

**Boston Water and  
Sewer Commission**

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**CROSS CONNECTION CONTROL REGULATIONS AND GUIDELINES**

The following information will outline the Cross Connection Control Regulations of the Boston Water and Sewer Commission. This information will serve as a guideline for the submittal of piping schematics and diagrams for the approval of backflow prevention devices to be installed and for the actual installation of such devices.

Unprotected or improperly protected Cross Connections are prohibited under the BWSC Water Use Regulations and Commonwealth of Massachusetts Drinking Water Regulations governing Cross Connections (310-CMR-22.22). BWSC Water Use Regulations define a Cross Connection as:

**“any actual or potential connection between a distribution pipe of potable water supplied by the public water system and any waste pipe, soil pipe, sewer, drain or any other unapproved source. Without limiting the generality of the foregoing, the term Cross Connection shall also include any bypass arrangement, jumper connection, removal section, swivel or changeover connection and any other temporary or permanent connections through which backflow can or may occur.”**

Any property owner found in violation of BWSC Water Use Regulations with regards to Cross Connections must submit a piping schematic or diagram to the BWSC detailing the proposed correction of the violation. This submittal must, at a minimum, include:

**A piping diagram showing the method of protection to be used. The piping diagram shall show the incoming water line, the separation of domestic and process water, the type, size, manufacturer and model number of the backflow device to be used and all clearances involved in the installation of the backflow device. A filled out BWSC Device Design Data Sheet, complete with all appropriate signatures and license numbers, must accompany the piping diagram.**

General installation procedures for a backflow prevention device are as follows:

- 1) The Reduced Pressure Backflow Preventer or Double Check Valve Assembly and shut-off valves **SHALL BE** installed in a horizontal line with the following minimum clearances: 1) 3' to 4' above the finished floor; 2) 1' from the wall.

\*\*\*Vertical orientation of a backflow prevention device **SHALL NOT BE** allowed regardless of manufacturer's suggestions or specifications unless such orientation is specifically granted in the BWSC Approval Notification prior to the actual installation of the backflow device.\*\*\*

\*\*\*A Pressure Vacuum Breaker, Atmospheric Vacuum, Backflow Preventer with an Intermediate Atmospheric Vent or Air Gap Separation **SHALL NOT BE** substituted for a Reduced Pressure Backflow Prevention Device.\*\*\*

- 2) The Reduced Pressure Backflow Preventer **SHALL BE** provided with an air gap not less than twice the diameter of the relief port opening between the relief valve opening and the relief valve drain line.



### **Installation Guidelines Continued:**

- 3) The water lines affected **MUST BE** shut down during normal business hours and after reasonable notice to permit testing, inspection and maintenance of the backflow device. If it is not possible to meet this requirement, it will be necessary to provide a by-pass line equipped with the same type backflow prevention device. The backflow prevention device **SHALL BE** installed so as to provide **EASY ACCESS** for testing, inspection and maintenance purposes.
- 4) All low point drains on the water line situated upstream of (before) a Reduced Pressure Backflow Preventer should not be hose bibb connections. If there are Hose Bibb Connections upstream, they **SHALL BE** provided with an Atmospheric or Hose Bibb type Vacuum Breaker.
- 5) Backflow Prevention Devices **SHALL NOT BE** installed below grade. If a backflow prevention device is to be installed outdoors, it must be protected from freezing, flooding, mechanical damage and vandalism.

**\*\*\*A Backflow Prevention Device must be installed by a Massachusetts Licensed Plumber or Sprinkler Fitter under permits issued by the City of Boston Inspectional Services Department and Boston Fire Department to the extent required under MGL 111, Section 160A 310-CMR-22.22.\*\*\***

The piping diagrams **MUST BE** reviewed and approved **BEFORE** the physical mechanical work is started. Once the piping schematics are approved, they **MAY NOT BE CHANGED** without the permission of BWSC.

Unprotected or improperly protected cross connections are considered to be a direct violation of the Regulations Governing the Use of the Water Distribution Facilities of the Boston Water and Sewer Commission. Cross Connection Violations shall be subject to all appropriate fines and penalties up to and including termination of water service, as outlined in BWSC Water Use Regulations. In addition, unprotected or improperly protected cross connections are considered to be a direct violation of Section #22 of the "Drinking Water Regulations of Massachusetts. General Laws, Chapter #111 Section #160 prescribes a fine of \$500 and/or one year in jail for each willful violation of a Drinking Water Regulation promulgated by the Massachusetts Department of Environmental Protection. Also any violation of MDEP Regulations shall be subject to the Administrative Penalty Provision of Massachusetts State Law #10-CMR-500.

If you have any questions regarding BWSC Policy concerning Cross Connection Control or Massachusetts State Law 310-CMR-22.22, please contact the BWSC Cross Connection Control Division. The BWSC Cross Connection Control Office can be reached at 617-989-7000, Monday through Friday, between the hours of 7:30 am and 3:30 pm