:
 - (1) prevent public access to the site;

- (2) post a notice indicating the site is closed and the nearest permitted site where scrap tires may be deposited;
 - (3) notify the Division of the closing prior to tire removal;
 - (4) remove all scrap tires, processed tires and residuals to a scrap tire collection site that is permitted in accordance with this Section, or that is exempt from permitting pursuant to G.S. 130A-309.57(d); or to a solid waste management facility permitted by the Division to accept scrap tires or processed tires, and provide receipts to the Division by a deadline that shall be specified by the Division; and
 - (5) remove any solid waste to a solid waste management facility permitted by the Division to receive such waste.
- (c) Once all requirements set forth in Paragraph (b) of this Rule are complete, the owner or operator shall notify the Division in writing.

*History Note: Authority G.S. 130A-309.57;
Eff. October 1, 1990;
Readopted Eff. December 1, 2018.*

SECTION .1200 - MEDICAL WASTE MANAGEMENT

15A NCAC 13B .1201 DEFINITIONS

For the purpose of this Section, the following definitions apply:

- (1) "Blood and body fluids" means liquid blood, serum, plasma, other blood products, emulsified human tissue, spinal fluids, and pleural and peritoneal fluids. Blood and body fluids does not include dialysates, feces, or urine if not removed during surgeries and autopsies.
- (2) "Generator" and "Generating facility" mean any business, integrated medical facility, and volunteer or non-profit healthcare services where medical waste is produced, including any medical or dental facility, mortuary, laboratory, veterinary hospital, and blood bank; but does not include households.
- (3) "Integrated medical facility" means one or more health service facilities as defined in G.S. 131E-176(9b) that are:
 - (a) located in a single county or two contiguous counties;
 - (b) affiliated with a university medical school or that are under common ownership and control; and
 - (c) serve a single service area.
- (4) "Medical waste" means the term defined in G.S. 130A-290(17a).
- (5) "Microbiological waste" means the term defined in Rule .0101(26) of this Subchapter.
- (6) "Non-hazardous pharmaceutical waste" is a medical waste and means a medical drug that is expired, unused, contaminated, damaged, or no longer needed or used for its prescribed purpose and that is not a hazardous waste as defined in G.S. 130A-290(a)(8).
- (7) "Nuisance" means odorous outside of the property boundary or transport vehicle; or attracting vermin or disease vectors.
- (8) "Package" means the total contents of a box, drum, or vessel containing medical waste, including labeling and markings.
- (9) "Pathological waste" means the term defined in Rule .0101(31) of this Subchapter.
- (10) "Record" means any data required to be kept on file by the operator or responsible party, or submitted to the Division in accordance with the rules of this Section. A record may be a paper copy or electronic format that is legible and in English.
- (11) "Regulated Medical Waste" means the term defined in Rule .0101(34) of this Subchapter.
- (12) "Responsible party" means the entity that is in possession of and has accepted the regulated medical waste.
- (13) "Sharps" means the term defined in G.S. 130A-309.26(a)(1).
- (14) "Trace chemotherapy waste" means medical waste containing no more than three percent by weight of a medical drug used for chemotherapy, but is not a radioactive waste. Trace chemotherapy waste includes gowns, gloves, wipes, and other handling, preparation, administration, cleaning, and decontamination items used in association with chemotherapy.

- (15) "Transfer or storage operations" means the act of, and process by which, regulated medical waste is removed from a transport vehicle and placed in another transport vehicle or in storage awaiting transport.
- (16) "Transport vehicle" means a vehicle or other conveyance type used to transport regulated medical waste to and from transfer or storage operations or to and from a treatment facility.
- (17) "Treatment" means the term as defined in G.S. 130A-309.26(a)(2).
- (18) "Treatment facility" means a regulated medical waste treatment facility permitted by the Division in accordance with the rules of this Section.
- (19) "Solid waste" means the term defined in G.S. 130A-290(a)(35).

History Note: Authority G.S. 130A-309.26;
 Eff. October 1, 1990;
 Amended Eff. April 1, 1993;
 Readopted Eff. November 1, 2019.

15A NCAC 13B .1202 GENERAL REQUIREMENTS FOR MEDICAL WASTE

- (a) Medical waste is subject to the rules in 15A NCAC 13B, "Solid Waste Management."
- (b) Sharps and other sharp objects such as syringes with attached needles, capillary tubes, slides and cover slips, lancets, auto injectors, connection needles and sets, exposed ends of dental wires, and objects that can penetrate the skin shall be placed in a rigid, leak-proof when in an upright position, and puncture-resistant container, and shall not be compacted prior to off-site transportation unless placed in a sealed compactor unit that is hauled off for disposal by the transporter.
- (c) Blood and body fluids in individual containers in volumes of 20 milliliters or less shall be stored in an area accessible only to the responsible party or their designated representative, and shall not be compacted prior to off-site transportation.
- (d) Regulated medical waste shall not be compacted prior to treatment.
- (e) Only the responsible party or their designated representative shall have access to regulated medical waste.
- (f) Medical waste shall not become putrescent. Medical waste shall be disposed of or treated within three calendar days of becoming putrescent.
- (g) Medical waste shall not become a nuisance.
- (h) Medical waste accepted at transfer or storage operations or a treatment facility shall not be subject to the requirements of Rule .1203(a) and (b)(2) of this Section.
- (i) Medical waste treatment and disposal methods:
 - (1) Blood and body fluids in individual containers in volumes greater than 20 milliliters shall be disposed of by sanitary sewer if the local sewage treatment authority has been notified; or treated by incineration or steam sterilization.
 - (2) Microbiological waste shall be treated by incineration, steam sterilization, ozonation, microwave, or chemical treatment.
 - (3) Non-hazardous pharmaceutical waste shall be treated by incineration or disposed of at a municipal solid waste landfill. The requirements of this Subparagraph shall not prevent non-hazardous pharmaceuticals from being returned to the vendor.
 - (4) Pathological waste shall be treated by incineration or ozonation.
 - (5) Trace chemotherapy waste shall be treated by incineration or ozonation.
 - (6) Noninfectious medical waste and blood and body fluids in individual containers in volumes of 20 milliliters or less may be disposed of in a municipal solid waste landfill, or treated by the treatment methods as described in this Paragraph. Blood and body fluids in individual containers in volumes of 20 milliliters or less may also be disposed of in a sanitary sewer. The requirements of this Subparagraph shall not prevent noninfectious medical waste such as textiles, plastic, glass, or metal from being recycled.
- (j) Medical waste treated at the generating facility is not subject to the requirements of Paragraphs (o), (p), and (q) of this Rule, and Rule .1204(b)(1), (b)(3), and (b)(8) of this Section.
- (k) Crematoriums are not subject to the requirements of this Section.
- (l) Transport vehicles, transfer or storage operations, and treatment facilities shall:
 - (1) be kept free of leaked, spilled, and unpackaged medical waste;
 - (2) not contain porous floor coverings;
 - (3) be ventilated;

- (4) not create a nuisance; and
- (5) have a method of leak control or spill cleanup, including decontamination.
- (m) A responsible party shall be present when regulated medical waste is being transferred by means of transfer or storage operations.
- (n) Regulated medical waste shall be transported and stored in a manner that prevents exposure to the environment and inclement weather.
- (o) Unrefrigerated regulated medical waste shall be treated within 21 calendar days of shipment from the generator.
- (p) Refrigeration at an ambient temperature of a maximum of 45 degrees Fahrenheit (7.22 degrees Celsius) shall be maintained for regulated medical waste not treated within 21 calendar days of shipment from the generator.
- (q) All regulated medical waste shall be treated within 60 calendar days of shipment from the generator.

*History Note: Authority G.S. 130A-309.26;
 Eff. October 1, 1990;
 Amended Eff. January 4, 1993; March 1, 1991;
 Readopted Eff. November 1, 2019.*

15A NCAC 13B .1203 REQUIREMENTS FOR REGULATED MEDICAL WASTE GENERATORS, TRANSPORTERS, AND TRANSFER AND STORAGE OPERATIONS

(a) Regulated medical waste packaging requirements:

- (1) All Sections of the Code of Federal Regulations (CFR) cited in this Paragraph are hereby incorporated by reference, including subsequent amendments and editions and can be accessed at no cost at <https://www.gpo.gov/>.
- (2) Regulated medical waste may be packaged in accordance with 49 CFR 173.134, 49 CFR 173.196, 49 CFR 173.197, or 49 CFR 173.199.
- (3) A plastic film bag shall be used as inner packaging, unless it is not required per the regulated medical waste type when used in conjunction with one of the package designs pursuant to Subparagraph (2) of this Paragraph.
- (4) The plastic film bag used as inner packaging shall be sealed to prevent leaks.
- (5) A rigid box, drum, or vessel constructed to prevent leakage shall be used as outer packaging.
- (6) Outer package labeling shall be legible and written in English.
- (7) Outer packaging shall contain the universal biohazard symbol as described in 29 CFR 1910.1030(g).
- (8) Each package shall be handled to prevent leaks, damage, and changes to the package, labeling, and markings.
- (9) Labels and markings on the outside of each package shall contain the following information:
 - (A) state that the content is an "infectious substance" or a "biohazard;"
 - (B) the generator name, physical address, and phone number;
 - (C) the transporter name, physical address, and phone number;
 - (D) the treatment facility name, physical address, and phone number, unless the label contains a tracking number that corresponds to a record that includes the treatment facility name, physical address, and phone number, and the record is provided to the Division at the time of inspection and upon request; and
 - (E) the date of shipment from the generating facility, unless the label contains a tracking number that corresponds to a record that includes the date of shipment, and the record is provided to the Division at the time of inspection and upon request.

(b) Generator requirements:

- (1) The generating facility shall package medical waste by treatment method type in accordance with Rule .1202(i) of this Section.
- (2) The generating facility shall maintain a record of each shipment of regulated medical waste transported off-site for a period of three years that includes the following information:
 - (A) the number of packages;
 - (B) the transporter name, physical address, and phone number;
 - (C) the treatment facility name, physical address, and phone number; and
 - (D) the date of shipment from the generating facility.

The requirements of this Subparagraph do not apply to generating facilities that generate less than 50 pounds of regulated medical waste per month.

(c) Transporter requirements:

- (1) The transporter shall not accept regulated medical waste that does not meet the requirements of Paragraph (a) of this Rule.
- (2) The universal biohazard symbol shall be displayed on the outside of a transport vehicle on both sides and rear of the vehicle's cargo area, shall be legible, and shall not be obstructed from view.
- (3) Transport vehicles shall only transport medical waste for treatment, other solid wastes, and supplies related to the handling of solid wastes. If a medical waste package leaks or spills, all of the solid waste, except for hazardous waste, within the same storage area of the transport vehicle as the leaking or spilled package shall be treated at a medical waste treatment facility. If the solid waste that leaked or spilled is a hazardous waste, all of the solid waste within the same storage area of the transport vehicle as the leaking or spilled package shall be brought to a hazardous waste treatment facility.
- (4) Transport vehicles shall be free of medical waste and disinfected with a mycobactericidal disinfectant before being reused if any packages spilled or leaked while in the vehicle, and prior to discontinuing use of the transport vehicles to haul medical waste.
- (5) The vehicle operator shall keep a contingency plan as described in Rule .1204(b)(4)(H) of this Section in the transport vehicle and shall be trained to implement the contingency plan prior to transporting medical waste.
- (6) The transporter shall be in compliance with Rule .1202(o), (p), and (q) of this Section.

(d) Transfer or storage operations requirements:

- (1) The responsible party for transfer or storage operations occurring at a treatment facility shall include a description of the transfer or storage operations in the facility operations plan submitted to the Division in accordance with Rule .1204(b)(4) of this Section.
- (2) The responsible party for transfer or storage operations occurring at a location other than a treatment facility shall submit a record to the Division within 14 calendar days of commencing transfer or storage operations, and once every two years thereafter, while the responsible party is managing the transfer or storage operations. The record shall include the following information:
 - (A) the name, mailing address, physical address, office and mobile phone numbers, and email address for the responsible party(s) and operator(s);
 - (B) county GIS property data for the location where transfer or storage operations occur;
 - (C) procedures for how the medical waste will be received, handled, stored, and transferred;
 - (D) the frequency that transfer or storage operations occur;
 - (E) the amount of medical waste that is expected to be on site at the transfer or storage operations; and
 - (F) additional information that the Division may request pertaining to the transfer or storage operations if it is necessary to determine compliance with the rules of this Subchapter.The responsible party shall submit an updated record to the Division within 14 calendar days if any of the information required to be submitted by this Subparagraph changes.
- (3) If the transfer or storage operations cease, the responsible party shall submit to the Division a record within 14 calendar days. The record shall include the following information:
 - (A) a signed statement by the responsible party(s) that transfer or storage operations have ceased and all medical waste has been removed;
 - (B) digital pictures of the area that was utilized for transfer or storage operations taken after operations have ceased and all medical waste has been removed; and
 - (C) additional information that the Division may request pertaining to the transfer or storage operations if it is necessary to determine compliance with the rules of this Subchapter.
- (4) Within 90 days of the readopted effective date of this Rule, existing transfer or storage operations shall comply with Subparagraph (2) of this Paragraph.
- (5) The transfer or storage operations shall comply with Rule .1202(o), (p), and (q) of this Section.

*History Note: Authority G.S. 130A-309.26;
Eff. October 1, 1990;
Amended Eff. April 1, 1993;
Readopted Eff. November 1, 2019.*

15A NCAC 13B .1204 REQUIREMENTS FOR THE TREATMENT OF REGULATED MEDICAL WASTE

(a) General requirements for treated regulated medical waste:

- (1) Treated regulated medical waste shall be covered to prevent exposure to the environment and inclement weather.
- (2) Treated regulated medical waste may be placed uncovered in or under a weather resistant structure while dewatering or while in the process of being covered.
- (3) Treated regulated medical waste shall be stored no longer than 14 calendar days after treatment unless the facility's operations plan states that the storage unit is a necessary part of the operation of the treatment process and is enclosed, sealed, and watertight.
- (4) Treated regulated medical waste storage and transport containers, compactors, trailers, and cargo bays shall be maintained in accordance with the manufacturer's specifications.
- (5) Treated regulated medical waste shall not be transported off site uncovered.
- (6) The exterior of treated regulated medical waste storage and transport containers, compactors, trailers, and cargo bays shall be free of solid waste and solid waste residue.
- (7) Treated regulated medical waste shall not become putrescent. Putrescent treated regulated medical waste shall be disposed of within three calendar days.
- (8) Treated regulated medical waste shall not become a nuisance.
- (9) Treated regulated medical waste shall be noninfectious.

(b) General requirements for treatment facilities:

- (1) The treatment facility shall be compliant with Rule .1202(o), (p), and (q) of this Section.
- (2) The treatment facility shall issue a written record notifying the generating facility if it becomes aware of a package of medical waste received that is not in compliance with Rule .1202(i) of this Section for the treatment method utilized. A copy of the record shall be maintained at the treatment facility.
- (3) The treatment facility shall maintain a record of each shipment of regulated medical waste received for treatment for a period of three years to include the following information:
 - (A) the number of packages;
 - (B) the generator name, physical address, and phone number;
 - (C) the transporter name, physical address, and phone number;
 - (D) the date each package was picked up from the generator;
 - (E) the date each package was received at the treatment facility;
 - (F) the weight of each package in pounds; and
 - (G) the date each package was treated.
- (4) The treatment facility shall submit a facility operations plan to the Division with the permit application required in accordance with the rules of this Subchapter that shall include the following information:
 - (A) the name, mailing address, physical address, office and mobile phone numbers, and email address for the responsible party(s), owner(s), and operator(s);
 - (B) the physical address and the county GIS property data for the facility location;
 - (C) types and estimated amounts of medical waste to be accepted at and shipped out from the facility;
 - (D) a description of the treatment process or processes, and treatment unit specifications;
 - (E) procedures for how the medical waste will be received, handled, stored, transferred, or treated at the facility;
 - (F) procedures for sampling or testing required by the rules of this Section;
 - (G) procedures that the facility shall use to prevent medical waste from becoming a nuisance or putrescent, and procedures for abatement if medical waste becomes a nuisance or putrescent;
 - (H) contingency plan identifying risks and describing how the facility or transporter will respond to incidents or emergencies, including a phone number for a facility or transporter representative that is available to respond 24 hours a day and seven days a week, and how regulated medical waste will be handled or redirected when facilities or transport vehicles are unavailable due to maintenance, adverse weather, or other emergencies; and

- (I) additional information that the Division may request pertaining to the facility operations if it is necessary to determine compliance with the rules of this Section.

A copy of the operations plan shall be kept at the facility and shall be available for review by the Division during facility inspections or upon request by the Division. If the information required by this Paragraph changes, the facility shall submit a revised facility operations plan to the Division and update the copies of the plan kept by the facility.

- (5) The treatment facility shall maintain a record of the disposal facility's contact information including the facility name, permit number, physical location and mailing address, and contact name and phone number.
- (6) The treatment facility shall maintain a record of the dates and tonnages of treated regulated medical waste sent for disposal.
- (7) The treatment facility shall maintain operating records and monitoring, testing, and maintenance records required in accordance with the rules of this Section for a period of three years.
- (8) The facility shall submit an annual report to the Division in accordance with G.S. 130A-309.09D(b).

(c) Steam sterilization treatment requirements:

- (1) Steam under pressure shall be provided to maintain a temperature of not less than 250 degrees Fahrenheit for 45 minutes at 15 pounds per square inch of gauge pressure during each cycle.
- (2) The steam sterilization unit shall have a device that records the start and end time of each cycle.
- (3) The steam sterilization unit shall have a device that records the pressure and a device that records the temperature throughout each cycle.
- (4) Testing of treatment under conditions of full loading to confirm compliance with Subparagraph (a)(9) of this Rule shall be performed no less than once per week using a biological indicator of *Geobacillus stearothermophilus* spores having a population of not less than 1.0×10^4 placed within the waste load.
- (5) A record of each test performed shall be maintained and shall include the type of indicator used, the test date, the start and end times, and the test result.

(d) Incineration treatment requirements:

- (1) The Division shall not issue a solid waste management permit in accordance with the rules of this Subchapter to the treatment facility unless the Division of Air Quality (DAQ) has issued a permit for operation of the incinerator.
- (2) The treatment facility shall maintain the DAQ permit for the operation of the incinerator.
- (3) Regulated medical waste shall be subjected to a burn temperature in the primary chamber of not less than 1200 degrees Fahrenheit.
- (4) The incinerator shall have a monitoring device that records the primary chamber temperature. A record of the continuous monitoring of the primary chamber temperature while in use shall be maintained.
- (5) Interlocks or other process control devices shall be provided to prevent the introduction of regulated medical waste into the primary chamber until the secondary chamber achieves operating temperature as defined in the permit for incinerator operation issued by DAQ.
- (6) Procedures for obtaining uniform representative composite ash samples shall be submitted to the Division for approval in the facility operations plan in accordance with Rule .1204(b)(4) of this Section. Ash sampling procedures shall be approved if the procedures are compliant with the requirements of this Subchapter, are protective of human health and the environment, and if the samples collected using the procedures are representative of the incinerator ash shipped from the facility for disposal.
- (7) The ash samples shall be collected from the dewatered ash collection container or containers.
- (8) For the first three months of incinerator operation, the ash sampling procedures required by Subparagraph (6) of this Paragraph shall include the collection of a representative ash sample of one kilogram (2.2 pounds):
 - (A) once for every eight hours of operation for an incinerator that is operated on a continuous schedule;
 - (B) once for every 24 hours of operation for an incinerator that is operated on an intermittent schedule; or
 - (C) once for every batch for an incinerator that is batch-loaded.

The ash samples shall be composited in a closed container weekly and shall be mixed and reduced to a uniform ash sample. The weekly ash samples shall be composited into a monthly ash sample, and the monthly ash sample shall be analyzed.

- (9) For the remainder of the first year of incinerator operation, a representative ash sample shall be collected once per month using the procedures described in the facility operations plan. The monthly ash samples shall be composited and reduced to a uniform quarterly ash sample, and the quarterly ash samples shall be analyzed.
 - (10) After the first year of incinerator operation, representative composite ash samples shall be collected using the procedures described in the facility operations plan twice per calendar year, with no less than four months between sample collection, and the samples shall be analyzed.
 - (11) Ash samples required to be analyzed in accordance with Subparagraphs (8) through (10) of this Paragraph shall be analyzed in accordance with 40 CFR 261.24 for the eight metals listed in Table 1 (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver). 40 CFR 261 is incorporated by reference including subsequent amendments and editions; and can be accessed at no cost at <https://www.gpo.gov/>.
 - (12) A record of the testing and analysis results shall be submitted to the Division for the first year of incinerator operation, and upon request from the Division thereafter. The record shall be maintained at the facility and available for inspection by the Division. The record shall include:
 - (A) the composite ash sample date and time;
 - (B) the ash sample date and time;
 - (C) the ash sample identification number;
 - (D) the ash sample analysis results; and
 - (E) the testing laboratory name and contact information and certification number.
 - (13) The Division may require the treatment facility to collect additional composite ash samples or analyze the samples for the full contaminant list in accordance with 40 CFR 261.24 Table 1 if the results of the analysis required in Subparagraphs (8) through (11) of this Paragraph indicate an exceedance of the regulatory level provided in 40 CFR 261.24 Table 1; or during a permitting action, a facility inspection, or when a complaint is received if it is necessary to determine compliance with the rules of this Subchapter. The requirements of this Paragraph shall not prevent a municipal solid waste landfill that is accepting incinerator ash from a treatment facility from requiring that additional ash samples be taken and analyzed to determine compliance with the rules of this Subchapter before the ash is accepted for disposal.
- (e) Chemical treatment requirements:
- (1) Microbiological waste shall be treated with 10 percent chlorine solution for no less than one hour.
 - (2) Testing of treatment under conditions of full loading to confirm compliance with Subparagraph (a)(9) of this Rule shall be performed no less than once per week using a biological indicator of *Bacillus atrophaeus* spores having a population of not less than 1.0×10^6 .
 - (3) A record of each test performed shall be maintained and shall include the type of indicator used, the test date, the start and end times, and the test result.
- (f) Microwave treatment requirements:
- (1) Microwave energy of appropriate output frequency shall be provided at a temperature of not less than 203 degrees Fahrenheit (95 degrees Celsius) for no less than 30 minutes each cycle.
 - (2) The microwave treatment system shall be provided with a monitoring device that records time and temperature of each cycle. A record of the monitoring of the time and temperature of each cycle shall be maintained.
 - (3) Testing of treatment under conditions of full loading to confirm compliance with Subparagraph (a)(9) of this Rule shall be performed no less than once per week using a biological indicator of *Bacillus atrophaeus* spores having a population of not less than 1.0×10^6 and in accordance with the equipment manufacturer's instructions.
 - (4) A record of each test performed shall be maintained and shall include the type of indicator used, the test date, the start and end times, and the test result.
- (g) Ozonation treatment requirements:
- (1) Testing of treatment under conditions of full loading to confirm compliance with Subparagraph (a)(9) of this Rule shall be performed no less than once per week using a biological indicator of *Bacillus atrophaeus* spores having a population of not less than 1.0×10^6 and in accordance with the equipment manufacturer's instructions.

- (2) Once every six months samples collected under conditions of full loading shall be submitted to an independent laboratory to confirm compliance with Subparagraph (a)(9) of this Rule.
 - (3) A record of each test performed shall be maintained and shall include the type of indicator used, the test date, the start and end times, and the test result.
- (h) Alternative treatment methods.
- (1) A treatment facility owner or operator may request to use a method of, or procedures for, regulated medical waste treatment not listed or described in this Rule by submitting a request to the Division for approval. The request shall include documentation that describes the alternative treatment method, explains the procedures and provides analysis results to demonstrate that the treatment method will render the regulated medical waste noninfectious, and describes how the treatment method meets the requirements of the rules of this Section.
 - (2) A request for an alternate method of chemical treatment shall also describe the chemical used to treat the specific microbiological agent(s) of concern for the regulated medical waste type, and shall consider factors such as temperature, contact time, pH, concentration, and the presence and state of dispersion, penetrability, and reactivity of organic material at the site of application.
 - (3) The Division shall approve the alternative treatment method by issuing the permit or an approval letter if the alternative treatment method renders the regulated medical waste noninfectious, and the alternative treatment method is compliant with the rules of this Section and protective of human health and the environment.

*History Note: Authority G.S. 130A-309.26;
 Eff. October 1, 1990;
 Amended Eff. October 1, 1992; December 1, 1991; March 1, 1991;
 Readopted Eff. November 1, 2019.*

SECTION .1400 - SOLID WASTE COMPOST FACILITIES

15A NCAC 13B .1401 REQUIREMENT FOR PERMIT

- (a) No person shall construct, operate, expand, or modify a facility that produces compost from solid waste or solid waste co-composted with other wastes unless it has a currently valid permit issued by the Division for a solid waste compost facility, except as provided in Rule .1402(f) and (g) of this Section. General provisions, siting, design, application, operational, distribution, reporting, and closure requirements shall be in accordance with Rules .1402 through .1410 of this Section.
- (b) Plans for a Large Type 3 or Type 4 Solid Waste Compost Facility, as defined in Rule .1402(e) of this Section, or plans for any facility located over a closed-out disposal area, shall be submitted with the permit application in accordance with Rule .0202(a)(3) of this Subchapter.
- (c) Compost permits shall be issued for a period of 10 years. An application for renewal of a permit shall be submitted to the Division in accordance with Rule .1405 of this Section no less than four months prior to expiration of the existing permit.
- (d) Permit modifications.
 - (1) The owner or operator shall submit to the Division a permit application in accordance with Rule .1405 of this Section for a major modification to the existing permit issued by the Division. For the purpose of this Section, a major modification means any of the following: a change in the property or facility operator or ownership, a change in facility type as defined in Rule .1402 of this Section, an expansion or relocation of the operations area in the existing permit, or a change to the operations or design plan such as changes in the compost method, waste receipt and handling, feedstock storage, or processing layout. A permit issued by the Division as a result of a permit modification shall be in compliance with Paragraph (c) of this Rule.
 - (2) The owner or operator shall not be required to submit a permit application to the Division in accordance with Rule .1405 of this Section for a change to a plan that was submitted in accordance with Rule .1405 of this Section if the Division determines that the change does not meet the definition of a major modification provided in Subparagraph (1) of this Paragraph, the change complies with the requirements of this Section, and the owner or operator submits to the Division written notice of the change, including documentation of the updated information such as revised

pages or addendums to the plan. The Division shall acknowledge receipt of the change by sending written notice to the owner or operator.

(e) For purposes of this Section, "operations area" means the total area used for mixing, grinding, processing, composting, curing, and wood waste and feedstock unloading and storage. Operations area shall not include buffer areas.

(f) For purposes of the Section, "material onsite" means wood wastes, feedstocks, mixtures, and active and curing compost, but shall not include finished product.

*History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29;
Eff. December 1, 1991;
Amended Eff. May 1, 1996;
Readopted Eff. November 1, 2019.*

15A NCAC 13B .1402 GENERAL PROVISIONS FOR SOLID WASTE COMPOST FACILITIES

(a) The provisions of this Rule shall apply to the following facilities:

- (1) facilities that produce compost or mulch from yard waste or from residues from agricultural products and processing;
- (2) vermicomposting facilities;
- (3) anaerobic digestion facilities; and
- (4) compost facilities that compost solid waste or co-compost solid waste with sludges that are not classified as a solid waste functioning as a nutrient source.

(b) Facilities that co-compost with sewage sludge shall comply with all applicable federal regulations regarding sludge management in 40 CFR 503, which is incorporated by reference including subsequent amendments and editions. Copies of the Code of Federal Regulations may be obtained from the U.S. Government Publishing Office website at www.gpo.gov at no cost.

(c) The provisions of this Section shall not apply to compost facilities that compost only wastewater treatment sludge with solid waste functioning only as a bulking agent.

(d) Solid waste compost produced outside the State of North Carolina and imported into the state shall comply with the requirements specified in Rule .1407 of this Section.

(e) Solid waste compost facilities shall be classified based on the types and amounts of materials to be composted as follows:

- (1) Type 1 facilities may receive yard and garden waste, silvicultural waste, and untreated and unpainted wood waste.
- (2) Type 2 facilities may receive pre-consumer meat-free food processing waste, vegetative agricultural waste, source separated paper, and other source separated specialty wastes that are low in pathogens and physical contaminants. Waste acceptable for a Type 1 facility may be composted at a Type 2 facility.
- (3) Type 3 facilities may receive manures and other agricultural waste, meat, post-consumer source-separated food wastes, and other source-separated specialty wastes that are low in physical contaminants but may have high levels of pathogens. Waste acceptable for a Type 1 or 2 facility may be composted at a Type 3 facility.
- (4) Type 4 facilities may receive industrial solid waste, non-solid waste sludges functioning as a nutrient source or other similar compostable organic wastes, or any combination thereof. Waste acceptable for a Type 1, 2, or 3 facility may be composted at a Type 4 facility.
- (5) In determining whether a specific waste stream listed in Subparagraphs (1) through (4) of this Paragraph is acceptable for composting, the Division shall consider the method of handling the waste prior to delivery to the facility as well as the physical characteristics of the waste. Testing for pathogens and physical contaminants shall be required if a determination cannot be made based upon prior knowledge of the waste. Test methods and constituents tested shall comply with Rule .1407(b)(2), (b)(3), (b)(5), and (b)(6) of this Section.
- (6) Small facilities.
 - (A) Small Type 1 facilities shall have an operations area less than two acres in size and shall be limited to no more than 6,000 cubic yards material onsite at any given time, including finished product.
 - (B) Small Type 2, 3, and 4 facilities shall have an operations area less than two acres in size and shall be limited to no more than 1,000 cubic yards material onsite at any given time.

- (7) Large facilities.
 - (A) Large Type 1 facilities shall have an operations area of two or more acres in size or have more than 6,000 cubic yards material onsite at any given time.
 - (B) Large Type 2, 3, and 4 facilities shall have an operations area of two or more acres in size or have more than 1,000 cubic yards material onsite at any given time.
- (f) The following operations shall be exempt from the requirements of this Section:
 - (1) backyard composting;
 - (2) farming operations and silvicultural operations if the compost is produced from materials grown on the owner's land and re-used on the owner's land or associated farming operations and not offered to the public; and
 - (3) persons receiving no more than 30 cubic yards of leaves from an offsite source on an annual basis.
- (g) The following operations shall be exempt from the permitting requirements in Rule .1401 of this Section:
 - (1) Small Type 1 Facilities meeting the following conditions:
 - (A) notification to the Division prior to operation and on an annual basis as to:
 - (i) the facility location;
 - (ii) the name(s) and contact information of the owner and operator;
 - (iii) type and amount of wastes received;
 - (iv) the composting process to be used;
 - (v) the intended distribution of the finished product; and
 - (vi) for new facilities only, a letter from the unit of government having zoning jurisdiction over the site that states that the proposed use is allowed within the existing zoning, if any, and that any necessary zoning approval or permit has been obtained;
 - (B) the facility operates in accordance with the operational requirements as set forth in Rule .1406(1) through (11) and (16) of this Section and the setbacks in Rule .1404(a)(1) through (a)(10) of this Section;
 - (C) the facility operates in accordance with all other state or local laws, ordinances, rules, regulations or orders;
 - (D) the facility shall not be located over a closed-out disposal site; and
 - (E) safety measures shall be taken to prevent fires and access to fire equipment or fire-fighting services shall be provided.
 - (2) Compost facilities meeting the following conditions:
 - (A) the site receives for composting pre- and post-consumer food waste, manure, vegetative agricultural waste, yard and garden waste, land-clearing debris, untreated and unpainted wood waste, or source separated paper;
 - (B) material onsite, not including finished compost, shall not exceed 100 cubic yards at any time;
 - (C) the operations area shall be less than 1.0 acres total;
 - (D) the site operates in accordance with operational requirements as set forth in Rule .1406 of this Section and the setbacks in Rule .1404(a)(1) through (a)(10) of this Section, except that the buffer between property line and operations area shall be at least 50 feet and the buffer between the operations area and residences or dwellings not owned and occupied by the operator shall be at least 200 feet;
 - (E) the site is operated to prevent the release of particulates and odors outside of the property boundary, and the site does not attract vectors such as insects and rodents;
 - (F) for facilities producing compost that is distributed to the public or used in public areas, compost produced from the facility shall meet the pathogen testing and record keeping requirements per Rule .1407(b) and Rule .1408(a) of this Section; and
 - (G) the site operates in accordance with all applicable State or local laws, ordinances, rules, regulations, or orders.

*History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29;
 Eff. December 1, 1991;
 Amended Eff. May 1, 1996;
 Readopted Eff. November 1, 2019.*

15A NCAC 13B .1403 GENERAL PROHIBITIONS FOR SOLID WASTE COMPOST FACILITIES

- (a) Neither hazardous waste nor asbestos-containing waste shall be accepted at a facility or processed into compost.
- (b) Household hazardous waste shall not be accepted by a facility, except in an area designated by facility site plans for storage, and shall not be processed into compost.
- (c) Compost made from solid waste that cannot be used pursuant to the requirements of this Rule shall be reprocessed or disposed of pursuant to the requirements of this Subchapter.

*History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29;
Eff. December 1, 1991;
Amended Eff. May 1, 1996;
Readopted Eff. November 1, 2019.*

15A NCAC 13B .1404 SITING/DESIGN REQUIREMENTS FOR SOLID WASTE COMPOST FACILITIES

(a) A site shall meet the requirements of this Rule at the time of initial permitting and shall continue to meet these requirements throughout the life of the permit only on the site property owned or controlled by the applicant or by the landowner(s) at the time of permitting.

- (1) A site located in a floodplain shall not restrict the flow of the 100-year flood, reduce the temporary storage capacity of the floodplain, or result in washout of solid waste, so as to pose a hazard to human life, wildlife, land, or water resources.
- (2) A 100-foot buffer shall be maintained between all property lines and compost areas for Type 3 and 4 facilities, 50-foot for Type 1 or 2 facilities.
- (3) A 500-foot buffer shall be maintained between compost areas and residences or dwellings not owned and occupied by the permittee, except that Type 1 and Small Type 2 and 3 facilities shall maintain a 200-foot buffer.
- (4) A 100-foot buffer shall be maintained between all wells and compost areas, except monitoring wells.
- (5) A 50-foot buffer shall be maintained between perennial streams and rivers and compost areas.
- (6) A compost facility shall be located in accordance with 15A NCAC 02B .0200, Classification and Water Quality Standards Applicable to Surface Waters in North Carolina.
- (7) All portions of a compost facility located over a closed-out disposal area shall be designed with a pad adequate to protect the disposal area cap from being disturbed, as defined in Part (a)(10)(C) of this Rule, and there shall be no runoff from the pad onto the cap or side slopes of the closed out area.
- (8) A 25-foot minimum distance shall be maintained between compost areas and swales or berms;
- (9) A site shall meet the following surface water requirements:
 - (A) a site shall not cause a discharge of materials or fill materials into waters or wetlands of the State that is in violation of Section 404 of the Clean Water Act;
 - (B) a site shall not cause a discharge of pollutants into waters of the State that is in violation of the requirements of the National Pollutant Discharge Elimination System (NPDES), pursuant to Section 402 of the Clean Water Act; and
 - (C) a site shall not cause non-point source pollution of waters of the State that violates the water quality standards as set forth in 15A NCAC 02B.
- (10) A site shall meet the following groundwater and operations area pad requirements:
 - (A) a site shall not contravene groundwater standards as set forth in 15A NCAC 02L;
 - (B) the operations area of Type 1, 2, and 3 facilities shall have one of the following:
 - (i) a soil pad with a soil texture finer than loamy sand. For a Type 1 or 2 facility, the depth to the seasonal high water table shall be maintained at least 12 inches. For a Type 3 facility, the depth to the seasonal high water table shall be maintained at least 24 inches; or
 - (ii) a pad in accordance with Part (C) of this Subparagraph;
 - (C) the operations area of a Type 4 facility shall have a pad with a linear coefficient of permeability no greater than 1×10^{-7} cm/sec. The pad shall consist of one of the following:

- (i) a non-soil pad, such as concrete and asphalt, designed and constructed to meet the weight requirements of the compost operation and to prevent infiltration of liquids to groundwater; or
 - (ii) a soil pad of at least 18 inches constructed in accordance with Rule .1624(b)(8) and Rule .1621 of this Subchapter. A 12-inch soil layer shall be maintained over the pad to protect it from damage and desiccation: and
- (D) finished product shall be stored where the depth to the seasonal high water table is at least 12 inches below ground surface.
- (b) For Subparagraphs (a)(2) through (a)(4) and Part (a)(10)(B) of this Rule, alternative minimum buffers or requirements may be modified by the Division, based on the waste type, facility design, and regional topography, if necessary to protect public health and the environment or to prevent the creation of a nuisance.
- (c) A site shall meet the following design requirements:
 - (1) a site shall not allow unauthorized public access;
 - (2) a site shall meet the requirements of Sedimentation Control (15A NCAC 04);
 - (3) a site shall meet the requirements of the Air Pollution Control Requirements (15A NCAC 02D) to minimize fugitive emissions and odors; and
 - (4) a site shall be designed to minimize odors at the property boundary by means such as expanded buffers, consideration of topography and wind patterns, or process layout design.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29;
Eff. December 1, 1991;
Amended Eff. May 1, 1996;
Readopted Eff. November 1, 2019.

15A NCAC 13B .1405 APPLICATION REQUIREMENTS FOR SOLID WASTE COMPOST FACILITIES

One paper copy and one electronic copy of a solid waste compost facility permit application shall be submitted to the Division. The following information shall be required for an application for a permit to construct and operate a Large Type 1, Small or Large Type 2 or 3 or all Type 4 solid waste compost facilities:

- (1) the name and contact information of the facility owner and operator;
- (2) documentation of property ownership, including:
 - (a) the property owners;
 - (b) a current property deed; and
 - (c) a notarized acknowledgement letter from the landowner of use of the property as a solid waste facility if the landowner is not the facility owner or operator.
- (3) an aerial photograph or scaled drawing, at a scale of one inch to less than or equal to 400 feet, showing the area within one-fourth mile of the proposed site's boundaries with the following identified:
 - (a) the entire property owned or leased by the person proposing the facility;
 - (b) the location of all homes, wells, industrial buildings, public or private utilities, roads, watercourses, and the topography within 500 feet of the proposed facility; and
 - (c) the land use zoning of the proposed site.
- (4) a letter from the unit of government having zoning jurisdiction over the site that states that the proposed use is allowed within the existing zoning, if any, and that necessary zoning approvals or permits have been obtained;
- (5) an explanation of how the site complies with siting and design standards required by Rule .1404 of this Section;
- (6) a report indicating the following:
 - (a) the waste types, the source and estimated quantity of the solid waste to be composted including the source and expected quantity of any bulking agent or amendment (if applicable), expected recycling of bulking agent or compost, and seasonal variations in the solid waste type or quantity; and
 - (b) for facilities that use natural soils as a pad, a soil evaluation of the site conducted by a licensed soil scientist down to a depth of four feet or to bedrock or evidence of a seasonal high water table, evaluating all physical soil properties and depth of the seasonal high water table;

- (7) a site plan at a scale of one inch to less than or equal to 100 feet that delineates the following:
 - (a) the existing and proposed contours, at intervals appropriate to the topography;
 - (b) the location and elevations of dikes, trenches, and other water control devices and structures for the diversion and controlled removal of surface water;
 - (c) the designated setbacks and property lines;
 - (d) the proposed utilities and structures;
 - (e) the areas for unloading, processing, active composting, curing, and storing of material;
 - (f) the access roads and details on traffic patterns;
 - (g) the wetlands, streams, and 100-year floodplains; and
 - (h) the proposed surface and groundwater monitoring locations, if required.
- (8) an operations plan that includes the following:
 - (a) the name and contact information for the person responsible for the operation of the facility;
 - (b) a list of personnel and the responsibilities of each position;
 - (c) a schedule for operations, including days and hours that the facility will be open, preparations before opening, and procedures to be followed after closing for the day;
 - (d) special precautions or procedures for operating during wind, heavy rain, snow, freezing or other adverse conditions;
 - (e) a description of actions to be taken to minimize noise, vectors, and air borne particulates;
 - (f) a description of the use for the finished compost, the method for removal from the site, and a contingency plan for disposal or alternative use of residues or finished compost that cannot be used in the expected manner due to poor quality or change in market conditions;
 - (g) contingency plan describing actions to be taken for equipment breakdown, unauthorized waste arriving at the facility, spills, and fires;
 - (h) a discussion of compliance with the operational requirements listed in Rule .1406 of this Section; and
 - (i) for Large Type 1, Large Type 2, Large Type 3, and all Type 4 facilities, include the following:
 - (i) a description of procedures for incoming material inspections;
 - (ii) a description of procedures to meet the final product sampling and analyses requirements specified in in Rule .1407 of this Section;
 - (iii) a description of procedures to meet the record keeping requirements specified in Rule .1408 of this Section; and
 - (iv) a copy of all applicable local, state, and federal permits and approvals necessary for the operation of the facility.
- (9) a report on the design of the facility, including:
 - (a) the design capacity of the facility;
 - (b) a process flow diagram of the entire facility, including the type, size, and location of all equipment used in the compost process, and feedstock flow streams. The flow streams shall indicate the quantity of materials by weight and volume;
 - (c) a description and sizing of the storage facilities for feedstocks, amendments, and finished compost;
 - (d) the means for measuring, shredding, mixing, and proportioning input materials;
 - (e) the anticipated process duration, including receiving, preparation, composting, curing, and distribution;
 - (f) a description of the location of all temperature and any other type of monitoring points within the compost windrow, and the frequency of monitoring;
 - (g) a description of how the temperature control and monitoring equipment will demonstrate that the facility meets the requirements in Rule .1406(11), (12), or (13) of this Section, as appropriate for the feedstock;
 - (h) the method of aeration provided and the capacity of aeration equipment;
 - (i) a description of the method to control surface water run-on and run-off and the method to control, collect, treat, and dispose of leachate generated;
 - (j) the separation, processing, storage, and ultimate disposal of non-compostable materials, if applicable;

- (k) a description of dust control and other air emission control measures; and
- (l) a description of recycling or other material handling processes used at the facility.
- (10) Odor Control Plan. Operators of Large Type 2, Large Type 3, and all Type 4 facilities shall prepare, submit to the Division, and implement an odor control plan that details site specific conditions to meet the design requirement in Rule .1404(c)(4) of this Section. Existing facilities permitted prior to the readopted effective date of this Rule shall meet these requirements at the time of permit renewal. The plan shall contain the following:
 - (a) an identification of all onsite potential odor sources;
 - (b) a description of onsite weather conditions that may affect odor migration, such as prevailing wind direction, topography, and seasonal variations;
 - (c) a plan to monitor onsite odor and record odor data for the odor sources with the potential to migrate offsite. Data shall include date, time, site specific conditions, weather conditions, wind direction, and characteristics and intensity of odor;
 - (d) a description of the facility's odor complaint protocol, including forms used, odor verification by operator both onsite and offsite, what the response will be, and who will be contacted;
 - (e) a description of complaint record keeping; and
 - (f) a description of odor control design and operating best management practices to be used onsite, including:
 - (i) personnel training;
 - (ii) feedstock characteristics;
 - (iii) the initial mixing of feedstocks to reach targeted carbon to nitrogen (C:N) ratios and moisture levels;
 - (iv) maintenance of compost piles for moisture;
 - (v) aeration methods, frequency, and protocol;
 - (vi) leachate and liquids management;
 - (vii) weather monitoring and protocol;
 - (viii) management of airborne emissions; and
 - (ix) windrow covering;
- (11) engineering plans and specifications for the facility, including manufacturer's performance data for all equipment selected; and
- (12) documentation that the local fire protection authority has been notified of the site use.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29;
Eff. December 1, 1991;
Amended Eff. May 1, 1996;
Readopted Eff. November 1, 2019.

15A NCAC 13B .1406 OPERATIONAL REQUIREMENTS FOR SOLID WASTE COMPOST FACILITIES

A person who maintains or operates a solid waste compost facility shall maintain and operate the site to conform with the practices and operational requirements of this Rule.

- (1) Plan and Permit Requirements.
 - (a) Approved plans and conditions of the permit shall be followed.
 - (b) A copy of the permit, plans, and operational reports shall be maintained on site at all times.
- (2) Erosion control measures shall be practiced to prevent on-site erosion and to control the movement of silt or contaminants from the site.
- (3) Stormwater shall be diverted from the operations area.
- (4) Leachate shall be contained on site or treated prior to discharge. A National Pollutant Discharge Elimination System (NPDES) permit may be required in accordance with 15A NCAC 02B prior to the discharge of leachate to surface waters.
- (5) Access and Security Requirements.
 - (a) Large facilities as defined in Rule .1402(e)(7) of this Section shall be secured to prevent unauthorized entry by means such as gates, chains, berms, or fences.

- (b) An operator shall be on duty at the site at all times while the facility is open for public use, and shall prevent unauthorized access to the facility operations area.
 - (c) The access road to the site shall be of all-weather construction and maintained.
- (6) A site shall only accept those solid wastes that it is permitted to receive.
- (7) Safety Requirements.
 - (a) Open burning of solid waste shall be prohibited.
 - (b) Equipment shall be provided to control accidental fires and arrangements made with the local fire protection agency to provide fire-fighting services when needed.
 - (c) Personnel training shall be provided to ensure that all employees are trained in site specific safety, remedial, and corrective action procedures.
- (8) Reporting Fires. Fires shall be reported to the Division orally within 24 hours of the incident and in writing within 15 days of the incident.
- (9) Sign Requirements.
 - (a) Signs providing information on waste that may be received, dumping procedures, the hours during which the site is open for public use, and the permit number shall be posted at the site entrance.
 - (b) Traffic signs and markers shall be provided to direct traffic to and from the discharge area.
 - (c) Signs shall be posted stating that no hazardous waste, asbestos containing waste, or medical waste may be received at the site.
- (10) Monitoring Requirements.
 - (a) Temperature monitoring shall meet the record-keeping requirements in Rule .1408 of this Section.
 - (b) The temperature of all compost produced shall be monitored sufficiently to ensure that the pathogen reduction criteria are met. Onsite thermometers shall be calibrated annually and records of calibration shall be maintained.
- (11) Compost process at Type 1 and Type 2 facilities shall be maintained at or above 55 degrees Celsius (131 degrees F) for three days and aerated to maintain elevated temperatures.
- (12) Vector Attraction Reduction (VAR). Types 2, 3 and 4 facilities shall maintain the compost process at a temperature above 40 degrees Celsius (104 degrees F) for 14 days or longer and the average temperature for that time shall be higher than 45 degrees Celsius (113 degrees F).
- (13) Process to Further Reduce Pathogens (PFRP). The composting process shall qualify as a process to further reduce pathogens for all Type 3 and Type 4 facilities. The following shall be acceptable methods:
 - (a) the windrow composting method, in which the following requirements apply:
 - (i) aerobic conditions shall be maintained during the composting process;
 - (ii) a temperature of 131 degrees F (55 degrees Celsius) or greater shall be maintained in the windrow for at least 15 days; and
 - (iii) during the high temperature period, the windrow shall be turned at least five times.
 - (b) the static aerated pile composting method, in which the following requirements apply:
 - (i) aerobic conditions shall be maintained during the composting process; and
 - (ii) the temperature of the compost pile shall be maintained at 131 degrees F (55 degrees Celsius) or greater for at least three days.
 - (c) the within-vessel composting method, in which the temperature in the compost piles shall be maintained at a minimal temperature of 131 degrees F (55 degrees Celsius) for three days.
- (14) Putrescible feedstocks added to the compost process shall be incorporated using methods to minimize odor such as reducing mixing time or the addition of organic material.
- (15) The finished compost shall meet the classification, testing, and distribution requirements in Rule .1407 of this Section.
- (16) The amount of compost stored at the facility shall not exceed the designed storage capacity.
- (17) The site shall be operated to minimize odors at the property boundary by means such as windrow covers, maintaining design process indicator parameters, and maintaining carbon to nitrogen design ratios.
- (18) Odor Corrective Action.

- (a) If the Odor Control Plan prepared in accordance with Rule .1405(10) of this Section has been followed and the Division determines during a site visit that offsite odors are not being minimized, the owner or operator shall submit to the Division an Odor Corrective Action Report. The report shall contain the following:
 - (i) a summary of the actions taken in the Odor Control Plan;
 - (ii) an identification of onsite odor sources, in order of severity;
 - (iii) an evaluation and identification of odorous feedstocks as they relate to odor complaints;
 - (iv) an evaluation of current operation process indicators including carbon to nitrogen (C:N) ratio, pH, moisture content, oxygen levels, temperature, porosity, and particle size;
 - (v) an evaluation of the compost recipe calculation with C:N ratio testing that is performed by an independent laboratory for each feedstock;
 - (vi) an identification of potential offsite odor receptors based on their proximity to the odor sources and on weather patterns;
 - (vii) a description of new odor reduction methods, if proposed, and an evaluation of their feasibility, in terms of effectiveness, cost, and equipment needs;
 - (ix) an evaluation of the elimination of specific odorous feedstocks; and
 - (x) recommendations for implementing new corrective action measures for odor minimization, including a schedule.
 - (b) The owner or operator shall implement the new corrective action measures for odor minimization recommended in the Odor Corrective Action Report if the Division determines that the new corrective measures will reduce odors outside of the property boundary and will comply with the requirements of this Section. The Division may require the elimination of specific odorous feedstocks if a facility fails to meet the odor minimization required by Item (17) of this Rule. The Division shall provide written notice to the owner or operator of the determination.
 - (c) The owner or operator shall develop and implement additional corrective action measures if necessary to meet the requirements of Item (17) of this Rule to minimize odors at the property boundary.
- (19) Compost Facility Training Requirements.
- (a) Facilities permitted as Large Type 1, Large Type 2, all Type 3, and all Type 4 shall have an operator, supervisor, or manager trained in accordance with the requirements in G.S. 130A-309.25. No less than one trained operator, supervisor, or manager meeting the requirements of this Sub-item shall be onsite during the facility's operating hours or available at a phone number provided in the facility permit.
 - (i) Training in accordance with G.S. 130A-309.25(c) shall be required every five years.
 - (ii) Persons who have achieved and maintain compost operator certification by the US Composting Council Certification Commission or equivalent shall be considered as having met the training requirements in G.S. 130A-309.25 for the permitted facility.
 - (b) Owners or operators shall provide annual training for facility staff, including a review of the operations plan and permit documents.
 - (c) Documentation of training required in Sub-items (a) and (b) of this Item shall be maintained at the facility and made available to the Division upon request.
 - (d) Facilities permitted before the readopted effective date of this Rule shall meet the requirements of Sub-item (a) of this Item within three years of the readopted effective date of this Rule. Facilities permitted after the readopted effective date of this Rule shall meet the requirements of Sub-item (a) of this Item within 18 months of permit issuance.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29; Eff. December 1, 1991; RRC objection Eff. April 18, 1996 due to lack of statutory authority; Amended Eff. June 1, 1996; Readopted Eff. November 1, 2019.

15A NCAC 13B .1407 CLASSIFICATION, TESTING, AND DISTRIBUTION OF SOLID WASTE COMPOST PRODUCTS

(a) Compost or mulch that is produced at a Type 1 facility, is free from offensive odor, contains no sharp particles, and, for compost, has met the temperature requirements in Rule .1406(11) of this Section shall be classified Grade A and have unrestricted application and distribution. Compost analytical testing shall not be required for Type 1 compost if temperature requirements in Rule .1406(11) of this Section have been met and documented.

(b) Compost produced from Type 2, 3, and 4 facilities shall be sampled and analyzed as follows:

- (1) a composite sample of the compost produced at each compost facility shall be analyzed at intervals of every 20,000 tons of compost produced or every six months, whichever comes first, for metals and pathogens;
- (2) compost samples shall be analyzed for the metals listed in 40 CFR 503.13(b)(3), except that analysis for mercury shall not be required for Type 2 and 3 facilities, and analysis for arsenic and selenium shall not be required for Type 2 facilities. The concentration of metals in compost offered for sale or distribution to the public shall not exceed the pollutant concentration limits listed in 40 CFR 503.13(b)(3). 40 CFR 503.13 and 40 CFR 503.32 are incorporated by reference including subsequent amendments and editions. Copies of the Code of Federal Regulations may be obtained from the U.S. Government Publishing Office website at www.gpo.gov at no cost;
- (3) compost samples shall be analyzed for pathogens, either for fecal coliform or salmonella bacteria. The concentration of pathogens in compost offered for sale or distribution to the public shall not exceed the concentration limits listed in 40 CFR 503.32(a)(3);
- (4) sample collection, preservation, and analysis shall assure valid and representative results. At least three individual samples of equal volume shall be taken from each batch produced in separate areas along the side of the batch. Each sampling point shall be sampled from a depth of two to six feet into the pile from the outside surface of the pile as follows:
 - (A) metals samples shall be composited and accumulated over a six-month period or at intervals of every 20,000 tons of product produced, whichever comes first; and
 - (B) pathogens samples shall be a representative composite sample of the compost and shall be processed within a period of time required by the testing procedure;
- (5) analytical testing methods shall be in accordance with the procedures of one of the following:
 - (A) EPA publication SW-846, "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods." This document is incorporated by reference, including subsequent amendments and editions, and may be obtained free of charge at <https://www.epa.gov/hw-sw846>;
 - (B) the U.S. Department of Agriculture/U.S. Compost Council publication "Test Methods for the Examination of Composting and Compost" (TMECC). This document is incorporated by reference including subsequent amendments and editions, and may be obtained for a fee of three hundred fifty dollars (\$350.00) at <https://compostingcouncil.org/tmecc/> or a copy may be reviewed free of charge at the Division of Waste Management, Solid Waste Section office at 217 West Jones Street, Raleigh, N.C. 27603; or
 - (C) other methods that are approved by the Division as providing equivalent standards of analysis; and
- (6) the Division may decrease or increase the parameters to be analyzed or the frequency of analysis based upon monitoring data, changes in the waste stream or processing, or information regarding the potential for the presence of contaminants that are not required to be analyzed in this Paragraph.

(c) Compost produced from Types 2, 3, and 4 facilities that meet the requirements of Subparagraphs (b)(2) and (b)(3) of this Rule shall be classified Grade A compost and shall have unlimited, unrestricted distribution, except as otherwise determined by the Division based on analyses of parameters pursuant to Subparagraph (b)(6) of this Rule.

(d) The facility operator shall be responsible for meeting the requirements of the North Carolina Department of Agriculture and Consumer Services Plant Industry Division Seed and Fertilizer Section concerning the distribution of this product.

*History Note: Authority G.S. 130A-309.11;
Eff. December 1, 1991;
RRC objection Eff. April 18, 1996 due to lack of statutory authority;*

*Amended Eff. June 1, 1996;
Readopted Eff. November 1, 2019.*

15A NCAC 13B .1408 RECORDKEEPING AND REPORTING REQUIREMENTS

(a) Record Keeping: Facility owners or operators shall maintain records for no less than five years. The following records shall be available for inspection by Division personnel during the facility's normal business hours and shall be sent to the Division upon request:

- (1) daily operational records that include temperature data (length of the composting period) and quantity of material processed;
- (2) analytical results of compost testing;
- (3) the quantity, type, and source of waste received;
- (4) the quantity of waste processed into compost;
- (5) the odor management records required by Rule .1405(10) of this Section; and
- (6) the quantity of compost removed for use or disposal and the market or permitted disposal facility.

(b) Annual Reporting: An annual report for the period July 1 to June 30 shall be submitted by all facility owners or operators to the Division by August 1 of each year and shall contain:

- (1) the facility name, address, and permit number;
- (2) the total quantity in tons, with sludge values expressed in dry weight, and the type of waste received at the facility during the year covered by the report, including tons of waste received from local governments of origin;
- (3) the total quantity in tons of compost produced at the facility during the year covered by the report;
- (4) the total quantity in tons of compost removed for use or disposal from the facility during the year covered by the report;
- (5) monthly temperature monitoring to support Rule .1406 of this Section; and
- (6) the results of analytical testing required by Rule .1407 of this Section.

(c) Yearly totals of solid waste received and composted shall be reported back to the local government of origin for annual recycling reporting.

*History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29;
Eff. December 1, 1991;
RRC objection Eff. April 18, 1996 due to lack of statutory authority;
Amended Eff. June 1, 1996;
Readopted Eff. November 1, 2019.*

15A NCAC 13B .1409 ALTERNATIVE PROCEDURES, VERMICOMPOSTING, AND ANAEROBIC DIGESTION REQUIREMENTS

(a) An owner or operator of a composting facility subject to the provisions of this Section may request in writing the approval of an alternative procedure for the facility or the compost that is produced. The following information shall be submitted to the Solid Waste Section:

- (1) the specific facility for which the exception is requested;
- (2) the specific provisions of this Section for which the exception is requested;
- (3) the basis for the exception;
- (4) the alternate procedure or requirement for which the approval is sought and a demonstration that the alternate procedure or requirement provides equivalent protection of the public health and the environment; and
- (5) a demonstration of the effectiveness of the proposed alternate procedure.

The Division shall approve the request if the alternative procedure is equivalent to procedures provided in the rules of this Section and is protective of the public health and the environment.

(b) Vermicompost Facilities. This Paragraph shall be applicable to vermicompost facilities that receive solid waste as defined in G.S. 130A-290. Facilities that receive only animal manure or only municipal wastewater treatment sludge, or both, shall not be subject to this Paragraph.

- (1) The following operations shall be exempt from the requirements of this Section:
 - (A) backyard vermicomposting; and
 - (B) farming operations where the vermicompost is produced from materials grown on the owner's land and re-used on the owner's land.

- (2) Vermicompost facilities meeting the following conditions shall be exempt from the permitting requirements in Rule .1405 of this Section;
 - (A) the site receives pre- and post-consumer food waste, manure, vegetative agricultural waste, yard and garden waste, untreated, unpainted, and uncontaminated wood material, source separated paper, or any combination thereof;
 - (B) no more than 100 cubic yards of material shall be onsite at any time. This volume shall include feedstock storage, processing, pre-composting, and active vermicomposting, but shall not include finished vermicompost;
 - (C) outdoor areas of the site used for feedstock storage, processing, pre-composting, or vermicomposting in open areas or open containers or bins shall meet the siting criteria and setback requirements of Rule .1404(a)(1) through (a)(10) of this Section, except that the minimum setback to the property line shall be at least 50 feet and the minimum setback to residences or dwellings not owned and occupied by the owner or operator shall be at least 200 feet;
 - (D) outdoor feedstock storage, processing, pre-composting, and vermicomposting operations areas, that are enclosed on all sides in containers or bins shall maintain a minimum setback to the property line of at least 25 feet;
 - (E) the site is operated to prevent the release of particulates and odors outside of the property boundary, and the site does not attract vectors such as insects and rodents;
 - (F) surface water shall be diverted from the operational and storage areas. Leachate shall be contained onsite and treated to meet the standards of the applicable off-site disposal method;
 - (G) for facilities producing vermicompost that is distributed to the public or used in public areas, the owner meets the pathogen testing and record keeping requirements of Rule .1407(b) and .1408(a) of this Section for a Type 3 facility; and
 - (H) the site operates in accordance with all applicable State or local laws, ordinances, rules, regulations, or orders.
 - (3) A permit shall be required for vermicompost facilities that do not meet the conditions of Subparagraphs (1) or (2) of this Paragraph. A permit application for a vermicomposting facility shall include the information required by Rules .1404 and .1405 of this Section, except that Rules .1405(9)(f) through (9)(h) of this Section do not apply. Operations or parts of operations that are indoors shall be exempt from the siting requirements of Rule .1404 of this Section. Permitted vermicomposting facilities shall be subject to:
 - (A) Rule .1406(1) through (9), (14), and (16) of this Section;
 - (B) Rule .1407 of this Section;
 - (C) Rule .1408 of this Section; and
 - (D) Rule .1410 of this Section.
- (c) Anaerobic Digestion Facilities. This Paragraph shall be applicable to anaerobic digestion facilities that receive solid waste as defined in G.S. 130A-290. Facilities that receive only animal manure or only municipal wastewater treatment sludge, or both, shall not be subject to this Paragraph.
- (1) A solid waste management permit shall be required for the areas of the facility that manage solid waste. These areas shall include the incoming waste receiving area, the digestate handling area, and the digestate final disposition and any other areas of the operation where solid waste is exposed to the environment.
 - (2) A permit application shall contain:
 - (A) the information required by Rules .1404 and .1405 of this Section, with the exception of Rule .1405(9)(f) through (9)(h). Operations or parts of operations that are in buildings enclosed on all sides shall be exempt from the siting requirements of Rule .1404 of this Section; and
 - (B) drawings of the following within the waste management areas:
 - (i) hoppers, bays, or vessels, and all other site-specific features related to solid waste management activities; and
 - (ii) for indoor operations, plan and profile drawings of the buildings with areas and features labeled.
 - (3) Permitted anaerobic digestion facilities shall be subject to:
 - (A) Rule .1406(1) through (9), (14), and (16) of this Section;

- (B) Rule .1407 of this Section for the digestate;
- (C) Rule .1408 of this Section; and
- (D) Rule .1410 of this Section.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29;
Eff. December 1, 1991;
RRC objection due to lack of statutory authority Eff. April 18, 1996;
Amended Eff. June 1, 1996;
Readopted Eff. November 1, 2019.

15A NCAC 13B .1410 CLOSURE REQUIREMENTS

(a) When the permitted compost facility ceases operations, the owner or operator shall meet the following conditions:

- (1) all feedstock and unfinished compost materials shall be removed from the site and taken to a permitted solid waste facility within 180 days;
- (2) finished compost materials left onsite shall comply with G.S. 130A-309.05; and
- (3) the owner or operator shall notify the Division in writing upon completion of the requirements of Subparagraph (1) of this Paragraph.

(b) When a permitted compost facility has been closed in accordance with the requirements of Subparagraph (a) of this Rule, the permit shall be terminated. Future compost operations at the site shall require submittal of a new permit application in accordance with Rule .1405 of this Section.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29;
Eff. November 1, 2019.

SECTION .1600 - REQUIREMENTS FOR MUNICIPAL SOLID WASTE LANDFILL FACILITIES (MSWLFs)

15A NCAC 13B .1601 PURPOSE AND APPLICABILITY

(a) The rules of this Section shall govern the permitting procedures, siting, design, construction, performance standards, operation, closure, and post-closure of all municipal solid waste landfill (MSWLFs) facilities and units.

(b) Owners and operators of landfill facilities that include a MSWLF unit shall conform to the requirements of this Section as follows:

- (1) MSWLF units that stopped receiving waste before October 9, 1993 are exempt from the rules of this Section and shall comply with the solid waste permit and Rule .0510 of this Subchapter.
- (2) MSWLF units that receive waste on or after October 9, 1993 shall comply with the rules of this Section.

(c) In addition to the requirements of G.S. 130A-295.3, owners and operators of a MSWLF facility shall comply with local laws, ordinances, rules, regulations, and orders that are applicable to the location and operation of the MSWLF facility, including zoning and property requirements, floodplain requirements, wetland requirements, sedimentation and erosion control requirements, and mining requirements.

(d) Incorporation by Reference. References to Title 40 of the U.S. Code of Federal Regulations (CFR) in this Section are incorporated by reference including subsequent amendments or editions and can be obtained free of charge at www.ecfr.gov.

History Note: Authority G.S. 130A-294;
Eff. October 9, 1993;
Temporary Amendment Eff. October 9, 1993, for a period of 180 days or until the permanent rule becomes effective, whichever is sooner;
Amended Eff. April 1, 1994;
Readopted Eff. September 16, 2021.

15A NCAC 13B .1602 DEFINITIONS

The definitions in Article 9 of Chapter 130A of the General Statutes, the definitions in Rule .0101 of this Subchapter, and the following definitions shall apply to the rules of this Section.

- (1) "Active life" means the period of operation beginning with the initial receipt of solid waste and ending at completion of closure activities in accordance with Rule .1627 of this Section.
- (2) "Active portion" means that part of a facility or unit that has received or is receiving wastes and that has not been closed in accordance with Rule .1627 of this Section.
- (3) "Aquifer" means a geological formation, group of formations, or portion of a formation capable of yielding groundwater.
- (4) "Areas susceptible to mass movement" means those areas characterized as having an active or substantial possibility of mass movement where the movement of earth material at, beneath, or adjacent to the MSWLF unit(s), because of natural or man-induced events, results in the downslope transport of soil and rock material by means of gravitational influence. Areas of mass movement may include landslides, avalanches, debris slides and flows, soil fluction, block sliding, and rock fall.
- (5) "Base liner system" means the liner system installed on the MSWLF unit's foundation to control the flow of leachate.
- (6) "Cap system" means a liner system installed over the MSWLF unit to minimize infiltration of precipitation and contain the wastes.
- (7) "Gas condensate" means the liquid generated as a result of gas recovery processes at a MSWLF unit.
- (8) "Groundwater" means water below the land surface in a zone of saturation.
- (9) "Household waste" means any solid waste derived from households including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas.
- (10) "Karst terranes" means areas where karst topography, with its characteristic surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present in karst terranes may include sinkholes, sinking streams, caves, large springs, and blind valleys.
- (11) "Landfill facility" means all contiguous land and structures, waste management unit(s), other appurtenances, and improvements on the land within the legal description of the site included in or proposed for the permit issued in accordance with this Section.
- (12) "Landfill unit" means a discrete area of land or an excavation that receives a particular type of waste such as construction and demolition, industrial, or municipal solid waste, and is not a land application unit, surface impoundment, injection well, or waste pile, as defined under 40 CFR 257.2. Such a landfill may be publicly or privately owned, and may be located at a municipal solid waste landfill facility, a construction and demolition solid waste landfill facility, an industrial solid waste landfill facility, or other waste management facility.
- (13) "Liner system" means an engineered environmental control system which can incorporate filters, drainage layers, compacted soil liners, geomembrane liners, piping systems, and connected structures.
- (14) "Liquid waste" means any waste material that is determined to contain "free liquids" as defined by EPA SW-846 Test Method 9095B (Paint Filter Liquids Test), which is incorporated by reference including subsequent amendments or editions; and can be obtained free of charge at the US EPA website at www.epa.gov/hw-sw846/sw-846-test-method-9095b-paint-filter-liquids-test.
- (15) "Municipal solid waste landfill unit" or "MSWLF unit" means a discrete area of land or an excavation that receives household waste, and is not a land application unit, surface impoundment, injection well, or waste pile, as defined under 40 CFR 257.2. Such a landfill may be publicly or privately owned. A MSWLF unit may also be permitted to receive other types of non-hazardous solid waste.
- (16) "Poor foundation conditions" means those areas where features exist that indicate that a natural or man-induced event may result in a loss or reduction of foundation support for the structural components of a MSWLF unit(s).
- (17) "Project engineer" means a licensed professional engineer that represents the permittee and is responsible for observing, documenting, and certifying that activities related to the quality assurance of the construction of the solid waste management facility conform to the permit to construct, incorporated plans, and the rules of this Section. All certifications shall bear the seal and signature of a licensed professional engineer and the date of certification.

- (18) "Seasonal high groundwater table" and "SHGT" means the highest level of the uppermost aquifer during a year with normal rainfall. SHGT may be determined in the field through identification of redoximorphic features in the soil profile, monitoring of the water table elevation, or modeling of predicted groundwater elevations.
- (19) "Structural components" means liners, leachate collection systems, final covers, systems that manage rainwater that drains over land from or onto any part of the facility or unit, and any other component used in the construction and operation of the MSWLF facility.
- (20) "Unstable area" means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas may include poor foundation conditions, areas susceptible to mass movements, and Karst terranes.
- (21) "Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

History Note: Authority G.S. 130A-294;
 Eff. October 9, 1993;
 Readopted Eff. September 16, 2021.

15A NCAC 13B .1603 GENERAL APPLICATION REQUIREMENTS AND PROCESSING

(a) An owner or operator of a MSWLF unit or facility shall submit an application document as detailed in Rule .1617 of this Section in accordance with the following criteria and scheduling requirements:

- (1) New permit.
 - (A) An applicant for a new permit as defined by G.S. 130A-294(a3)(1)a, c, d, and e shall submit a site study and subsequently an application for a permit to construct as set forth in Rule .1617(a) of this Section.
 - (B) An applicant for a new permit as defined by G.S. 130A-294(a3)(1)b shall submit an application for a permit as set forth in Rule .1617(b) of this Section.
 - (C) The Division shall review all permit applications in accordance with Rule .0203 of this Subchapter.
 - (D) An application for a new permit is subject to the application fees set forth in G.S. 130A-295.8(d2).
- (2) Amendment to the permit. The owner or operator shall submit an application to amend the permit to construct in accordance with Rule .1617(c) of this Section for the following circumstances:
 - (A) A subsequent stage of landfill development. A permit to construct issued in accordance with Paragraph (c) of this Rule approves the life-of-site development of the MSWLF unit indicated in the facility plan plus a set of plans, defined in Rule .1604(b)(1) of this Section as the Division approved plans submitted by the applicant for either the entire MSWLF unit or a portion of the MSWLF unit. For any subsequent stage of landfill development that the applicant has not included in the plans required by Rule .1604(b)(1) of this Section for any prior stage of landfill development, the owner or operator shall submit the amended permit application no less than 180 days prior to the date scheduled for commencing construction.
 - (B) A change in ownership or corporate structure of a permitted MSWLF facility in accordance with G.S. 130A-294(a3)(2)b. The owner or operator shall notify the Division in writing within 30 days of a change in ownership or corporate structure in accordance with G.S. 130A-295.2(g).
- (3) Modifications to the permit. An owner or operator proposing changes to the plans approved in the permit shall request prior approval from the Division in accordance with Rule .1617(d) of this Section.
- (4) Permit for Closure and Post-Closure Care. Within 180 days following receipt of the notice submitted to the Division in accordance with Rule .1627(c)(8) of this Section, the Division shall issue a permit for closure and post-closure care that incorporates the plans identified by the owner or operator in the notice. Owners or operators that closed all MSWLF units at the facility prior to the readopted effective date of this Rule shall not be required to submit the notice described in Rule .1627(c)(8) of this Section. If a closure and post-closure care permit has not already been

issued, the Division shall issue a permit for closure and post-closure care for these facilities that incorporates the plans that were incorporated into the most recent permit to operate for the facility.

(b) Application format requirements. All applications and plans required by this Section shall be prepared in accordance with the following:

- (1) The application shall:
 - (A) contain a cover sheet, stating the project title and location, the applicant's name, and the engineer's name, address, signature, date of signature, and seal;
 - (B) contain a statement defining the purpose of the submittal signed and dated by the applicant;
 - (C) contain a table of contents or index outlining the body of the application and the appendices;
 - (D) be paginated consecutively; and
 - (E) identify any revised text by noting the date of revision on the page.
- (2) Drawings. The engineering drawings for all landfill facilities shall be submitted using the following format:
 - (A) the cover sheet shall include the project title, applicant's name, sheet index, legend of symbols, and the engineer's name, address, signature, date of signature, and seal; and
 - (B) maps and drawings shall be prepared at a scale that illustrates the subject requirements, and that is legible if printed at a size of 22 inches by 34 inches.
- (3) Number of copies. An applicant shall submit one copy of the application to the Division in an electronic format that is accessible and viewable by the Division. The Division may request that the applicant submit up to three paper copies of the application in three-ring binders.

(c) Permitting and public information procedures.

- (1) Purpose and Applicability.
 - (A) Purpose. During the permitting process, the Division shall provide for public review of and input to permit documents containing the applicable design and operating conditions. The Division shall provide for consideration of comments received and notification to the public of the permit design as set forth in Subparagraph (4) of this Paragraph.
 - (B) Applicability. Applications for a new permit as defined in G.S. 130A-294(a3)(1), or for a modification to the permit involving corrective remedy selection required by Rule .1636 of this Section shall be subject to the requirements of this Paragraph. Applications submitted in accordance with Subparagraphs (a)(2), (a)(3), and (a)(4) of this Rule are not subject to the requirements of this Paragraph.
- (2) Draft Permits.
 - (A) The Division shall review all permit applications for compliance with the rules of this Section and Rule .0203 of this Subchapter. Once an application is complete, the Division shall either issue a notice of intent to deny the permit to the applicant or prepare a draft permit.
 - (B) If the Division issues a notice of intent to deny the permit to the applicant, the notice shall include the reasons for permit denial in accordance with Rule .0203(e) of this Subchapter and G.S. 130A-294(a)(4)c.
 - (C) If the Division prepares a draft permit, the draft permit shall contain all applicable terms and conditions for the permit.
 - (D) All draft permits shall be subject to the procedures of Subparagraphs (3) through (9) of this Paragraph, unless otherwise specified in those Subparagraphs.
- (3) Fact Sheets. The Division shall prepare a fact sheet for every draft permit, and shall send this fact sheet to the applicant and post the fact sheet on the Division website. The fact sheet shall include:
 - (A) a description of the type of facility or activity that is the subject of the draft permit;
 - (B) a description of the area to be served, the volume and characteristics of the waste stream, and a projection of the useful life of the landfill;
 - (C) a summary of the basis for the draft permit conditions, including references to statutory or regulatory provisions and supporting references to the permit application;
 - (D) the beginning and ending dates of the comment period under Subparagraph (4) of this Paragraph;
 - (E) the address where comments will be received;

- (F) the name, phone number, and e-mail address of a person to contact for additional information;
 - (G) the procedures for requesting a public hearing; and
 - (H) other procedures by which the public may provide comments during the comment period under Subparagraph (4) of this Paragraph, such as social media or a web-based meeting, if the Division or the applicant elects to use such procedures.
- (4) Public Notice of Permit Actions and Public Hearings.
- (A) The Division shall give public notice of each of the following: a draft permit has been prepared; a public hearing has been scheduled under Subparagraph (6) of this Paragraph; or a notice of intent to deny a permit has been prepared under Part (2)(B) of this Paragraph.
 - (B) No public notice is required when a request for a permit modification is denied.
 - (C) The Division shall give written notice of denial to the applicant.
 - (D) Public notices may describe more than one permit or permit action.
 - (E) Public notice of the preparation of a draft permit or a notice of intent to deny a permit shall allow at least 45 days for public comment.
 - (F) The Division shall give public notice of a public hearing at least 15 days before the hearing; and the notice shall contain the date, time, and place of the public hearing; a description of the nature and purpose of the public hearing, including the applicable rules and procedures; and a statement of the issues raised by the persons requesting the hearing. Public notice of the hearing may be given at the same time as public notice of the draft permit and the two notices may be combined.
 - (G) Public notice of activities described in Part (A) of this Subparagraph shall be given by publication on the Division website, by posting in the post office and public places of the municipalities nearest the site under consideration, or publication by a local news organization. The Division may also provide notice by posting on other State or local government websites or social media to give actual notice of the activities to persons potentially affected.
 - (H) All public notices issued under this Subparagraph shall contain the name, address and phone number of the office processing the permit action for which notice is being given; name and address of the owner and the operator applying for the permit; a description of the business conducted at the facility or activity described in the permit application including the size and location of the facility and type of waste accepted; a description of the comment procedures required by Subparagraphs (5) and (6) of this Paragraph, including a statement of procedures to request a public hearing unless a hearing has already been scheduled, and other procedures by which the public may participate in the permit decision; the name, address, and telephone number of the Division contact from whom interested persons may obtain further information; and a description of the time frame and procedure for making an approval or disapproval decision of the application.
- (5) Public Comments and Requests for Public Hearings. During the public comment period provided, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Division shall consider all comments in making a final permit decision. The Division shall respond to all comments as provided in Subparagraph (9) of this Paragraph.
- (6) Public Hearings.
- (A) The Division shall hold a public hearing on a draft permit(s) when a hearing is requested. The Division may also hold a public hearing whenever such a hearing might clarify one or more issues involved in the permit decision. Public hearings held pursuant to this Rule shall be at a location accessible to the residents of the municipality closest to the subject facility. Public notice of the hearing shall be given as specified in Subparagraph (4) of this Paragraph.
 - (B) Any person may submit oral or written statements and data concerning the draft permit. The Division may set the time allowed for oral statements; and may require the submission of statements in writing. The Division shall extend the public comment period under Subparagraph (4) of this Paragraph to the close of any public hearing under

this Subparagraph. The Division may also extend the comment period by so stating at the hearing, when information is presented at the hearing which indicates the importance of extending the period to receive additional comments, to allow potential commenters to gather more information, to allow time for submission of written versions of oral comments made at the hearing, or to allow time for rebuttals of comments made during the hearing. The Division shall publish the end date of the extended comment period on the Division's website prior to the end of the existing public comment period.

- (C) The Division shall make available to the public a recording or written transcript of the hearing upon request.
- (7) Reopening of the Public Comment Period.
 - (A) In response to data, information, or arguments received during the public comment period, the Division may prepare a revised draft permit under Subparagraph (2) of this Paragraph, prepare a revised fact sheet under Subparagraph (3) of this Paragraph, and reopen or extend the comment period under Subparagraph (4) of this Paragraph.
 - (B) Comments filed during the reopened comment period shall be limited to the information that was revised in the draft permit following the original comment period. The public notice shall be in accordance with Subparagraph (4) of this Paragraph and shall define the scope of the reopening.
- (8) Permit Decision.
 - (A) After the close of the public comment period under Subparagraph (4) of this Paragraph on a draft permit or a notice of intent to deny a permit, the Division shall issue a permit decision. The Division shall notify the applicant and each person who has submitted a written request for notice of the permit decision. For the purposes of this Subparagraph, a permit decision means a decision to issue, deny, or modify a permit in accordance with Paragraph (d) of this Rule.
 - (B) A permit decision shall become effective upon the date of the service of notice of the decision unless a later date is specified in the decision.
- (9) Response to Comments.
 - (A) At the time that a permit decision is issued under Subparagraph (8) of this Paragraph, the Division shall issue a response to comments. This response shall specify which provisions, if any, of the draft permit have been changed in the permit decision, and the reasons for the change. The response shall also describe and respond to all comments pertaining to the requirements in the draft permit raised during the public comment period, or during any public hearing.
 - (B) The Division shall publish the response to comments on the Division website upon request.
- (d) Permit approval or denial. The Division shall review all permit applications in accordance with Rule .0203 of this Subchapter.

*History Note: Authority G.S. 130A-294;
Eff. October 9, 1993;
Readopted Eff. September 16, 2021;
Amended Eff. March 15, 2023.*

15A NCAC 13B .1604 GENERAL REQUIREMENTS FOR MSWLF FACILITIES

- (a) Permits issued by the Division for MSWLF facilities and units shall be subject to the general requirements set forth in this Rule.
- (b) Terms of the Permit. The Solid Waste Management Permit shall incorporate requirements necessary to comply with this Subchapter and the North Carolina Solid Waste Management Act including the provisions of this Paragraph.
 - (1) Division Approved Plans. Permits issued after March 9, 1993 shall incorporate the Division approved plans.
 - (A) The scope of the Division approved plans shall include the information necessary to comply with the requirements set forth in Rule .1617 of this Section.
 - (B) The Division approved plans shall be subject to and may be limited by the conditions of the permit.

- (C) The Division approved plans for an MSWLF facility shall be described in the permit and shall include the Facility Plan required by Rule .1619 of this Section, the Engineering Plan required by Rule .1620 of this Section, the Construction Quality Assurance Plan required by Rule .1621 of this Section, the Design Hydrogeologic Report and Monitoring Plans required by Rule .1623(b) of this Section, the Operation Plan required by Rule .1625 of this Section, and the Closure and Post-Closure Plan required by Rule .1629 of this Section.
- (2) Permit provisions. All MSWLF facilities and units shall conform to the specific conditions set forth in the permit and the following general provisions.
 - (A) Duty to Comply. The permittee shall comply with all conditions of the permit.
 - (B) Duty to Mitigate. In the event of noncompliance with the permit, the permittee shall minimize the release of waste, leachate, or contaminants to the environment; and shall prevent adverse impacts on human health or the environment.
 - (C) Duty to Provide Information. The permittee shall furnish to the Division any information which the Division may request to determine whether cause exists for modifying or suspending the permit, or to determine compliance with the permit. The permittee shall also furnish to the Division, upon request, copies of records required to be kept under the conditions of this permit.
 - (D) Recordation Procedures. The permittee shall comply with the requirements of G.S. 130A-301 for a new permit to be effective.
 - (E) Need to Halt or Reduce Activity. It shall not be a defense for a permittee in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of the permit.
 - (F) Permit Actions. A permit may be modified, reissued, revoked, suspended, or terminated in accordance with G.S. 130A-23. The filing of a request by the permittee for a permit modification, or a notification of planned changes or anticipated noncompliance, does not stay any existing permit condition.
 - (G) Not Transferable. A permit for a solid waste management facility is transferable only with prior approval of the Department in accordance with G.S. 130A-294(a1).
 - (H) Construction. If construction does not commence within 18 months from the issuance date of the permit to construct, or an amendment to the permit, then the permittee shall obtain written approval from the Division prior to construction and comply with any conditions of the approval. In determining whether to approve construction, the Division shall consider length of time elapsed since issuance of permit, any changes in applicable State and federal statutes and rules since issuance of the permit, and any changes in financial qualifications or environmental compliance status of the holder of the permit in accordance with G.S. 130A-295.2 and G.S. 130A-295.3.
 - (I) Proper Operation and Maintenance. The permittee shall at all times operate and maintain all facilities and systems of treatment and control and related appurtenances which are installed or used by the permittee in compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures, in accordance with the conditions of the permit. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.
 - (J) Inspection. The permittee shall allow the Department to enter the permittee's premises where a regulated unit or activity is located or conducted, or where records are kept under the conditions of the permit. The Department shall have access to copy any records required to be kept under the conditions of the permit. The permittee shall allow the Department to inspect any facilities, equipment including practices, operations, or monitoring and control equipment that are required or regulated by the facility permit or the rules of this Subchapter. The permittee shall allow the Department to take photographs for documenting items of compliance or noncompliance at permitted facilities. At the request of the Department, the permittee shall take such photographs and submit them to the Department.

- (K) **Monitoring.** Samples and measurements taken for monitoring shall be representative of the monitored activity. For the purpose of assuring that monitoring compliance with the permit or with Chapters 113A, 130A, and 143 of the General Statutes and the rules adopted under the authority of those General Statutes, the permittee shall allow the Department to sample or monitor, at any location under the operation or control of the permittee, any materials, substances, wastes, leachate, soil, groundwater, surface water, gases, gas condensates, or ambient air to the extent authorized by Chapters 113A, 130A, and 143 of the General Statutes and the rules adopted under the authority of those General Statutes. The Department may allow the permittee to split samples with the Department. If the Department allows the permittee to split samples, the permittee and the Department shall collect the samples on a schedule that allows the permittee and the Department to obtain sample containers and equipment prior to sampling.
- (L) **Records.** The permittee shall retain records of all monitoring information required by the permit for the active life of the facility and for the post-closure care period. Records of monitoring information shall include: the date, place, and time of sampling or measurements; the individual(s) who performed the sampling or measurements; the date(s) analyses were performed; the individual(s) who performed the analyses; the analytical techniques, methods, and equipment used; and the results of such analyses.
- (M) **Reporting Requirements.** The permittee shall give notice to the Division of any planned physical alterations or additions to the permitted facility prior to making the alterations or additions. Results of environmental monitoring required in accordance with this Subchapter shall be reported at the intervals specified in the permit. The permittee shall give notice to the Division via telephone or e-mail within 24 hours from the time the permittee becomes aware of the circumstances of any release or discharge outside the liner, collection system or other containment component, any fire, or explosion from the permitted landfill facility. Where the permittee becomes aware that it failed to submit all relevant facts and corrected information in a permit application, or submitted incorrect information in a permit application or in any report to the Division, the permittee shall submit the corrected facts or information to the Division.
- (N) **Survey for Compliance.** Within 60 days of the permittee's receipt of the Division's written request for a survey, the permittee shall have a survey conducted of active or closed portions of the facility to determine whether operations are being conducted in accordance with the approved design and operational plans. The permittee shall report the results of such survey, including a map produced by the survey, to the Division within 90 days of receipt of the Division's request. A survey may be required by the Division if there is reason to believe that operations are being conducted in a manner that deviates from the plans included in the effective permit, or no more than once per year as a verification that operations are being conducted in accordance with the plans included in the effective permit. If required by G.S. 89C, any survey performed pursuant to this Part shall be performed by a licensed professional land surveyor. [Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, by resolution dated March 31, 2011 that preparation of survey pursuant to this Paragraph constitutes practicing surveying under G.S. 89C.
- (O) **Additional Solid Waste Management Facilities.** Construction and operation of additional solid waste management facilities at the landfill facility shall not impede operation or monitoring of the MSWLF units. Any proposed additional activities shall be submitted to the Division for review, approval, and permitting, as applicable, before construction and operation.

*History Note: Authority G.S. 130A-294;
 Eff. October 9, 1993;
 Amended Eff. May 1, 2011;
 Readopted Eff. September 16, 2021.*

15A NCAC 13B .1617 APPLICATION REQUIREMENTS FOR MSWLF FACILITIES

(a) New permit as defined in G.S. 130A-294(a3)(1)a, c, d, and e. An applicant for a new MSWLF permit as defined in G.S. 130A-294(a3)(1)a, c, d, and e shall meet the requirements of Rule .1618 of this Section prior to submitting an application for a permit to construct.

- (1) Permit to Construct. A complete application for a permit to construct for a new permit as defined in G.S. 130A-294(a3)(1)a, c, d, and e shall contain the following:
 - (A) a facility plan that describes comprehensive development of the MSWLF facility prepared in accordance with Rule .1619 of this Section;
 - (B) an engineering plan that is prepared for the initial phase of landfill development prepared in accordance with Rule .1620 of this Section;
 - (C) a construction quality assurance plan prepared in accordance with Rule .1621 of this Section;
 - (D) an operation plan prepared in accordance with Rule .1625 of this Section;
 - (E) a closure and post-closure plan prepared in accordance with Rule .1629 of this Section;
 - (F) the design hydrogeologic report and monitoring plans prepared in accordance with Rule .1623(b) of this Section;
 - (G) an environmental compliance history for the applicant in accordance with G.S. 130A-295.3; and
 - (H) for an applicant that is not a federal, State, or local government, an organization chart showing the ownership structure of the applicant.
- (2) Permit to Operate. The owner or operator shall meet the pre-operative requirements of the permit to construct to qualify the constructed MSWLF unit for a permit to operate.

(b) New permit as defined in G.S. 130A-294(a3)(1)b. A complete application for a new MSWLF permit as defined in G.S. 130A-294(a3)(1)b shall identify the proposed expansion of the permitted activity and shall contain:

- (1) a facility plan that describes the comprehensive development of the MSWLF facility prepared in accordance with Rule .1619 of this Section;
- (2) local government approval in accordance with Rule .1618(c)(6) of this Section;
- (3) an environmental compliance history for the applicant in accordance with G.S. 130A-295.3;
- (4) for an applicant that is not a federal, State, or local government, an organization chart showing the ownership structure of the applicant;
- (5) if the applicant is proposing changes to the final elevations in the existing facility permit as a part of the proposed expansion:
 - (A) an updated engineering plan prepared in accordance with Rule .1620 of this Section;
 - (B) an updated construction quality assurance plan prepared in accordance with Rule .1621 of this Section; and
 - (C) an updated closure and post-closure plan prepared in accordance with Rule .1629 of this Section; and
- (6) if the applicant is proposing changes to the facility operations as a part of the proposed expansion, an updated operation plan prepared in accordance with Rule .1625 of this Section.

(c) Amendment to the permit.

- (1) An application for an amendment to the permit for a subsequent stage of landfill development in accordance with Rule .1603(a)(2)(A) of this Section shall contain the following:
 - (A) an updated engineering plan prepared in accordance with Rule .1620 of this Section;
 - (B) an updated construction quality assurance plan prepared in accordance with Rule .1621 of this Section;
 - (C) an updated operation plan prepared in accordance with Rule .1625 of this Section;
 - (D) an updated closure and post-closure plan prepared in accordance with Rule .1629 of this Section;
 - (E) an updated design hydrogeologic report and monitoring plans prepared in accordance with Rule .1623(b) of this Section;
 - (F) an updated environmental compliance history for the applicant in accordance with G.S. 130A-295.3; and
 - (G) for an applicant that is not a federal, State, or local government, an updated organization chart showing the ownership structure of the applicant.
- (2) An application for an amendment to the permit for a change in ownership or corporate structure in accordance with Rule .1603(a)(2)(B) of this Section shall contain the following:

- (A) a description of the proposed ownership change including affected facilities and permit numbers, the schedule for the change in ownership or corporate structure, and contact name and information for the applicant;
- (B) any changes to the facility name, property owner, facility operator, or billing contact names and contact information;
- (C) if the property owner changes, a copy of the recorded property deed for the new property owner;
- (D) for an applicant that is not a federal, State, or local government, an organization chart showing the ownership structure of the applicant, which shall be a business entity registered with the NC Secretary of State;
- (E) an environmental compliance history for the applicant in accordance with G.S. 130A-295.3;
- (F) any documentation that the Division may request to determine compliance with the requirements for financial responsibility for the applicant in accordance with G.S. 130A-295.2 and Section .1800 of this Subchapter, including an executed financial assurance mechanism for the applicant;
- (G) any updates to the cost estimates required to be submitted in accordance with Section .1800 of this Subchapter;
- (H) any modifications to the plans incorporated into the permit if changes are proposed by the applicant, or to correct any information included in the plans that has changed because of the change in ownership or corporate structure, such as the owner or operator names and contact information;
- (I) for any plans for which no changes or corrections are being made, a statement that the applicant shall continue to comply with the plans incorporated into the existing permit, which shall be identified in the statement by the date they were incorporated, and the file identification number assigned by the Division to the file containing the incorporated plan;
- (J) copies of any federal, State, or local government permits or approvals that were required for the facility permit approval to operate, and that have been revised because of the change to ownership or corporate structure, or a statement that these documents have not changed; and
- (K) any additional information that the Division may request if it is necessary to determine whether any additional changes to the permit are necessary to comply with the rules of this Section.

(d) Modifications to the permit. The owner or operator may propose to modify plans that were prepared and approved in accordance with the requirements set forth in this Section. A complete application shall identify the requirement(s) proposed for modification and provide information that demonstrates compliance with the rules of this Section.

*History Note: Authority G.S. 130A-294;
Eff. October 9, 1993;
Readopted Eff. September 16, 2021;
Amended Eff. March 15, 2023.*

15A NCAC 13B .1618 SITE STUDY FOR MSWLF FACILITIES

(a) Purpose. As required under Rule .1617 of this Section, the owner and operator shall prepare a site study that meets the requirements of this Rule. The Division shall review the site study for a proposed new facility prior to consideration of an application for a permit to construct to determine if the site is suitable for establishing a MSWLF unit because nothing would prevent the MSWLF unit from being able to be constructed and operated in accordance with Article 9 of Chapter 130A of the General Statutes, the rules of this Subchapter, and the Federal Resource Conservation and Recovery Act, as amended. Following review of the site study, the Division shall notify the applicant that either:

- (1) the site is deemed suitable for establishing a MSWLF unit and the applicant is authorized to prepare an application for a permit to construct in accordance with Rule .1617 of this Section and the site-specific conditions and design requirements stated in the notification, if any; or

- (2) the site is deemed unsuitable for establishing a MSWLF unit and shall specify the reasons which would prevent the MSWLF facility from being constructed and operated in accordance with Article 9 of Chapter 130A of the General Statutes, the rules of this Subchapter, and the Federal Resource Conservation and Recovery Act, as amended.
- (b) Scope. The site shall be the land that is proposed for the landfill facility. The site study shall present a characterization of the land, incorporating various investigations and requirements pertinent to suitability of a MSWLF facility. The scope of the site study shall include criteria associated with the public health, public welfare, and the environment. The economic feasibility of a proposed site shall not be within the scope of this study. The information in the site study shall represent site characteristics and, if required by G.S. 89C, 89E, or 89F and not under the purview of another licensed profession, shall be prepared by licensed professional engineers, licensed geologists, licensed soil scientists, or licensed professional land surveyors. An MSWLF unit shall comply with the location restrictions set forth in Rule .1622 of this Section. To demonstrate compliance with specific criteria for each of the respective location restrictions, documentation or approval by agencies other than the Division of Waste Management, Solid Waste Section may be required. The scope of demonstrations including design and construction performance shall be addressed in the site study.
- (c) The site study prepared for a MSWLF facility shall include the information required by this Paragraph.
- (1) Regional characterization study. The regional study area includes the landfill facility and a two-mile perimeter measured from the proposed boundary of the landfill facility. The study shall include a report and a regional map identifying the following:
 - (A) general topography and features as illustrated on the most recent U.S.G.S. topographic map, 7.5 Minute Series, horizontal scale of at least one inch equals 2,000 feet;
 - (B) proposed landfill facility location;
 - (C) public water supply wells, surface water intakes, and service areas;
 - (D) residential subdivisions;
 - (E) waste transportation routes; and
 - (F) public use airports and runways.
 - (2) Local characterization study. The local study area includes the landfill facility and a 2,000-foot perimeter measured from the proposed boundary of the landfill facility. The study shall include an aerial photograph taken within one year of the original submittal date, a report, and a local map. The map and photograph shall be at a scale of at least one inch equals 400 feet. The study shall identify the following:
 - (A) the entire property proposed for the disposal site and any on-site easements;
 - (B) existing land use and zoning;
 - (C) the location of private residences and schools;
 - (D) the location of commercial and industrial buildings, and other potential sources of contamination;
 - (E) the location of potable wells and available documentation regarding well completion and production rate;
 - (F) historic sites; and
 - (G) the existing topography and features of the disposal site including: general surface water drainage patterns and watersheds, 100-year floodplains, perennial and intermittent streams, rivers, and lakes.
 - (3) Proposed Facility Plan. A conceptual plan for the development of the facility including drawings and a report shall be prepared which incorporates the summary findings of the geologic and hydrogeologic report as set forth in Rule .1623(a)(13) of this Section and includes the drawings and reports described in Rule .1619(d)(1), (d)(2), (e)(1), (e)(2), (e)(3), (e)(5), (e)(6), and (e)(7) of this Section.
 - (4) Site Hydrogeologic Report. The study shall be prepared in accordance with the requirements set forth in Rule .1623(a) of this Section.
 - (5) Location Restrictions. A report shall be prepared demonstrating compliance with the criteria in Rule .1622 of this Section; and the report shall incorporate the proposed facility plan and, if applicable, discuss planned compliance with design and construction standards referenced in Rule .1622(2), (3), (4)(a), (5)(a), and (6) of this Section.
 - (6) Local government approvals for MSWLFs.
 - (A) If the permit applicant is a unit of local government and the proposed MSWLF unit is located within the permit applicant's jurisdiction, the approval of the local governing

board shall be required. Approval may be in the form of either a resolution or a vote on a motion. A copy of the resolution or the minutes of the meeting where the vote was taken shall be submitted to the Division as part of the site study. Prior to issuance of approval, the jurisdictional local government where the MSWLF unit is to be located shall hold at least one public meeting to inform the community of the proposed waste management activities as described in the proposed facility plan prepared in accordance with Subparagraph (3) of this Paragraph. The local government where the MSWLF unit is to be located shall provide a public notice of the meeting at least 30 days prior to the meeting, shall place the proposed facility plan in a location accessible by the public, and shall make the location known in the public notice.

- (B) A permit applicant other than the unit of local government with jurisdiction over the proposed MSWLF unit shall obtain a franchise in accordance with G.S. 130A-294(b1). A copy of the franchise shall be submitted to the Division as part of the site study. Prior to issuance of a franchise, the jurisdictional local government where the MSWLF unit is to be located shall conduct a public hearing in accordance with the public notification requirements of G.S. 130A-294(b1)(3) and in accordance with the publication and documentation requirements of Parts (C) and (D) of this Subparagraph.
- (C) Public notice required by this Subparagraph shall be given by publication on the jurisdictional local government website, publication by a local news organization, and by other methods that the Division may request, such as posting in the post office and public places of the municipalities nearest the site under consideration, or posting on social media or mass mailings, if it is necessary to give actual notice of the activities to potentially affected persons. Public notice shall include time, place, and purpose of the meetings required by this Subparagraph.
- (D) Public notice shall be documented in the site study. A recording or a written transcript of the meeting, all written material submitted representing community concerns, and all other written material distributed or used at the meeting pertaining to the proposed MSWLF unit shall be submitted as part of the site study.
- (E) A letter from the unit of local government having zoning jurisdiction over the site which states that the proposal meets all the requirements of the local zoning ordinance, or that the site is not zoned shall be submitted to the Division with the site study.

*History Note: Authority G.S. 130A-294;
Eff. October 9, 1993;
Readopted Eff. September 16, 2021.*

15A NCAC 13B .1619 FACILITY PLAN

(a) Purpose. A permit applicant shall prepare a facility plan that meets the requirements of this Rule.

(b) Scope.

- (1) The facility plan shall define the comprehensive development of the property proposed for permit or described in the permit of an existing facility. The plan shall include a set of drawings and a report that present the long-term, general design concepts related to construction, operation, and closure of the MSWLF unit(s), including leachate management. The scope of the plan shall span the active life of the MSWLF unit(s). Additional solid waste management facilities located at the MSWLF facility shall be identified in the plan and shall meet the requirements of this Subchapter. The facility plan shall define the waste stream proposed for management at the MSWLF facility. If different types of landfill units or non-disposal activities are included in the facility design, the plan shall describe general waste acceptance procedures.
- (2) The areal limits of the MSWLF unit(s), total capacity of the MSWLF unit(s), and the proposed waste stream shall be consistent with the Division's approval in accordance with Rule .1618(a)(1) of this Section for a new facility.

(c) Use of Terms. The terminology used in describing areas of the MSWLF unit shall be defined as follows and shall be used consistently throughout a permit application.

- (1) "phase" means an area constructed with a base liner system that describes approximately five years of operating capacity. An applicant may request a permit to construct for any number of phases up to the entire extent of the disposal boundary for the life-of-site.

- (2) "cell" means a subdivision of a phase which describes modular or partial construction.
 - (3) "subcell" means a subdivision of a cell which describes leachate and stormwater management for active or inactive areas of the constructed MSWLF.
- (d) Facility Drawings. The facility plan shall include the following drawings:
- (1) Site Development. The two drawings that plot site development shall be prepared on topographic maps representative of existing site conditions; and the maps shall locate or delineate the physical features referenced in Rule .1622 of this Section and shall incorporate a survey locating all property boundaries for the proposed landfill facility certified by a licensed professional land surveyor, if required by G.S. 89C.
 - (A) Landfill units and leachate facilities. This drawing shall delineate the areal limits of all landfill units and leachate facilities and incorporate the buffer requirements set forth in Rule .1624(b)(3) of this Section and the maximum allowed disposal area set forth in Rule .1624(b)(17) of this Section.
 - (B) All facilities. This drawing shall locate all solid waste management facilities and facility infrastructure, including landfill units and leachate facilities.
 - (2) Landfill Construction. All on-site grading activities related to the construction and operation of the MSWLF unit(s) shall be illustrated in facility drawings which:
 - (A) delineate the limits of grading, including borrow and stockpile areas;
 - (B) define phases of development in increments of five years of operating capacity, up to the entire extent of the disposal boundary for the life-of-site;
 - (C) propose base grades for the MSWLF unit(s);
 - (D) delineate the location of access roads, sedimentation basins, leachate pipeline and storage or treatment facilities and other structures related to the operation of the MSWLF unit; and
 - (E) propose final contours for the MSWLF unit(s) and facility features for closure that comply with the maximum allowed height requirement of Rule .1624(b)(17) of this Section.
 - (3) Landfill Operation. The following information related to the long-term operation of the MSWLF units shall be included in facility drawings:
 - (A) general grade and flow direction for the drainage layer component of the leachate collection system;
 - (B) size, location, and general grade for the leachate piping system, including on-site pipelines to leachate management facilities;
 - (C) proposed transitional contours for each phase of development, including operational grades for existing phase(s) and construction grading for the new phase; and
 - (D) if included in the design, stormwater segregation features and details for inactive landfill subcells.
- (e) Facility Report. The facility plan shall include the following information:
- (1) Waste stream. A discussion of the characteristics of the wastes received at the facility and facility specific management plans shall incorporate:
 - (A) the types of waste specified for disposal;
 - (B) average monthly disposal rates and estimated variance;
 - (C) the area served by the facility;
 - (D) procedures for segregated management at different on-site facilities; and
 - (E) equipment requirements for operation of the MSWLF unit.
 - (2) Landfill Capacity. An analysis of landfill capacity and soil resources shall be performed.
 - (A) The data and assumptions used in the analysis shall be included with the facility drawings and disposal rates specified in the facility plan; and representative of operational requirements and conditions.
 - (B) The conclusions shall provide accurate volumetric estimates of total operating capacity that does not exceed the maximum allowed capacity defined in Rule .1624(b)(17) of this Section; operating capacity for each stage of development; in-place ratio of waste to soil; available soil resources from on-site or specific off-site sources; required quantities of soil for landfill construction, operation, and closure; and the estimated operating life of all MSWLF units in years.

- (3) Containment and environmental control systems. A general description of the systems designed for proper landfill operation, system components, and corresponding functions shall be provided.
- (4) Leachate Management. An analysis of the leachate management requirements and plans for the MSWLF facility shall incorporate the information required under this Subparagraph.
 - (A) The performance of and design concepts for the leachate collection system within active areas of the MSWLF unit and any storm water segregation included in the engineering design shall be described.
 - (B) Normal operating conditions. Normal operating conditions shall be defined and shall consider surge volumes generated by storm events; and average monthly values for leachate generation representative of the landfill's environment and operation using empirically derived estimates, or for landfill expansions, actual leachate generation data from the existing landfill.
 - (C) Leachate management system. A description of the leachate management system components and their engineered function shall be provided, and shall include leachate pipeline operating capacity; capacity of the storage and if applicable, the treatment facilities; and final disposal plans and applicable discharge limits, including documented prior approval of the waste water treatment plant which may be designated in the plan.
 - (D) A contingency plan shall be prepared for storm surges or other considerations exceeding design parameters for the storage or treatment facilities.
- (5) Special engineering features. A description of any special engineering features specific to the landfill that the applicant is proposing shall be provided.
- (6) Traffic study. A traffic study and NC Department of Transportation certification shall be prepared as required by G.S. 130A-295.5 and in accordance with the effective date and applicability set forth in S.L. 2007-550, s. 8.(b).
- (7) Study of Environmental Impacts. A study of environmental impacts shall be conducted as required by G.S. 130A-295.6(a) and in accordance with the effective dates and applicability requirements in S.L. 2007-550, s. 9.(b) and S.L. 2013-413, s. 59.1 as amended by S.L. 2013-410, s. 47.6.

*History Note: Authority G.S. 130A-294;
 Eff. October 9, 1993;
 Readopted Eff. September 16, 2021.*

15A NCAC 13B .1620 ENGINEERING PLAN

- (a) Purpose. The engineering plan that is required to be submitted in accordance with Rule .1617 of this Section shall incorporate the detailed plans and specifications relative to the design and performance of the MSWLF's containment and environmental control systems. The engineering plan shall set forth the design parameters and construction requirements for the components of the MSWLF's systems, shall meet the requirements of this Rule, and shall establish the responsibilities of the design engineer. The engineered components shall be described in Rule .1624 of this Section.
- (b) Responsibilities of the design engineer. The engineering plan shall be prepared by a licensed professional engineer if required by G.S. 89C. The design engineer shall incorporate a statement certifying this fact and bearing his or her seal of registration.
- (c) Scope. An engineering plan shall be prepared for the proposed area of development that provides no less than five years of operating capacity and no more than the total facility capacity, consistent with the development phases and design criteria defined in the facility plan. The engineering plan shall incorporate the design of leachate management and other environmental control facilities. The engineering plan shall contain a report and a set of drawings that represent the engineering design in accordance with Paragraphs (d) and (e) of this Rule.
- (d) An engineering report shall contain:
 - (1) An analysis of the facility design that conforms to:
 - (A) the standards for the foundation and the base liner system set forth in Rule .1624 of this Section;
 - (B) the standards for the cap system set forth in Rule .1627(c) of this Section; and
 - (C) the standards for the leachate storage facilities set forth in Rule .1680 of this Section.
 - (2) A summary of the facility design that includes:
 - (A) a discussion of the analytical methods used to evaluate the design;

- (B) definition of the aspects and conditions of the design evaluated by the design engineer 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 .1622 of this Section.
- (3) A description of the materials and construction practices that conforms to the requirements set forth in Rule .1624 of this Section, and is consistent with the analysis of the facility design prepared in accordance with this Paragraph.
- (e) Engineering drawings shall illustrate:
 - (1) existing conditions: site topography, features, existing disposal areas, roads, and buildings;
 - (2) grading plans: proposed limits of excavation, subgrade elevations, boring locations, and intermediate grading for partial construction;
 - (3) base liner system: grades for top of composite liner, slopes, anchor configuration, and liner penetration locations and details;
 - (4) leachate collection system: base elevations, piping system grade and inverts, cleanouts, valves, sumps, top of protective cover elevations, and details;
 - (5) location and feature details of any stormwater segregation systems;
 - (6) cap system: base and top elevations, landfill gas devices, infiltration barrier, surface water removal, protective and vegetative cover, and details;
 - (7) temporary and permanent sedimentation and erosion control plans;
 - (8) vertical separation requirements incorporating boring locations, cross sections, the maps prepared in accordance with Rule .1623(b)(2)(E) and (F) of this Section, and the grading plans; and
 - (9) additional engineering features and details if present.

*History Note: Authority G.S. 130A-294;
Eff. October 9, 1993;
Readopted Eff. September 16, 2021.*

15A NCAC 13B .1621 CONSTRUCTION QUALITY ASSURANCE PLAN

- (a) The construction quality control and quality assurance (CQA) plan shall describe the observations and tests that will be used before, during, and upon completion of construction to ensure that the construction and materials meet the design specifications and the construction and certification requirements set forth in Rule .1624 of this Section. The CQA plan shall also describe the procedures to ensure that the integrity of the landfill systems will be maintained prior to waste placement.
- (b) For construction of each cell, the CQA plan shall include the following information:
 - (1) The designation of responsibilities for the construction management organization shall be included in the CQA plan. A pre-construction meeting shall be conducted prior to beginning construction of the base liner system for a new cell. The meeting shall include a discussion of the construction management organization, respective duties during construction, and periodic reporting requirements for test results and construction activities.
 - (2) A description of all field observations, tests, equipment, and calibration procedures for field testing equipment that will be used to ensure that the construction and installation meets or exceeds all design criteria established in accordance with Rules .1620 and .1624 of this Section shall be included in the CQA plan.
 - (3) A description of all sampling protocols, sample size, methods for determining sample locations, and frequency of sampling shall be included in the CQA plan.
 - (4) A description of reporting required by the rules of this Section for CQA activities shall be included in the CQA plan.
 - (5) A description of planned progress and troubleshooting meetings, including the frequency, shall be included in the CQA Plan. The meetings shall occur no less than twice per week, and the proceedings of the meetings shall be documented.

*History Note: Authority G.S. 130A-294;
Eff. October 9, 1993;
Readopted Eff. September 16, 2021.*

15A NCAC 13B .1622 LOCATION RESTRICTIONS FOR MSWLF FACILITY SITING

MSWLF units shall comply with the siting criteria set forth in this Rule. Documentation of approval by agencies other than the Division of Waste Management may be required to demonstrate compliance with specific criteria. The scope of demonstrations including design and construction performance shall be discussed in a site study and completed in the permit application.

- (1) An MSWLF unit shall comply with 40 CFR 258.10.
- (2) Floodplains. An MSWLF unit shall meet the floodplain requirements of G.S. 130A-295.6(c)(1) in accordance with the effective date and applicability requirements of S.L. 2007-550, s. 9.(b). MSWLF units that are not subject to the requirements of G.S. 130A-295.6(c)(1) shall not be located in 100-year floodplains unless the owners or operators demonstrate that the unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in the carrying away of solid waste by flood waters.
- (3) Wetlands. For purposes of this Rule, "wetland" or "wetlands" mean those areas that are defined in 40 CFR 232.2(r). MSWLF units shall meet the requirements of G.S. 130A-295.6(c)(2) in accordance with the effective date and applicability requirements of S.L. 2007-550, s. 9.(b). MSWLF units that are not subject to G.S. 130A-295.6(c)(2) shall not be located in wetlands, unless the owner or operator demonstrates the following for Division approval.
 - (a) Where applicable under Section 404 of the Clean Water Act or G.S. 113A, 130A, or 143, the presumption that a practicable alternative to the proposed landfill facility is available which does not involve wetlands is rebutted.
 - (b) The construction and operation of the MSWLF unit shall not cause or contribute to violations of any applicable State water quality standard, or violate any applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act.
 - (c) The construction and operation of the MSWLF unit shall not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Federal Endangered Species Act of 1973, or violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.
 - (d) The construction and operation of the MSWLF unit shall not cause or contribute to degradation of wetlands.
 - (e) The owner or operator shall demonstrate the integrity of the MSWLF unit and its ability to protect ecological resources by addressing the following factors:
 - (i) erosion, stability, and migration potential of native wetland soils, muds, and deposits used to support the MSWLF unit;
 - (ii) erosion, stability, and migration potential of dredged and fill materials used to support the MSWLF unit;
 - (iii) the volume and chemical nature of the waste managed in the MSWLF unit;
 - (iv) impacts on fish, wildlife, and other aquatic resources and their habitat from release of the solid waste;
 - (v) the potential effects of release of waste to the wetland and the resulting impacts on the environment; and
 - (vi) any additional factors to demonstrate that ecological resources in the wetland are protected to the extent required under Section 404 of the Clean Water Act and G.S. 113A, 130A, and 143.
 - (f) The owner or operator shall demonstrate that steps have been taken to attempt to achieve no net loss of wetlands, as defined by acreage and function, by avoiding impacts to wetlands as required by Subitems (a) through (d) of this Item, and offsetting remaining unavoidable wetland impacts through compensatory mitigation actions such as restoration of existing degraded wetlands or creation of man-made wetlands.
 - (g) The Division may request additional information if it is necessary to determine compliance with this Item.
- (4) Fault Areas.
 - (a) MSWLF units shall not be located within 200 feet (60 meters) of a fault that has had displacement in Holocene time unless the owner or operator demonstrates to the Division that an alternative setback distance of less than 200 feet (60 meters) will prevent damage

- to the structural integrity of the MSWLF unit and will be protective of human health and the environment.
- (b) For the purposes of this Item:
 - (i) "Fault" means a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to that on the other side.
 - (ii) "Displacement" means the relative movement of any two sides of a fault measured in any direction.
 - (iii) "Holocene" means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch to the present.
- (5) Seismic Impact Zones.
- (a) MSWLF units shall not be located in seismic impact zones, unless the owner or operator demonstrates to the Division that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site.
 - (b) For the purposes of this Item:
 - (i) "Seismic impact zone" means an area with a ten percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10g in 250 years.
 - (ii) "Maximum horizontal acceleration in lithified earth material" means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90 percent or greater probability that the acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.
 - (iii) "Lithified earth material" means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose sediments. This term does not include man-made materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth surface.
- (6) Unstable Areas. Owners or operators of MSWLF units proposed for location in an unstable area shall demonstrate that the MSWLF unit's design ensures that the integrity of the structural components of the MSWLF unit will not be disrupted. The owner or operator shall consider the following factors when determining whether an area is unstable:
- (a) on-site or local soil conditions that may result in differential settling;
 - (b) on-site or local geologic or geomorphologic features; and
 - (c) on-site or local human-made features or events, both surface and subsurface.
- (7) Cultural Resources. A MSWLF unit shall not damage or destroy property of natural or historical significance that has been listed on the National Register of Historic Places or included on the Study List for the Register pursuant to 07 NCAC 04R .0206 and .0300, which are incorporated by reference including subsequent amendments and editions. A letter from the State Historic Preservation Office within the Department of Natural and Cultural Resources stating whether the proposed use of the property will impact properties of archaeological or historical significance shall be included in the site study.
- (8) State Nature and Historic Preserve. The location, access, size, and operation of the MSWLF unit shall not damage, destroy, or degrade any lands included in the State Nature and Historic Preserve pursuant to G.S. 143-260.10. A letter from the Natural Heritage Program Office within the Department of Natural and Cultural Resources stating whether the proposed use of the property will damage, destroy, or degrade state nature and historic preserve locations shall be included in the site study.
- (9) Water Supply Watersheds.
- (a) At the time that an MSWLF unit receives the first permit approval to construct, an MSWLF unit shall not be located in the critical area of a water supply watershed or in the watershed for a stream segment classified as WS-I, or in watersheds of other water bodies which indicate that no new landfills are allowed in accordance with 15A NCAC 02B .0200.

- (b) An MSWLF unit that proposes to discharge leachate to surface waters shall obtain a National Pollution Discharge Elimination System (NPDES) Permit from the Department pursuant to Section 402 of the United States Clean Water Act.
 - (c) At the time that an MSWLF unit receives the first permit approval to construct, an MSWLF unit that proposes to discharge leachate to surface waters shall not be located within watersheds classified as WS-II or WS-III, or in watersheds of other water bodies which indicate that no new discharging landfills are allowed, in accordance with 15A NCAC 02B .0200.
- (10) Endangered and Threatened Species. A MSWLF unit shall not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Federal Endangered Species Act of 1973, Public Law 93-205, as amended.

*History Note: Authority G.S. 130A-294;
Eff. October 9, 1993;
Readopted Eff. September 16, 2021.*

15A NCAC 13B .1623 GEOLOGIC AND HYDROGEOLOGIC INVESTIGATIONS FOR MSWLF FACILITIES

(a) Site Hydrogeologic Report. In accordance with Rule .1618(c)(4) of this Section, a permit applicant shall conduct a hydrogeologic investigation and prepare a report. An investigation shall assess the geologic and hydrogeologic characteristics of the parcel on which the MSWLF unit is proposed to be constructed (hereinafter "site") to determine the suitability of the site for solid waste management activities; which areas of the site are most suitable for MSWLF units; and the general groundwater flow paths and rates for the uppermost aquifer. The report shall provide an understanding of the relationship of the site groundwater flow regime to local and regional hydrogeologic features with special emphasis on the relationship of MSWLF units to groundwater receptors such as drinking water wells, and to groundwater discharge features. Additionally, the scope of the investigation shall include the general geologic information necessary to address compliance with the location restrictions described in Rule .1622 of this Section. The Site Hydrogeologic Report shall provide the following information:

- (1) A report on local and regional geology and hydrogeology as defined in Rule .1618(c)(1) and (2) of this Section based on research of available literature for the area. This information is to be used in planning the field investigation. For sites located in piedmont or mountain regions, this report shall include a fracture trace analysis and Rose Diagram, based on an evaluation of structurally controlled features identified on a topographic map of the area.
- (2) A report on field observations of the site that includes information on the following:
 - (A) topographic setting, springs, streams, drainage features, existing or abandoned wells, rock outcrops including trends in strike and dip, and other features that may affect site suitability or the ability to effectively monitor the site;
 - (B) groundwater discharge features. For a proposed site where the owner or operator does not control the property from any landfill unit boundary to the controlling, downgradient, groundwater discharge features, additional borings, geophysical surveys, or other hydrogeological investigations shall be required to characterize the nature and extent of groundwater flow; and
 - (C) the hydrogeological properties of the bedrock, if the water table of the uppermost aquifer on any portion of the site is in the bedrock. For the purpose of this Rule, "bedrock" means material below auger refusal.
- (3) Borings for which the numbers, locations, and depths provide an understanding of the subsurface conditions and groundwater flow regime of the uppermost aquifer at the site. The number and depths of borings required shall depend on the hydrogeologic characteristics of the site. There shall be no less than an average of one boring for each 10 acres of the proposed landfill facility. All borings intersecting the water table shall be converted to piezometers or monitoring wells in accordance with 15A NCAC 02C .0108. Boring logs, field logs and notes, and well construction records for all onsite borings, wells, and piezometers shall be placed in the operating record, and shall also be provided to the Division upon request. Field logs and notes shall be legible; and may be typewritten.

- (4) A testing program for the borings that describes the frequency, distribution, and type of samples taken and the methods of analysis, such as ASTM Standards provided at <https://www.astm.org>, used to obtain the following information:
 - (A) standard penetration - resistance using a method such as ASTM D 1586;
 - (B) particle size analysis using a method such as ASTM D 6913;
 - (C) soil classification: Unified Soil Classification System using a method such as such as ASTM D 2487;
 - (D) formation descriptions; and
 - (E) saturated hydraulic conductivity, porosity, and effective porosity for each lithologic unit of the uppermost aquifer including the vadose zone.
- (5) In addition to borings, other investigation techniques may be used to obtain an understanding of the subsurface conditions at the site, including geophysical well logs, surface geophysical surveys, and tracer studies.
- (6) Stratigraphic cross-sections identifying hydrogeologic and lithologic units, and stabilized water table elevations.
- (7) Water table information, including:
 - (A) tabulations of water table elevations measured at the time of boring, 24 hours, and stabilized readings for all borings, measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater flow direction and rate;
 - (B) tabulations of stabilized water table elevations over time to develop an understanding of seasonal fluctuations in the water table;
 - (C) an estimation of the long-term seasonal high groundwater table based on stabilized water table readings, hydrographs of wells in the area, precipitation and other meteorological and climatological data, and any other information available; and
 - (D) a discussion of any natural or man-made activities that have the potential for causing water table fluctuations, including tidal variations, river stage changes, flood pool changes of reservoirs, high volume production wells, and injection wells.
- (8) The horizontal and vertical dimensions of groundwater flow, including flow directions, rates, and gradients.
- (9) Groundwater contour map(s) to show the occurrence and direction of groundwater flow in the uppermost aquifer, and any other aquifers identified in the hydrogeologic investigation. The groundwater contours shall be superimposed on a topographic map. The location of all borings and rock cores and the water table elevations or potentiometric data at each location used to generate the groundwater contours shall be shown on the groundwater contour map(s).
- (10) A topographic map of the site locating soil borings with accurate horizontal and vertical control which are tied to a permanent onsite benchmark.
- (11) Information for public potable wells and public water supply surface water intakes, within the local study area in accordance with Rule .1618(c)(2) of this Section, including:
 - (A) available information and records for well construction, number and location served by wells, and production rates for public potable water wells; and
 - (B) available information for all surface water intakes, including location, use, and production rate.
- (12) Identification of other geologic and hydrologic considerations, including slopes, streams, springs, gullies, trenches, solution features, karst terranes, sinkholes, dikes, sills, faults, mines, groundwater discharge features, and groundwater recharge and discharge areas.
- (13) A report summarizing the geological and hydrogeological evaluation of the site that includes the following:
 - (A) a description of the relationship between the uppermost aquifer of the site to local and regional geologic and hydrogeologic features;
 - (B) a discussion of the groundwater flow regime of the site focusing on the relationship of MSWLF units to groundwater receptors and to groundwater discharge features;
 - (C) a discussion of the overall suitability of the proposed site for solid waste management activities and which areas of the site are most suitable for MSWLF units; and

- (D) a discussion of the groundwater flow regime of the uppermost aquifer at the site and the ability to monitor the MSWLF units to ensure early detection of any release of monitored constituents to the uppermost aquifer.
- (b) Design Hydrogeologic Report. A geological and hydrogeological report shall be submitted in the application for the permit to construct in accordance with Rule .1617(a)(1) of this Section, and shall meet the following criteria.
- (1) The number and depths of borings required to characterize the geologic and hydrogeologic conditions of the site shall be based on the site-specific geologic and hydrogeologic characteristics of the site, and there shall be no less than an average of one boring for each acre of the area of investigation. The area of investigation shall be defined by the Division's review of the site study submitted in accordance with Rule .1618 of this Section. The scope and purpose of the investigation shall be as follows:
 - (A) The investigation shall provide information to demonstrate compliance with the vertical separation and foundation standards set forth in Rule .1624(b)(4) and (b)(7) of this Section, and Rule .1680(e) of this Section.
 - (B) The investigation shall provide detailed and localized data of the hydrogeologic characteristics of the uppermost aquifer for the proposed phase of MSWLF development and any leachate management systems to design an effective water quality monitoring system.
 - (2) The Design Hydrogeologic Report shall provide the following information:
 - (A) the information required in Subparagraphs (a)(4) through (a)(12) of this Rule;
 - (B) any technical information that is necessary to determine the design of the monitoring system as required by Rule .1631(c) of this Section;
 - (C) any technical information that is necessary to determine the relevant point of compliance as required by Rule .1631(a)(2) of this Section;
 - (D) for sites located in the piedmont or mountain regions, rock cores of no less than the upper 10 feet of the bedrock to provide an understanding of the fractured bedrock conditions and groundwater flow characteristics of the area of investigation. Testing for the rock corings shall provide rock types; recovery values; rock quality designation (RQD) values; saturated hydraulic conductivity and secondary porosity values; and rock descriptions, including fracturing and jointing patterns;
 - (E) a groundwater contour map based on the estimated long-term seasonal high groundwater table that is superimposed on a topographic map and includes the location of all borings and rock cores and the water table elevations or potentiometric data at each location used to generate the groundwater contours;
 - (F) for sites located in piedmont or mountain regions, a bedrock contour map illustrating the contours of the upper surface of the bedrock that is superimposed on a topographic map and includes the location of all borings and rock cores and the top of rock elevations used to generate the upper surface of bedrock contours;
 - (G) a three-dimensional groundwater flow net or several hydrogeologic cross-sections that characterize the vertical groundwater flow regime for this area;
 - (H) a report on the groundwater flow regime for the area including groundwater flow paths for both horizontal and vertical components of groundwater flow, horizontal and vertical gradients, flow rates, and groundwater recharge areas and discharge areas; and
 - (I) if required by G.S. 89E, a certification by a licensed geologist that all borings that intersect the water table at the site have been constructed and maintained as permanent monitoring wells in accordance with 15A NCAC 02C .0108, or that the borings and temporary piezometers will be abandoned prior to landfill construction in accordance with the procedures for permanent abandonment of wells as delineated in 15A NCAC 02C .0113, except that at the time of abandonment, all piezometers within the MSWLF unit footprint area shall be overdrilled to the full depth of the boring or to the top of bedrock, whichever is encountered first, prior to grout placement. The level of the grout within the boring shall not exceed in height the elevation of the proposed base grade.
 - (3) A water quality monitoring plan shall be submitted in the application for the permit to construct in accordance with Rule .1617(a)(1) of this Section, and shall include:
 - (A) information on the proposed groundwater monitoring systems, sampling and analysis requirements, and detection monitoring requirements provided in Rules .1630 through

.1637 of this Section. In addition to groundwater monitoring wells, the use of alternative monitoring systems may be required by the Division at sites where the owner or operator does not control the property from any landfill unit to the groundwater discharge features; or allowed by the Division at sites with hydrogeologic conditions favorable to detection monitoring by alternative methods. The number, spacing, and depths of groundwater monitoring points shall be determined based upon site-specific technical information that shall include an investigation of aquifer thickness, groundwater flow rate, and groundwater flow direction, including seasonal and temporal fluctuations in groundwater flow; and the thickness, stratigraphy, lithology, hydraulic conductivities, porosities, and effective porosities of the saturated and unsaturated geologic units, including fill materials, overlying and comprising the uppermost aquifer; and

- (B) information on the surface water monitoring including:
 - (i) sample locations for surface water features on or bordering the facility property, including no less than one upstream and one downstream sample location;
 - (ii) sampling and analytical methods for surface water samples;
 - (iii) surface water samples shall be analyzed for constituents listed in Rule .1633(a) of this Section;
 - (iv) the monitoring frequency shall be no less than semiannual during the active life of the facility, and no less than semiannual during the closure and post-closure periods; and
 - (v) information used for the development of the surface water monitoring system shall include drainage patterns and other hydrological conditions in the area; proximity of surface water to the facility; uses that are being or may be made of any surface water that may be affected by the facility; any other factors that relate to the potential for surface water impacts from the facility.
- (4) The MSWLF unit shall not cause an exceedance of the surface water standards established under 15A NCAC 02B .0200.
- (5) the final water quality monitoring plan shall be effective in providing early detection of any release of monitored constituents from any point in a MSWLF unit or leachate surface impoundment to the uppermost aquifer or surface waters, to be protective of public health and the environment; and
- (6) the final water quality monitoring plan shall be prepared under the charge of and bear the seal of a licensed professional engineer or licensed geologist, if required by G.S. 89C or 89E.

*History Note: Authority G.S. 130A-294;
Eff. October 9, 1993;
Readopted Eff. September 16, 2021.*

15A NCAC 13B .1624 CONSTRUCTION REQUIREMENTS FOR MSWLF FACILITIES

(a) This Rule shall establish the performance standards and criteria for designing and constructing an MSWLF unit. Additional standards for the cap system are described in Rule .1627 of this Section.

(b) MSWLF units shall comply with the following design and construction criteria:

- (1) Base liner system description. The base liner system is constructed on the landfill subgrade and shall be designed to contain, collect and remove leachate generated by the MSWLF unit. The components of the liner system shall consist of the following.
 - (A) A Base Liner. The base liner shall consist of one of the following designs. The design described in Subpart (i) of this Part is the standard composite liner. If a landfill owner or operator proposes to utilize one of the alternative composite liner designs described in Subparts (ii) and (iii) of this Part the owner or operator shall demonstrate through a model that the proposed design shall ensure that maximum contaminant levels (MCL) promulgated under 40 CFR 141 shall not be exceeded in the uppermost aquifer at the relevant point of compliance as established in Rule .1631(a)(2) of this Section. For these two designs, the Division may waive the site-specific modeling requirement if it can be demonstrated that a previous site for which a model was approved had similar hydrogeologic characteristics, climatic factors, and volume and physical and chemical leachate characteristics. If an alternative liner design other than Subparts (ii) and (iii) of

this Part is proposed, the Division shall require site-specific, two-phase modeling as described in Subpart (iv) of this Part.

- (i) A composite liner utilizing a compacted clay liner (CCL). The composite liner is one liner that consists of two components; a geomembrane liner installed above and in direct and uniform contact with a compacted clay liner with a minimum thickness of 24 inches (0.61 m) and a permeability of no more than 1.0×10^{-7} cm/sec. The composite liner shall be designed and constructed in accordance with Subparagraphs (8) and (10) of this Paragraph.
 - (ii) A composite liner utilizing a geosynthetic clay liner (GCL). The composite liner is one liner that consists of three components: a geomembrane liner installed above and in uniform contact with a GCL overlying a compacted clay liner with a minimum thickness of 18 inches (0.46 m) and a permeability of no more than 1.0×10^{-5} cm/sec. The composite liner shall be designed and constructed in accordance with Subparagraphs (8), (9), and (10) of this Paragraph.
 - (iii) A composite liner utilizing two geomembrane liners. The composite liner consists of three components; two geomembrane liners each with an overlying leachate drainage system designed to reduce the maximum predicted head acting on the lower membrane liner to less than one inch. The lower membrane liner shall overlie a compacted clay liner with a minimum thickness of 12 inches (0.31m) and a permeability of no more than 1.0×10^{-5} cm/sec. The composite liner system shall be designed and constructed in accordance with Subparagraphs (8) and (10) of this Paragraph.
 - (iv) An alternative base liner. An alternative base liner system may be approved by the Division if the owner or operator demonstrates through a two-phase modeling approach that the alternative liner design meets the following criteria: the rate of leakage through the alternative liner system will be less than or equal to the composite liner system defined in Subpart (i) of this Part; and the design shall ensure that maximum contaminant levels (MCL), promulgated under 40 CFR 141, will not be exceeded in the uppermost aquifer at the relevant point of compliance as established in Rule .1631(a)(2) of this Section.
 - (B) A leachate collection system (LCS). The LCS shall be constructed on top of the base liner to establish a zone of protection between the base liner and the waste. The LCS shall be designed and constructed to collect and remove leachate from the MSWLF unit in accordance with Subparagraphs (2), (11), (12) and (13) of this Paragraph.
- (2) Leachate collection system design and operation.
- (A) The leachate collection system shall be hydraulically designed to remove leachate from the landfill and ensure that the leachate head on the composite liner does not exceed one foot. A means of quantitatively assessing the performance of the leachate collection system shall be provided in the engineering plan. The performance analysis shall evaluate the flow capacities of the drainage network necessary to convey leachate to the storage facility or off-site transport location. The engineering evaluation shall incorporate the following criteria:
 - (i) The geometry of the landfill and the leachate collection system shall be designed to control and contain the volume of leachate generated by the 24-hour, 25-year storm.
 - (ii) The performance analysis shall evaluate the leachate collection system for the flow capacities during conditions when the maximum impingement rate occurs on the LCS. The LCS flow capacity shall be designed to reduce the head on the liner system generated by the 24-hour, 25-year storm to less than one foot within 72 hours after the storm event.
 - (B) The leachate collection system shall be designed to provide a zone of protection of no less than 24 inches separating the composite liner from landfilling activities, or shall be subject to approval from the Division upon a demonstration of equivalent protection for the liner system.
 - (C) The leachate collection system shall be designed to resist clogging and promote leachate collection and removal from the landfill.

- (D) The leachate collection system shall be operated to remove leachate from the landfill in a way that ensures the leachate head on the composite liner does not exceed one foot under normal operating conditions.
- (3) Horizontal separation requirements.
 - (A) Property line buffer. MSWLF units shall have a buffer of no less than 300 feet between the MSWLF unit and all property lines.
 - (B) Private residences and wells. MSWLF units shall have a buffer of no less than 500 feet between the MSWLF unit and private residences and wells existing at the time that the Division issues a notification of site suitability in accordance with Rule .1618(a)(1) of this Section.
 - (C) Surface waters. MSWLF units shall have a buffer of no less than 50 feet between the MSWLF unit and any stream, river, lake, pond, or other waters of the State as defined in G.S. 143-212 unless the owner or operator can demonstrate to the Division that the alternative management of the water and any discharge shall be as protective to waters of the State as a 50-foot buffer; and that the construction activities will conform to the requirements of Sections 404 and 401 of the Clean Water Act.
 - (D) Other landfill units. A buffer shall be established between a proposed MSWLF unit and any existing landfill units to establish a groundwater monitoring system to allow monitoring of each unit separately as set forth in Rule .1631 of this Section.
 - (E) MSWLF units shall meet the horizontal separation requirements of G.S. 130A-295.6(b) and (d) in accordance with the effective dates and applicability requirements of S.L. 2007-550, s. 9.(b) and S.L. 2013-413, s. 59.1, as amended by S.L. 2013-410, s. 47.6, and S.L. 2007-543.
- (4) Vertical separation requirements. A MSWLF unit shall be constructed so that the post-settlement bottom elevation of the base liner system is no less than four feet above the seasonal high groundwater table and the bedrock datum plane contours established in the Design Hydrogeological Report prepared in accordance with Rule .1623(b) of this Section. MSWLF units shall meet the vertical separation requirements of G.S. 130A-295.6(f) in accordance with the effective date and applicability requirements of S.L. 2007-550, s. 9.(b).
- (5) Survey control. One permanent benchmark of known elevation measured from a U.S. Geological Survey benchmark shall be established and maintained for each 50 acres of developed landfill, or part thereof, at the landfill facility. This benchmark shall be the reference point for establishing vertical elevation control. Any survey performed pursuant to this Subparagraph shall be performed by a licensed professional land surveyor if required by G.S. 89C. Latitude and longitude, expressed in decimal degrees, shall be indicated at the approximate center of the facility.
- (6) Location coordinates. The North Carolina State Plane (NCSP) coordinates shall be established and one of its points shall be the benchmark of known NCSP coordinates.
- (7) Landfill subgrade. The landfill subgrade is the in-situ soil layer(s), constructed embankments, and select fill providing the foundation for construction of the unit. A foundation analysis shall be performed to determine the structural integrity of the subgrade to support the loads and stresses imposed by the weight of the landfill and to support overlying facility components and maintain their integrity of the components. Minimum post-settlement slope for the subgrade shall be two percent. Safety factors shall be specified for facilities located in seismic impact zones.
 - (A) Materials required. The landfill subgrade shall be free of organic material and consist of in-situ soils or a select fill approved by the Division in accordance with the performance standards contained in this Subparagraph.
 - (B) Construction requirements.
 - (i) The landfill subgrade shall be graded in accordance with the approved plans and specifications that are incorporated into the permit to construct in accordance with Rule .1604(b) of this Section.
 - (ii) The owner or operator of the MSWLF units shall notify the Division via e-mail no less than 24 hours before conducting the subgrade inspection required by Part (C) of this Subparagraph.
 - (C) Certification requirements. The subgrade surface shall be inspected in accordance with the following requirements:

- (i) Before beginning construction of the base liner system, the project engineer shall visually inspect the exposed surface to evaluate the suitability of the subgrade and document that the surface is properly prepared and that the elevations are consistent with the approved engineering plans incorporated into the permit to construct in accordance with Rule .1604(b) of this Section.
 - (ii) The subgrade shall be proof-rolled using procedures and equipment specified by the design or project engineer.
 - (iii) The subgrade shall be tested for density and moisture content at a minimum frequency as specified in the plans incorporated into the permit to construct in accordance with Rule .1604(b) of this Section.
- (8) Compacted clay liner. "Compacted clay liner" means a low permeability barrier designed to control fluid migration in a cap liner system or base liner system. A compacted clay liner shall meet the following requirements:
 - (A) Materials required. The soil materials used in constructing a compacted clay liner may be obtained from sources either on-site, or from off-site, or a combination of the two sources. If the native soil materials found at the source do not meet the permeability requirements, the soil materials shall be conditioned with bentonite so that they meet the permeability requirements. The soil material shall be free of particles greater than three inches in any dimension.
 - (B) Construction requirements. Construction methods for the compacted clay liner shall be based upon the type and quality of the borrow source and shall be verified in the field by constructing test pads. The project engineer shall ensure that the compacted clay liner installation conforms with the Division approved plans including the following requirements:
 - (i) A test pad shall be constructed prior to beginning installation of the compacted clay liner and whenever there is a change in soil material properties. The area and equipment, liner thickness, and subgrade slope and conditions shall be representative of full-scale construction. Acceptance and rejection criteria shall be verified for the tests specified in accordance with Part (C) of this Subparagraph. For each lift, a minimum of three test locations shall be established for testing moisture content, density, and a composite sample for recompacted lab permeability. At least one shelby tube sample for lab permeability testing, or another in-situ test that is approved by the Division as equivalent for permeability determination shall be obtained per lift.
 - (ii) Soil conditioning, placement, and compaction shall be maintained within the range identified in the moisture-density-permeability relation developed in accordance with Part (C) of this Subparagraph.
 - (iii) The final compacted thickness of each lift shall be a maximum of six inches.
 - (iv) Prior to placement of successive lifts, the surface of the lift in place shall be scarified or otherwise conditioned to eliminate lift interfaces.
 - (v) The final lift shall be protected from environmental degradation.
 - (C) Certification requirements. The project engineer shall include in the construction quality assurance report a discussion of all quality assurance and quality control testing required in this Subparagraph. The testing procedures and protocols shall be submitted in accordance with Rule .1621 of this Section and approved by the Division. The results of all testing shall be included in the construction quality assurance report including documentation of any failed test results, descriptions of the procedures used to correct the improperly installed material, and statements of all retesting performed in accordance with the Division approved plans including the following requirements:
 - (i) The quality control testing for accepting materials prior to and during construction of a compacted clay liner shall include particle size distribution analysis, Atterberg limits, triaxial cell laboratory permeability, moisture content, percent bentonite admixed with soil, and the moisture-density-permeability relation. The project engineer shall certify that the materials used in construction were tested according to the Division approved plans.

- (ii) The quality assurance testing for evaluating each lift of the compacted clay liner shall include moisture content and density, and permeability testing. For each location the moisture content and density shall be compared to the appropriate moisture-density-permeability relation. The project engineer shall certify that the liner was constructed using the methods and acceptance criteria consistent with test pad construction and tested in accordance with the plans incorporated into the permit to construct in accordance with Rule .1604(b) of this Section.
 - (iii) Any tests resulting in the penetration of the compacted clay liner shall be repaired using bentonite or as approved by the Division.
- (9) Geosynthetic clay liner. "Geosynthetic clay liner" means a geosynthetic hydraulic barrier manufactured in sheets and installed by field seaming techniques. A geosynthetic clay liner shall meet the following requirements:
 - (A) Materials required. Geosynthetic clay liners shall consist of natural sodium bentonite clay or equivalent, encapsulated between two geotextiles or adhered to a geomembrane. The liner material and any seaming materials shall have chemical and physical properties that are resistant to change, damage, or degradation from environmental exposure, waste placement, leachate generation, and subgrade moisture composition. Accessory bentonite, used for seaming, repairs and penetration seaming shall be made from the same sodium bentonite as used in the geosynthetic clay liner or as recommended by the manufacturer. The type of geosynthetic clay liner shall be approved by the Division according to the criteria set forth in this Part. Reinforced geosynthetic clay liners shall be used on all slopes greater than 10H:IV. The geosynthetic clay liner material shall have a demonstrated hydraulic conductivity of not more than 5×10^{-9} cm/sec under the anticipated confining pressure.
 - (B) Design and Construction requirements. The design engineer shall ensure that the design of the geosynthetic clay liner installation conforms to the requirements of the manufacturer's recommendations and the Division approved plans. The Division approved plans shall provide for and include the following provisions:
 - (i) the surface of the supporting soil upon which the geosynthetic clay liner will be installed shall be free of stones, organic matter, protrusions, loose soil, and any abrupt changes in grade that could damage the geosynthetic clay liner;
 - (ii) materials placed on top of the GCL shall be placed in accordance with the plans incorporated into the permit to construct in accordance with Rule .1604(b) of this Section. Equipment used to install additional geosynthetics shall be specified by the design engineer and as recommended by the manufacturer. A minimum of 12 inches of separation between the application equipment and the geosynthetic clay liner shall be provided when applying soil materials;
 - (iii) materials that become prematurely hydrated shall be removed, repaired, or replaced, as specified by the project engineer and in accordance with the plans incorporated into the permit to construct prepared in accordance with Rule .1604(b) of this Section;
 - (iv) field seaming preparation and methods, general orientation criteria, and restrictive weather conditions;
 - (v) anchor trench design;
 - (vi) critical tensile forces and slope stability, including seismic design;
 - (vii) protection from environmental damage; and
 - (viii) physical protection from the materials installed on top of the geosynthetic clay liner.
 - (C) Certification requirements.
 - (i) Before beginning installation of the geosynthetic clay liner, the project engineer shall visually inspect the exposed surface to evaluate the suitability of the subgrade and document that the surface is prepared in accordance with and the elevations are consistent with the approved engineering plans incorporated into the permit to construct in accordance with Rule .1604(b) of this Section.
 - (ii) The project engineer shall ensure that the geosynthetic clay installation conforms to the requirements of the manufacturer's recommendations and the

plans incorporated into the permit to construct in accordance with Rule .1604(b) of this Section.

- (iii) The project engineer shall include in the construction quality assurance report a discussion of quality assurance and quality control testing to document that material is placed in accordance with plans incorporated into the permit to construct in accordance with Rule .1604(b) of this Section.
 - (iv) The project engineer shall include in the construction quality assurance report a discussion of the approved data resulting from the quality assurance and quality control testing required in this Subparagraph.
 - (v) The testing procedures and protocols for field installation shall be submitted in accordance with Rule .1621 of this Section and approved by the Division.
 - (vi) The results of all testing shall be included in the construction quality assurance report, including documentation of any failed test results, descriptions of the procedures used to correct the improperly installed material, and performance documentation of all retesting, in accordance with the plans incorporated into the permit to construct in accordance with Rule .1604(b) of this Section, including quality control testing of the raw materials and manufactured product; field and independent laboratory destructive testing of geosynthetic clay liner samples; and documentation prepared by the project engineer in accordance with Subpart (i) of this Part.
- (10) Geomembrane liner. "Geomembrane liner" means a geosynthetic hydraulic barrier manufactured in sheets and installed by field seaming techniques. A geomembrane liner shall comply with the following requirements:
- (A) Materials required. The liner material and any seaming materials shall have chemical and physical properties that are resistant to change, damage, or degradation from environmental exposure, waste placement, and leachate generation. The type of geomembrane shall be approved by the Division according to the criteria set forth in this Part. High density polyethylene geomembrane liners shall have a thickness of no less than 60 mils. The minimum thickness of any geomembrane approved by the Division shall be greater than 30 mils.
 - (B) Construction requirements. The project engineer shall ensure that the geomembrane installation conforms to the requirements of the manufacturer's recommendations and the Division approved plans including the following:
 - (i) the surface of the supporting soil upon which the geomembrane will be installed shall be reasonably free of stones, organic matter, protrusions, loose soil, and any abrupt changes in grade that could damage the geomembrane;
 - (ii) field seaming preparation and methods, general orientation criteria, and restrictive weather conditions;
 - (iii) anchor trench design;
 - (iv) critical tensile forces and slope stability;
 - (v) protection from environmental damage; and
 - (vi) physical protection from the materials installed on top of the geomembrane.
 - (C) Certification requirements. The project engineer shall include in the construction quality assurance report a discussion of the approved data resulting from the quality assurance and quality control testing required in this Subparagraph. The testing procedures and protocols for field installation shall be submitted in accordance with Rule .1621 of this Section and approved by the Division. The results of all testing shall be included in the construction quality assurance report including documentation of any failed test results, descriptions of the procedures used to correct the improperly installed material, and statements of all retesting performed in accordance with the plans incorporated into the permit to construct in accordance with Rule .1604(b) of this Section, including the following:
 - (i) quality control testing of the raw materials and manufactured product;
 - (ii) test seams shall be made upon each start of work for each seaming crew, upon every four hours of continuous seaming, every time seaming equipment is

- changed or if there are changes in geomembrane temperature or weather conditions that have the potential to affect seaming operations;
 - (iii) nondestructive testing of all seams;
 - (iv) field and independent laboratory destructive testing of seam samples; and
 - (v) evaluation of the entire liner for leaks as required by G.S. 130A-295.6(h)(1) using technology such as electronic leak detection.
- (11) Leachate collection pipes. A leachate collection pipe network shall be a component of the leachate collection system and shall be hydraulically designed to convey leachate from the MSWLF unit to a leachate storage or treatment facility that is able to contain the leachate generated, or a point of off-site transport. Leachate collection piping shall comply with the following requirements:
 - (A) Materials required.
 - (i) The leachate collection piping shall have a minimum nominal diameter of six inches.
 - (ii) The chemical properties of the pipe and any materials used in installation shall be resistant to change, damage, or degradation from waste placement or leachate generated by the landfill.
 - (iii) The physical properties of the pipe shall provide adequate structural strength to support the maximum static and dynamic loads and stresses imposed by the overlying materials and any equipment used in construction and operation of the landfill. Specifications for the pipe shall be submitted in the engineering report.
 - (B) Construction requirements.
 - (i) Leachate collection piping shall be installed according to the plans incorporated into the permit to construct in accordance with Rule .1604(b) of this Section.
 - (ii) The location and grade of the piping network shall provide access for periodic cleaning and inspection in accordance with G.S. 130A-295.6(h)(3).
 - (iii) The bedding material for the leachate collection pipe shall consist of a coarse aggregate installed in direct contact with the pipe. The aggregate shall be chemically compatible with the leachate generated and shall be placed to provide adequate support to the pipe. The bedding material for main collector lines shall be extended to and in direct contact with the waste layer or a graded soil or granular filter.
 - (C) Certification requirements. The project engineer shall include in the construction quality assurance report a discussion of the quality assurance and quality control testing to ensure that the material is placed according to the approved plans. The testing procedures and protocols for field installation shall be submitted in accordance with Rule .1621 of this Section and approved by the Division. The results of all testing shall be included in the construction quality assurance report including documentation of any failed test results, descriptions of the procedures used to correct the improperly installed material, and statements of all retesting performed in accordance with plans incorporated into the permit to construct in accordance with Rule .1604(b) of this Section, including the following:
 - (i) All leachate piping installed from the MSWLF unit to the leachate storage or treatment facility shall be watertight or provide dual containment in accordance with G.S. 130-295.6(h)(4) at landfill facilities permitted by the Division after August 1, 2007.
 - (ii) The seal where the piping system penetrates the geomembrane shall be inspected and tested for leakage. The testing shall not damage or destroy the seal, the piping, or the geomembrane.
- (12) Drainage layers. Any soil, granular, or geosynthetic drainage nets used in the leachate collection system shall comply with the following requirements:
 - (A) Materials required.
 - (i) The chemical properties of the drainage layer materials shall be resistant to change, damage, or degradation from waste placement or leachate generated by the landfill.
 - (ii) The physical and hydraulic properties of the drainage layer materials shall promote lateral drainage of leachate through a zone of relatively high

- permeability or transmissivity under the predicted loads imposed by overlying materials.
- (B) Construction requirements.
 - (i) The drainage layer materials shall be placed in accordance with the approved plans prepared in accordance with Rule .1604(b) of this Section and in a manner that prevents equipment from working directly on the geomembrane.
 - (ii) The drainage layer materials shall be stable on the slopes specified on the engineering drawings.
 - (C) Certification requirements. The project engineer shall include in the construction quality assurance report a discussion of the quality assurance and quality control testing to ensure that the drainage layer material is placed according to the approved plans. The testing procedures and protocols for field installation shall be submitted in accordance with Rule .1621 of this Section and approved by the Division. The results of all testing shall be included in the construction quality assurance report including documentation of any failed test results, descriptions of the procedures used to correct the improperly installed material, and statements of all retesting performed in accordance with the approved plans prepared in accordance with Rule .1604(b) of this Section.
- (13) Filter layer criteria. All filter collection layers used in the leachate collection system shall be designed to prevent the migration of fine soil particles into a courser grained material, and permit water or gases to freely enter a drainage medium such as a pipe or drainage layer without clogging. A filter layer shall comply with the following requirements:
- (A) Materials required.
 - (i) Graded cohesionless soil filters. The granular soil material used as a filter shall have no more than five percent by weight passing the No. 200 sieve and no soil particles larger than three inches in any dimension.
 - (ii) Geosynthetic filters. Geosynthetic filter materials shall demonstrate adequate permeability and soil particle retention, and chemical and physical resistance which is not adversely affected by waste placement, any overlying material or leachate generated by the landfill.
 - (B) Construction requirements. All filter layers shall be installed in accordance with the engineering plan and specifications incorporated into the permit to construct prepared in accordance with Rule .1604(b) of this Section. Geosynthetic filter materials shall not be wrapped around leachate collection piping in any way that impedes the flow of leachate into the piping.
 - (C) Certification requirements. The project engineer shall include in the construction quality assurance report a discussion of the quality assurance and quality control testing to ensure that the filter layer material is placed according to the approved plans. The testing procedures and protocols for field installation shall be submitted in accordance with Rule .1621 of this Section and approved by the Division. The results of all testing shall be included in the construction quality assurance report including documentation of any failed test results, descriptions of the procedures used to correct the improperly installed material, and statements of all retesting performed in accordance with the approved plans prepared in accordance with Rule .1604(b) of this Section.
- (14) Other engineering structures. Engineering structures incorporated in the design and necessary to comply with the requirements of this Section and any other engineering structures proposed by the applicant shall be specified in the engineering plan. Material, construction, and certification requirements necessary to ensure that the structure is constructed according to the design and acceptable engineering practices shall be included in the Division approved plan.
- (15) Sedimentation and erosion control. Structures and measures shall be designed and maintained to manage the rainwater that drains over land from or onto any part of the facility or unit generated by the 24-hour, 25-year storm event, and conform to the requirements of the Sedimentation Control Law (15A NCAC 04) and any required NPDES permits.
- (16) Construction quality assurance (CQA) report.
- (A) A CQA report shall be submitted:
 - (i) after completing landfill construction to qualify the constructed MSWLF unit for a permit to operate;

- (ii) after completing construction of the cap system in accordance with the requirements of Rule .1629 of this Section; and
 - (iii) according to the reporting schedule developed in accordance with Rule .1621 of this Section.
 - (B) The CQA report shall include the information prepared in accordance with the requirements of Rule .1621 of this Section containing results of all construction quality assurance and construction quality control testing required in this Rule including documentation of any failed test results, descriptions of procedures used to correct the improperly installed material and results of all retesting performed. The CQA report shall contain as-built drawings noting any deviation from the approved engineering plans, and shall also contain a comprehensive narrative including daily reports from the project engineer, a series of color photographs of major project features, and documentation of proceedings of all progress and troubleshooting meetings.
 - (C) The CQA report shall include a statement by the project engineer that construction was completed in accordance with the CQA plan, the conditions of the permit to construct, and the requirements of the rules of this Section. If required by G.S. 89C, the statement shall be certified and bear the seal of the project engineer.
 - (D) The Division shall review the CQA report within 30 days of a complete submittal to ensure that the report meets the requirements of this Subparagraph.
- (17) Maximum capacity, disposal area, and height for landfills permitted after August 2007. MSWLF units shall meet the requirements of G.S. 130A-295.6(i) regarding maximum allowed capacity, disposal area and height in accordance with the effective date and applicability of S.L. 2007-550, s. 9.(b).

History Note: Authority G.S. 130A-294;
 Eff. October 9, 1993;
 Temporary Amendment Eff. July 8, 1998;
 Amended Eff. April 1, 1999;
 Readopted Eff. September 16, 2021.

15A NCAC 13B .1625 OPERATION PLAN FOR MSWLF FACILITIES

- (a) The owner or operator of a MSWLF unit shall maintain and operate the facility in accordance with the operation plan prepared in accordance with this Rule.
- (b) Operation Plan. The owner or operator of a MSWLF unit shall prepare an operation plan for each proposed area of landfill development consistent with the engineering plan submitted in accordance with Rule .1620 of this Section. The operation plan shall be submitted in accordance with Rule .1617 of this Section and shall include the following:
- (1) Operation drawings. Drawings shall be prepared for each proposed area of landfill development. The drawings shall be consistent with the engineering plan and shall illustrate the following:
 - (A) existing conditions, including the known limits of existing disposal areas;
 - (B) progression of construction cells for incremental or modular construction;
 - (C) progression of operation, including initial waste placement, daily operations, transition contours, and final contours;
 - (D) leachate and stormwater controls for active and inactive subcells;
 - (E) special waste handling areas, such as any asbestos disposal area, within the MSWLF unit;
 - (F) buffer zones, noting restricted use;
 - (G) stockpile and borrow operations; and
 - (H) other solid waste activities, such as tire disposal or storage, yard waste storage, white goods storage, and recycling pads.
 - (2) Operation report. The report shall provide a narrative discussion of the operation drawings and contain a description of the facility operation that conforms to the requirements of Rule .1626 of this Section.

History Note: Authority G.S. 130A-294;
 Eff. October 9, 1993;
 Readopted Eff. September 16, 2021.

15A NCAC 13B .1626 OPERATIONAL REQUIREMENTS FOR MSWLF FACILITIES

The owner or operator of any MSWLF unit shall maintain and operate the facility in accordance with the requirements set forth in this Rule and the operation plan as described in Rule .1625 of this Section.

- (1) Waste Acceptance and Disposal Requirements.
 - (a) A MSWLF shall accept only those solid wastes that it is permitted to receive. The landfill owner or operator shall notify the Division within 24 hours of attempted disposal of any waste the MSWLF is not permitted to receive, including waste from outside the area the MSWLF is permitted to serve.
 - (b) The following wastes are prohibited from disposal at a MSWLF unit:
 - (i) hazardous waste, including hazardous waste from very small quantity generators as defined by 40 CFR 260.10, incorporated by reference at 15A NCAC 13A .0102(b);
 - (ii) polychlorinated biphenyl (PCB) wastes as defined in 40 CFR 761.3; and
 - (iii) liquid wastes unless they are managed in accordance with Item (9) of this Rule.
 - (c) Spoiled foods, animal carcasses, abattoir waste, hatchery waste, and other animal waste delivered to the disposal site shall be covered upon receipt.
 - (d) Asbestos waste shall be managed in accordance with 40 CFR 61(M). Asbestos waste shall be covered upon receipt, with soil or compacted waste to prevent airborne conditions. Asbestos waste shall be disposed of using methods that prevent unintended exposure of asbestos by future land-disturbing activities, such as disposal in a marked area separate and apart from other solid wastes, or recording the latitude and longitude coordinates of the asbestos area within the existing landfill footprint. The disposal methods shall be described in the operations plan required by Rule .1625 of this Section.
 - (e) Wastewater treatment sludges may only be accepted for disposal in accordance with the following conditions:
 - (i) if it is used as a soil conditioner and incorporated into or applied onto the vegetative growth layer at no more than six inches in depth; or
 - (ii) if it is being co-disposed if the facility meets all design requirements contained within Rule .1624 of this Section, and approved within the permit, or has been previously approved as a permit condition.
 - (f) Owners or operators of MSWLF units shall develop and implement a waste screening plan as required by G.S. 130A-295.6(g) in accordance with the effective date and applicability requirements of S.L. 2007-550, s. 9.(b). The plan shall comply with 40 CFR 258.20 and shall include screening for the wastes prohibited by Sub-Item (1)(b) of this Rule. Owners and operators of MSWLF units that are not subject to G.S. 130A-295.6(g) shall develop and implement a waste screening plan that shall comply with 40 CFR 258.20 and shall include screening and a contingency plan for the wastes prohibited by Sub-Item (1)(b) of this Rule.
 - (g) Waste placement at MSWLF units shall be within the areal limits of the base liner system and in compliance with the effective permit.
- (2) Compaction and cover material requirements. Solid waste shall be managed within the disposal area throughout the life-of-site and post-closure care period to prevent the escape of waste and the attraction of vectors and scavenging, and to minimize fires and the generation of odors. The owner or operator shall comply with this requirement using the following compaction and cover procedures:
 - (a) The owner or operator shall compact the solid waste.
 - (b) Except as provided in Sub-Item (c) of this Item, the owners or operators of all MSWLF units shall cover disposed solid waste with six inches of earthen material at the end of each operating day, or at more frequent intervals if necessary to prevent the escape of waste and the attraction of vectors and scavenging, and to minimize fires and the generation of odors.
 - (c) Alternative materials or an alternative thickness of cover (other than at least six inches of earthen material) are allowed with prior approval of the Division if the owner or operator demonstrates that the alternative material or thickness prevents the escape of waste and the attraction of vectors and scavenging, and minimizes fires and the generation of odors

- without presenting a threat to human health and the environment, in accordance with 40 CFR 258.21. Alternative materials that have been approved for use at any MSWLF by the Division may be used at all MSWLFs in accordance with G.S. 130A-295.6(h1).
- (d) Areas that will not have additional wastes placed on them for 12 months or more, but where final termination of disposal operations has not occurred, shall be covered with a no less than one foot of intermediate cover.
 - (3) Vector control. Owners or operators of all MSWLF units shall prevent or control on-site populations of vectors.
 - (4) Explosive gases control.
 - (a) Owners or operators of MSWLF units shall ensure that:
 - (i) the concentration of explosive gases generated by the facility does not exceed 25 percent of the lower explosive limit in on-site facility structures, excluding gas control or recovery system components; and
 - (ii) the concentration of explosive gases does not exceed the lower explosive limit at the facility property boundary.
 - (b) Owners or operators of MSWLF units shall implement a routine landfill gas monitoring program to ensure that the standards of Sub-item (a) of this Item are met as follows:
 - (i) The type of monitoring shall be determined based on soil conditions, the hydrogeologic conditions surrounding the facility, the hydraulic conditions surrounding the facility, and the location of facility structures and property boundaries.
 - (ii) The concentration of methane in landfill gas shall be monitored. The monitoring shall be conducted at a frequency of no less than quarterly.
 - (iii) The Division may also require quarterly monitoring of landfill gas for explosive gases other than methane, such as hydrogen sulfide, if it is necessary to ensure compliance with Sub-item (a) of this Item. If the Division requires monitoring of additional explosive gases, the Division shall provide written notice to the facility of the requirement.
 - (c) If explosive gas levels exceeding the limits specified in Sub-item (a) of this Item are detected, the owner or operator shall:
 - (i) upon discovery of detection, notify the Division and take any steps that may be necessary to ensure protection of human health, such as evacuation or monitoring of offsite structures for explosive gases;
 - (ii) within seven days of detection, place in the operating record the explosive gas levels detected and a description of the steps taken to protect human health; and
 - (iii) within 60 days of detection, implement a remediation plan for the explosive gas releases, place a copy of the plan in the operating record, and notify the Division that the plan has been implemented. The plan shall describe the nature and extent of the problem and the proposed remedy.
 - (d) The owner or operator may submit a request in writing to the Division for an extension or alternate schedule for compliance with Sub-Item (c)(ii) and (iii) of this Item, and the request shall include a justification for the alternate schedule. In making the determination on approval of the request, the Division shall consider the following factors:
 - (i) the justification submitted by the owner or operator;
 - (ii) actions taken by the owner or operator upon discovery of the exceedances;
 - (iii) the explosive gas levels measured and reported; and
 - (iv) the circumstances and use of properties surrounding the facility.
 - (5) Air Criteria and Fire Control.
 - (a) Owners or operators of MSWLF units shall ensure that the units do not violate 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 Air Act, as amended.
 - (b) Open burning, as defined in 15A NCAC 02D .1900, of solid waste, except for the approved burning of land clearing debris generated on site or debris from emergency clean-up operations, as provided for in 40 CFR 258.24, is prohibited at all MSWLF

- facilities. Prior to any burning, a request shall be sent to the Division for review. The Division shall approve the burning if the Division determines that the burning is one of the two types of burning described in this Sub-Item. A notation of the date of approval and the name of the Division personnel who approved the burning shall be included in the operating record.
- (c) MSWLF units shall maintain equipment on site to control accidental fires and arrangements shall be made with the local fire protection agency to provide fire-fighting services.
 - (d) Fires and explosions that occur at a MSWLF require verbal notice to the Division within 24 hours and written notification within 15 days. Written notification shall include the suspected cause of fire or explosion, the response taken to manage the incident, and the action(s) to be taken to prevent the future occurrence of fire or explosion.
- (6) Access and safety requirements.
- (a) The MSWLF shall be secured to prevent unauthorized entry by means such as gates, chains, berms, fences, or natural barriers such as rivers.
 - (b) In accordance with G.S. 130A-309.25, an individual trained in landfill operations shall be on duty at the site while the MSWLF is open for public use and at all times during active waste management operations at the MSWLF to ensure compliance with operational requirements.
 - (c) The access road to the MSWLF shall be of all-weather construction and maintained to allow access by Department vehicles or vehicles containing waste. The access roads or paths to monitoring locations shall be maintained to allow access by the Department.
 - (d) Fugitive dust emissions generated by site operations shall comply with 15A NCAC 02D .0540.
 - (e) Signs providing information on disposal procedures, the hours during which the site is open for public use, the permit number, and any information specified in the permit conditions to be included on the sign shall be posted at the site entrance.
 - (f) Signs shall be posted stating the types of waste that shall not be accepted at the MSWLF unit, such as hazardous waste or liquid waste.
 - (g) Traffic signs or markers shall be provided to direct traffic to and from the discharge area to minimize traffic congestion.
 - (h) The removal of solid waste from a MSWLF is prohibited unless the owner or operator approves and the removal is not performed on the working face.
 - (i) Barrels and drums shall not be disposed of unless they are empty and perforated so that no liquid or hazardous waste can be contained therein, except fiber drums containing asbestos.
- (7) Erosion and sedimentation control requirements. Erosion control measures consisting of vegetative cover, materials, structures, or other devices shall be utilized to prevent silt from leaving the site and to prevent on-site erosion, and shall comply with 15A NCAC 04, which is incorporated by reference including subsequent amendments and editions.
- (8) Drainage control and water protection requirements.
- (a) Surface water shall be diverted from the operational area.
 - (b) Surface water shall not be impounded over or in waste.
 - (c) Solid waste shall not be disposed of in water.
 - (d) Leachate shall be contained within a lined disposal cell or leachate collection and storage system. All leachate shall be treated, as required by the receiving facility, prior to discharge. A National Pollutant Discharge Elimination System (NPDES) permit may be required prior to the discharge of leachate to surface waters, as provided by 40 CFR 258.26 and 258.27.
 - (e) MSWLF units shall not:
 - (i) cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including the NPDES requirements, pursuant to Section 402 of the Clean Water Act; or
 - (ii) cause the discharge of a nonpoint source of pollution to waters of the United States, including wetlands, that violates any requirement of an area-wide or

State-wide water quality management plan that has been approved under Section 208 or 319 of the Clean Water Act, as amended.

- (9) Liquids restrictions.
 - (a) Bulk or non-containerized liquid waste shall not be placed in MSWLF units unless:
 - (i) the waste is household waste other than septic waste and waste oil; or
 - (ii) the waste is leachate or gas condensate derived from the MSWLF unit, the MSWLF unit is designed with a composite liner and leachate collection system as described within Rule .1624 of this Section, and the design and procedures for returning the leachate or gas condensate to the MSWLF unit are described in the permit conditions or plans incorporated into the permit.
 - (b) Containers holding liquid wastes shall not be placed in the MSWLF unit unless they meet the criteria set forth in 40 CFR 258.28(b)(1) through (3).
- (10) Operating Record and Recordkeeping requirements.
 - (a) The owner or operator of a MSWLF unit shall record and retain at the facility or in an alternative location stated in the permit an operating record that shall contain the following information:
 - (i) inspection records, waste determination records, certifications of training required by G.S. 130A-309.25, and documentation of training required by Sub-item (1)(f) of this Rule;
 - (ii) amounts by weight of solid waste received at the facility including county of generation consistent with G.S. 130A-309.09D;
 - (iii) gas monitoring results and any remediation plans required by Item (4) of this Rule;
 - (iv) any demonstration, certification, finding, monitoring, testing, or analytical data required by Rules .1630 thru .1637 of this Section;
 - (v) any monitoring, testing, or analytical data as required by Rule .1627 of this Section; and
 - (vi) any cost estimates and financial assurance documentation required by Rule .1628 of this Section and Section .1800 of this Subchapter.
 - (b) All information contained in the operating record shall be furnished to the Division according to the permit, or shall be made available for review by the Division at the time and place of an inspection of the MSWLF or upon request. The information contained in the operating record shall be recorded and retained in a format that is accessible and viewable by the Division.
 - (c) The owner or operator shall maintain a copy of the operation plan required by Rule .1625 of this Section at the facility.
- (11) Windblown waste requirements. Methods such as fencing and diking shall be provided within the area to confine solid waste that is subject to be blown by the wind. At the conclusion of each operating day, all windblown material resulting from the operation shall be collected and disposed of by the owner or operator.
- (12) Leachate management plan. The owner or operator of a MSWLF unit designed with a leachate collection system shall establish and maintain a leachate management plan that includes the following:
 - (a) periodic maintenance of the leachate collection system;
 - (b) maintaining records for the amounts of leachate generated;
 - (c) semi-annual leachate quality sampling;
 - (d) approval documentation for final leachate disposal; and
 - (e) a contingency plan for extreme operational conditions.

*History Note: Authority G.S. 130A-294;
Eff. October 9, 1993;
Amended Eff. May 1, 2011;
Readopted Eff. September 16, 2021.*

15A NCAC 13B .1627 CLOSURE AND POST-CLOSURE REQUIREMENTS FOR MSWLF FACILITIES

(a) Purpose. This Rule shall establish criteria for the closure of all MSWLF units and subsequent requirements for post-closure compliance. The owner or operator shall develop specific plans for the closure and post-closure of the MSWLF facility or units that comply with Rule .1629 of this Section, and submit them to the Division for review and approval.

(b) Scope.

- (1) This Rule shall establish standards for the scheduling and documenting closure of all MSWLF units, and design of the cap system. Construction requirements for the cap system shall incorporate specific requirements from Rule .1624 of this Section.
- (2) This Rule shall establish standards for the monitoring and maintenance of the MSWLF unit(s) following closure.

(c) Closure criteria.

- (1) An MSWLF unit shall have a cap system installed that shall be designed and constructed to:
 - (A) have a permeability less than or equal to the permeability of any base liner system or the in-situ subsoils underlying the landfill, or the permeability specified for the final cover in the effective permit, or a permeability no greater than 1×10^{-5} cm/sec, whichever is less;
 - (B) minimize infiltration through the closed MSWLF 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 six inches of earthen material that is capable of sustaining native plant growth.
- (2) 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 submitted in accordance with Rule .1629 of the 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; and
 - (B) the erosion layer will provide protection equivalent to or greater than the erosion layer specified in Subparagraph (1) of this Paragraph.
- (3) Construction of the cap system for all MSWLF units shall conform to the requirements set forth in Rule .1624(b)(8), (b)(9), (b)(10), (b)(14), and (b)(15) 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.
- (4) Prior to beginning closure of each MSWLF 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 of each MSWLF unit no later than 30 days after the date on which the MSWLF unit receives the known final receipt of wastes or no later than one year after the most recent receipt of wastes, if the MSWLF 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 MSWLF 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 MSWLF unit.
- (6) The owner or operator of all MSWLF units shall complete closure activities of each MSWLF 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 MSWLF unit.
- (7) Following closure of each MSWLF 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 MSWLF 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 will 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 .1603(a)(3) and .1617(d) of this Section.
 - (9) Recordation. Following closure of all MSWLF 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) Post-closure criteria.
- (1) Following closure of each MSWLF unit, the owner or 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 .1623(b)(3)(B) and .1630 through .1637 of this Section, and maintaining the groundwater monitoring system;
 - (C) maintaining and operating the gas monitoring system in accordance with the requirements of Rule .1626 of this Section; and
 - (D) maintaining, operating, and decommissioning the leachate collection system in accordance with the requirements in Rules .1624 and .1626 of this Section. The owner or 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 post-closure care period of the MSWLF 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 MSWLF 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.

History Note: Authority G.S. 130A-294;
Eff. October 9, 1993;
Readopted Eff. September 16, 2021;
Amended Eff. March 15, 2023.

15A NCAC 13B .1628 FINANCIAL ASSURANCE REQUIREMENTS FOR MSWLF FACILITIES AND UNITS

- (a) Owners and operators of municipal solid waste landfill facilities permitted by the Division in accordance with this Subchapter shall comply with the financial responsibility requirements set forth in G.S. 130A-295.2.
- (b) Owners and operators of municipal solid waste landfill facilities that received waste on or after October 9, 1993 and are permitted by the Division in accordance with this Subchapter shall comply with the financial assurance requirements set forth in Section .1800 of this Subchapter.

History Note: Filed as a Temporary Rule Eff. November 9, 1993 for a period of 180 days or until the permanent rule becomes effective, whichever is sooner;
Authority G.S. 130A-294; 130A-295.2(b);
Eff. April 9, 1994;
Amended Eff. October 1, 1994;
Readopted Eff. July 1, 2020.

15A NCAC 13B .1629 CLOSURE AND POST-CLOSURE PLAN

- (a) Purpose. As required under Rule .1617 of this Section, the owner or operator shall submit to the Division closure and post-closure plans that meet the requirements of this Rule.
- (b) Closure plan contents. The owner or operator shall prepare a written closure plan that describes the steps necessary to close all MSWLF units at any point during their active life in accordance with the cap system requirements in Rule .1627(c) of this Section. 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 Rule .1627(c) of this Section;
 - (2) an estimate of the largest area of the MSWLF 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 MSWLF unit; or the engineering plan or facility plan, for a MSWLF unit;
 - (3) an estimate of the maximum inventory of wastes ever 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 Rule .1627(c) of this Section; and
 - (5) the cost estimate for closure activities as required under Section .1800 of this Subchapter.
- (c) Post-closure plan contents. The owner or operator of all MSWLF 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 in Rule .1627(d) of this Section for each MSWLF 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 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.

History Note: Authority G.S. 130A-294;

Eff. October 9, 1993;
Readopted Eff. September 16, 2021.

15A NCAC 13B .1630 APPLICABILITY OF GROUNDWATER MONITORING REQUIREMENTS

- (a) The groundwater monitoring, assessment, and corrective action requirements under Rules .1630 through .1637 of this Section shall apply to all MSWLF units that are subject to the rules of the Section in accordance with Rule .1601(b) of this Section.
- (b) Owners or operators of MSWLF units shall comply with Rule .1631 of this Section before waste can be placed in the unit.
- (c) Once established at a MSWLF unit, groundwater monitoring shall be conducted throughout the active life and post-closure care period of that MSWLF unit.
- (d) Water quality monitoring plans, assessment plans, and corrective action plans shall be prepared under the charge of and bear the seal of a licensed professional engineer or licensed geologist if required by G.S. 89C or 89E, respectively.
- (e) The groundwater protection requirements of 15A NCAC 02L shall apply to MSWLFs.

History Note: Authority G.S. 130A-294;
Eff. October 9, 1993;
Readopted Eff. September 16, 2021.

15A NCAC 13B .1631 GROUNDWATER MONITORING SYSTEMS

- (a) A groundwater monitoring system shall be installed that consists of no less than one background and three downgradient wells installed at locations and depths that yield groundwater samples from the uppermost aquifer that:

- (1) Represent the quality of the background groundwater that has not been affected by leakage from the unit. Determination of background groundwater quality shall be based on sampling of a well or wells that are hydraulically upgradient of the waste management area. However, the determination of background water quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:
 - (A) hydrogeologic conditions do not allow the owner or operator to determine which wells are hydraulically upgradient;
 - (B) hydrogeologic conditions do not allow the owner or operator to place a well in a hydraulically upgradient location; or
 - (C) sampling at other wells will provide an indication of background groundwater quality that is as representative as that provided by the upgradient well(s); and
 - (2) Represent the quality of groundwater passing the relevant point of compliance as approved by the Division. The downgradient monitoring system shall be installed at the relevant point of compliance to ensure detection of groundwater contamination in the uppermost aquifer. The relevant point of compliance shall be established no more than 250 feet from a waste boundary, and shall be at least 50 feet within the facility property boundary. In determining the relevant point of compliance, the Division shall consider recommendations made by the owner or operator based upon consideration of the following factors:
 - (A) the hydrogeologic characteristics of the facility and surrounding land;
 - (B) the volume and physical and chemical characteristics of the leachate;
 - (C) the quantity, quality, and direction of groundwater flow;
 - (D) the proximity and withdrawal rate of the groundwater users;
 - (E) the availability of alternative drinking water supplies;
 - (F) the existing quality of the groundwater, including other sources of contamination and their cumulative impacts on the groundwater, and whether the groundwater is currently used or expected to be used for drinking water;
 - (G) any potential effects on public health, safety, and welfare; and
 - (H) practicable capability of the owner or operator.
- (b) Monitoring wells shall be designed and constructed in accordance with 15A NCAC 02C.
 - (1) Owner or operators shall obtain approval from the Division for the design, installation, development, and decommission of any monitoring well or piezometer. Documentation shall be placed in the operating record and provided to the Division in a timely manner.

- (2) The monitoring wells and piezometers shall be operated and maintained so that they perform to design specifications throughout the life of the monitoring program.
- (c) The number, spacing, and depths of monitoring systems shall be determined based upon site-specific technical information that shall include investigation of:
 - (1) aquifer thickness; groundwater flow rate; groundwater flow direction; and seasonal and temporal fluctuations in groundwater flow and water table; and
 - (2) unsaturated and saturated geologic units and any fill materials within the uppermost aquifer; including thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities, and effective porosities.
- (d) The proposed monitoring system and the water quality monitoring plan required in Paragraph (f) of this Rule shall be capable of providing detection of any release of monitored constituents from any point in a disposal cell or leachate surface impoundment to the uppermost aquifer. If required by G.S. 89C or 89E, the proposed monitoring system and water quality monitoring plan shall be certified by a licensed professional engineer or a licensed geologist.
- (e) In addition to groundwater monitoring wells, the use of alternative monitoring systems may be:
 - (1) required by the Division at sites where the owner or operator does not control the property from any landfill unit to the groundwater discharge feature(s); or
 - (2) allowed by the Division at sites where hydrogeologic conditions are favorable for detection monitoring by alternative methods.
- (f) The owner or operator shall submit a water quality monitoring plan for review and approval by the Division as required by Rules .1603 and .1617 of this Section. The water quality monitoring plan shall contain information on the groundwater monitoring system(s) and locations, surface water sampling locations, sampling and analysis requirements, and monitoring required under Rules .1630 through .1637 of this Section. The Division shall date and stamp the water quality monitoring plan "approved" if the plan meets the conditions of this Rule. Upon approval by the Division, a copy of the approved water quality monitoring plan shall be placed in the operating record.
- (g) Groundwater quality standards established under 15A NCAC 02L or groundwater protection standards established in accordance with Rule .1634(b) of this Section shall not be exceeded in the uppermost aquifer at the compliance boundary.

*History Note: Authority G.S. 130A-294;
Eff. October 9, 1993;
Readopted Eff. September 16, 2021;
Amended Eff. March 15, 2023.*

15A NCAC 13B .1632 GROUNDWATER SAMPLING AND ANALYSIS REQUIREMENTS

- (a) The owner or operator shall describe consistent sampling and analysis procedures designed to ensure monitoring results that provide an accurate representation of groundwater quality at the background and downgradient wells in the water quality monitoring plan approved in accordance with Rule .1631(f) of this Section. The plan shall include procedures and techniques for sample collection; sample preservation and shipment; analytical procedures; chain of custody control; and quality assurance and quality control.
- (b) The groundwater monitoring program shall include sampling and analytical methods for groundwater sampling that measure monitored constituents and other monitoring parameters in groundwater samples.
- (c) The sampling procedures and frequency shall be protective of human health and the environment.
- (d) Each time groundwater is sampled, groundwater elevations shall be measured in each well prior to purging. The owner or operator shall determine the rate and direction of groundwater flow each time groundwater is sampled. Groundwater elevations in wells that monitor the same waste management area shall be measured within a 24-hour period of time to avoid temporal variations in groundwater flow that could preclude accurate determination of groundwater flow rate and direction. The owner or operator shall determine groundwater elevation and flow as follows:
 - (1) To determine accurate groundwater elevations for each monitoring well, the wells shall have been surveyed. If required by G.S. 89C, a licensed professional land surveyor shall survey the wells. [Note: The North Carolina Board of Examiners for Engineers and Surveyors has determined, via a letter dated July 16, 2010, that the surveying pursuant to this Paragraph constitutes practicing surveying under G.S. 89C.] The survey of the wells shall conform to the following levels of accuracy:
 - (A) the horizontal location to the nearest 0.1 foot;

- (B) the vertical control for the ground surface elevation to the nearest 0.01 foot; and
 - (C) the vertical control for the measuring reference point on the top of the inner well casing to the nearest 0.01 foot.
- (2) To determine the rate of groundwater flow, the owner or operator shall provide data for hydraulic conductivity and porosity for the formation materials at each of the well locations.
- (e) The owner or operator shall establish background groundwater quality in accordance with Rule .1631(a)(1) of this Section and Paragraphs (f) through (h) of this Rule for each of the monitoring parameters or constituents required in the particular groundwater monitoring program that applies to the MSWLF unit.
- (f) The number of samples collected to establish groundwater quality data shall be consistent with the statistical procedures to be used, as provided for in Paragraph (g) of this Rule.
- (g) Should the owner or operator choose to perform statistical analysis of groundwater quality data for the purpose of establishing background concentrations or to determine if there is an exceedance of the groundwater quality standards established in 15A NCAC 02L or the groundwater protection standards established in Rule .1634(b) of this Section, the owner or operator shall select one of the following statistical methods to be used in evaluating groundwater monitoring data for each constituent of concern. The statistical test chosen shall be conducted separately for each constituent of concern in each well.
 - (1) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method shall include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.
 - (2) A parametric analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method shall include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.
 - (3) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.
 - (4) A control chart approach that gives control limits for each constituent.
 - (5) Another statistical test method that meets the performance standards of this Rule. The owner or operator shall submit a justification for an alternative test method to the Division for approval to determine compliance with this Rule. The justification shall demonstrate that the alternative statistical test method meets the performance standards of this Rule. If approved, the owner or operator shall place a copy of the justification for an alternative test method in the operating record.
- (h) Any statistical method chosen to evaluate groundwater monitoring data shall comply with the following performance standards:
 - (1) The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of chemical parameters or constituents of concern. If the distribution of the chemical parameters or constituents of concern is shown by the owner or operator, or by the Division, to be inappropriate for a normal theory test, then the data shall be transformed or a distribution-free theory test shall be used. If the distributions for the constituents differ, more than one statistical method shall be considered.
 - (2) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a groundwater protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experiment wise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons shall be maintained. This performance standard shall not apply to tolerance intervals, prediction intervals, or control charts.
 - (3) If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated parameter values shall be protective of human health and the environment. The parameters shall be determined by the analyst after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.
 - (4) If a tolerance interval or a prediction interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval

shall contain, shall be protective of human health and the environment. These parameters shall be determined by the analyst after considering the number of samples in the background database, the data distribution, and the range of the concentration values for each constituent of concern.

- (5) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantitation limit (pql) that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.
 - (6) If necessary, as provided for in 40 CFR 258, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.
- (i) Within 120 days from the date of sampling or as specified in the facility permit, whichever is less, the owner or operator shall submit to the Division a monitoring report in an electronic format that is accessible and viewable by the Division that includes information from the sampling event including field observations relating to the condition of the monitoring wells, field data, the laboratory analytical data report, statistical analysis (if utilized), field sampling methods and quality assurance and quality control data, information on groundwater flow direction, groundwater flow rate, and, for each well, any constituents that exceed groundwater quality standards set forth in 15A NCAC 02L .0202 or the groundwater protection standards established in Rule .1634(b) of this Section.

History Note: Authority G.S. 130A-294;
Eff. October 9, 1993;
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Amended Eff. March 15, 2023.

15A NCAC 13B .1633 DETECTION MONITORING PROGRAM

(a) Detection monitoring shall be conducted at MSWLF units at all groundwater monitoring wells that are part of the detection monitoring system as established in the approved water quality monitoring plan. As provided for in 40 CFR 258, the detection monitoring program shall include monitoring for the constituents listed in Appendix I of 40 CFR 258.

(b) The monitoring frequency for all Appendix I detection monitoring constituents shall be no less than semiannual during the active life of the facility and during closure and the post-closure period. To establish the baseline, no less than four independent samples from each background and downgradient monitoring well shall be collected within a six-month period and analyzed for constituents listed in Appendix I of 40 CFR 258, with no less than one sample collected from each new monitoring well before waste placement in each new cell or phase. No less than one sample from each background and downgradient monitoring well shall be collected and analyzed during subsequent semiannual sampling events.

(c) The Division may approve an alternate frequency, no less than annually, for repeated sampling and analysis for constituents required by Paragraph (b) of this Rule, during the active life and post-closure care of the unit considering the following factors:

- (1) lithology of the aquifer and unsaturated zone;
- (2) hydraulic conductivity of the aquifer and unsaturated zone;
- (3) groundwater flow rates;
- (4) minimum distance between the upgradient edge of the MSWLF unit and the downgradient monitoring well screened interval;
- (5) resource value of the aquifer; and
- (6) nature, fate, and transport of any detected constituents.

(d) If the owner or operator determines that there is an exceedance of the groundwater quality standards established in accordance with 15A NCAC 02L .0202, or the groundwater protection standards established in accordance with Rule .1634(b) of this Section for one or more of the constituents required to be monitored in Paragraph (a) of this Rule at any monitoring well, the owner or operator:

- (1) shall, within 14 days of this determination, report to the Division and place a notice in the operating record indicating which constituents have exceeded groundwater quality standards established in accordance with 15A NCAC 02L .0202, or the groundwater protection standards established in accordance with Rule .1634(b) of this Section;
- (2) shall establish an assessment monitoring program meeting the requirements of Rule .1634 of this Section within 90 days except as provided for in Subparagraph (3) of this Paragraph; and

- (3) may demonstrate that a source other than a MSWLF unit caused the exceedance, or the exceedance resulted from an error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. A report documenting this demonstration shall be submitted to the Division for approval. If required by G.S. 89C or G.S. 89E, a licensed professional engineer or licensed geologist shall prepare these documents. [Note: The North Carolina Board of Examiners for Engineers and Surveyors and the Board of Licensing of Geologist has determined, via letters dated July 16, 2010 and November 30, 2010 respectively, that preparation of documents pursuant to this Paragraph constitutes practicing engineering or geology under G.S. 89C and G.S. 89E.] A copy of this report shall also be placed in the operating record. If a successful demonstration is made, documented, and approved by the Division, the owner or operator may continue detection monitoring. If after 90 days, a successful demonstration is not made, the owner or operator shall initiate an assessment monitoring program as required by Rule .1634 of this Section.

*History Note: Authority G.S. 130A-294;
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Amended Eff. March 15, 2023.*

15A NCAC 13B .1634 ASSESSMENT MONITORING PROGRAM

(a) Assessment monitoring shall be required if, in any sampling event, one or more constituents listed in 40 CFR 258 Appendix I is detected above the groundwater quality standards established in accordance with 15A NCAC 02L .0202, or the groundwater protection standards established in accordance with Paragraph (b) of this Rule.

(b) Assessment Requirements. Within 90 days of triggering an assessment monitoring program in accordance with Rule .1633(d)(2) of this Section, the owner or operator shall conduct an assessment in accordance with the following:

- (1) Install additional wells downgradient of the compliance wells where exceedances have been detected to characterize the nature and extent of the contamination. The additional wells shall include no less than one additional groundwater monitoring well at the facility's property boundary or the compliance boundary, as defined in 15A NCAC 02L .0102, in the direction of contaminant migration most likely to show impact based on the established geology and hydrogeology.
- (2) Collect no less than one groundwater sample from each downgradient monitoring well, including any well installed in accordance with Subparagraph (1) of this Paragraph, and analyze for the constituents listed in 40 CFR 258 Appendix II. The Division may remove any of the 40 CFR 258 Appendix II constituents, not also listed in Appendix I, from the monitoring list for a MSWLF unit if the owner or operator can show that the constituents proposed for removal are not expected to be in or derived from the waste contained in the unit. After the initial sampling event, for any constituent detected in the downgradient wells as a result of the Appendix II analysis, no less than three additional independent samples from each downgradient monitoring well and no less than four independent samples from each background well shall be collected and analyzed to establish a baseline for the new detected constituents. Once determined, baseline data for the new detected constituents shall be reported to the Division.
- (3) For constituents that do not have a groundwater quality standard established in accordance with 15A NCAC 02L .0202, the Division shall establish a groundwater protection standard for each constituent detected in groundwater. The groundwater protection standard shall be the most protective of the following:
 - (A) for constituents for which a maximum contaminant level (MCL) has been promulgated under 40 CFR 141, the MCL for that constituent;
 - (B) for constituents for which a public water quality standard has been established under 15A NCAC 18C, the public water quality standard for that constituent; or
 - (C) for constituents for which no MCLs or public water quality standards have been promulgated, the background concentration for the constituent established from the monitoring wells required in accordance with Rules .1631(a)(1) and .1632 of this Section.
- (4) The Division may establish an alternative groundwater protection standard for constituents for which no MCL or public water quality standard have been established. These groundwater protection standards shall be health-based levels that satisfy the following criteria:

- (A) the level is derived in a manner consistent with U.S. E.P.A. guidelines provided in 40 CFR 258.55(i)(1) for assessing the health risks of environmental pollutants;
 - (B) the level is based on scientifically valid studies conducted in accordance with 40 CFR 792;
 - (C) for carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level due to continuous lifetime exposure of 1×10^{-6} ; and
 - (D) for systemic toxicants, the level represents a concentration to which the human population, including sensitive subgroups, could be exposed on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime. For the purposes of this Rule, systemic toxicants include toxic chemicals that cause effects other than cancer or mutation.
- (5) In establishing groundwater protection standards under this Paragraph, the Division shall consider the following:
- (A) multiple contaminants in the groundwater;
 - (B) exposure threats to sensitive environmental receptors; and
 - (C) other site-specific exposure or potential exposure to groundwater.
- (6) The owner or operator may request that the Division approve a background level for the unit that is higher than the groundwater quality standard established in 15A NCAC 02L .0202 or the groundwater protection standard established in Subparagraph (3) or (4) of this Paragraph. The background level shall be established in accordance with Rule .1632(e) of this Section. The approved background level shall be the established groundwater protection standard.
- (c) Assessment Monitoring. After obtaining the results from the initial sampling event required in Subparagraph (b)(2) of this Rule, the owner or operator shall perform assessment monitoring in accordance with the following:
- (1) For each assessment monitoring event, the owner or operator shall submit a monitoring report to the Division as required by Rule .1632(i) of this Section and, if required by G.S. 89E, the report shall be certified by a licensed geologist. Any monitoring report submitted during assessment shall contain a summary description of assessment activities conducted in accordance with Paragraph (b) of this Rule that have not previously been reported to the Division, including boring logs and well installation records.
 - (2) Within 30 days of obtaining the results of the sampling event, the owner or operator shall notify all persons who own land or reside on land that overlies any part of the plume of contamination if contaminants have migrated off-site.
 - (3) Within 14 days of receipt of the analytical results, the owner or operator shall submit notice to the Division in writing and place the notice in the operating record identifying the 40 CFR 258 Appendix II constituents that have not previously been detected and reported to the Division.
 - (4) Within 90 days, and no less than semiannually thereafter until the Division approves a return to detection monitoring in accordance with Paragraph (e) of this Rule, the owner or operator shall sample all of the monitoring wells for the unit in the monitoring system established in Rule .1633 of this Section and in Subparagraph (b)(1) of this Rule for all constituents listed in 40 CFR 258 Appendix I, and for those constituents in Appendix II not listed in Appendix I that have been detected. Any well with a reported groundwater standard exceedance shall be sampled for all constituents in 40 CFR 258 Appendix II no less than annually unless otherwise approved in accordance with Subparagraph (6) of this Paragraph or Subparagraph (b)(2) of this Rule. A report from each sampling event shall be submitted to the Division and placed in the facility operating record. No less than one sample from each background and downgradient monitoring well shall be collected and analyzed during each of these sampling events.
 - (5) The owner or operator shall establish and report to the Division the background or baseline concentrations for any constituents detected.
 - (6) The Division may approve an alternate frequency, no less than annually, or an alternate subset of wells for repeated sampling and analysis for constituents required by Paragraph (b) of this Rule, during the active life and post-closure care of the unit considering the following factors:
 - (A) lithology of the aquifer and unsaturated zone;
 - (B) hydraulic conductivity of the aquifer and unsaturated zone;
 - (C) groundwater flow rates;
 - (D) minimum distance between the upgradient edge of the MSWLF unit and the downgradient monitoring well screened interval;

- (E) resource value of the aquifer; and
- (F) nature, fate, and transport of any detected constituents.

(d) During assessment monitoring, the owner or operator may demonstrate, in accordance with Rule .1633(d)(3) of this Section for any constituent not previously reported to have a groundwater standard exceedance, that a source other than a MSWLF unit caused the exceedance of the groundwater quality standards established in accordance with 15A NCAC 02L .0202 or the groundwater protection standards established in accordance with Paragraph (b) of this Rule, or that the exceedance resulted from error in sampling, analysis, or natural variation in groundwater quality. If a successful demonstration is made for each exceedance, the owner or operator shall continue the existing assessment monitoring that was required by Paragraph (c) of this Rule unless and until the requirements of Paragraph (e) of this Rule are met.

(e) The Division shall give approval to the owner or operator to return to detection monitoring in accordance with Rule .1633 of this Section if all of the following are met:

- (1) for two consecutive sampling events, the concentrations of the constituents are shown to be at or below groundwater quality standards established in 15A NCAC 02L .0202, or the groundwater protection standards established in accordance with Paragraph (b) of this Rule;
- (2) the plume is not migrating horizontally or vertically; and
- (3) the plume has not exceeded the compliance boundary.

(f) If one or more Appendix II constituents are detected for two consecutive sampling events above background, the groundwater quality standards established in 15A NCAC 02L .0202, or the groundwater protection standards established in accordance with Paragraph (b) of this Rule, the owner or operator shall initiate assessment of corrective measures in accordance with Rule .1635 of this Section.

*History Note: Authority G.S. 130A-294;
Eff. October 9, 1993;
Amended Eff. April 1, 2011;
Readopted Eff. September 16, 2021;
Amended Eff. March 15, 2023.*

15A NCAC 13B .1635 ASSESSMENT OF CORRECTIVE MEASURES

(a) Within 90 days of finding that one or more Appendix II constituents exceeded, for two consecutive sampling events, either the groundwater quality standards established in 15A NCAC 02L .0202, the groundwater protection standards established in accordance with Rule .1634(b) of this Section, or an approved background value, the owner or operator shall initiate assessment of corrective action measures. Such an assessment shall be completed within 120 days.

(b) The owner or operator shall continue to monitor in accordance with the approved assessment monitoring program.

(c) The owner or operator shall analyze the effectiveness of potential corrective measures in meeting all of the requirements and objectives of the remedy as described under Rule .1636 of this Section. The owner or operator shall address the following, as provided for in 40 CFR 258:

- (1) the performance, reliability, ease of implementation, and potential impacts of potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;
- (2) the time required to begin and complete the remedy;
- (3) the costs of remedy implementation; and
- (4) the institutional requirements such as State and local permit requirements or other environmental or public health requirements that may affect implementation of the remedy(s).

(d) Within 120 days of completion of the assessment of corrective measures as set forth in Paragraph (a) of this Rule and prior to the selection of a remedy, the owner or operator shall discuss the results of the assessment of corrective measures in a public meeting with interested and affected parties. The owner or operator shall provide a public notice of the meeting at least 30 days prior to the meeting. The notice shall include the time, place, date, and purpose of the public meeting. A copy of the public notice shall be forwarded to the Division at least five days prior to publication. Public notice shall be provided to interested and affected parties by the following methods:

- (1) publication on the owner or operator's official business website and social media websites;
- (2) posting in the post office and public places of the municipalities nearest the site under consideration, or on the websites of these public places;

- (3) a news release by a local news organization serving the county where the site under consideration is located; and
- (4) to persons requesting notification, sending to the mailing address or e-mail address provided by those persons.

*History Note: Authority G.S. 130A-294;
Eff. October 9, 1993;
Amended Eff. May 1, 2011;
Readopted Eff. September 16, 2021;
Amended Eff. March 15, 2023.*

15A NCAC 13B .1636 SELECTION OF REMEDY

(a) Based on the results of the assessment of corrective measures in accordance with Rule .1635 of this Section, the owner or operator shall select a remedy that meets the standards listed in Paragraph (b) of this Rule. Within 14 days of selecting a remedy, the permittee shall submit an application to modify the permit describing the selected remedy to the Division for review and approval that the remedy complies with this Rule. The application shall be subject to the processing requirements set forth in Rule .1603(c) of this Section. The application shall include the demonstrations necessary to comply with the financial assurance requirements set forth in Rule .1628 of this Section and Section .1800 of this Subchapter.

(b) Remedies shall:

- (1) be protective of human health and the environment;
- (2) attain the approved groundwater quality standards established in accordance with 15A NCAC 02L .0202, or the groundwater protection standards established in accordance with Rule .1634(b) of this Section;
- (3) control the source(s) of releases to reduce or eliminate, to the maximum extent practicable, further releases of 40 CFR 258 Appendix II constituents into the environment; and
- (4) comply with standards for management of wastes as specified in Rule .1637(e) of this Section.

(c) In selecting a remedy that meets the standards of Paragraph (b) of this Rule, the owner or operator shall consider the following factors:

- (1) The long-term and short-term effectiveness and protectiveness of the potential remedy(s), along with the degree of certainty that the remedy will prove successful based on consideration of the following:
 - (A) magnitude of reduction of existing risks;
 - (B) magnitude of residual risks in terms of likelihood of further releases due to wastes remaining following implementation of a remedy;
 - (C) the type and degree of long-term management required, including monitoring, operation, and maintenance;
 - (D) short-term risks that might be posed to the community, to workers, or to the environment during implementation of such a remedy, including potential threats to human health and the environment associated with excavation, transportation, and redisposal or containment;
 - (E) time until full protection is achieved;
 - (F) potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal, or containment;
 - (G) long-term reliability of the engineering and institutional controls; and
 - (H) potential need for replacement of the remedy.
- (2) The effectiveness of the remedy in controlling the source to reduce further releases based on consideration of the extent to which containment practices will reduce further releases, and the extent to which treatment technologies may be used.
- (3) The ease or difficulty of implementing a potential remedy based on consideration of the following types of factors:
 - (A) the degree of difficulty associated with constructing the technology;
 - (B) the expected operational reliability of the technologies;
 - (C) the need to coordinate with and obtain necessary approvals and permits from other agencies;

- (D) the availability of necessary equipment and specialists; and
 - (E) the available capacity and location of needed treatment, storage, and disposal services.
 - (4) The practicable capability of the owner or operator, including a consideration of the technical and economic capability.
 - (5) The degree to which community concerns are addressed by a potential remedy.
- (d) The owner or operator shall specify as part of the selected remedy a schedule for initiating and completing remedial activities. This schedule shall be submitted to the Division for review and approval to determine compliance with this Rule. The owner or operator shall consider the following factors in determining the schedule of remedial activities:
- (1) nature and extent of contamination;
 - (2) practical capabilities of remedial technologies in achieving compliance with the approved groundwater protection standards and other objectives of the remedy;
 - (3) availability of treatment or disposal capacity for wastes managed during implementation of the remedy;
 - (4) desirability of utilizing technologies that are not currently available, but which may offer advantages over already available technologies in terms of effectiveness, reliability, safety, or ability to achieve remedial objectives;
 - (5) potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;
 - (6) resource value of the aquifer including:
 - (A) current and future uses;
 - (B) proximity and withdrawal rate of users;
 - (C) groundwater quantity and quality;
 - (D) the potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to contaminants;
 - (E) the hydrogeologic characteristics of the facility and surrounding land;
 - (F) groundwater removal and treatment costs; and
 - (G) the costs and availability of alternative water supplies; and
 - (7) practical capability of the owner or operator.
- (e) The Division may determine that active remediation of a release of a 40 CFR 258 Appendix II constituent from a MSWLF unit is not necessary if the owner or operator demonstrates to the Division that:
- (1) the groundwater is contaminated by substances that have originated from a source other than a MSWLF unit and those substances are present in concentrations such that active cleanup of the release from the MSWLF unit would provide no reduction in risk to actual or potential receptors; or
 - (2) the constituent or constituents are present in groundwater that:
 - (A) is not currently or expected to be a source of drinking water; and
 - (B) is not hydraulically connected with water to which the constituents are migrating or are likely to migrate in concentrations that would exceed the approved groundwater protection standards; or
 - (3) remediation of the releases is technically impracticable; or
 - (4) remediation results in unacceptable cross-media impacts.
- (f) A determination by the Division pursuant to Paragraph (e) of this Rule shall not affect the authority of the State to require the owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to groundwater, to prevent exposure to groundwater, or to remediate groundwater to concentrations that are technically practicable and reduce threats to human health or the environment.

*History Note: Authority G.S. 130A-294;
 Eff. October 9, 1993;
 Readopted Eff. September 16, 2021;
 Amended Eff. March 15, 2023.*

15A NCAC 13B .1637 IMPLEMENTATION OF THE CORRECTIVE ACTION PROGRAM

- (a) Based on the approved schedule for initiation and completion of remedial activities, the owner or operator shall:

- (1) within 120 days after the approval of the selected remedy or as approved by the Division, submit a corrective action plan that establishes and implements a corrective action groundwater monitoring program that:
 - (A) meets the requirements of an assessment monitoring program under Rule .1634 of this Section;
 - (B) indicates the effectiveness of the corrective action remedy; and
 - (C) demonstrates compliance with groundwater quality standards established in accordance with 15A NCAC 02L .0202 or the groundwater protection standards established in accordance with Rule .1634(b) of this Section pursuant to Paragraph (f) of this Rule.
 - (2) implement the approved corrective action remedy; and
 - (3) take any interim measures necessary to ensure the protection of human health and the environment. Interim measures shall be consistent with the objectives of and contribute to the performance of any remedy that may be required. The following factors shall be considered by an owner or operator in determining whether interim measures are necessary:
 - (A) the time required to develop and implement a final remedy;
 - (B) actual or potential exposure of nearby populations or environmental receptors to constituents of concern;
 - (C) actual or potential contamination of drinking water supplies or sensitive ecosystems;
 - (D) further degradation of the groundwater that may occur if remedial action is not initiated;
 - (E) weather conditions that may cause constituents of concern to migrate or be released;
 - (F) risks of fire or explosion, or potential for exposure to constituents of concern resulting from an accident or failure of a container or handling system; and
 - (G) other situations that may pose threats to human health or the environment.
- (b) The owner or operator shall submit a corrective action evaluation report to the Division in an electronic format that is accessible and viewable by the Division no less than once every five calendar years until the owner or operator are released from the corrective action program in accordance with Paragraph (g) of this Rule. The report shall contain a description of the corrective measure remedies that have been implemented or completed since the initiation of the corrective action program; and an evaluation of the effectiveness of the corrective action program. The owner or operator may request to submit the corrective action evaluation report to the Division on an alternate schedule. The owner or operator shall submit the request in writing to the Division, and the request shall include a justification for the alternate schedule. In making the determination on approval of the request, the Division shall consider the following factors:
- (1) the schedules for corrective action established in the corrective action plan and changes to corrective actions;
 - (2) the justification submitted by the owner or operator;
 - (3) the size, direction, and rate of travel of the contaminant plume;
 - (4) the circumstances and use of properties, groundwater, and surface water downgradient of the contaminant plume; and
 - (5) whether the alternate schedule complies with Article 9 of Chapter 130A of the General Statutes and the rules adopted thereunder.
- (c) The owner or operator or the Division may determine, based on information developed after implementation of the remedy has begun or other information, that compliance with requirements of Rule .1636(b) of this Section are not being achieved through the remedy selected. In such cases, the owner or operator shall implement other methods or techniques to comply with Rule .1636 of this Section unless the Division determines that active remediation is not necessary in accordance with Rule .1636(e) of this Section.
- (d) If the owner or operator or the Division determines that compliance with requirements under Rule .1636(b) of this Section cannot be achieved with any currently available methods, the owner or operator shall:
- (1) submit a written report that documents that compliance with the requirements under Rule .1636(b) of this Section cannot be achieved with any currently available methods and gain approval from the Division. If required by G.S. 89C or G.S. 89E, a licensed professional engineer or licensed geologist shall prepare these documents. [Note: The North Carolina Board of Examiners for Engineers and Surveyors and the Board of Licensing of Geologist has determined, via letters dated July 16, 2010 and November 30, 2010, that preparation of documents pursuant to this Paragraph constitutes practicing engineering or geology under G.S. 89C and G.S. 89E.];
 - (2) implement alternate measures to control exposure of humans or the environment to residual contamination, as necessary to protect human health and the environment;

- (3) implement alternate measures for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures that are technically practicable and consistent with the overall objective of the remedy; and
 - (4) submit a report justifying the alternative measures to the Division for review. The Division shall date and stamp the report "approved" if the conditions of this Paragraph are satisfied. The approved report shall be placed in the operating record prior to implementing the alternative measures.
- (e) All solid wastes that are managed pursuant to a remedy required under Rule .1636 of this Section, or an interim measure required under Paragraph (a) of this Rule, shall be managed in a manner that is protective of human health and the environment; and that complies with applicable Resource Conservation and Recovery Act requirements.
- (f) Remedies selected pursuant to Rule .1636 of this Section shall be considered complete when:
- (1) the owner or operator complies with the groundwater quality and groundwater protection standards at all points within the plume of contamination that lie beyond the relevant point of compliance;
 - (2) compliance with the groundwater quality standards established in accordance with 15A NCAC 02L .0202 or the groundwater protection standards established in accordance with Rule .1634(b) of this Section has been achieved by demonstrating that concentrations of 40 CFR 258 Appendix II constituents have not exceeded these standards for a period of three consecutive years, consistent with performance standards in Rule .1636(b) of this Section; and
 - (3) all actions required to complete the remedy have been satisfied.
- (g) Upon completion of the remedy, the owner or operator shall submit a report to the Division documenting that the remedy has been completed in compliance with Paragraph (f) of this Rule. This report shall be signed by the owner or operator and by the preparer of the report. If required by G.S. 89C or G.S. 89E, a licensed professional engineer or licensed geologist shall prepare these documents. [Note: The North Carolina Board of Examiners for Engineers and Surveyors and the Board of Licensing of Geologist has determined, via letters dated July 16, 2010 and November 30, 2010, that preparation of documents pursuant to this Paragraph constitutes practicing engineering or geology under G.S. 89C and G.S. 89E.] Upon approval by the Division, this report shall be placed in the operating record.
- (h) When, upon completion of the certification, the Division determines that the corrective action remedy has been completed in accordance with Paragraph (f) of this Rule, the owner or operator shall be released from the requirements for financial assurance for the corrective action program under Rule .1628 of this Section and Section .1800 of this Subchapter. Nothing in this Paragraph shall release the owner or operator from the requirements for financial assurance for closure, post-closure care, or potential assessment and corrective action in accordance with Rule .1628 of this Section and Section .1800 of this Subchapter.

History Note: Authority G.S. 130A-294;
 Eff. October 9, 1993;
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 Amended Eff. March 15, 2023.

15A NCAC 13B .1680 LEACHATE STORAGE REQUIREMENTS

- (a) Applicability.
- (1) Construction of leachate storage tanks and surface impoundments located at solid waste management facilities shall meet the requirements set forth in this Rule.
 - (2) Liquid treatment and disposal at a solid waste management facility is subject to the requirements of this Subchapter.
 - (3) Operation and closure of all leachate storage tanks and surface impoundments shall meet the requirements of this Rule.
- (b) Application requirements. An application for a permit to construct a landfill facility which includes leachate storage facilities shall contain the following:
- (1) a description of the liquid to be stored;
 - (2) the estimated volume of liquid generated and a proposed recordkeeping system to record actual quantities stored;
 - (3) a schedule for liquid removal;

- (4) a description of the final treatment and disposal of the liquid stored;
 - (5) a description of the liquid storage facility design;
 - (6) a contingency plan for managing unexpected surges in liquid quantities; and
 - (7) a closure plan prepared in accordance with Paragraph (f) of this Rule.
- (c) Aboveground or onground tank requirements.
- (1) Tanks shall be constructed of concrete, steel, or other material stated in the permit. Tanks shall be supported on a well-drained foundation that prevents movement, rolling, or settling of the tank.
 - (A) The exterior surfaces of all aboveground and onground steel storage tanks shall be protected by a primer coat, a bond coat, and two or more final coats of paint or have at least an equivalent surface coating system designed to prevent corrosion and deterioration.
 - (B) The interior of all aboveground and onground tanks shall consist of or be lined with a material resistant to the liquid being stored.
 - (2) Tanks shall have a secondary containment system that may consist of dikes, liners, pads, ponds, impoundments, curbs, ditches, sumps, or other systems capable of containing the liquid stored.
 - (A) The design volume for the secondary containment system shall be 110 percent of the volume of either the largest tank within the containment system or the total volume of all interconnected tanks, whichever is greater.
 - (B) The secondary containment system shall be constructed of a material compatible with the liquid being stored.
 - (3) A system shall be designed to contain and remove storm water from the secondary containment area. Provisions shall be included for the removal of any accumulated precipitation and shall be initiated within 24 hours or when 10 percent of the storage capacity is reached, whichever occurs first.
 - (4) All aboveground and onground tanks shall be equipped with an overfill prevention system that shall include level sensors and gauges, high level alarms, or automatic shutoff controls. The overfill control equipment shall be inspected weekly by the facility operator to ensure it is in good working order.
 - (5) The operator of the facility shall inspect the exterior of all tanks for leaks, corrosion, and maintenance deficiencies weekly. Interior inspection of tanks shall be performed according to the Division approved plan. If the inspection reveals a tank or equipment deficiency which could result in failure of the tank to contain the liquid, remedial measures shall be taken within 24 hours of the inspection to eliminate the leak or correct the deficiency. Inspection reports shall be maintained and made available to the Division upon request for the lifetime of the liquid storage system.
 - (6) All uncovered tanks shall have a minimum two feet of freeboard. Odor and vector control shall be practiced.
- (d) Underground tank requirements.
- (1) Underground tanks shall be placed a minimum of two feet above the seasonal high groundwater table and a minimum of two feet vertical separation shall be maintained between bedrock and the lowest point of the tank.
 - (2) Tanks may be constructed of fiberglass reinforced plastic, steel that is cathodically protected, steel that is clad with fiberglass, or other materials stated in the permit.
 - (3) The secondary containment and continuous leak detection system shall be installed in the form of a double-walled tank, designed as an integral structure so that any release from the inner tank is contained by the outer shell.
 - (A) The leak detection system shall be monitored no less than weekly using methods specified by the operator and stated in the permit.
 - (B) Any tank system vulnerable to corrosion shall be protected from both corrosion of the primary tank interior and the external surface of the outer shell. All resistant coatings applied to the primary tank interior shall be chemically compatible with the liquid to be stored. Cathodic protection systems, where installed, shall be inspected no less than weekly by the facility operator and any deficiencies shall be corrected when discovered.
 - (4) All underground tanks shall be equipped with an overfill prevention system that shall include level sensors and gauges, high level alarms, or automatic shutoff controls. The overfill control equipment shall be inspected weekly by the facility operator to ensure it is in good working order.

- (5) Inspection and leak detection monitoring reports shall be maintained and made available upon request for the lifetime of the liquid storage system.
- (e) Surface impoundment requirements.
- (1) Any surface impoundment shall be constructed so that the bottom elevation of liquid is no less than four feet above the seasonal high groundwater table and bedrock.
 - (2) Surface impoundments shall be designed and constructed with a liner system equivalent to the liner system for the landfill unit generating the liquid.
 - (A) A surface impoundment designed and constructed to store leachate from a MSWLF unit shall include a composite liner which conforms to the requirements of Rule .1624 of this Section.
 - (B) The owner or operator may submit a request to use an alternative liner system in the permit application. The request shall include a demonstration that the alternative liner system is designed and constructed to achieve an equivalent containment efficiency to the liner system required by Rule .1624 of this Section.
 - (3) Construction of the liner system components shall be consistent with the pertinent requirements set forth in Rule .1624(b)(8), (b)(9), and (b)(10) of this Section; and a construction quality assurance report shall be prepared by the project engineer.
 - (4) The top liner shall be protected from degradation and damage.
 - (5) A minimum of two feet of freeboard shall be maintained in the surface impoundment. Odor and vector control shall be practiced.
 - (6) A groundwater monitoring system shall be installed and sampled in a manner consistent with or equivalent to the groundwater monitoring requirements for MSWLF units as set forth in Rules .1630 through .1637 of this Section.
 - (7) An operation plan shall be prepared and followed for operation of the surface impoundment.
- (f) Closure of leachate storage facilities.
- (1) The owner or operator of the liquid storage facility shall prepare a written closure plan for the liquid storage facility and submit the plan with the permit application for the solid waste management facility.
 - (2) The owner or operator shall complete closure activities in accordance with the approved closure plan and within 180 days after liquid collection has ceased.
 - (3) At closure, all solid waste shall be removed from the tank or surface impoundment, connecting lines, and any associated secondary containment systems, and disposed of in accordance with the rules of this Subchapter. All connecting lines shall be disconnected and sealed.
 - (A) Underground tanks shall be removed or cleaned to remove traces of waste and all accumulated sediments and then filled to capacity with a solid inert material, such as clean sand or concrete slurry. If groundwater surrounding the tank is found to be contaminated, the tank and surrounding contaminated soil shall be removed and disposed of in accordance with the rules of this Chapter and 15A NCAC 02. A contaminant plume shall be addressed in accordance with the rules of this Chapter, and 15A NCAC 02B and 02L.
 - (B) Accessways to aboveground and onground tanks shall be secured to prevent unauthorized access. Tanks shall either be stenciled with the date of permanent closure or removed. The secondary containment system shall be perforated to provide for drainage.
 - (C) For surface impoundments, all waste residues, contaminated system components, contaminated subsoils, structures and equipment contaminated with waste shall be removed and appropriately disposed. If the groundwater surrounding the impoundment is contaminated, other corrective actions to remediate a contaminant plume may be required by the Department. If the groundwater surrounding the impoundment is found not to be contaminated, the liner system may remain in place if drained, cleaned to remove all traces of waste, and both liners punctured so that drainage is allowed. The impoundment is to be backfilled and regraded to the surrounding topography.

*History Note: Authority G.S. 130A-294;
 Eff. October 9, 1993;
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SECTION .1700 - REQUIREMENTS FOR BENEFICIAL USE OF COAL COMBUSTION PRODUCTS

15A NCAC 13B .1713 REQUIREMENTS FOR EXISTING STRUCTURAL FILLS

(a) This Rule shall apply to existing structural fills. The definitions found in G.S. 130A-290 and G.S. 130A-309.201 shall apply to this Rule. For the purposes of this Rule, "existing structural fill" shall mean a structural fill in which coal combustion products were placed prior to September 20, 2014 in accordance with the rules of this Subchapter that were effective at the time of placement of the coal combustion products. Prior editions of the rules in this Section can be obtained free of charge from the Division of Waste Management at 217 West Jones Street, Raleigh, NC 27603. This Rule shall not apply to structural fills contracted for on or after September 20, 2014.

(b) Upon closure, an existing structural fill shall comply with the requirements of G.S. 130A-309.222(a). For the purposes of this Rule, "final cover" as required in G.S. 130A-222(a)(1) shall mean one of the following:

- (1) no less than 12 inches of compacted earth and an additional six inches of soil capable of supporting native plant growth on the surface;
- (2) an impervious surface such as concrete or asphalt; or
- (3) a building or structure that does not allow infiltration of precipitation.

(c) Following closure, an existing structural fill shall be maintained to comply with the requirements set forth in G.S. 130A-309.220(a)(1), (5), (6), (8), (9) and (11), except that the requirements shall not retroactively apply to the design, construction, development, or operation of an existing structural fill. An existing structural fill is subject to the groundwater quality requirements of 15A NCAC 02L and the surface water quality standards set forth in 15A NCAC 02B.

(d) Following closure, an existing structural fill shall comply with following:

- (1) the landowner of the property where the existing structural fill is located shall not move or change the property boundaries in a way that reduces the existing 25-foot buffer between the existing structural fill and the property boundaries;
- (2) the landowner of the property where the existing structural fill is located shall maintain the existing 100-foot buffer between the existing structural fill and any sources of drinking water on land under the control of that landowner; and
- (3) final cover as defined in Paragraph (c) of this Rule shall be maintained.

(e) An existing structural fill shall be recorded in accordance with G.S. 130A-309.223, except that every use of the term "coal combustion residuals" shall be replaced with the term "coal combustion products."

*History Note: Authority G.S. 130A-294; 130A-309.207; 130A-309.226;
Eff. May 1, 2021.*

SECTION .1800 - FINANCIAL ASSURANCE REQUIREMENTS FOR SOLID WASTE MANAGEMENT FACILITIES

15A NCAC 13B .1801 GENERAL REQUIREMENTS

(a) Owners and operators of solid waste management facilities permitted by the Division in accordance with this Subchapter shall establish financial assurance as an environmental liability in accordance with this Section, with the exception of the following:

- (1) municipal solid waste landfill facilities that stopped receiving waste before October 9, 1993;
- (2) construction and demolition landfill facilities that stopped receiving waste before June 30, 2008;
- (3) scrap tire collection sites and solid waste compost facilities that are owned and operated by local governments;
- (4) solid waste management facilities that accept only yard waste, land clearing waste, or inert debris, unless the owners or operators have a "history of significant or repeated violations" as defined by G.S. 130A-295.3(c);
- (5) septage management facilities permitted by the Division in accordance with Section .0800 of this Subchapter;
- (6) facility owners and operators that are State or federal government entities; and
- (7) Small Type III solid waste compost facilities as defined in Rule .1402 of this Subchapter.

(b) For the purposes of this Section, the term "sanitary landfill" shall include the following facilities unless the facility is exempt from establishing financial assurance pursuant to Paragraph (a) of this Rule:

- (1) industrial landfill facilities;

- (2) municipal solid waste landfill facilities;
 - (3) construction and demolition landfill facilities; and
 - (4) landfills for the exclusive disposal of scrap tires, also known as "tire monofills."
- (c) Owners and operators required to place documents in the facility's operating record pursuant to this Section shall submit copies of the documents to the Division, except as provided for in Paragraph (d) of this Rule.
- (d) Owners and operators of solid waste management facilities that are required to establish financial assurance in accordance with this Section shall use the mechanisms provided in Rule .1805 of this Section to provide funding for closure, post-closure care, a corrective action program, and potential assessment and corrective action. The instruments used for financial assurance mechanisms shall be submitted to the Division as original signed hard copies, and unless stated otherwise in Rule .1806 of this Section, the language of the mechanisms shall be identical to the mechanism templates provided in Rule .1806 of this Section.
- (e) Owners and operators of solid waste management facilities that are required to establish financial assurance in accordance with this Section shall submit itemized cost estimates for closure activities in accordance with Rule .1802 of this Section.
- (f) Owners and operators of sanitary landfills that are required to establish financial assurance in accordance with this Section shall submit itemized cost estimates for post-closure care activities in accordance with Rule .1803 of this Section.
- (g) Owners and operators of solid waste management facilities that are required to undertake a corrective action program in accordance with the rules of this Subchapter shall submit itemized cost estimates for the corrective action program in accordance with Rule .1804 of this Section.
- (h) Owners and operators of sanitary landfills permitted by the Division in accordance with Rule .0207 of this Subchapter shall annually submit the following information to the Division no less than 180 calendar days prior to the renewal date of the financial assurance mechanisms for the facility:
- (1) current description and size in acreage of any active portion of the facility that has closed since the previous financial assurance mechanism renewal; and
 - (2) a description of the acreage proposed to remain active and proposed to be closed in the year following the upcoming financial assurance mechanism renewal.
- (i) Financial assurance for potential assessment and corrective action shall be established in accordance with G.S. 130A-295.2(h) and (h1), and shall be increased for inflation annually, concurrently with cost estimates for closure, post-closure care, and corrective action programs in accordance with Rules .1802(b)(1), .1803(b)(1), and .1804(b)(1) of this Section, respectively.
- (j) When the owner and operator of a solid waste management facility is required to adjust a cost estimate or the amount of financial assurance for inflation in accordance with the rules of this Section, the adjustment for inflation shall be made by using the US Department of Commerce, Bureau of Economic Analysis Gross Domestic Product, implicit price deflator. The implicit price deflator that shall be used to adjust for inflation shall be published on the Division's website at <http://go.ncdenr.gov/fa> by January 30 of each year. Financial assurance mechanisms that renew in January shall use the previous year's implicit price deflator.

*History Note: Authority G.S. 130A-294; 130A-295.2;
Eff. July 1, 2020.*

15A NCAC 13B .1802 FINANCIAL ASSURANCE COST ESTIMATE REQUIREMENTS FOR CLOSURE

- (a) Owner and operators shall meet the following requirements for closure cost estimate calculations:
- (1) Owners and operators of solid waste management facilities other than sanitary landfills that are required to establish financial assurance in accordance with this Section shall submit to the Division with the permit application an itemized cost estimate for financial assurance for closure of the facility. The closure cost estimate shall be adjusted in accordance with Subparagraphs (b)(1) and (b)(2) of this Rule. The closure cost estimate shall be calculated by multiplying the maximum tonnage of waste permitted to be stored on site by the cost per ton for a third party to remove the waste, transport it, and dispose of it at the nearest facility permitted by the Division to receive such waste. The calculations shall include estimates for all waste types that are permitted by the Division in accordance with this Subchapter to be stored on site.
 - (2) Owners and operators of sanitary landfills that are required to establish financial assurance in accordance with this Section shall submit to the Division with the permit application an itemized cost estimate of the cost of hiring a third party to close the sanitary landfill in accordance with the

facility's closure plan required in accordance with this Subchapter. The closure cost estimate shall be adjusted in accordance with Paragraph (b) of this Rule. A copy of the closure cost estimate shall be placed in the closure plan and the facility's operating record.

(b) Owners and operators shall meet with the following requirements for adjustments to the cost estimate and the amount of financial assurance:

- (1) During the active life of the facility, the owner and operator shall annually adjust the closure cost estimate and the amount of financial assurance for inflation. Owners and operators using the local government financial test or capital reserve fund as set forth in Rule .1805(e) of this Section shall submit the adjusted financial assurance mechanism to the Division prior to December 31, after the end of the local government's fiscal year. Owners and operators using the corporate financial test or corporate guarantee as set forth in Rule .1805(e) of this Section shall submit the adjusted financial assurance mechanism to the Division no more than 90 calendar days following the close of the corporate entity's fiscal year that is stated in the mechanism. Owners and operators using a financial assurance mechanism set forth in Rule .1805(e) of this Section other than the local government financial test, capital reserve fund, corporate financial test, or corporate guarantee shall submit the adjusted financial assurance mechanism to the Division no less than 60 calendar days before the anniversary of the initial date that the financial assurance mechanism was established.
- (2) The owner and operator shall increase the closure cost estimate and the amount of financial assurance and submit the revised closure cost estimate to the Division if changes to the closure plan or facility conditions increase the maximum cost of closure at any time during the remaining active life of the facility.
- (3) The owner and operator may request to reduce the closure cost estimate and the amount of financial assurance if the cost estimate exceeds the maximum cost of closure at any time during the active life of the facility by submitting a revised closure cost estimate and a written justification for the reduction to the Division for approval no less than 180 calendar days prior to the anniversary of the date the financial assurance mechanism was established. No reduction of the closure cost estimate or the amount of financial assurance shall be allowed without written approval from the Division. The reduction justification and the Division approval shall be placed in the facility's operating record. In making the determination on approval of the request, the Division shall consider the following factors for the facility:
 - (A) changes to operations, closure activities, or other circumstances;
 - (B) changes to third party closure costs;
 - (C) compliance status of the owner and operator; and
 - (D) environmental monitoring data.

(c) Owners and operators of solid waste management facilities that are required to establish financial assurance in accordance with this Section shall establish financial assurance for closure of the facility in compliance with G.S. 130A-295.2(f). Owners and operators of sanitary landfills shall provide continuous coverage for closure until released from financial assurance requirements for closure by demonstrating compliance with the facility's permit and closure plan, with the closure letter issued to the facility by the Division, and with Rule .0543 of this Subchapter for construction and demolition landfill facilities, Rule .1627(c) of this Subchapter for municipal solid waste landfill facilities, and Rule .0510 of this Subchapter for other sanitary landfills. Owners and operators of solid waste management facilities other than sanitary landfills shall provide continuous coverage for closure until released from financial assurance requirements for closure by demonstrating that the closure requirements for the respective facility type set forth in this Subchapter and the requirements in the facility's permit and closure plan have been met.

(d) Maintenance of financial assurance in the amounts required by this Rule does not limit the responsibility of owners or operators for the full cost of site closure and clean up, the expenses of any on-site or off-site environmental restoration necessitated by activities at the facility, and liability for all damages to third parties or private or public properties caused by the establishment and operation of the facility.

*History Note: Authority G.S. 130A-294; 130A-295.2;
Eff. July 1, 2020.*

15A NCAC 13B .1803 FINANCIAL ASSURANCE COST ESTIMATE REQUIREMENTS FOR POST-CLOSURE CARE

(a) Owners and operators of sanitary landfills that are required to establish financial assurance in accordance with this Section shall submit to the Division with the permit application a cost estimate for financial assurance for post-closure care of the facility that contains an itemized cost estimate of the cost of hiring a third party to conduct post-closure care for the sanitary landfill in compliance with the post-closure care plan developed in accordance with this Subchapter. The post-closure care cost estimate shall be adjusted in accordance with Subparagraphs (b)(1) and (b)(2) of this Rule. The post-closure care cost estimate used to demonstrate financial assurance shall account for the total costs of conducting post-closure care for any closed and active portions of the facility, including annual and periodic costs as described in the post-closure care plan over the entire post-closure care period. The cost estimate for post-closure care shall be based on the most expensive costs of post-closure care during the post-closure care period. The post-closure care cost estimate shall be placed in the operating record.

(b) Owners and operators shall meet the following requirements for adjustments to the post-closure care cost estimate and the amount of financial assurance:

- (1) During the active life of the facility, the owner and operator shall annually adjust the post-closure care cost estimate and the amount of financial assurance for inflation. Owners and operators using the local government financial test or the capital reserve fund as set forth in Rule .1805(e) of this Section shall submit the adjusted financial assurance mechanism to the Division prior to December 31, after the end of the local government's fiscal year. Owners and operators using the corporate financial test or corporate guarantee as set forth in Rule .1805(e) of this Section shall submit the adjusted financial assurance mechanism to the Division no more than 90 calendar days following the close of the corporate entity's fiscal year that is stated in the mechanism. Owners and operators using a financial assurance mechanism set forth in Rule .1805(e) of this Section other than the local government financial test, capital reserve fund, corporate financial test, or corporate guarantee shall submit the adjusted financial assurance mechanism to the Division no less than 60 calendar days before the anniversary of the initial date the financial assurance mechanism was established.
- (2) The owner and operator shall increase the post-closure care cost estimate and the amount of financial assurance and submit the revised post-closure care cost estimate to the Division if changes to the post-closure care plan or facility conditions increase the maximum cost of post-closure care at any time during the remaining active life of the facility.
- (3) The owner and operator may request to reduce the post-closure care cost estimate and the amount of financial assurance if the cost estimate exceeds the maximum cost of post-closure care at any time during the active life of the facility by submitting a revised post-closure care cost estimate and a written justification for the reduction to the Division for approval no less than 180 calendar days prior to the anniversary of the date the financial assurance mechanism was established. No reduction of the post-closure care cost estimate or the amount of financial assurance shall be allowed without written approval from the Division. The reduction justification and the Division approval shall be placed in the facility's operating record. In making the determination on approval of the request, the Division shall consider the following factors for the facility:
 - (A) changes to operations, post-closure care activities, or other circumstances;
 - (B) changes to third party post-closure care costs;
 - (C) compliance status of the owner and operator; and
 - (D) environmental monitoring data.

(c) Owners and operators of solid waste management facilities that are required to establish financial assurance in accordance with this Section shall establish financial assurance for post-closure care of the facility in compliance with G.S. 130A-295.2(f). The owner and operator shall provide continuous coverage for post-closure care until released from financial assurance requirements for post-closure care by demonstrating compliance with the facility's permit and post-closure care plan, with the closure letter issued to the facility by the Division, and with Rule .0543 of this Subchapter for construction and demolition landfill facilities and Rule .1627(d) of this Subchapter for municipal solid waste landfill facilities.

(d) Maintenance of financial assurance in the amounts required by this Rule does not limit the responsibility of owners or operators for the full cost of site closure and clean up, the expenses of any on-site or off-site environmental restoration necessitated by activities at the facility, and liability for all damages to third parties or private or public properties caused by the establishment and operation of the facility.

*History Note: Authority G.S. 130A-294; 130A-295.2;
Eff. July 1, 2020.*

**15A NCAC 13B .1804 FINANCIAL ASSURANCE COST ESTIMATE REQUIREMENTS FOR
CORRECTIVE ACTION PROGRAMS**

(a) Owners and operators shall meet the following requirements for corrective action program cost estimate calculations:

- (1) The owner and operator of a sanitary landfill required by the Division to undertake a corrective action program in accordance with Rules .0545 or .1637 of this Subchapter shall have an itemized cost estimate of the cost of hiring a third party to implement the corrective action program. The corrective action program cost estimate shall be adjusted in accordance with Subparagraphs (b)(1) and (b)(2) of this Rule. The cost estimate shall include the total costs of the corrective action program for the entire corrective action period. The owner and operator shall submit the cost estimate to the Division for approval and shall place the approved cost estimate in the operating record. The cost estimate shall be approved if it is in compliance with the rules of this Section, Rule .0545 or Rules .1635 through .1637 of this Subchapter, and 15A NCAC 02L. Once every five years, the owner and operator shall update the cost estimate of the corrective action program and submit the following information to the Division in writing:
 - (A) a description of the remedial actions selected pursuant to Rule.0545(e) or Rule .1636 of this Subchapter that have not been completed;
 - (B) the number of years remaining for each remedial action until the remedial action is complete; and
 - (C) the updated cost estimate for the remaining remedial actions.
- (2) In addition to the requirements for the corrective action program set forth in Subparagraph (1) of this Paragraph, the owner and operator of a sanitary landfill required to establish financial assurance in accordance with this Section shall comply with the requirements for potential assessment and corrective action set forth in G.S. 130A-295.2(h) and (h1).

(b) Owners and operators shall meet the following requirements for adjustments to the corrective action cost estimate and the amount of financial assurance:

- (1) During the active life of the facility, the owner and operator shall annually adjust the cost estimates for the corrective action program and potential assessment and corrective action and the amount of financial assurance for inflation. Owners and operators using the local government financial test or capital reserve fund as set forth in Rule .1805(e) of this Section shall submit the adjusted financial assurance mechanism for the corrective action program and potential assessment and corrective action to the Division prior to December 31, after the end of the local government's fiscal year. Owners and operators using the corporate financial test or corporate guarantee as set forth in Rule .1805(e) of this Section shall submit the adjusted financial assurance mechanisms for the corrective action program and potential assessment and corrective action to the Division no more than 90 calendar days following the close of the corporate entity's fiscal year that is stated in the mechanism. Owners and operators using a financial assurance mechanism provided in Rule .1805(e) of this Section, other than the local government financial test, capital reserve fund, corporate financial test, or corporate guarantee, shall submit the adjusted financial assurance mechanism to the Division no less than 60 calendar days before the anniversary of the initial date the financial assurance mechanism was established.
- (2) The owner and operator shall increase the cost estimate for the corrective action program and the amount of financial assurance and submit the revised cost estimate to the Division if changes to the corrective action program or facility conditions increase the maximum cost of corrective action program at any time during the remaining active life of the facility.
- (3) The owner and operator may request to reduce the cost estimate for the corrective action program and the amount of financial assurance if the cost estimate exceeds the maximum cost of the corrective action program at any time during the active life of the facility by submitting a revised cost estimate for the corrective action program and a written justification for the reduction to the Division for approval no less than 180 calendar days prior to the anniversary of the date the financial assurance mechanism was established. No reduction of the corrective action program cost estimate or the amount of financial assurance shall be allowed without written approval from the Division. The reduction justification and the Division approval shall be placed in the facility's

operating record. In making the determination on approval of the request, the Division shall consider the following factors for the facility:

- (A) completion of or changes to corrective action program activities or other circumstances;
- (B) changes to third party corrective action program costs;
- (C) compliance status of the owner and operator; and
- (D) environmental monitoring data.

(c) Owners and operators of sanitary landfills that are required to undertake a corrective action program under Rules .0545 or .1637 of this Subchapter shall establish financial assurance in accordance with this Section for the most recent corrective action program in compliance with G.S. 130A-295.2(f). The owner and operator shall provide continuous coverage for the corrective action program until released from financial assurance requirements for the corrective action program by demonstrating compliance with the facility's permit and corrective action plan, 15A NCAC 02L, and Rule .0545(m) and (n) of this Subchapter for construction and demolition landfill facilities, and Rule .1637(f) and (g) of this Subchapter for municipal solid waste landfill facilities.

(d) Maintenance of financial assurance in the amounts required by this Rule does not limit the responsibility of owners or operators for the full cost of site closure and clean up, the expenses of any on-site or off-site environmental restoration necessitated by activities at the facility, and liability for all damages to third parties or private or public properties caused by the establishment and operation of the facility.

*History Note: Authority G.S. 130A-294; 130A-295.2;
Eff. July 1, 2020.*

15A NCAC 13B .1805 ALLOWABLE MECHANISMS FOR FINANCIAL ASSURANCE

(a) Pursuant to G.S. 130A-295.2, owners and operators of solid waste management facilities that are required to establish financial assurance in accordance with this Section shall choose one of the mechanisms or a combination of mechanisms in Paragraph (e) of this Rule to cover the cost of closure, post-closure care, corrective action programs, and potential assessment and corrective action.

(b) When multiple financial assurance mechanisms are established, no more than one allowable mechanism shall be provided by the same financial institution or its corporate entities. The corporate financial test provided by a corporation and the corporate guarantee provided by a corporate parent, sibling, or grandparent shall not be combined if the financial statements of the two firms are consolidated. A surety bond mechanism guaranteeing performance shall not be combined with other mechanisms. The mechanisms shall be submitted to the Division as original signed hard copies, and the language of each mechanism shall be identical to the language specified in Rule .1806 of this Section for that mechanism.

(c) A corporate seal shall be required to complete the financial assurance mechanism as part of the certification of acknowledgement required in the mechanism language in Rule .1806 of this Section for a corporate owner or operator using a trust fund, surety bond guaranteeing payment or performance, corporate financial test, and corporate guarantee as set forth in Paragraph (e) of this Rule. When a corporate seal is required to certify a financial assurance mechanism but the corporation does not have a corporate seal, a member of the corporation's senior management or a representative of the board of directors shall submit to the Division a copy of the corporation's bylaws, a corporate ownership organization chart describing the relationship of the facility owner and operator to the corporation and its parent companies, contact information for the board of directors or senior management for the corporation, and a statement on corporate letterhead stating the signee has the authority to execute correspondence and financial assurance mechanisms on behalf of the corporation, pursuant to G.S. 130A-295.2(f). The documentation shall be submitted to the Division of Waste Management, Solid Waste Section at 1646 Mail Service Center, Raleigh, NC 27699. Senior management for the corporation shall be one of the following positions: the Chief Executive Officer or President, the Chief Operating Officer or Vice President, or the Chief Financial Officer or Treasurer.

(d) The July 1, 2010 edition of 40 CFR 258.74 is incorporated by reference and can be obtained free of charge from the Division's website at <http://go.ncdenr.gov/fa>. When used in 40 CFR 258.74, except where the context requires references to remain without substitution, "United States" and "State" shall mean the State of North Carolina; "Agency" shall mean the Department of Environmental Quality; "Director" shall mean the Secretary of the Department of Environmental Quality; "municipal solid waste landfills facility(ies)", "MSWLF(s)", or "MSWLF unit(s)" shall mean solid waste management facility or facilities; and "owner or operator" shall mean the owner and operator of a solid waste management facility.

(e) The following mechanisms may be used to meet the requirements of this Section for financial assurance.

- (1) A trust fund as set forth in 40 CFR 258.74(a), including the following requirements.

- (A) The trust fund may be elected as a standby trust mechanism to accompany the surety bond mechanism in Subparagraph (2) of this Paragraph, or the letter of credit mechanism in Subparagraph (3) of this Paragraph; or may be elected as a standalone funded trust mechanism.
- (B) 40 CFR 258.74(a)(7) is revised to state: "The owner or operator, or other person authorized to conduct closure, post-closure care, or corrective action activities may request reimbursement from the trustee for these expenditures. Requests for reimbursement shall be granted only if sufficient funds are remaining in the trust fund to cover the remaining costs of closure, post-closure care, corrective action programs, or potential assessment and corrective action, and if justification and documentation of the cost is submitted to the Division and placed in the operating record."
- (C) The trust agreement shall be accompanied by a certification of acknowledgement as specified following the language of the trust agreement in Rule .1806(1) of this Section.
- (D) Schedule A of the trust agreement shall be updated no less than 60 days after any change in the amount of the current cost estimate covered by the agreement.
- (2) Surety bonds guaranteeing payment or performance as set forth in 40 CFR 258.74(b) including the following requirements.
 - (A) The surety company issuing the bond shall be licensed to do business in North Carolina.
 - (B) Bonding companies may write bonds with a penal sum over their underwriting limitation if they protect the excess amount with reinsurance, coinsurance, or other methods as specified at 31 CFR 223.10-11 and submit documentation to the Division. The owner and operator shall provide the Division with current contact information for the surety company for the life of the mechanism. 31 CFR 223.10-11 is incorporated by reference including subsequent amendments and editions and can be accessed free of charge at the U.S. Government Publishing Office website at www.ecfr.gov.
 - (C) The penal sum of the surety bond shall be adjusted for inflation or any increase or decrease in the amount of financial assurance in accordance with Rule .1802(b), Rule .1803(b), or .1804(b) of this Section.
 - (D) The bonded liability limit shall not be less than the penal sum of the surety bond and shall be adjusted annually for inflation or any increase or decrease in the amount of financial assurance in accordance with Rule .1802(b), Rule .1803(b), or .1804(b) of this Section.
 - (E) If the owner and operator is no longer required to demonstrate financial responsibility, the owner and operator may cancel the surety bond in accordance with the requirements of Rules .1802(c), .1803(c), or .1804(c) of this Section.
- (3) A letter of credit as set forth in 40 CFR 258.74(c) including the following requirements.
 - (A) The owner and operator shall establish a standby trust fund. The standby trust fund shall meet the requirements of 40 CFR 258.74(a) except the requirements for initial payment and subsequent annual payments specified in 40 CFR 258.74(a)(2), (3), (4), and (5). Payments made under the terms of the letter of credit shall be deposited by the financial institution directly into the standby trust fund.
 - (B) No payments shall be made from the trust fund unless approved by the trustee and the Division.
 - (C) The letter of credit shall be adjusted for inflation or any increase or decrease in the amount of financial assurance in accordance with Rule .1802(b), Rule .1803(b), or .1804(b) of this Section.
 - (D) If the owner and operator is no longer required to demonstrate financial responsibility, the owner and operator may cancel the letter of credit in accordance with the requirements of Rules .1802(c), .1803(c), or .1804(c) of this Section.
- (4) Insurance as set forth in 40 CFR 258.74(d), and if the owner and operator is no longer required to demonstrate financial responsibility, the owner and operator may cancel the insurance policy in accordance with the requirements of Rules .1802(c), .1803(c), or .1804(c) of this Section.
- (5) A corporate financial test as set forth in 40 CFR 258.74(e) including the following requirements.
 - (A) The corporate financial test shall be adjusted for inflation or any increase or decrease in the amount of financial assurance in accordance with Rule .1802(b), Rule .1803(b), or .1804(b) of this Section.

- (B) If the owner and operator is no longer required to demonstrate financial responsibility, the owner and operator may cancel the test in accordance with the requirements of Rules .1802(c), .1803(c), or .1804(c) of this Section.
- (6) A local government financial test as set forth in 40 CFR 258.74(f) including the following requirements.
 - (A) Owner and operators submitting a local government financial test that utilizes the bond rating indicator of financial strength shall submit a copy of the bond showing proof of the current bond rating of the most recent issuance and name of rating service, date of issuance of the bond, and date of maturity of the bond.
 - (B) The local government test shall be adjusted for inflation or any increase or decrease in the amount of financial assurance in accordance with Rule .1802(b), Rule .1803(b), or .1804(b) of this Section.
 - (C) If the owner and operator is no longer required to demonstrate financial responsibility, the owner and operator may cancel the test in accordance with the requirements of Rules .1802(c), .1803(c), or .1804(c) of this Section.
- (7) A corporate guarantee as set forth in 40 CFR 258.74(g) including the following requirements.
 - (A) The owner and operator shall submit a corporate ownership organization chart describing the relationship of the owner and operator to the guarantor as defined in 40 CFR 258.74(g)(1) when financial assurance is initially established, and annually thereafter.
 - (B) The corporate guarantee shall be adjusted for inflation or any increase or decrease in the amount of financial assurance in accordance with Rule .1802(b), Rule .1803(b), or .1804(b) of this Section.
 - (C) If the owner and operator is no longer required to demonstrate financial responsibility, the owner and operator may cancel the guarantee in accordance with the requirements of Rules .1802(c), .1803(c), or .1804(c) of this Section.
- (8) A capital reserve fund that meets the following requirements.
 - (A) An owner and operator of a solid waste management facility that is a unit of local government or public authority may satisfy the requirements of this Rule by establishing a capital reserve fund which conforms to the requirements of this Subparagraph. The unit of local government or public authority shall be an entity which has the authority to establish a capital reserve fund under authority of G.S. 159 Part 2 and whose financial operations are regulated and examined by a State agency. The capital reserve fund shall be established consistent with auditing, budgeting, and government accounting practices as prescribed in G.S. 159-30 and by the Local Government Commission. A copy of the capital reserve fund ordinance or resolution with a certified copy of the meeting minutes and a copy of documentation of initial and subsequent years' deposits shall be submitted to the Division and placed in the facility's operating record.
 - (B) Payments into the capital reserve fund shall be made annually by the unit of local government or public authority over the term of the initial permit or over the remaining life of the facility for closure or post-closure care, or over one-half of the estimated length of the corrective action program when a corrective action program is required in accordance with Rules .0545 or .1637 of this Subchapter. This period is referred to as the "pay-in period".
 - (C) For a capital reserve fund used to demonstrate financial assurance for closure and post-closure care, the first payment into the fund shall be at least equal to the current cost estimate for closure or post-closure care, divided by the number of years in the pay-in period as defined in Part (B) of this Subparagraph. The amount of subsequent payments shall be determined by the following formula:

$$\text{Next Payment} = [\text{CE} - \text{CV}] / Y$$
 where CE is the current cost estimate for closure or post-closure care (updated for inflation or other changes), CV is the current value of the capital reserve fund, and Y is the number of years remaining in the pay-in period.
 - (D) For a capital reserve fund used to demonstrate financial assurance for a corrective action program, the first payment into the capital reserve fund shall be at least equal to one-half of the current cost estimate for the corrective action program. The total cost of the second

half of the corrective action program period shall be divided into subsequent payments determined by the following formula:

$$\text{Next Payment} = [\text{RB}-\text{CV}]/\text{Y}$$

where RB is the most recent cost estimate for the corrective action program, updated for inflation or other changes (i.e. the total cost that will be incurred during the second half of the corrective action period), CV is the current value of the capital reserve fund, and Y is the number of years remaining in the pay-in period.

- (E) The initial payment into the capital reserve fund shall be made before the initial receipt of waste in the case of closure and post-closure care, or no later than 120 calendar days after the corrective action remedy has been selected in accordance with the requirements of this Subchapter. Subsequent payments shall be made no later than 30 calendar days after each anniversary date of the first payment.
- (F) If the unit of local government or public authority establishes a capital reserve fund after having used one or more alternate mechanisms specified in this Rule, the initial payment into the capital reserve fund shall be at least the amount that the fund would contain if the capital reserve fund had been established on the initial date that the alternate mechanism was established, and annual payments to the fund had been made according to the specifications of this Subparagraph.
- (G) The unit of local government or public authority authorized to conduct closure, post-closure care, or corrective action programs may expend capital reserve funds to cover the remaining costs of closure, post-closure care, corrective action programs, or for the debt service payments on financing arrangements for closure, post-closure care, or corrective action programs. Monies in the capital reserve fund shall only be used for these purposes unless the fund is terminated in accordance with Part (I) of this Subparagraph. The unit of local government or public authority shall document expenditures and provide a written justification for each expenditure and shall submit a copy to the Division and place a copy in the operating record.
- (H) The unit of local government or public authority shall adjust for inflation or any increase or decrease in the amount of financial assurance in accordance with Rule .1802(b), .1803(b), or .1804(b) of this Section.
- (I) To maintain financial assurance, a unit of local government or public authority may only terminate a capital reserve fund if it substitutes alternate financial assurance as specified in this Rule or if no longer required to demonstrate financial responsibility in accordance with the requirements of Rules .1802(c), .1803(c), or .1804(c) of this Section.

History Note: Authority G.S. 130A-294; 130A-295.2;
Eff. July 1, 2020.

15A NCAC 13B .1806 LANGUAGE OF MECHANISMS FOR FINANCIAL ASSURANCE

The financial assurance mechanisms set forth in Rule .1805 of this Section shall use the language provided in this Rule, and shall be in accordance with 40 CFR 258.74(l).

- (1) Trust Agreement. A trust agreement for a trust fund, as specified in Rule .1805(e)(1) of this Section, shall be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

TRUST AGREEMENT

Trust Agreement, the "Agreement," entered into as of [date] by and between [name of the owner or operator], a [name of State] [insert "corporation," "partnership," "association," or "proprietorship"], the "Grantor," and [name of corporate trustee], [insert "incorporated in the State of [name of state]" or "a national bank"], the "Trustee."

Whereas, the Division of Waste Management, the "Division," an agency of the State of North Carolina, has established certain regulations applicable to the Grantor, requiring that an owner or operator of a solid waste management facility shall provide assurance that funds shall be available when needed for closure, post-closure care, corrective action programs, or potential assessment and corrective action of the facility,

Whereas, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein,

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on schedule A [on schedule A, for each facility list the name, address, Solid Waste Section Permit Number, and the current closure, post-closure care, corrective action program cost estimates, or portions thereof, for which financial assurance is demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the benefit of the Division. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible, nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Division.

Section 4. Payment for Closure, Post-Closure Care, and Corrective Action Programs. The Trustee shall make payments from the Fund as the Division shall direct, in writing, to provide for the payment of the costs of closure, post-closure care, or corrective action programs of the facilities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the Division from the Fund for closure, post-closure care, and corrective action program expenditures in such amounts as the Division shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the Division specifies in writing. upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

- (i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or State government;
- (ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and
- (iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the fund.

Section 10. Annual Valuation. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Division a statement confirming the value of the Trust. Any securities in the fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the Division shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor Trustee and this successor accepts the appointment. The successor Trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor Trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor Trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in writing sent to the Grantor, the division, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the exhibit a or such other designees as the Grantor may designate by amendment to Exhibit A. The trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the Division to the Trustee shall be in writing, signed by the Division, or his designee, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or Division hereunder has occurred. The trustee shall have no duty to act in the absence of such orders, requests, and instructions from the grantor or division, except as provided for herein.

Section 15. Notice of Nonpayment. The Trustee shall notify the Grantor and the Division by certified mail within 10 days following expiration of the 30-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Division, or by the Trustee and the Division if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Division, or by the Trustee and the Division, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Division issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of North Carolina.

Section 20. Interpretation. As used in this agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written: The parties below certify that the wording of this agreement is identical to the wording specified in 15A NCAC 13B .1806(1) as were constituted on the date first above written.

[Signature of Grantor]

[Title]

Attest: [insert name of Corporation's Senior Management]

[Title]

[Seal]

State of North Carolina

County of [Name of County]

On this [date], before me personally came [name of owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

Witness my hand and official seal this [Day] day of [Month], 20[Year].

[insert Signature of Notary]

Official Signature of Notary

[Notary's printed or typed name]

Notary Public

[Official Seal]

My commission expires: [insert Date of Commission Expiration]

[Or for no corporate seal, see 15A NCAC 13B .1805(c) and utilize the certification of acknowledgement below]

State of North Carolina

County of [Name of County]

I, [Name of Officer Taking Acknowledgment], a [Official Title of Officer Taking Acknowledgment], certify that [Name of Corporate Officer] personally came before me this day and acknowledged that he/she is [Title of Corporate Officer] of [insert Legal Name of Corporation], a corporation, and that he/she, as [insert Title of Officer], being authorized to do so, executed the foregoing on behalf of the corporation.

Witness my hand and official seal this [Day] day of [Month], 20[Year].

[insert Signature of Notary]

Official Signature of Notary

[Notary's printed or typed name]

Notary Public

[Official Seal]

My commission expires: [insert Date of Commission Expiration]

[Signature of Trustee]

[Title]

Attest: [insert name]

[Title]

[Seal]

State of North Carolina

County of [Name of County]

I, [Name of Officer Taking Acknowledgment], a [Official Title of Officer Taking Acknowledgment], certify that [Name of Corporate Officer] personally came before me this day and acknowledged that he/she is [Title of Corporate Officer] of [insert Legal Name of Corporation], a corporation, and that he/she, as [insert Title of Officer], being authorized to do so, executed the foregoing on behalf of the corporation.

Witness my hand and official seal this [Day] day of [Month], 20[Year].

[insert Signature of Notary]

Official Signature of Notary

[Notary's printed or typed name]

Notary Public

[Official Seal]

My commission expires: [insert Date of Commission Expiration]

Schedule A for Trust Agreement

[For Each Facility:]

Facility Name: [Facility Name]

Facility Address: [Facility Address]

Permit Number: [Permit Number]

Closure Costs: \$ [Amount]

Post-Closure Care Costs: \$ [Amount]

Corrective Action Program: \$ [Amount]

Potential Assessment and Corrective Action: \$ [Amount]

Total Aggregate Amount to be Funded by this Trust: \$ [Amount]

Schedule B for Trust Agreement

[For Standby Trust]

Trust Property: This Fund shall consist of funds drawn from [insert type of mechanism] [ex. Letter of credit No.[insert number] dated [date] issued by [name of bank] at such time said funds are directly deposited into the Trust account.

[For Funded Trust]

Trust Property: This Fund shall consist of cash in the amount of \$[insert cash amount]. [Aggregate full amount of closure, post-closure care, any corrective action program, and potential assessment and corrective action from Schedule A.]

OR, for pay-in period over the term of the initial permit or the remaining life of the solid waste management facility, include a payment schedule.

Trust Property: This Fund shall consist of annual cash payments made in accordance with the following schedule:

[For Funded Trusts: For Each Facility:]

Facility Name: [Facility Name]

Facility Address: [Facility Address]

Permit Number: [Permit Number]

Initial Payment of \$[insert dollar amount] on [date of execution] for Cell 1 [insert date Agreement is executed.]

Subsequent payment of \$[insert dollar amount], payable on [anniversary date of execution].

Subsequent payment of \$[insert dollar amount], payable on [anniversary date of execution].

Subsequent payment of \$[insert dollar amount], payable on [anniversary date of execution]

Subsequent payment of \$[insert dollar amount], payable on [anniversary date of execution]

Subsequent payment of \$[insert dollar amount], payable on [anniversary date of execution]

Account Information:

Account Number assigned to this Trust Agreement: [Account Number]

Amount of Deposit: [Amount of Deposit (zero dollars if used for a standby trust)]

Date: [Date]

Bank/Branch location for this trust account:

Bank/Branch Name: [Bank/Branch Name]

Location Address: [Location Address]

City & State: [City & State]

Contact Person at Bank:

Name: [Name]

Title: [Title]

Phone Number: [Phone Number]

Exhibit A for Trust Agreement

The following persons, acting singly or collectively, shall have the right to issue instructions to the Trustee pursuant to Section 14 of the Agreement:

Name: [insert name]

Position: [insert position]

- (2) A surety bond guaranteeing performance of closure, post-closure care, and corrective action programs as specified in Rule .1805(e)(2) of this Section shall be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

PERFORMANCE BOND

Date bond executed:

Effective date:

Principal: [legal name and business address of owner or operator]

Type of organization: [insert "individual", "joint venture", "partnership", or "corporation"]

State of incorporation:

Surety(ies): [name(s) and business address(es)]

[For Each Facility]

Solid Waste Section Permit Number: [insert NCDEQ permit number]

Facility name: [insert facility name]

Facility address: [insert facility address]

Closure cost: [insert approved closure cost]

Post-closure care cost: [insert approved post-closure care cost]

Corrective action program cost: [insert current corrective action program cost]

Total penal sum of bond: \$[insert total sum of bond]

Liability Limit: \$ [insert bonding company's liability limit]

Surety's bond number: [insert issued bond number]

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the North Carolina Division of Waste Management (hereinafter called the Division), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas, said Principal is required, under 15A NCAC 13B as amended, to have a permit in order to own or operate each solid waste management facility identified above, and

Whereas, said Principal is required to provide financial assurance for closure, post-closure care, or corrective action programs as a condition of the permit, and

Whereas, said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, Therefore, the conditions of this obligation are such that if the Principal shall faithfully perform closure, whenever required to do so, of each facility for which this bond guarantees closure, in accordance with the closure plan and other requirements of the permit, as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

And, if the Principal shall faithfully perform post-closure care of each facility for which this bond guarantees post-closure care, in accordance with the post-closure care plan and other requirements of the permit, as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations as such laws, statutes, rules, and regulations may be amended,

And, if the Principal shall faithfully perform corrective action of each facility for which this bond guarantees corrective action, in accordance with the corrective action program and other requirements of the permit, as such program and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations as such laws, statutes, rules, and regulations may be amended,

Or, if the Principal shall provide alternate financial assurance and obtain the Division's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Division from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above.

Upon notification by the Division that the Principal has been found in violation of the closure requirements for a facility for which this bond guarantees performance of closure, the Surety(ies) shall either perform closure in accordance with the closure plan and other permit requirements or place the closure amount guaranteed for the facility into the standby trust fund as directed by the Division.

Upon notification by the Division that the Principal has been found in violation of the post-closure care requirements for a facility for which this bond guarantees performance of post-closure care, the Surety(ies) shall either perform post-closure care in accordance with the post-closure care plan and other permit requirements or place the post-closure care amount guaranteed for the facility into the standby trust fund as directed by the Division.

Upon notification by the Division that the Principal has been found in violation of the corrective action requirements for a facility for which this bond guarantees performance of corrective action, the Surety(ies) shall either perform corrective action in accordance with the corrective action program and other permit requirements or place the corrective action amount guaranteed for the facility into the standby trust fund as directed by the Division.

Upon notification by the Division that the Principal has failed to provide alternate financial assurance and obtain written approval of such assurance from the Division during the 90 days following receipt by both the Principal and the Division of a notice of cancellation of the bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Division.

The Surety(ies) hereby waive(s) notification of amendments to closure and post-closure care plans, and corrective action programs, permits, applicable laws, statutes, rules, and regulations and agrees that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Division, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the Division, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the Division.

[The following paragraph is an optional rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure, post-closure care, or corrective action program amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the Division.

In Witness Whereof, The Principal and Surety(ies) have executed this Performance Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in 15A NCAC 13B .1806(2) as was constituted on the date this bond was executed.

Principal

[Signature(s)]

[Name(s)]

[Title(s)]

[Corporate seal]

[For no corporate seal, see Rule .1805(c)]

Corporate Surety(ies)

[Names and address of contact]

State of incorporation: Surety's state of incorporation]

Liability limit: \$ [Surety's liability limit]

[Signature(s)]

[Names(s) and title(s)]

[Corporate seal]

[For no corporate seal, see Rule .1805(c)]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: \$ [bond premium]

- (3) A surety bond guaranteeing payment of closure and post-closure care as specified in Rule .1805(e)(2) of this Section shall be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

PAYMENT BOND

Date bond executed: [insert date of bond execution]

Effective date: [insert effective date]

Principal: [legal name and business address of owner or operator]

Type of organization: [insert "individual", "joint venture", "partnership", or "corporation"]

State of incorporation: [insert state of incorporation]

Surety(ies): [name(s), business address(es), and contact information]

[For Each Facility]

Solid Waste Section Permit Number: [insert NCDEQ permit number]

Facility name: [insert facility name]

Facility address: [insert facility address]

Closure cost: [insert dollar amount for closure]

Post-closure care cost: [insert dollar amount for post-closure care]

Total penal sum of bond: \$[insert total cost of the bond]

Liability Limit: \$[insert underwriting limit of the surety company]

Surety's bond number: [insert bond number issued by surety]

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the North Carolina Division of Waste Management (hereinafter called the Division), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas, said Principal is required, 15A NCAC 13B as amended, to have a permit in order to own or operate each solid waste management facility identified above, and

Whereas, said Principal is required to provide financial assurance for closure or post-closure care as a condition of the permit, and

Whereas, said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, Therefore, the conditions of the obligation are such that if the Principal shall faithfully, before the beginning of final closure and post-closure of each facility identified above, fund the standby trust fund in the amount(s) identified above for the facility,

Or, if the Principal shall fund the standby trust fund in such amount(s) within 15 days after a final order to begin closure and post-closure care is issued by the Division or a U.S. district court or other court of competent jurisdiction,

Or, if the Principal shall provide alternate financial assurance and obtain the Division's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Division from the Surety(ies), then this obligation shall be null and void; otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the Division that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Division.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the Division, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the Division, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the Division.

[The following paragraph is an optional rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure, post-closure care, or corrective action program amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the Division.

In Witness Whereof, the Principal and Surety(ies) have executed this Financial Guarantee Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond has not been changed as were constituted on the date this bond was executed.

Principal

[Signature(s)]

[Name(s)]

[Title(s)]

[Corporate seal]

[For no corporate seal, see Rule .1805(c)]

Corporate Surety(ies)

[Name and address]

State of incorporation: [Surety's state of incorporation]

Liability limit: \$[Surety's liability limit]

[Signature(s)]

[Name(s) and title(s)]

[Corporate seal]

[For no corporate seal, see Rule .1805(c)]

[For each co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: \$[bond premium]

- (4) A letter of credit, as specified in Rule .1805(e)(3) of this Section, shall be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

IRREVOCABLE STANDBY LETTER OF CREDIT

North Carolina Department of Environmental Quality

Division of Waste Management

Solid Waste Section

1646 Mail Service Center

Raleigh, North Carolina 27699-1646

Dear Sir/Madam:

We hereby establish our Irrevocable Standby Letter of Credit No. [insert mechanism number] in your favor, at the request and for the account of [owner's or operator's name and address] up to the aggregate amount of [in words] U.S. dollars \$[insert U.S. dollar amount], available upon presentation of

(1) your sight draft, bearing reference to this letter of credit No. [insert mechanism number], and

(2) your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to requirements of N.C. General Statute 130A-295.2(f) and 15A NCAC 13B because the applicant has failed to properly close and clean up the solid waste management facility, to perform post-closure maintenance and monitoring at the facility, or to remediate the facility in accordance with applicable statutes, rules and permit conditions."

This letter of credit is effective as of [date] and shall expire on [date at least 1 year later], but such expiration date shall be automatically extended for a period of [at least 1 year] on [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and [owner's or operator's name], as shown on the signed return receipts.

Whenever this letter of credit is drawn on, under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of [owner's or operator's name] in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in 15A NCAC 13B .1806(4) as were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution], [Date]

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published by the International Chamber of Commerce," or "the Uniform Commercial Code"].

- (5) A certificate of insurance, as specified in Rule .1805(e)(4) of this Section, shall be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATE OF INSURANCE FOR CLOSURE OR POST-CLOSURE CARE

Name and Address of Insurer

(herein called the "Insurer"):

Name and Address of Insured

(herein called the "Insured"):

Facilities Covered: [List for each facility: The Solid Waste Section Permit Number, name, address, and the amount of insurance for closure or the amount for post-closure care (these amounts for all facilities covered shall total the face amount shown below).]

Face Amount: [insert dollar amount of face value]

Policy Number: [insert insurance policy number]

Effective Date: [insert effective date]

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for [insert "closure" or "closure and post-closure care" or "post-closure care"] for the facilities identified above.

The Insurer further warrants that such policy conforms in all respects with the requirements of 40 CFR 258.74(d)(July 1, 2010 edition) and 15A NCAC 13B .1805, as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Whenever requested by the North Carolina Division of Waste Management (Division), the Insurer agrees to furnish to the Division a duplicate original of the policy listed above, including all endorsements thereon.

I hereby certify that the wording of this certificate is identical to the wording specified in 15A NCAC 13B .1806(5) as were constituted on the date shown immediately below.

[Authorized signature for Insurer]

[Name of person signing]

[Title of person signing]

Signature of witness or notary:

[Date]

- (6) A corporate financial test, as specified in Rule .1805(e)(5) of this Section, shall be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CORPORATE FINANCIAL TEST

[Date]

North Carolina Department of Environmental Quality

Division of Waste Management

Solid Waste Section Chief

1646 Mail Service Center

Raleigh, NC 27699-1646

Dear Sir/Madam:

I am the chief financial officer of [name and address of firm]. This letter is in support of this firm's use of the corporate financial test to demonstrate financial assurance for closure, post-closure care, corrective action programs, and potential assessment and corrective action (if applicable), as specified in the Solid Waste Management Act, North Carolina General Statute 130A-295.2(f) and 40 C.F.R. 258.74(e)(July 1, 2010 edition).

[For each solid waste management facility, including its permit identification number, name, address, and closure, post-closure care, corrective action programs, and potential assessment and corrective action (if applicable) cost

estimates. Identify for each cost estimate whether it is for closure or post-closure care, corrective action programs, or potential assessment and corrective action.]

The firm is the owner or operator of the following solid waste management facilities for which financial assurance for closure, post-closure care, corrective action programs, and potential assessment and corrective action (if applicable), is demonstrated through the corporate financial test. The current cost estimates for closure, post-closure care, corrective action programs, and potential assessment and corrective action (if applicable), covered by the test are shown for each facility:

Name: [insert legal entity /principal name]

Office Address: [insert physical address of legal entity/principal]

Facility Address: [insert physical address of permitted facility]

Permit No.: [insert NCDEQ issued permit number]

Closure Cost Estimate: [insert dollar amount for closure]

Post-Closure Care Cost Estimate: [insert dollar amount for post-closure care]

Corrective Action Program Cost Estimate: [insert dollar amount for current corrective action program]

Potential Assessment and Corrective Action Cost Estimate: [insert dollar amount for potential assessment and corrective action]

Identify any underground injection control (UIC) facilities under 15A NCAC 02D .0400 and 15A NCAC 02C .0200, petroleum underground storage tank (UST) facilities under 15A NCAC 02N .0100 through .0800, polychlorinated biphenyl (PCB) storage facilities under 15A NCAC 02O .0100 and 15A NCAC 02N .0100, and hazardous waste treatment, storage, and disposal facilities (TSDF's) under 15A NCAC 13A .0109 and .0110 that are owned by either the owner/operator or the guarantor and/or are facilities that are covered by a financial test or corporate guarantee. Provide a separate description for each type of facility, if applicable (if not applicable write "None").

Name: [insert legal entity/principal name]

Office Address: [insert physical address of legal entity/principal]

Facility Address: [insert physical address of permitted facility]

Permit No.: [insert NCDEQ issued permit number]

Closure Cost Estimate: [insert dollar amount for closure]

Post-Closure Care Cost Estimate: [insert dollar amount for post-closure care]

Corrective Action Program Cost Estimate: [insert dollar amount for current corrective action program]

Potential Assessment and Corrective Action Cost Estimate: [insert dollar amount for potential assessment and corrective action]

This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

Fill in all applicable parts of the Financial Test and either Alternative I, or Alternative II, or Alternative III below.

Financial Test

1. Sum of current closure, post-closure care, corrective action program, and potential assessment and corrective action cost estimates (if applicable) and guarantees from all of the solid waste management facilities in paragraphs 1 or 2 above: \$ [insert dollar amount]

2. All other cost estimates and guarantees required for UIC facilities, petroleum UST facilities, PCB storage facilities, and TSDF's listed in paragraph 3 above. \$ [insert dollar amount]

3. Tangible net worth (defined as tangible assets – liabilities. Tangible assets do not include intangibles such as goodwill or rights to patents and royalties). \$ [insert dollar amount]

4. Net Worth \$ [insert dollar amount]

5. Total liabilities - If any portion of the current closure, post-closure care, corrective action program, and potential assessment and corrective action cost estimates (if applicable), or guarantees identified above are recognized as liabilities in the audited financial statements, you must submit a special report from the independent certified public accountant (CPA), unless you can answer "yes" to item # 9. \$ [insert dollar amount]

6. The sum of net income plus depreciation, depletion, and amortization (Use for Alternative III): \$ [insert dollar amount]

7. Total assets in the U.S.: \$ [insert dollar amount]

8. Sum of line 1 plus line 2 from above and any other environmental obligations covered by a financial test: \$ [insert dollar amount]

9. Is line 3 greater than the sum of line 8 plus \$10 million? [Yes or No]

If "No", and you have provided a report from the independent CPA that the environmental obligations have been recognized as liabilities in the audited financial statements, then go to Item 9(a).

9a. Is line 3 greater than the sum of \$10 million plus any guarantees not recognized as liabilities? [Yes or No]

10. Is line 7 greater than line 8? [Yes or No]

If the financial data provided for items 3 through 7 above differs from what was provided in the audited financial statements, a special report from the certified public accountant shall be provided as described in 40 CFR 258.74(e)(2)(i)(C).

Alternative I

1. Current bond rating of most recent senior unsubordinated bond issue of this firm and name of rating service: [current bond rating and name of rating service]

2. Date of bond issue: [insert date of bond issued]

3. Date of final maturity of bond: [insert final maturity date of bond]

Alternative II

1. Is the above line 5 divided by the above line 4 less than 1.5? [Yes or No]

Alternative III

1. Is (the above line 6 minus \$10 million) divided by the above line 5 greater than 0.1? [Yes or No]

As evidence that [Firm] meets the conditions of the Corporate Financial Test, attached hereto is a copy of the following:

Please check applicable responses.

() 1. Independent CPA's unqualified opinion of our financial statements for our latest completed fiscal year.

() 2. Special report from CPA, if financial data in this letter is different than in audited financial statements. [See 40 CFR 258.74(e)(2)(i)(C)].

() 3. Report from CPA (if answer to item #9 of the financial test is No) verifying all of covered environmental obligations covered by test have been recognized as liabilities in the audited financial statements, how the obligations were measured and reported, and that tangible net worth of the firm is at least \$10 million dollars plus the amount of any guarantees not recognized as liabilities. [See 40 CFR 258.74(e)(2)(i)(D)]

I hereby certify that [name of firm] meets the requirements of [Fill in Alternative I, Alternative II, or Alternative III] in support of [name of facility(s)] use of the corporate financial test to demonstrate financial assurance as required by the Solid Waste Management Act, North Carolina General Statute 130A-295.2(f) and 40 C.F.R. 258.74(e)(July 1, 2010 edition).

[Signature]

[Name]

[Title]

[Date]

- (7) A local government financial test, as specified in Rule .1805(e)(6) of this Section, shall be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

LETTER FROM CHIEF FINANCIAL OFFICER

[Address to the Department of Environmental Quality, Division of Waste Management, Solid Waste Section, 1646 Mail Service Center, Raleigh, North Carolina 27699-1646.]

I am the chief financial officer of [name and address of unit of local government]. This letter is in support of this unit of local government's use of the financial test to demonstrate financial assurance, as specified in 15A NCAC 13B .1805(e)(6).

[Fill out the following paragraph regarding the solid waste management facilities and associated cost estimates. For each facility, include its permit number, name, address and current closure, post-closure care, corrective action program, or potential assessment and corrective action cost estimates. Identify each cost estimate as to whether it is for closure, post-closure care, or a corrective action program.]

This unit of local government is the owner or operator of the following facilities for which financial assurance for closure, post-closure care, corrective action programs, or potential assessment and corrective action is demonstrated through the financial test specified in 15A NCAC 13B .1805(e)(6). The current closure, post-closure care, corrective action programs, or potential assessment and corrective action cost estimates covered by the test are shown for each facility:

[For Each Facility]

Solid Waste Section Permit Number: [insert NCDEQ issued permit number]

Facility name:[insert facility name]

Facility address: [insert physical address of facility]

Closure cost: [insert dollar amount of closure]

Post-closure care cost: [insert dollar amount of post-closure]

Corrective action program cost: [insert dollar amount of current corrective action]

Potential assessment and corrective action cost: [insert dollar amount of potential assessment and corrective action]

Total Costs to be Assured: [Total Costs to be Assured by this test – include costs for all facilities]:

The fiscal year of this unit of local government ends on [month, day, year]. The Indicators of Financial Strength section below is based off of the local government's financial strength of the previous year, as indicated by general accounting practices.

[Local Government completing the Local Government Test are to either complete the Ratio Indicator of Financial Strength or the Bond Rating Indicator of Financial Strength section below.]

RATIO INDICATORS OF FINANCIAL STRENGTH

1. Sum of current closure, post-closure care, and corrective action program cost estimates [total of all cost estimates shown in the paragraphs above] \$[insert dollar amount of all cost estimates/environmental liability for solid waste management facilities]
2. Sum of cash and investments: \$ [insert dollar amount]
3. Total expenditures: \$ [insert dollar amount]
4. Annual debt service: \$ [insert dollar amount]
5. Assured environmental costs to demonstrate financial responsibility in the following amounts under Division rules:

Solid Waste Management Facilities under 15A NCAC 13B: \$ [insert dollar amount]

Hazardous waste treatment, storage, and disposal facilities under 15A NCAC 13A .0109 and .0110: \$ [insert dollar amount]

Petroleum underground storage tanks under 15A NCAC 02N .0100 - .0800: \$ [insert dollar amount]

Underground injection control system facilities under 15A NCAC 02D .0400 and 15A NCAC 02C .0200: \$ [insert dollar amount]

PCB commercial storage facilities under 15A NCAC 02O .0100 and 15A NCAC 02N .0100: \$ [insert dollar amount]

Total assured environmental costs: \$ [insert total dollar amount]

6. Total Annual Revenue: \$ [insert dollar amount]

Circle either "yes" or "no" to the following questions.

7. Is line 5 divided by line 6 less than or equal to 0.43? yes/no
8. Is line 2 divided by line 3 greater than or equal to 0.05? yes/no
9. Is line 4 divided by line 3 less than or equal to 0.20? yes/no

BOND RATING INDICATOR OF FINANCIAL STRENGTH

1. Sum of current closure, post-closure care, and corrective action program cost estimates [total of all cost estimates shown in the paragraphs above]: \$ [insert dollar amount of all cost estimates/environmental liability for solid waste management facilities]
2. Current bond rating of most recent issuance and name of rating service: [insert bond rating and name of rating service]
3. Date of issuance bond: [insert date of issuance]
4. Date of maturity of bond: [insert date of maturity]
5. Assured environmental costs to demonstrate financial responsibility in the following amounts under Division rules:

Solid Waste Management Facilities under 15A NCAC 13B: \$ [insert dollar amount]

Hazardous waste treatment, storage and disposal facilities under 15A NCAC 13A .0109 and .0110: \$ [insert dollar amount]

Petroleum underground storage tanks under 15A NCAC 02N .0100 - .0800: \$ [insert dollar amount]

Underground injection control system facilities under 15A NCAC 02D .0400 and 15A NCAC 02C .0200: \$ [insert dollar amount]

PCB commercial storage facilities under 15A NCAC 02O .0100 and 15A NCAC 02N .0100: \$ [insert dollar amount]

Total assured environmental costs: \$ [insert dollar amount]

6. Total Annual Revenue: \$ [insert dollar amount]

Circle either "yes" or "no" to the following question.

7. Is line 5 divided by line 6 less than or equal to 0.43? yes/no

I hereby certify that the wording of this letter is identical to the wording specified in 15A NCAC 13B .1806(7) as such rules were constituted on the date shown immediately below. I further certify the following: (1) that the unit of local government has not operated at a total operating fund deficit equal to five percent or more of total annual revenue in either of the past two fiscal years, (2) that the unit of local government is not in default on any outstanding general obligations bonds or long-term obligations, and (3) does not have any outstanding general obligation bonds rated lower than Baa as issued by Moody's, BBB as issued by Standard & Poor's, BBB as issued by Fitch's, or 75 as issued by the Municipal Council.

[Signature]

[Name]

[Title]

[Date]

- (8) A corporate guarantee, as specified in Rule .1805(e)(7) of this Section, shall be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CORPORATE GUARANTEE

[Date]

North Carolina Department of Environmental Quality

Division of Waste Management

Solid Waste Section Chief

1646 Mail Service Center

Raleigh, NC 27699-1646

Dear Sir/Madam:

I am the chief financial officer of [name and address of guarantor]. This letter is in support of this firm's use of the corporate guarantee to demonstrate financial assurance on behalf of [owner or operator name, address, permit number] for current closure, post-closure care, corrective action program, and potential assessment and corrective action cost estimates (if applicable), as specified in the Solid Waste Management Act, North Carolina General Statute 130A-295.2(f) and 40 C.F.R. 258.74(g)(July 1, 2010 edition).

[For each solid waste management facility, including its permit identification number, name, address, and current closure, post-closure care, corrective action program, or potential assessment and corrective action cost estimates (if applicable). Identify for each cost estimate whether it is for closure, post-closure care, corrective action programs, or potential assessment and corrective action.]

This firm guarantees, through the corporate guarantee attached to this letter as Exhibit A, the current closure, post-closure care, corrective action program, and potential assessment and corrective action cost estimates (if applicable), of the following facilities owned or operated by the guaranteed party. Financial assurance for current closure, post-closure care, corrective action program, and potential assessment and corrective action cost estimates (if applicable), for the listed facilities are demonstrated through the corporate financial test. The current closure, post-closure care, corrective action program, and potential assessment and corrective action cost estimates (if applicable), so guaranteed are shown for each facility:

Name: [insert name of legal entity/principal]

Office Address: [insert physical address of legal entity/principal]

Facility Address: [insert physical address of facility]

Permit No.: [insert NCDEQ issued permit number]

Closure Cost Estimate: [insert dollar amount for closure]

Post-Closure Care Cost Estimate: [insert dollar amount for post-closure care]

Corrective Action Program Cost Estimate: [insert dollar amount for current corrective action]

Potential Assessment and Corrective Action Cost Estimate: [insert dollar amount for potential assessment and corrective action]

The guarantor firm identified above is (please check the applicable relationship):

- () The direct or higher-tier parent corporation of the owner or operator.
- () Owned by the same parent corporation as the parent corporation of the owner or operator.
(please attach a description of the value received in consideration of the guarantee)
- () Engaged in a substantial business relationship with the owner or operator.
(please attach a written description of the business relationship and the value received in consideration of the guarantee and a copy of the contract establishing such relationship)

Identify any underground injection control (UIC) facilities under 15A NCAC 02D .0400 and 15A NCAC 02C .0200, petroleum underground storage tank (UST) facilities under 15A NCAC 02N .0100 through .0800, polychlorinated

biphenyl (PCB) storage facilities under 15A NCAC 02O .0100 and 15A NCAC 02N .0100, and hazardous waste treatment, storage, and disposal facilities (TSDF's) under 15A NCAC 13A .0109 and .0110 that are owned by either the owner/operator or the guarantor and/or are facilities that are covered by a financial test or corporate guarantee. Provide a separate description for each type of facility, if applicable (if not applicable write "None").

Name: [insert name of facility]

Facility Address: [insert physical address of facility]

Permit No.: [insert associated permit number]

Closure Cost Estimate: [insert dollar amount for closure]

Post-Closure Care Cost Estimate: [insert dollar amount for post-closure care]

Corrective Action Program Cost Estimate: [insert dollar amount for current corrective action]

Potential Assessment and Corrective Action Cost Estimate: [insert dollar amount for potential assessment and corrective action]

This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date]

Fill in all applicable parts of the Financial Test and either Alternative I, or Alternative II, or Alternative III below.

Financial Test

1. Sum of current closure, post-closure care, corrective action program, and potential assessment and corrective action cost estimates (if applicable) and guarantees from all of the solid waste management facilities in paragraphs 1 or 2 above: \$ [insert dollar amount]

2. All other cost estimates and guarantees required for UIC facilities, petroleum UST facilities, PCB storage facilities, and TSDF's listed in paragraph 3 above: \$ [insert dollar amount]

3. Tangible net worth (defined as tangible assets – liabilities. Tangible assets do not include intangibles such as goodwill or rights to patents and royalties): \$ [insert dollar amount]

4. Net Worth \$ [insert dollar amount]

5. Total liabilities - If any portion of the current closure, post-closure care, corrective action program, and potential assessment and corrective action cost estimates (if applicable), or guarantees identified above are recognized as liabilities in the audited financial statements, you must submit a special report from the independent certified public accountant (CPA), unless you can answer "yes" to item # 9: \$ [insert dollar amount]

6. The sum of net income plus depreciation, depletion, and amortization (Use for Alternative III.) \$[insert dollar amount]

7. Total assets in the U.S.: \$ [insert dollar amount]

8. Sum of line 1 plus line 2 from above and any other environmental obligations covered by a financial test: \$ [insert dollar amount]

9. Is line 3 greater than the sum of line 8 plus \$10 million? [Yes or No]

If "No", and you have provided a report from the independent CPA that the environmental obligations have been recognized as liabilities in the audited financial statements, then go to Item 9(a).

9a. Is line 3 greater than the sum of \$10 million plus any guarantees not recognized as liabilities? [Yes or No]

10. Is line 7 greater than line 8? [Yes or No]

If the financial data provided for items 3 through 7 above differs from what was provided in the audited financial statements, a special report from the certified public accountant shall be provided as described in 40 CFR 258.74(e)(2)(i)(C) and (g)(1).

Alternative I

1. Current bond rating of most recent senior unsubordinated bond issue of this firm and name of rating service: [insert current bond rating and name of rating service]

2. Date of bond issue: [insert date of bond issuance]

3. Date of final maturity of bond: [insert date of maturity]

Alternative II

1. Is the above line 5 divided by the above line 4 less than 1.5? [Yes or No]

Alternative III

1. Is (the above line 6 minus \$10 million) divided by the above line 5 greater than 0.1? [Yes or No]

As evidence that [firm] meets the conditions of the Corporate Financial Test, attached hereto is a copy of the following: Please check applicable responses

() 1. Independent CPA's unqualified opinion of our financial statements for our latest completed fiscal year.

- () 2. Special report from CPA [If financial data in this letter is different than in audited financial statements] [See 40 CFR 258.74(e)(2)(i)(C) and (g)(1)].
- () 3. Report from CPA [if answer to item #9 of the financial test is No] verifying all of covered environmental obligations covered by test have been recognized as liabilities in the audited financial statements, how the obligations were measured and reported, and that tangible net worth of the firm is at least \$10 million dollars plus the amount of any guarantees not recognized as liabilities. [See 40 CFR 258.74(e)(2)(i)(D) and (g)(1)]

I hereby certify that [name of firm] meets the requirements of [Fill in Alternative I, Alternative II, or Alternative III] in support of [name of facility(s)] use of the corporate financial test to demonstrate financial assurance as required by the Solid Waste Management Act, North Carolina General Statute 130A-295.2(f) and 40 C.F.R. 258.74(e)(July 1, 2010 edition).

[Signature]

[Name]

[Title]

[Date]

Exhibit A

Corporate Guarantee Terms For
Closure, Post-Closure Care, Corrective Action Program, and/or
Potential Assessment and Corrective Action
For [Owner/Operator], [Permit Number]

Guarantee made this [date] by [name of guaranteeing entity], [address and state of guaranteeing entity], herein referred to as guarantor. The guarantee is made on behalf of the [owner or operator name] of [business address], which is [one of the following: "our subsidiary"; a subsidiary of [name and address of common parent corporation] or "an entity with which the guarantor has a substantial business relationship"] to the North Carolina Division of Environmental Quality (NCDEQ).

Recitals:

1. Guarantor meets or exceeds the Corporate Financial Test criteria and agrees to comply with the reporting requirements for guarantors, as specified in the Solid Waste Management Act, North Carolina General Statute 130A-295.2(f) and 40 C.F.R. 258.74(g)(July 1, 2010 edition).

2. [Owner or Operator] owns or operates the following solid waste management facility(ies) covered by this guarantee: List for each facility the following information

Name: [insert facility name]

Facility Address: [insert facility address]

Permit No.: [insert NCDEQ issued permit number]

Closure Cost Estimate: [insert dollar amount for closure]

Post-Closure Care Cost Estimate: [insert dollar amount for post-closure care]

Corrective Action Program Cost Estimate: [insert dollar amount for current corrective action]

Potential Assessment and Corrective Action Cost Estimate: [insert dollar amount for potential assessment and corrective action]

3. Closure, Post-Closure Care, Corrective Action Program, and Potential Assessment and Corrective Action Cost Estimates as used above refer to the plans maintained, as required by the Solid Waste Management Act, North Carolina General Statute 130A-295.2(f) and 40 C.F.R. 258.74(g)(July 1, 2010 edition) for closure, post-closure care, corrective action program, and potential assessment and corrective action cost estimates (if applicable), of facilities identified above.

4. Pursuant to 40 C.F.R. 258.74(g)(3)(i)(July 1, 2010 edition), guarantor guarantees to NCDEQ that in the event that [insert owner or operator name] fails to perform closure, post-closure care, corrective action program, and/or potential assessment and corrective action of the above facility(ies) in accordance with the closure and post-closure care plans, the corrective action program, and/or potential assessment and corrective action and other permit requirements whenever required to do so, the guarantor shall perform the required activities or pay a third party to do so (performance guarantee) or establish a fully funded trust fund (payment guarantee), in conformance with 40 C.F.R. 258.74(a)(July 1, 2010 edition), in the name of the owner or operator in the amount of the current closure or post-closure care or corrective action program or potential assessment and corrective action cost estimates as specified during the permitting process as well as the Solid Waste Management Act, North Carolina General Statute 130A-295.2(f) and 40 C.F.R. 258.74(g)(July 1, 2010 edition).

5. Pursuant to 40 C.F.R. 258.74(g)(4)(July 1, 2010 edition), guarantor agrees that if the guarantor fails to meet the Corporate Financial Test criteria or is notified that it is disallowed from continuing as a guarantor, the [owner or

operator name] must, within 90 days, provide alternate financial assurance. If the [owner or operator name] fails to provide alternative financial assurance within the 90-day period, the guarantor must provide such alternate financial assurance in the name of [owner or operator name] within the next 30 days thereafter.

6. The guarantor agrees to notify the NCDEQ Director by certified mail of voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

7. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modifications of the closure and post-closure care plans, corrective action programs, and/or potential assessment and corrective action or amendments or modification of the permit, the extension or reduction of the time of performance of closure or post-closure care or corrective action programs or potential assessment and corrective action, or any other modification or alteration of an obligation of the owner or operator pursuant to the Solid Waste Management Act, North Carolina General Statute 130A-295.2(f) and 40 C.F.R. 258.74 (July 1, 2010 edition).

8. Guarantor agrees to remain bound under this guarantee for as long as [owner or operator name] must comply with the applicable financial assurance requirements of the Solid Waste Management Act, North Carolina General Statute 130A-295.2(f) and 40 C.F.R. 258.74(g)(July 1, 2010 edition) for the above listed facilities, except as provided in paragraphs 9 and 10 of this agreement.

9. Pursuant to 40 C.F.R. 258.74(g)(3)(ii)(July 1, 2010 edition), guarantor may terminate this guarantee 120 days following the receipt of notification of its intended cancellation by certified mail by both the NCDEQ Director and by [owner or operator name].

10. Pursuant to 40 C.F.R. 258.74(g)(3)(iii)(July 1, 2010 edition), guarantor agrees that if [owner or operator name] fails to provide alternative financial assurance and obtain written approval of such assurance from the NCDEQ Director within 90 days after receipt of the notice of cancellation by the guarantor, guarantor shall provide such alternative financial assurance in the name of [owner or operator name] within the next 30 days before the guarantee terminates.

11. Guarantor expressly waives notice of acceptance of this guarantee by NCDEQ or by [owner or operator name]. Guarantor also expressly waives notice of amendments or modifications of the closure and post-closure care plans, corrective action programs, and/or potential assessment and corrective action and of amendments or modifications of the facility permit(s).

Effective date: [insert mechanism effective date]

[Name of Guarantor]

[Corporate Seal]

[For no corporate seal, see Rule .1805(c)]

[Authorized signature for guarantor]

[Name of person signing]

[Title of person signing]

[Telephone Number]

[Email Address]

State of North Carolina

County of [Name of County]

On this [day] day of [month], [year], before me personally came [name signing for Guarantor] to me known, who, being by me duly sworn, did depose and say that she/he resides at [Guarantor address], that she/he is [title at Guarantor Firm] described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

Witness my hand and official seal this [Day] day of [Month], 20[Year].

[insert Signature of Notary]

Official Signature of Notary

[Notary's printed or typed name]

Notary Public

[Official Seal]

My commission expires: [insert Date of Commission Expiration]

- (9) A special report from a certified public accountant (CPA) is a supplemental report mechanism to the corporate financial test mechanism as specified in Rule .1805(e)(5) and the corporate guarantee mechanism as specified in Rule .1805(e)(7) of this Section, and shall be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

SPECIAL REPORT
INDEPENDENT CERTIFIED PUBLIC ACCOUNTANT'S REPORT
ON APPLYING AGREED-UPON PROCEDURES

The Board of Directors

[Name of Company]

[Mailing and location address]

[Permit No.]

We have performed the procedures enumerated below, which were agreed to by management of [Name of Company] pursuant to the Solid Waste Management Act, North Carolina General Statute 130A-295.2(f) and 40 C.F.R. 258.74(e)(July 1, 2010 edition) with respect to the letter dated [insert date] from the [insert Corporate Official name and title] to the North Carolina Department of Environmental Quality, solely to assist you in filing the Letter (prepared in accordance with the criteria specified therein) for the year ended [insert date of end of corporate fiscal year]. [Name of Company] is responsible for this Letter. This agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. The sufficiency of the procedures is solely the responsibility of [Name of Company] and the North Carolina Department of Environmental Quality. Consequently, we make no representation regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose.

The procedures, which were limited solely to the identified item numbers, are as follows:

We compared the amounts in Item Nos. 3, 5, and 7 of the Financial Test in the CFO's Letter to corresponding amounts reported as total liabilities [amount], Tangible Net Worth [amount], and total assets [amount], respectively, in the audited financial statement as of [insert date of end of corporate fiscal year] and found them [insert either, "not to be in agreement" or "to be in agreement"].

We computed the amounts in Item Nos. 4 and 6 of the Financial Test in the CFO's Letter as of [insert date of end of corporate fiscal year] based on amounts reported as Net Worth [amount] and the net income plus depreciation, depletion, and amortization [amount] in the audited financial statements as of [insert date of end of corporate fiscal year], compared them to the amounts in the CFO's Letter and found them [insert either, "not to be in agreement" or "to be in agreement"].

We computed the amount of environmental obligations (as determined by current closure, post-closure care, corrective action program, and/or potential assessment and corrective action cost estimates or guarantees) which are recognized as liabilities in the amount of [amount] in the audited financial statement as of [insert date of end of corporate fiscal year], compared them to the amounts in the CFO's Letter and found them [insert either, "not to be in agreement" or "to be in agreement"].

We compared the amount in Item No. 7 of the Financial Test in the CFO's Letter and the Company's total assets located in the United States in the amount of [insert amount] in the audited financial statement as of [insert date of end of corporate fiscal year] and found them [insert either, "not to be in agreement" or "to be in agreement"].

[If not in agreement, describe the procedures performed in comparing the data in the CFO's letter derived from the audited financial year-end financial statements for the latest fiscal year with the amounts in such financial statements, the findings of that comparison, and the reasons for any differences.]

We were not engaged to and did not conduct an examination, the objective of which would be the expression of an opinion on the selected financial information included in the Letter. Accordingly, we do not express such an opinion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you. This report is intended solely for the use of management of the Company, and is not intended to be and should not be used by anyone other than these specified parties.

[Date]

[Name of Accounting Firm]

- (10) A capital reserve fund, as specified in Rule .1805(e)(8) of this Section shall be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CAPITAL RESERVE FUND RESOLUTION
ESTABLISHMENT AND MAINTENANCE
OF THE [FACILITY NAME]
CAPITAL RESERVE FUND

Whereas, there is a need in [insert location of facility as City, County] to provide funds for [closure, post-closure care, corrective action programs, or potential assessment and corrective action] for the [permit number], [facility name]; and

Whereas, the [location] shall bear the cost of [closure, post-closure care, corrective action programs, or potential assessment and corrective action] for the solid waste management facility at an estimated cost of [cost estimate].

Now, therefore, be it resolved by the governing board that:

Section 1. The Board of County Commissioners hereby creates a Capital Reserve Fund for the purpose of [closure, post-closure care, corrective action programs, or potential assessment and corrective action] for the [permit number] solid waste management facility.

Section 2. This Fund shall remain operational during the life of the facility and the post-closure care period beginning [date] and ending [date] as estimated at the time of annual update of this Resolution.

Section 3. The Board shall appropriate or transfer an amount of no less than [annual payment] each year to this Fund.

Section 4. This Resolution shall become effective and binding upon its adoption.

[Signature of County Commissioner]

[Signature of Chief Financial Officer]

[Date]

*History Note: Authority G.S. 130A-294; 130A-295.2;
Eff. July 1, 2020.*