



# Gatlinburg Utilities Department

## Backflow Prevention Assemblies Standard Installation Criteria



### SECTION 1: GENERAL REQUIREMENTS

- A. Backflow prevention assemblies are required to be installed on water service connections serving most commercial, fire service and irrigation water uses. As these assemblies are considered part of the property owner's plumbing system, costs associated with the installation and maintenance of backflow prevention assemblies on private properties shall be borne by the property owner/developer.

### SECTION 2: SPECIFIC REQUIREMENTS FOR TYPES OF WATER SERVICE

A. Domestic Water Service, Commercial

- A Reduced Pressure Backflow Prevention Assembly is required to be installed after the water meter but before any branch connections. If installed inside a building, adequate measures for handling the catastrophic relief valve discharge must be provided. If installed outside, an ASSE 1060 compliant protective enclosure must be provided.

B. Fire Protection Water Service, Commercial and Residential

- A fire system riser located within 50 feet of the property line or circulating water main will require a Double Check Valve Assembly, and may be installed at the base of the riser inside the building. Adequate area drainage must be provided.
- If the above distance criteria cannot be met, the backflow prevention assembly shall be a Double Check Detector Assembly installed in an ASSE compliant protective enclosure at an approved suitable location.
- Any fire sprinkler system containing an antifreeze solution or corrosion inhibitor, the system, or that portion thereof, shall be protected by a Reduced Pressure Backflow Prevention Assembly, adhering to the above distance requirement.
- Any strainer or PRV that may be used shall be UL Listed/FM Approved.
- For service mains larger than 2 inch, ductile iron water pipe required from service tap to backflow assembly location.
- Residential sprinkler systems, where installed, for all one and two family dwellings shall adhere to these requirements unless the sprinkler system is a circulating (not dead-end) with all piping and components being approved for potable water.

C. Lawn Irrigation Water Service

- A Reduced Pressure Backflow Prevention Assembly is required to be installed immediately after the water meter and before any branch connections or zone valves. Provisions for winterization and/or removal or an adequate protective enclosure are recommended.
- The irrigation meter and backflow assembly shall be located at or near the property line as practical and allow for reasonable and safe access for testing and repair.

**SECTION 3: STANDARD INSTALLATION REQUIREMENTS**

A. All backflow prevention assemblies shall be installed in accordance with the criteria as provided herein, superceding any other requirements or recommendations.

- Approval - all assemblies shall have full USC Foundation approval for their intended use and installation orientation, and shall not be modified in any way prior to or following installation.
- Installation - all assemblies shall be installed in a manner to provide reasonable and unobstructed access for testing and repair; shall never be installed in a pit, vault or other similar areas subject to flooding; shall not be installed in crawlspaces, attics or any similar area that the access is or may be physically restricted.
- Strainer/PRV - all Reduced Pressure Assemblies shall be installed with a strainer. If the supply pressure exceeds 175 psi, a pressure reducing valve (PRV) must be installed upstream of the backflow prevention assembly.
- Bypass - there shall be no plumbing bypass around the backflow prevention assembly. In the event an un-interruptible water supply is desired or deemed necessary, parallel backflow prevention assemblies shall be installed.
- Enclosures - assemblies not installed inside a building must be protected by an ASSE 1060 protective enclosure (irrigation assemblies excepted). The enclosure location and installation must not impede traffic visibility. Landscape plants and mulch shall not interfere with access to the enclosure and drainage of discharge water from the enclosure.
- Support - for the assembly must be provided, and be adequate in strength and stability for the installation. Larger assemblies require additional support.
- Flush waterline - to clear out all debris from the water line prior to placing a new assembly in service. A subsequent routine flushing of strainers is recommended to prevent excessive flow loss from the accumulation of debris in strainer.
- Thermal expansion - protection or accommodations must be included in any domestic plumbing system where a backflow prevention assembly is installed. Consult a local plumbing supplier, contractor or here for further information.

*For more information please contact Dale Reagan, Utilities Compliance Inspector at 865-436-1441 ([daler@gatlinburgtn.gov](mailto:daler@gatlinburgtn.gov)) or the main Utilities office at 865-436-4681.*

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