

SECTION .0900 - DISTRIBUTION SYSTEMS

Rules .0901 - .0907 of Title 15A Subchapter 18C of the North Carolina Administrative Code (T15A.18C .0901 - .0907); has been transferred and recodified from Rules .2101 - .2107 Title 10 Subchapter 10D of the North Carolina Administrative Code (T10.10D .2101 - .2107), effective April 4, 1990.

.0901 SIZE OF THE WATER MAINS

Water distribution mains shall be sized to provide a minimum pressure at all points within the distribution system of not less than 20 pounds per square inch (gauge) during periods of peak demand (fire flow), but in any case water mains shall not be less than two-inch standard nominal diameter. Fire hydrants shall not be installed on water mains of less than six inches diameter or on water mains or water systems not designed to carry fire protection flows. Systems not designed for fire flows shall have the capacity to maintain a pressure of at least 30 pounds per square inch (gauge) throughout the system during periods of peak flow.

*History Note: Authority G.S. 130A-315; 130A-317; P.L. 93-523;
Eff. January 1, 1977;
Readopted Eff. December 5, 1977;
Amended Eff. March 31, 1980.*

.0902 NUMBER OF RESIDENCES ON A WATER MAIN

- (a) No more than 20, or the equivalent of 20 residences shall be connected to a two-inch diameter water line, unless the main is looped or otherwise supplied from two connections with mains of adequate capacities.
- (b) A looped two-inch main shall serve no more than 40 residences, or the equivalent water demand of 40 residences. A two-inch diameter main shall not exceed 1000 feet in length.

*History Note: Authority G.S. 130A-315; 130A-317; P.L. 93-523;
Eff. January 1, 1977;
Readopted Eff. December 5, 1977;
Amended Eff. January 1, 1978.*

.0903 DEAD-END WATER MAINS

Where installation of dead-end water mains cannot be avoided, a hydrant or a valve of adequate size for flushing shall be installed at the terminal end of the line. The flush valves shall have an above-ground discharge and shall be protected from contamination.

*History Note: Authority G.S. 130A-315; 130A-317; P.L. 93-523;
Eff. January 1, 1977;
Readopted Eff. December 5, 1977.*

.0904 PIPE LAYING

Trenching, pipe laying, and backfilling shall be accomplished in a manner to prevent damage and mis-alignment of the pipe. Water mains shall be buried to a depth below the frostline or to a depth sufficient to provide a minimum of 30 inches cover, whichever is greater.

*History Note: Authority G.S. 130A-315; 130A-317; P.L. 93-523;
Eff. January 1, 1977;
Readopted Eff. December 5, 1977.*

.0905 TESTING NEW WATER MAINS

New water mains shall be tested for leakage and any necessary repairs and re-testing shall be accomplished as specified in AWWA standards.

*History Note: Authority G.S. 130A-315; 130A-317; P.L. 93-523;
Eff. January 1, 1977;
Readopted Eff. December 5, 1977.*

.0906 RELATION OF WATER MAINS TO SEWERS

- (a) Lateral Separation of Sewers and Water Mains. Water mains shall be laid at least 10 feet laterally from existing or proposed sewers, unless local conditions or barriers prevent a 10-foot lateral separation--in which case:

- (1) The water main is laid in a separate trench, with the elevation of the bottom of the water main at least 18 inches above the top of the sewer; or
 - (2) The water main is laid in the same trench as the sewer with the water main located at one side on a bench of undisturbed earth, and with the elevation of the bottom of the water main at least 18 inches above the top of the sewer.
- (b) **Crossing a Water Main Over a Sewer.** Whenever it is necessary for a water main to cross over a sewer, the water main shall be laid at such an elevation that the bottom of the water main is at least 18 inches above the top of the sewer, unless local conditions or barriers prevent an 18 inch vertical separation--in which case both the water main and sewer shall be constructed of ferrous materials and with joints that are equivalent to water main standards for a distance of 10 feet on each side of the point of crossing.
- (c) **Crossing a Water Main Under a Sewer.** Whenever it is necessary for a water main to cross under a sewer, both the water main and the sewer shall be constructed of ferrous materials and with joints equivalent to water main standards for a distance of 10 feet on each side of the point of crossing. A section of water main pipe shall be centered at the point of crossing.

*History Note: Authority G.S. 130A-315; 130A-317; P.L. 93-523;
Eff. January 1, 1977;
Readopted Eff. December 5, 1977.*

.0907 VALVES

- (a) Valves should be installed on all branches from feeder mains and between mains and hydrants according to the following schedule:
- (1) three valves at x (crosses),
 - (2) two valves at T's (tees), and
 - (3) one valve on single hydrant branch.
- (b) All valves installed in water distribution systems should meet the appropriate AWWA Standards C 500-71 (adopted in 1971) C 504-74 (adopted in 1974) and C 507-73 (adopted in 1973) of the American Water Works Association, Inc., or approved equal standards. Copies of AWWA standards are available from the American Water Works Association, 666 W. Quincy Avenue, Denver, Colorado 80235, at a cost of one hundred forty dollars (\$140.00) per complete set for non-members or seventy dollars (\$70.00) for members. Copies are available for public inspection at the principal address of the Public Water Supply Section, Division of Environmental Health. Further, all valves must be installed in such a manner as to be readily accessible, preferably, the use of an appropriate valve box and cover.

*History Note: Authority G.S. 130A-315; 130A-317; P.L. 93-523;
Eff. January 1, 1977;
Readopted Eff. December 5, 1977;
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