



Municipal Technical Advisory Service  
INSTITUTE *for* PUBLIC SERVICE

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## Water System Regulations

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Dear Reader:

The following document was created from the MTAS website ([mtas.tennessee.edu](https://www.mtas.tennessee.edu)). This website is maintained daily by MTAS staff and seeks to represent the most current information regarding issues relative to Tennessee municipal government.

We hope this information will be useful to you; reference to it will assist you with many of the questions that will arise in your tenure with municipal government. However, the *Tennessee Code Annotated* and other relevant laws or regulations should always be consulted before any action is taken based upon the contents of this document.

Please feel free to contact us if you have questions or comments regarding this information or any other MTAS website material.

Sincerely,

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## Water System Regulations

**Reference Number:** MTAS-408

### ***Water System Regulations that Affect Fire Service***

Minimum requirements for fire service are 500 gallons of water per minute (gpm) and water flows at 20 pounds per square inch (psi) residual pressure. This requires a minimum six-inch water main (see TDEC Regulation 1200-0400-45-01-.17(18)) for lower residential requirements. A professional engineer licensed in the state of Tennessee should determine the community's water system storage capacity. Water is stored in standpipes, elevated water tanks, reservoirs, and clear wells at treatment plants. Many small-city fire departments take water from nearby streams, portable storage tanks, distant hydrants, and large tanker fire trucks. Tennessee fire departments are required to track the water usage from fire hydrants. and report the amount of water used to the local utility company.

Tennessee public water system regulations require that all community water systems planning to, or having installed, fire hydrants must protect the distribution system from contamination. Fire hydrants shall not be installed on water mains less than six inches in diameter, or on water mains that cannot produce 500 gallons per minute at 20 psi residual pressure, unless the tops are painted red.

Out-of-service hydrants shall have tops painted black or covered with a black shroud or tape. Existing Class C hydrants (hydrants unable to deliver a flow of 500 gallons per minute at a residual pressure of 20 psi) shall have their tops painted red.

As of January 1, 2008, the water system must provide notification by certified mail at least once every five years to each fire department, that may have reason to use its hydrants, that fire hydrants with tops painted red (Class C hydrants) cannot be connected directly to a pumper fire truck. Fire departments may be allowed to fill the booster tanks on any fire apparatus from an available hydrant by using only the water system's available pressure. (Fire pumps shall not be engaged during refill operations from a Class C hydrant.) While these regulations protect the water distribution system from contamination, they also speak to the need for an improved water source for Tennessee's rural fire departments.

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