

SECTION .0300 - SEWER EXTENSIONS

15A NCAC 02T .0301 SCOPE

The rules in this Section set forth the requirements and procedures for application and issuance of permits for sewers as required by G.S. 143-215.1(a) and permitting delegation of local sewer programs allowable by G.S. 143-215.1(f). The rules in this Section apply to all sewer extensions including gravity sewers, pump stations, force mains, vacuum sewers, pressure sewers (including Septic Tank Effluent Pump (STEP) systems) or alternative sewer systems that discharge to another sewer system and requirements for local delegated sewer extension permitting programs.

History Note: Authority G.S. 143-215.1; 143-215.3(a);

Eff. September 1, 2006.

15A NCAC 02T .0302 DEFINITIONS

(a) The following definitions are used in this Section:

- (1) "Alternative sewer system" means any sewer system (collection system) other than a gravity system or standard pump station and force main. These include pressure sewer systems, septic tank/effluent pump (STEP) sewer systems, vacuum sewer system, and small diameter variable grade gravity sewers.
- (2) "Building" means any structure occupied or intended for supporting or sheltering any occupancy.
- (3) "Building drain" means that part of the lowest piping of a drainage system that receives the discharge from soil, waste and other drainage pipes that extends 10 feet beyond the walls of the building and conveys the drainage to the building sewer.
- (4) "Building sewer" means that part of the drainage system that extends from the end of the building drain and conveys the discharge from a single building to a public gravity sewer, private gravity sewer, individual sewage disposal system or other point of disposal.
- (5) "Fast-track" means a permitting process whereby a professional engineer certifies a sewer design and associated construction documents conform to all applicable sewer related rules and design criteria, thereby forgoing an upfront technical review by the Division.
- (6) "Pressure sewer system" means an interdependent system of grinder pump stations, typically for residences, serving individual wastewater connections for single buildings that share a common and typically a small diameter pressure pipe (1.5 inches through 6 inches). Duplex or greater pump stations connected to a common pressure pipe that can operate both independently and simultaneously with other pump stations while maintaining operation of the system within the operating constraints are not considered a pressure sewer system.

(7) "Private sewer" means any part of a sewer system which collects wastewater from one building and crosses another property or travels along a street right of way or from more than one building and is not considered a public sewer.

(8) "Public sewer" means a sewer located in a dedicated public street, roadway, or dedicated public right-of-way or easement which is owned or operated by any municipality, county, water or sewer district, or any other political subdivision of the state authorized to construct or operate a sewer system.

(9) "Sewer system" means pipelines or conduits, pumping stations, including lift stations and grinder stations, alternative systems, and appliances appurtenant thereto, used for conducting wastewater to a point of ultimate treatment and disposal. A sewer system may also be referred to as a collection system.

(10) "Small diameter, variable grade gravity sewer system" means a system of wastewater collection utilizing an interceptor tank to remove solids and grease from the waste stream, thereby allowing smaller diameter pipes and shallower grades to be used. Flow is transferred to the central gravity system in the public right-of-way by gravity or effluent pumps. With venting and design, inflective grades (up-grades) may also be accommodated.

(11) "Septic tank/effluent pump (STEP) system" means the same type of system as a "pressure sewer system" except that the individual grinder pump is replaced with a septic tank with an effluent pump either in the second chamber of the septic tank or in a separate pump tank that follows the septic tank.

(12) "Vacuum sewer system" means a mechanized system of wastewater collection utilizing differential air pressure to move the wastewater. Centralized stations provide the vacuum with valve pits providing the collection point from the source and also the inlet air required to move the wastewater. In conjunction with the vacuum pumps, a standard (non vacuum) pump station and force main is used to transport the wastewater from the vacuum tanks to a gravity sewer or ultimate point of treatment and disposal.

History Note: Authority G.S. 143-215.1; 143-215.3(a);

Eff. September 1, 2006.

15A NCAC 02T .0303 PERMITTING BY REGULATION

(a) The following systems are deemed permitted pursuant to Rule .0113 of this Subchapter provided the system meets the criteria in Rule .0113 of this Subchapter and all criteria required for the specific system in this Rule:

(1) A building sewer documented by the local building inspector to be in compliance with the North Carolina State Plumbing Code, which serves a single building with the sole purpose of conveying wastewater from that building into a gravity sewer that extends onto or is adjacent to the building's property.

(2) A gravity sewer serving a single building with less than 600 gallons per day of flow as calculated using rates in 15A NCAC 02T .0114 that crosses another property or parallels a right-of-way provided that:

(A) an easement for crossing another property is obtained, a map is created and both are recorded at the Register of Deeds office in the county of residence for both property owners and runs with the land, or,

in the case of a building sewer traveling along a right-of-way, documented permission from the dedicated right-of-way owner to use such right-of-way;

(B) the building inspector certifies the sewer to the point of connection to the existing sewer is in accordance with state or local plumbing code; and

(C) no other connections are made to the sewer without prior approval from the Division.

(3) New pump stations or sewage ejectors and force mains if all of the following criteria are met:

(A) the pump station serves a single building,

(B) the force main does not traverse other property or parallel a street right-of-way,

(C) the force main ties into a non-pressurized pipe/manhole/wetwell (i.e. is not part of an alternative sewer system),

(D) the system is approved by the local building inspector as being in complete compliance with the North Carolina Plumbing Code to the point of connection to the existing sewer, and

(E) no other connections are made to the sewer without prior approval from the Division.

(4) The following sewer operations provided that the work conforms to all rules, setbacks and design standards; record drawings of the completed project are kept for the life of the project; and new sources of wastewater flow, immediate or future, are not planned to be connected to the sewer other than previously permitted but not yet tributary:

(A) rehabilitation or replacement of sewers in kind (i.e., size) with the same horizontal and vertical alignment;

(B) rehabilitation or replacement of public 6-inch sewers with 8-inch sewers provided that the rehabilitation or replacement is to correct deficiencies and bring the sewer up to current minimum standards;

(C) line relocations of the same pipe size and within the same right-of-way or easement;

(D) parallel line installations of the same size and within the right-of-way or easement where the existing line will be abandoned;

(E) point repairs; and

(F) in place pump station repairs/upgrades and maintaining permitted capacity to within five percent of the original permitted capacity for pump replacement.

(b) The Director may determine that a system should not be deemed permitted in accordance with this Rule and Rule .0113 of this Subchapter. This determination shall be made in accordance with Rule .0113(e) of this Subchapter.

History Note: Authority G.S. 143-215.1; 143-215.3(a);

Eff. September 1, 2006.

15A NCAC 02T .0304 APPLICATION SUBMITTAL

- (a) Application for permits pursuant to this Section shall be made on forms provided by the Division.
- (b) Applications shall not be submitted unless the Permittee has assured downstream sewer capacity.
- (c) For pressure sewers, vacuum sewers, STEP systems and other alternative sewer systems discharging into a sewer system, the Permittee, by certifying the permit application and receiving an issued permit, agrees to be responsible for all individual pumps, tanks, service laterals and main lines as permitted. The line from a building to the septic or pump tank is excluded from this responsibility. This does not prohibit the Permittee from entering into a service agreement with another entity. However, the Permittee shall be responsible for correcting any environmental or public health problems with the system.
- (d) For sewer extensions involving gravity sewers, pump stations and force mains or any combination thereof that do not require an Environmental Assessment pursuant to 15A NCAC 01C .0408 (except for low pressure sewers, vacuum sewers and STEP systems discharging to a sewer system), are not funded through the Division's Construction, Grants and Loans Section, and where plans, calculations and specifications and other supporting documents have been sealed by a professional engineer, application may be made according to the fast-track permitting process.
- (e) Projects involving an Environmental Assessment per 15A NCAC 01C .0408 or are funded through the Division's Construction, Grants and Loans Section must be submitted for a full technical review on application forms provided by the Division. An application for sewers involving an Environmental Assessment shall not be considered complete until either a Finding of No Significant Impact or Record of Decision is issued.
- (f) Where the plans were not prepared by a professional engineer, applications shall be submitted for full technical review on application forms specified by the Division.
- (g) Low pressure sewer systems, vacuum sewer systems and other alternative sewer systems shall be submitted for a full technical review using the official application form for those systems.
- (h) A letter of agreement from the owner or an official, meeting the criteria in Rule .0106 of this Subchapter, of the receiving collection system or treatment works accepting the wastewater is required, if the application is not submitted by the owner of the receiving collection system or treatment works. This letter shall be specific to the project whether or not capacity has been purchased through an intergovernmental agreement or contract. This letter shall also signify that the owner of the receiving collection system or treatment works has adequate capacity to transport and treat the proposed new wastewater. This shall not negate the need for downstream sewer capacity calculations.

History Note: Authority G.S. 143-215.1; 143-215.3(a); 143-215.67;

Eff. September 1, 2006.

15A NCAC 02T .0305 DESIGN CRITERIA

(a) Construction of sewers and sewer extensions are prohibited in the following areas unless the specified determinations are made:

(1) in a natural area designated on the State Registry of Natural Heritage Areas by a protection agreement between the owner and the Secretary, unless the Commission agrees that no prudent, feasible or technologically possible alternative exists; or,

(2) in a natural area dedicated as a North Carolina Nature Preserve by mutual agreement between the owner and State of North Carolina (Governor and Council of State), unless the Commission recommends and the Governor and Council of State agree that no prudent, feasible or technologically possible alternative exists;

(b) Engineering design documents. The following documents shall be prepared prior to submitting a permit application to the Division. If submittal of such documents is not requested in the permitting process (i.e., fast-track), they shall be available upon request by the Division. 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 December 1, 2005, that preparation of engineering design documents pursuant to this Paragraph constitutes practicing engineering under G.S. 89C.]

(1) A plan and profile of sewers, showing their proximity to other utilities and natural features, such as water supply lines, water lines, wells, storm drains, surface waters, roads and other trafficked areas.

(2) Design calculations including pipe and pump sizing, velocity, pump cycle times and level control settings, pump station buoyancy, wet well storage, surge protection, detention time in the wet well and force main, ability to flush low points in force mains with a pump cycle, and downstream sewer capacity analysis.

(3) Specifications relative to the sewer system describing all materials to be used, methods of construction and means for assuring the quality and integrity of the finished project.

(c) All deeds, easements and encroachment agreements necessary for installation and operation and maintenance of the system shall be obtained prior to operation of the system.

(d) There shall be no by-pass or overflow lines designed in any new sewer system except for valved piping and appurtenances intended for emergency pumping operation(s).

(e) A minimum of two feet protection from a 100-year flood shall be provided unless there is a water-tight seal on all station hatches and manholes with control panels and vents extending two feet above the 100-year flood elevation.

(f) The following minimum separations shall be provided for the sewer system except as allowed by Paragraph (g) of this Rule:

Storm sewers and other utilities not listed below (vertical) 24
inches

Water mains (vertical-water over sewer including in benched trenches) 18
inches

or
(horizontal) 10 feet

(4) For less than 36-inches cover from final earth grade, ductile iron pipe shall be specified. Ductile iron pipe or other pipe with proper bedding to develop design supporting strength shall be provided where sewers are subject to traffic bearing loads.

(5) For all other separations, materials, testing methods and acceptability standards meeting water main standards (15A NCAC 18C) shall be specified.

(h) The following criteria shall be met for all pumping stations and force mains:

(1) Pump Station Reliability:

(A) Pump stations, except when exempted by Subparagraph (j)(2) of this Rule, shall be designed with multiple pumps such that peak flow can be pumped with the largest pump out of service.

(B) A standby power source or pump is required at all pump stations except for those pump stations subject to Subparagraph (j)(2) of this Rule. Controls shall be provided to automatically activate the standby source and signal an alarm condition.

(C) As an alternative to Part (B) for pump stations with an average daily design flow less than 15,000 gallons per day as calculated using Rule .0114 of this Subchapter, a portable power source or pumping capability may be utilized. It shall be demonstrated to the Division that the portable source is owned or contracted by the permittee and is compatible with the station. If the portable power source or pump is dedicated to multiple pump stations, an evaluation of all the pump stations' storage capacities and the rotation schedule of the portable power source or pump, including travel timeframes, shall be provided in the case of a multiple station power outage.

(D) As an alternative to Part (B) for pump or vacuum stations connecting a single building to an alternative sewer system, wet well storage requirements shall be documented to provide 24-hours worth of wastewater storage or, exceed the greatest power outage over the last three years or the documented response time to replace a failed pump, whichever is greater. Documentation shall be required pursuant to the permit application.

(E) All pump stations designed for two pumps or more shall have a telemetry system to provide remote notification of a problem condition to include power failure and high water alarm.

(F) high water audio and visual alarm.

(2) Pump stations shall have a permanent weatherproof sign stating the pump station identifier, 24-hour emergency number and instructions to call in case of emergency. Simplex pump or vacuum stations serving a single-family residence shall have a placard or sticker placed inside the control panel with a 24-hour emergency contact number.

(3) Screened vents for all wet wells.

(4) The public shall be restricted access to the site and equipment.

(5) Air relief valves shall be provided at all high points along force mains where the vertical distance exceeds ten feet.

(i) The following criteria shall be met for gravity sewers:

(1) for public gravity sewers, a minimum eight inch diameter pipe and for private gravity sewers, a minimum six inch diameter pipe;

- (2) the maximum separation between manholes shall be 425 feet unless written documentation is submitted with the application that the owner/authority has the capability to perform routine cleaning and maintenance on the sewer at the specified manhole separation; and
 - (3) drop manholes shall be provided where invert separations exceed 2.5 feet.
- (j) The following criteria shall be met for low pressure sewers, vacuum sewers, STEP and other alternative sewers discharging into another sewer system:
- (1) Hydraulic modeling of the system shall be submitted using the statistical (projected) number of pumps running at one time. If computer modeling is provided by a pump manufacturer, it shall be indicated and shall be considered part of the design calculations pursuant to Subparagraph (b)(2) of this Rule.
 - (2) Simplex pump stations shall only be allowable for single-family residences. All other buildings connected to the system shall at a minimum have duplex pumps.
 - (3) Septic tanks shall adhere to the standards established in 15A NCAC 18A .1900.

History Note: Authority G.S. 143-215.1; 143-215.3(a);

Eff. September 1, 2006.

15A NCAC 02T .0306 LOCAL PROGRAMS FOR SEWER SYSTEMS

- (a) Jurisdiction. Municipalities, counties, local boards or commissions, water and sewer authorities, or groups of municipalities and counties may apply to the Commission for approval of local programs for permitting construction, modification, and operation of public and private sewer systems in their utility service areas (i.e., delegation) pursuant to G.S. 143-215.1(f). Permits issued by approved local programs serve in place of permits issued by the Division except for projects involving an Environmental Assessment, which shall continue to be permitted by the Division. The Division may chose to cede permitting authority to the approved local program after review of Environmental Assessment projects or if other permits are required.
- (b) Applications. Application for approval of a local program must provide adequate information to assure compliance with the requirements of G.S. 143-215.1(f) and the following requirements:
- (1) Applications for local sewer system programs shall be submitted to the Director.
 - (2) The program application shall include three copies of the intended permit application forms, permit shell(s), minimum design criteria (specifications), sewer ordinances, flow chart of permitting, staffing, inspection and certification procedures, intended permit application fees, downstream capacity assurance methods and other relevant documents to be used in administering the local program. The applicant shall specify in a cover letter what permits the local authority desires to issue. The options are any of the following: gravity sewers, pump stations, force mains, and/or pressure sewers. The applicant shall also specify whether such permits will be issued to public (to be self owned) or private systems (not donated to delegated authority).
 - (3) Certification that the local authorities for processing permit applications, setting permit requirements, enforcement, and penalties are compatible with those for permits issued by the Division.

(4) If the treatment and disposal system receiving the waste is under the jurisdiction of another local unit of government, then the program application must contain a written statement from that local unit of government that the proposed program complies with all its requirements and that the applicant has entered into a satisfactory contract which assures continued compliance.

(5) Any future amendments to the requirements of this Section shall be incorporated into the local sewer system program within 60 days of the effective date of the amendments.

(6) A Professional Engineer shall be on the staff of the local sewer system program or retained as a consultant to review unusual situations or designs and to answer questions that arise in the review of proposed projects.

(7) Each project permitted by the local sewer system program shall be inspected for compliance with the requirements of the local program at least once during construction.

(c) Approval of Local Programs. The staff of the Division shall acknowledge receipt of an application for a local sewer system program in writing, review the application, notify the applicant of additional information that may be required, and make a recommendation to the Commission on the acceptability of the proposed local program.

(d) Conditions of Local Program Approval (Delegation). Once approved by the Commission, the delegated authority shall adhere to the following:

(1) Adequacy of Receiving Facilities. Local sewer system programs shall not issue a permit for a sewer project which would increase the flow or change the characteristics of waste to a treatment works or sewer system unless the local program has received a written determination from the Division that, pursuant to G.S. 143-215.67(a), the treatment works or sewer system is adequate to receive the waste. The Division staff may, when appropriate, provide one written determination that covers all local permits for domestic sewage sewer projects with total increased flow to a particular treatment works less than a specified amount and which are issued within a specified period of time. In no case shall the local sewer system program issue a permit for additional wastewater if the receiving wastewater treatment is in noncompliance with its Division issued permit unless the additional flow is allowed as part of a special order pursuant to G.S. 143-215.2. In no case shall the delegated authority issue a permit for additional wastewater without documenting capacity assurance along the tributary wastewater path to the wastewater treatment plant.

(2) All permitting actions shall be summarized and submitted to the Division and the appropriate Division Regional Office on a quarterly basis on Division forms. The report shall also provide a listing and summary of all enforcement actions taken or pending during the quarter. The quarters begin on January 1, April 1, July 1 and October 1. The report shall be submitted within 30 days after the end of each quarter.

(3) A copy of all program documents such as specifications, permit applications, permit shells, shell certification forms, and ordinance pertaining to permitting shall be submitted to the Division on an annual basis along with a summary of any other program changes. Program changes to note include staffing, processing fees, and ordinance revisions. After initial submittal of such documents and if no further changes occur in subsequent years, a letter stating such may be submitted in lieu of the requested documentation. The Division may request changes to local program documents if the Commission adopts more stringent standards.

(4) Modification of a Local Program. Modifications to local programs, including the expansion of permitting authority shall not be required to be approved by the Commission, but by the Director.

(e) Appeal of Local Decisions. Appeal of individual permit denials or issuance with conditions the permit applicant finds unacceptable shall be made according to the approved local ordinance. The Commission

shall not consider individual permit denials or issuance with conditions to which a Permittee objects. This Paragraph does not alter the enforcement authority of the Commission as specified in G.S. 143-215.1(f).

(f) The Division may audit the delegated program for compliance with this Rule and G.S. 143-215.1(f) at any time with a scheduled appointment with the delegated authority.

(g) The Division shall maintain a list of all local units of government with approved local sewer system programs and make copies of the list available to the public upon request and payment of any reasonable costs for reproduction. The list may be obtained from the Division.

History Note: Authority G.S. 143-215.1; 143-215.3(a);

Eff. September 1, 2006.

SECTION .0400 – SYSTEM-WIDE COLLECTION SYSTEM PERMITTING

15A NCAC 02T .0401 SCOPE

The rules of this Section apply to system-wide collection systems pursuant to G.S. 143-215.9B, where the Director may issue system-wide permits for collection systems relating to operation and maintenance of sewers, pump stations, force mains and all appurtenances.

History Note: Authority G.S. 143-215.1(a); 143-215.3(a); 143-215.9B;

Eff. September 1, 2006.

15A NCAC 02T .0402 DEFINITIONS

The following definitions are used in this Section:

(1) "Collection system" means a public or private sewer system, consisting of sewer lines, force mains, pump stations or any combination thereof that conveys wastewater to a designated wastewater treatment facility or separately-owned sewer system. For purposes of permitting, the collection system is considered to be any existing or newly installed system extension up to the wastewater treatment facility property or point of connection with a separately-owned sewer system.

(2) "High-priority sewer" means any aerial sewer, sewer contacting surface waters, siphon, sewer positioned parallel to streambanks that is subject to erosion that undermines or deteriorates the sewer, or sewer designated as high priority in a Division issued permit where the sewer does not meet minimum design requirements.

History Note: Authority G.S. 143-215.1(a); 143-215.3(a); 143-215.9B;

Eff. September 1, 2006.

15A NCAC 02T .0403 PERMITTING BY REGULATION

(a) Collection systems having an actual, permitted or Division approved average daily flow less than 200,000 gallons per day are deemed permitted pursuant to Rule .0113 of this Subchapter provided the system meets the criteria in Rule .0113 of this Subchapter and all specific criteria required in this Rule:

(1) The sewer system is effectively maintained and operated at all times to prevent discharge to land or surface waters, and to prevent any contravention of groundwater standards or surface water standards.

(2) A map of the sewer system has been developed and is actively maintained.

(3) An operation and maintenance plan including pump station inspection frequency, preventative maintenance schedule, spare parts inventory and overflow response has been developed and implemented.

(4) Pump stations that are not connected to a telemetry system (i.e., remote alarm system) are inspected by the permittee or its representative every day (i.e., 365 days per year). Pump stations that are connected to a telemetry system are inspected at least once per week.

(5) High-priority sewers are inspected by the permittee or its representative at least once every six-months and inspections are documented.

(6) A general observation by the permittee or its representative of the entire sewer system is conducted at least once per year.

(7) Overflows and bypasses are reported to the appropriate Division regional office in accordance with 15A NCAC 02B .0506(a), and public notice is provided as required by G.S. 143-215.1C.

(8) A Grease Control Program is in place as follows:

(A) For publicly owned collection systems, the Grease Control Program shall include at least bi-annual distribution of educational materials for both commercial and residential users and the legal means to require grease interceptors for new construction and retrofit, if necessary, of grease interceptors at existing establishments. The plan shall also include legal means for inspections of the grease interceptors, enforcement for violators and the legal means to control grease entering the system from other public and private satellite sewer systems.

(B) For privately owned collection systems, the Grease Control Program shall include at least bi-annual distribution of grease education materials to users of the collection system by the permittee or its representative.

(C) Grease education materials shall be distributed more often than required in Parts (A) and (B) of this Subparagraph if necessary to prevent grease-related sanitary sewer overflows.

(9) Right-of-ways and easements are maintained in the full easement width for personnel and equipment accessibility.

(10) Documentation shall be kept for Subparagraphs (a)(1) through (a)(9) of this Rule for a minimum of three years with exception of the map, which shall be maintained for the life of the system.

(b) Private collection systems on a single property serving an industrial facility where the domestic wastewater contribution is less than 200,000 gallons per day shall be deemed permitted.

(c) The Director may determine that a collection system should not be deemed to be permitted in accordance with this Rule and Rule .0113 of this Subchapter. This determination shall be made in accordance with Rule .0113(e) of this Subchapter.

History Note: Authority G.S. 143-215.1(a); 143-215.3(a); 143-215.9B;

Eff. September 1, 2006.

15A NCAC 02T .0404 MULTIPLE COLLECTION SYSTEMS UNDER COMMON OWNERSHIP

If a public entity owns multiple but separate collection systems (i.e., tributary to separate plants) and any one is subject to an individual permit, all collection systems shall be covered under one permit. This shall not be applicable to public utilities authorized to operate by the North Carolina Utilities Commission who own several individual systems within the state.

History Note: Authority G.S. 143-215.1(a); 143-215.3(a); 143-215.9B;

Eff. September 1, 2006.

15A NCAC 02T .0405 IMPLEMENTATION

(a) Permit applications for the initial issuance of a collection system permit shall be completed and submitted to the Division within 60 days of the collection system owner's certified mail receipt of the Division's request for application submittal. Permit renewal requests shall be submitted to the Director at least 180 days prior to expiration, unless the permit has been revoked in accordance with 15A NCAC 02T .0110. All applications must be submitted in duplicate, completed on official forms, and fully executed.

(b) Collection systems subject to an individual permit shall comply with the standards in Rule .0403 of this Section until such time as their individual permit is issued.

History Note: Authority G.S. 143-215.1(a); 143-215.3(a); 143-215.9B;

Eff. September 1, 2006.