



SAFETY DIRECTOR BULLETIN



BACKFLOW PREVENTERS BEST PRACTICES

Backflow preventers are critical devices that protect potable (drinking) water systems from cross-contamination. In the event of a severe drop in water pressure, such as from a water main break, fire suppression demand, or pump failure. A backflow preventer stops water from irrigation systems, fire protection systems, boiler systems, pools, and chemical feed systems from flowing backward into the community's drinking water supply. This Bulletin is intended for owners and facility managers of New Jersey public facilities. It provides best practices to help owners establish a proactive, compliant, and defensible backflow prevention program.

Regulatory Framework

- NJ Uniform Construction, Plumbing, and Fire Codes
- Division of Community Affairs Bulletin 99-2 (revised October 2008)
- NJ Safe Drinking Water Act
- NJ Public Recreational Bathing Code
- NJ Landscape Irrigation Contractor Law
- OSHA Sanitation Standard
- Multiple NFPA Standards, some formally adopted under the NJ Fire Code

There are two types of backflow preventers and multiple models of each. Non-testable devices include air gap and single swing check valve. Testable devices include double check valve assembly and reduced pressure zone assembly. Each has recommended or required applications. Consult with your local Plumbing Official for guidance on selecting the proper device for your situation.

Backflow Preventer Installation, Maintenance, and Testing

There are requirements for the installation of preventers. Again, consult with your local Plumbing Official for guidance. Also, do not forget to account for heat considerations. Backflow preventers for landscaping, athletic fields, public pools, and other locations must provide heat for the pits and enclosures. Or, owners must ensure that they are properly winterized before the first freeze. Freeze damage is a common cause of backflow preventer failure.

A well-managed backflow prevention program includes a complete, current inventory of all devices, including the location, type of device, installation date, and annual test results. The program would assign responsibility for backflow preventer management, require certified testers and maintain a current list of qualified personnel, and set maximum response times for failed devices.

All testable backflow preventers at non-residential/public facilities must be tested before final inspection (at installation or replacement) and annually thereafter. Facilities with an NJDEP Physical Connection Permit must test covered devices quarterly. Backflow preventers on fire protection systems must also comply with NFPA 25 requirements as adopted by the NJ Fire Code or by the local Fire Official.

Some backflow preventers may be in pits or vaults that are classified as confined spaces. Follow OSHA Standards for determining if the space is a permit-required confined space and if additional safeguards are needed to enter and test the device. As the host, you have contractor safety obligations for confined space work.

Testers of backflow preventers must hold a valid certification from an agency recognized by the NJDEP Bureau of Safe Drinking Water. Local code officials are not permitted to perform the test. Testers must use calibrated test equipment. Facility operators should request proof of annual calibration with the final test report.

If a backflow preventer fails its annual test, notify local authorities having jurisdiction and coordinate assessing the hazard and the most appropriate repair or replacement. If the failed preventer is for a fire protection system, see the [MSI Safety Director Bulletin: Fire Protection Impairment Best Practices](#). Always retest after repairs. Repair or replacement must be made in a timely manner to avoid unnecessary exposure to cross-contamination of the public water supply.