

STATE UNIVERSITY CONSTRUCTION FUND

PROGRAM DIRECTIVES

DIRECTIVE 15P-5

Issue date: August 2013

BACKFLOW PREVENTION DEVICES

1. Codes and Standards: Comply with applicable requirements of:
 - a. Building Codes of New York State
 - b. NFPA
 - c. NYSDOH, including cross connection control
 - d. Local codes and Water supplier regulations

2. General Design and Performance Criteria
 - a. Backflow prevention between the Campus and the municipal water supply shall be provided at each point of service/connection between the Campus and municipal water supply.

 - b. If backflow prevention exists as described in 2.a., backflow prevention is only required downstream of this protection for individual buildings identified as potential contamination sources, such as laboratories or art studios. Determination whether or not a building is a potential contamination source shall be determined by consultation with the Campus and the Fund.

 - c. Where individual building backflow prevention is required, provide two RPZ backflow preventers, at 50% capacity each, on domestic water system supply to permit testing and maintenance to be performed without interrupting water service to the building.

 - d. See Directive 15F-1 "Fire Prevention – Sprinklers" for protection requirements for these systems.

 - e. Provide individual RPZs on all hazardous intra-building connections such as HVAC equipment, boilers, irrigation systems, cooling towers and kitchen/food service equipment.

 - f. Drainage for backflow prevention assemblies shall be provided for all installations to accommodate water discharge during testing or operational discharges. Uncontrolled water discharge from assemblies is prohibited. Provide gravity drainage to the sewer system, sized for the maximum expected flow from the assembly.

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- g. Where gravity drainage is not possible, an alternative method of holding and pumping the water to the sewer system shall be discussed with the Campus and the Fund.

In these cases provide an automatic shutoff valve upstream of backflow prevention assembly to automatically shut off the water supply in the event of the operation of any backflow prevention assembly.

- h. Outdoor, aboveground systems shall have heated enclosures. Provide maintenance electrical outlet and lighting within or near enclosure. Use outdoor enclosures only with Fund approval.
- i. When backflow prevention is added to a municipal water system, an application must be made to the municipal water service provider for their review and approval. This application process should be initiated during the project's design phase so that the specific requirements of the water supplier can be addressed.

The Campus shall be included in the application process and may elect to make the application on their own behalf.

3. Retrofit Projects

- a. For projects which include retroactively adding backflow prevention, it is required that an engineering study be performed to assess the impact of any water pressure reduction due to adding the devices.
- 1) For sprinkler systems, analyses and calculations as required by NFPA 13 shall be performed to determine what, if any, system modifications are required to maintain proper system operation.
 - 2) For domestic water systems, an assessment of the impact of backflow prevention on flush valve operation and other pressure dependant devices shall be performed to determine what, if any, modifications are required to maintain proper operation.
- b. Submit catalog cuts of proposed backflow devices and calculations.

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