

CHAPTER 7 – CROSS-CONNECTION/BACKFLOW PREVENTION

7.1 PURPOSE AND POLICY

The purpose of this chapter is to establish the Department’s requirements for the prevention of backflow and the control of cross-connections in the interest of protecting the Department’s public water systems.

In accordance with Rule, 62-555.360(2), F.A.C., community water systems are required to establish a routine Cross-Connection Control program for the purpose of detecting and controlling cross-connections and to prevent backflow of contaminants into the public water system.

7.2 PROHIBITION OF CROSS CONNECTIONS

Cross-connections, as defined in Rule 62-550.200, F.A.C., are prohibited, unless protected by an appropriate backflow prevention assembly. The Department maintains an ongoing backflow prevention and cross-connection control program to protect its public water system from the hazards originating on the premises of its customers and from temporary connections that may impair or alter the water in the public water system. The return of any water to the Department’s public water system after the water has been used for any purpose on the customer’s premises or have been within the customer’s piping system is not permitted.

New services of potable water or reclaimed water will not be activated until the Department is satisfied that no uncontrolled cross-connection exists. No Customer shall create or allow others to create a cross-connection involving potable and reclaimed water lines. In addition, the Customer’s auxiliary water system(s) shall not be interconnected with the Department’s public water supply system. Florida Department of Environmental Protection or Department of Health approval is needed for any cross-connection(s) between a public water system and a wastewater system or reclaimed water system.

Temporary cross-connections between the public water system and a wastewater system or reclaimed system shall be approved by the Department and may be made for the following purposes:

- A. To supply water for flushing or testing a new wastewater force main or new reclaimed water main, in which case a double check valve or reduce pressure principle assembly shall be provided at the cross-connection.
- B. To supply water for temporarily operating a new reclaimed water main that has not yet been connected to a reclaimed water supply, in which case a reduced pressure principle assembly shall be provided at the cross-connection.

In the event of contamination of the Department’s or Customer’s water system due to backflow on the Customer’s premises, the Customer shall promptly take steps to confine further spread of contamination and shall immediately notify the Department.

7.3 REQUIREMENTS FOR BACKFLOW PREVENTION ASSEMBLIES

7.3.1 USE AND SIZE CRITERIA

It is the responsibility of the Customer and/or their designee to determine the size of the backflow prevention assembly. In order to adequately handle the maximum flow of the water meter, the assembly should be the same size as the meter or larger. It is recognized that if the service line is sized smaller than the meter, the assembly should be sized to the service line. For the purpose of this Chapter “residential” is defined as any service connection that is two inches or less in diameter **and** supplies water to a building or premises containing

only dwelling units. “Non-residential” is defined as any other service connection. “Auxiliary water system” is defined as a pressurized system of piping and appurtenances using water other than the potable water being supplied by the Department, excluding any water recirculation or treatment system for a swimming pool, hot tub, or spa.

- A. All residential potable water services with 1-1/2” meters or larger shall have a reduced pressure (RP) assembly installed.
- B. All non-residential potable water services shall have an RP assembly installed.
- C. All residential potable water meters 1” or less must be equipped with a residential dual check valve (RDC).
- D. All potable water services with individually metered reclaimed water service shall have a reduced pressure assembly installed on the potable water service.
- E. All residential 5/8” and 1” potable water services with access to master-metered reclaimed water shall have a residential dual check valve (RDC).
- F. All reclaimed water services shall have, at minimum, a single check valve.
- G. Dedicated closed fire sprinkler systems shall have as a minimum a double check detector assembly, unless the system was installed or last altered before January 1, 1996 **and** contains no chemical additives **and** is not connected to an auxiliary water system.
- H. Fire sprinkler systems with a pressure/storage tank, booster pumps, chemical injection, or any auxiliary water supply system shall have a reduced pressure detector assembly.

7.3.2 LOCATION AND ACCESS REQUIREMENTS

Backflow prevention assemblies shall be located on the Customer’s side of the point of service. The Customer shall maintain access to the assembly for the purpose of testing and maintenance.

7.3.3 INSTALLATION, MAINTENANCE AND RE-CERTIFICATION RESPONSIBILITIES

The annual testing/recertification shall be submitted to the Department prior to the expiration of the previous certification. PBCWUD encourages all vendors and organizations to submit backflow test results using the E-Backflow web portal found on the Department’s website. Backflow test results can also be provided to the PBCWUD Cross-Connect Coordinator via email.

A. Installation:

All backflow prevention assembly(ies) installed must have approval from either University of Southern California Foundation for Cross-Connection Control and Hydraulic Research, (USC) or American Society of Sanitary Engineering (ASSE) with one (1) year field test. They shall be installed in accordance with the Department’s Minimum Design and Construction Standards, Florida Building Code, and manufacturer’s specifications. A copy of the test report and the Building Department permit information shall be furnished to the Department using E-Backflow within sixty (60) days of installation, replacement, or relocation of a backflow prevention assembly. The Customer and/or their designee shall be responsible for obtaining all applicable permits.

- 1) All backflow prevention assemblies and devices on the potable water service shall be owned and maintained by the customer and installed by a plumbing contractor who is licensed by the State of Florida.
- 2) All backflow prevention assemblies installed as part of a fire sprinkler system should be installed by a Fire Sprinkler Contractor I, II, or V who is licensed by the State of Florida. (Reference: Section 633.102, Florida Statutes.)
- 3) Single check valves and all RDC's on the potable water service shall be installed by the Customer's contractor or the Department, depending on the type of service installation required.

B. Initial Testing and Maintenance:

The initial backflow test for new potable water services (domestic and fire line) shall be performed by the Department at the time the service is activated. An initial Backflow Certification Fee, per test, shall be billed to the Customer's account to cover the Department's cost of the test(s). If the backflow assembly(ies) does not pass the initial test, the Customer will be responsible for having the assembly(ies) repaired prior to re-testing by the Department. An additional Backflow Certification Fee will be billed by the Department for each test. All backflow prevention assembly(ies) shall be maintained according to manufacturer's recommendations at all times by the Customer, whom shall be responsible for the arrangement and cost of such maintenance.

Single check valves and RDC's, which are on the Department's side of the point of service, shall be maintained by the Department. All RDC's will be replaced at the discretion of the Department, as identified in the Department's Minimum Design and Construction Standards.

C. Annual Testing and Record Keeping:

The Customer is responsible for hiring an appropriately licensed, Certified Backflow Prevention Assembly Tester to test and maintain all of their backflow prevention assembly(ies) on an annual basis after the initial test by the Department. The customer is responsible for all testing/re-certification off all isolation backflow assembly(ies).

All backflow prevention assembly(ies) on the Customer's side of the potable water service shall be tested by a Plumbing Contractor who is licensed by the State of Florida.

All backflow prevention assembly(ies) on the Customer's fire sprinkler system should be tested by a Fire Sprinkler Contractor I, II or IV who is licensed by the State of Florida at the time that the annual NFPA25 inspection is performed.

The technician performing any repairs to the backflow prevention assembly(ies) must hold a repair certification issued through an American Water Works Association approved course.

A valid backflow prevention assembly recertification/test report must contain, at minimum, the following information:

- The name and license number of the Plumbing Contractor performing the testing.
- The address of the tested assembly.
- The date the assembly was tested.
- The make, model, size and serial number of the assembly tested.
- The water meter serial number the assembly is protecting (if applicable).
- Clearly identified test results as outlined below:

- RP – the relief valve opening reading, the differential reading across the #1 check valve, the differential reading across the #2 check valve, and if the #2 check valve leaked during the backpressure test.
- DC – the differential reading across the #1 check valve and the differential reading across the #2 check valve.
- PVB – the air inlet opening reading, the reading the check valve holds at, and a comment or remark if backpressure was present at the time of testing.
- The name of the tester along with the tester’s certification number.

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In the event the assembly(ies) tested does not perform to manufacturer’s specification, a failing test report shall be submitted to the Department. This will afford the Customer additional time to acquire estimates for repair, ordering of parts, and the scheduling of necessary shut-down, for the repair or replacement of the failing assembly(ies). The Department will maintain the test reports submitted to the Department for entry into the tracking software in digital format for the duration of the State of Florida Retention Schedule(s).

The Customer shall be notified by the Department in writing approximately sixty (60) and thirty (30) days prior to the next inspection date of the backflow prevention assembly(ies). If the Customer fails to provide the Department with a backflow preventer test and maintenance report by the date due, the Department may assign an employee to personally notify the Customer that they are out of compliance, in such event a “notification fee” will be applied to the Customer’s water bill. Ultimately, the potable water supply will be turned off by the Department if certification compliance is not achieved.

Upon completion of testing, the Tester shall affix to the assembly(ies) in a semi-permanent manner a weather-proof tag that identifies the plumbing or fire sprinkler company performing the test and the month and year of the recertification.

7.3.4 NON-COMPLIANCE

Upon discovery that a prohibited or unprotected cross-connection exists, the Department shall ensure the cross-connection is eliminated, ensure an appropriate backflow prevention assembly is installed, or discontinue water service. Bypassing an existing backflow prevention assembly shall be considered a prohibited cross-connection. The Customer’s potable water supply will be turned off if the Customer fails to adequately maintain the backflow prevention assembly(ies) or provide annual certification to the Department.