

**WEAVERVILLE WATER
POLICIES AND PROCEDURES**

TOWN OF WEAVERVILLE, NORTH CAROLINA

ARTICLE 3

SPECIFIC POLICIES AND PROCEDURES RELATING TO WATER SERVICE

SECTION 3.2 - WEAVERVILLE STANDARD REQUIREMENTS - WATER

These requirements are general in nature and are intended as a guide. They are not intended to be used as detailed specifications.

3.2.1- State Requirements

All water system extensions shall meet the requirements of the North Carolina Department of Environment & Natural Resources with respect to size, area served and loops.

3.2.2 - Pressure Requirements

The designed system shall provide at all meter locations at least 30 psi during normal flow conditions and a minimum of 20 psi during fire flow conditions.

3.2.3 - Flow Requirements

The designed system shall provide adequate flow for fire protection in accordance with the North Carolina Fire Prevention Code. A minimum fire flow of 750 gallons per minute shall be available to all one- and two-family dwellings except as may be required or permitted by said Fire Prevention Code. The Fire Chief is authorized to modify fire flow requirements in accordance with said Fire Prevention Code.

3.2.4 - Capacity Requirements

The designed system shall provide adequate capacity for domestic use and fire protection combined. Minimum domestic capacity shall be based upon a demand of 400 gallons per day per connection. Fire protection capacity shall provide a minimum of 2 hours flow at the fire flow rate as determined in accordance with Section 3.2.3. Additional capacity may be required by the North Carolina Fire Prevention Code. A minimum one-half day domestic

supply shall be added to fire protection capacity. Total capacity shall not be less than a 2 day domestic capacity.

3.2.5 - Water Mains

Water mains less than 6" will be allowed only when the last service Connection can be made within 400 feet of a 6" Main. The use of 6" and smaller waterlines may be further limited by fire flow demands and fire hydrant locations.

3.2.6- Depth

The minimum cover for all Mains shall be 36". The minimum depth for a meter in a meter box shall be 30".

3.2.7- Allowable Pipe Material

Ductile Iron Class 350 - (4" and larger)

Polyvinyl Chloride (SDR-13.5) (3" and smaller)

Service Lines - Type K copper with flare or compression fittings

3.2.8 - Looping

The Town may require, as a condition for approval of an Extension, that a Main be "looped", i.e., connected to more than one Main. The responsibility for the cost of said looping shall be borne by the Applicant.

3.2.9 - Valves Required

Minimum valve requirements shall be as follows:

A minimum of two (2) valves at all tees

A minimum of three (3) valves at all crosses

Where the system is looped or water may be supplied from more than one direction or source, valves are required on all sides of tees and crosses.

3.2.10 - In-Line Valve Spacing

Maximum in-line valve spacing shall not exceed 1,000 lineal feet, unless otherwise approved.

3.2.11- Fire Hydrants

Fire hydrants, flushing hydrants or blow-offs shall be provided at all dead-end mains and low points of the proposed water system extension. Fire hydrants shall be located at all street intersections and at a maximum spacing of 500 feet so that the maximum distance from any point on a street or road frontage to a hydrant does not exceed a maximum of 250 feet. Hydrant spacing closer than this maximum may be required by the Fire Chief in accordance with the North Carolina Fire Prevention Code. Fire hydrants shall have a 5-1/4" main valve unless it has been determined that adequate fire flow will be available through a smaller valve size. All fire hydrants shall be equipped with an auxiliary valve.

3.2.12 - Sewer Line Crossings

All crossings with sewer lines shall meet North Carolina Department of Environment & Natural Resources requirements of separation and materials.

3.2.13 - Separation of Utilities

All utilities (existing and proposed) shall be separated by ten (10) feet from the proposed Extension or five feet within existing public rights-of-way where existing utilities are located.

3.2.14 - Air Release Valves

Air release valves shall be provided at all high points of the proposed water system extension.

3.2.15- Reinforcements

All tees, bends, plugs and fire hydrants shall be provided with thrust blocks, tie rods, restrained joint pipe or a combination thereof.

3.2.16 - Pump Stations and Storage Tanks -General

Where adequate capacity, flow and/or pressure in accordance with this Section is not available at the point of connection the designed system shall provide adequate capacity by the use of pump stations and reservoirs. Pump stations and reservoirs shall be permitted where by design they are intended to pump water to a reservoir at a higher elevation. In such design domestic peak flow and fire flow conditions are met by gravity flow from the reservoir. Hydropneumatic pump stations will be approved only by special permission of the Town Council where topographic conditions do not permit adequate pressure from ground storage reservoirs. Booster type pump stations with continuous running pumps are not permitted.

3.2.17 - Pump Stations

All pump stations shall be designed with a minimum of two pumps. Pumps shall be sized so that the normal daily demand will be met during a 12 hour operating period with any single pump out of service. Except as provided for in Section 3.2.20, pump stations shall be equipped with auxiliary power generating equipment. All pump stations shall be equipped with flow meters and totalizers.

3.2.18 - Reservoirs

All reservoirs shall be sized in accordance with Section 3.2.4. Reservoirs shall be located so as to provide adequate pressure in accordance with Section 3.2.2. All reservoirs shall be of prestressed composite concrete construction with circular configuration. All weather access roads shall be provided to all reservoir locations. Reservoirs shall be equipped with level indicators and with level transmitters as a part of the SCADA requirements of this Section.

3.2.19 - Fire Pumps

Fire pumps will be approved only as a part of a hydropneumatic system where adequate fire flow cannot be obtained by gravity flow from reservoirs. Fire pumps shall be of adequate size to meet the fire flow requirements as determined by Section 3.2.3. and shall be specifically designed for fire service. Pump station electrical services and equipment shall comply with Article 695 of the National Electrical Code. Fire pumps systems equipped with "hydrant and siamese" to allow a fire pumper to substitute for the fire pump in event of pump or power failure shall supply only fire protection systems isolated from the potable water supply by backflow protection in accordance with Section 3.4 of this Policy.

3.2.20 - Emergency Power

Except as provided in this paragraph, all pump stations shall be equipped with auxiliary power generating equipment to allow the pump station to operate normally in the event of a commercial power failure. Where the pump station supplies a reservoir or service area which, as determined by the Water Department, can be served in emergency situations by another pump station with auxiliary power generating equipment, auxiliary power generating equipment will not be required. Except as may be required by other codes, fire pumps equipped with a "hydrant and siamese" may be omitted from the auxiliary power generating equipment provided such system includes appropriate alarms to alert the fire department that the fire pump is inoperable.

3.2.21 - SCADA Systems

All reservoirs, pump stations and any other appurtenances which require monitoring and/or control shall be equipped with supervisory control and data acquisition equipment compatible with the Town's present system to monitor and control the operation thereof. The Applicant shall be responsible for furnishing and installing all such equipment and shall reimburse the Town for the cost of any and all programming required to incorporate such equipment, monitoring and control into the SCADA system. All such equipment shall be equipped with back-up power to operate the SCADA equipment in the event of a power outage for a minimum of 3 days.