

WVU DESIGN GUIDELINES & CONSTRUCTION STANDARDS
DIVISION 22 – PLUMBING

SECTION 221113a – BACKFLOW PREVENTION

PART 1 - GENERAL

- 1.1 Any deviances from the following instructions must be approved during design by WVU Facilities Management Personnel.
- 1.2 Performance Requirements
- A. All design and components shall comply with governing codes and regulations. The local regulatory agency is the Morgantown Utility Board located at 278 Greenbag Road, Morgantown, West Virginia 26507-0852.
 - B. Governing Codes and Regulations in order of preeminence include: Morgantown City Ordinance, Article 930, Cross-Connection Control and Backflow Prevention; WV State Code of State Rules Title 64, Series 15, Cross-Connection Control and Backflow Prevention; and the latest edition of the International Plumbing Code.
 - C. Elements/products used in design shall have a demonstrated record of success. Each manufacturer shall have been in business for a minimum of three years.

PART 2 - PRODUCTS

- 2.1 All backflow preventers for Domestic Water Service must be Watts 909 series and the fire protection should be Ames 2000SS Series.
- 2.2 Backflow Preventers and Specialties
- A. Reduced Pressure Zone (RPZ) backflow protection devices must be provided on both the domestic and fire service lines between the water main tap and a building's unprotected water distribution system. RPZ devices installed on fire service lines must incorporate a detector meter to monitor flow. Devices must meet ASSE 1013 standard. Bypasses are not allowed.
 - B. Minimum static pressure for private or public water service shall be 40 psi. Maximum static pressure shall be 80 psi.
 - C. All cross connections within facilities and buildings must be protected by backflow prevention devices applicable to the hazard. The hazard classifications found in section 64-15-6 of Title 64, Series 15, Cross Connection Control and Backflow Prevention regulations shall be used to determine the degree of protection needed.

PART 3 - EXECUTION

3.1 Design

- A. Backflow prevention devices shall be located to be fully accessible for servicing and testing while standing on grade. Backflow prevention devices shall be located so that all test ports are accessible and the backflow prevention device shall be installed no more than five feet above the floor or grade level.
- B. For buildings where an uninterrupted water service is required, dual parallel backflow preventers should be installed to avoid downtime due to maintenance or failure. Consult owner regarding this determination. Dual backflow preventers are not required for all buildings.
- C. Vacuum breakers subject to constant pressure shall be pressure vacuum breakers.
- D. Floor mounted/installed hose bibs subject to flooding are prohibited.
- E. Backflow preventers shall not be installed in obscured areas unless approved by the Owner. Backflow preventers installed in obscured areas, such as above suspended ceilings, shall have signage installed indicating the location of these backflow preventers.
- F. Backflow preventer atmospheric vents shall be provided hard piped drains discharging to the sanitary sewer in a manner that protects building from water damage and does not create a tripping hazard. Hard piped drains shall have an air gap immediately after or below the atmospheric vent.
- G. Backflow preventers shall not be installed in pits or underground locations subject to flooding.

3.2 Installation

- H. Morgantown Utility Board shall be contacted to review and approve all proposed backflow prevention devices prior to installation on both the domestic and fire service water supply lines, as noted in section 2.1. A above.
- I. Backflow prevention devices, systems, and associated materials SHALL be installed in accordance with manufacturer's instructions and approved submittals.
- J. All installed piping materials and accessories shall be tested for performance by a West Virginia Certified Backflow Prevention Device Tester. A letter certifying the testing results shall be submitted to the Owner.

END OF SECTION 221113a