

**SECTION .0700 – COLLECTION SEWERS, RAW SEWAGE LIFT STATIONS, SEPTIC TANK
EFFLUENT PUMP SYSTEMS, AND PIPE MATERIALS**

15A NCAC 18E .0701 COLLECTION SEWERS

(a) Collection sewers for wastewater systems with a DDF greater than 3,000 gpd shall be designed and constructed in accordance with the following criteria:

- (1) Building drains and building sewers shall be in accordance with the North Carolina Plumbing Code and approved by the local building inspector.
- (2) Pipe material shall be specified to comply with the applicable ASTM standards based on pipe material.
- (3) Gravity sewers shall be designed to maintain minimum scour velocities of two feet per second with the pipe half full and one foot per second at the peak projected instantaneous flow rate. Force mains shall be sized to obtain a minimum two-foot per second scour velocity at the projected pump operating flow rate.
- (4) Infiltration and exfiltration shall not exceed 100 gpd per inch diameter per mile of gravity sewer pipe or 20 gpd per inch diameter per mile of pressure pipe in force mains and supply lines.
- (5) Collection sewers shall be buried three feet deep, except as provided for in Rule .0601(h)(4) of this Subchapter.
- (6) Ferrous material pipe or other pipe designed and bedded for traffic-bearing loads shall be provided where collection sewers are subject to vehicular traffic.
- (7) Manholes shall be used for gravity collection sewers at any bend, junction, and a maximum of every 425 feet along the collection sewer. Drop manholes shall be required where the inlet to outlet elevation difference exceeds two and one half feet. Manhole lids shall be watertight if located below the 100-year flood elevation, within 100 feet of any public water system source, or within 50 feet of any private water system source or any surface waters classified WS-I, WS-II, WS-III, SA, SB, or B.
- (8) Cleanouts may be used instead of manholes for four-inch and six-inch sewers serving one or two design units, or as otherwise allowed by the North Carolina Plumbing Code. Cleanouts shall be required a maximum of every 100 feet for four or six-inch sewers and at all junctions and bends which exceed 45 degrees, unless otherwise allowed by the North Carolina Plumbing Code.
- (9) Air relief valves shall be provided as needed for force mains when the length exceeds 1,000 feet or for intermediate high points that exceed five feet.
- (10) Collection sewers may require additional ventilation provisions, such as a stand pipe, based on length, size, and location.

(b) STEP systems may be used as an alternative to gravity collection sewers.

*History Note: Authority G.S. 130A-335(e), (f), and (f1); S.L. 2024-49, s.4.23;
Eff. January 1, 2024;
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