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## BACKFLOW PREVENTION & CROSS-CONNECTION CONTROL

### AUTHORITY

Authority for the establishment of this program is contained in the Florida Safe Drinking Water Act, Section 403.086 and Sections 403.850-430.864 Florida Statutes. The Florida Statutes are promulgated in the Florida Administrative Code, Chapter 62-555.360 which states "Each community water system (CWS) shall establish and implement a cross-connection control program utilizing backflow protection at or for service connections from the CWS in order to protect the CWS from contamination caused by cross-connections on customers' premises. This program shall include a written plan that is developed using recommended practices of the American Water Works Association set forth in *Recommended Practice for Backflow Prevention and Cross-Connection Control: AWWA Manual M14, Third Edition*.

The Statutes require that the water system establish a policy for the mandatory requirement of backflow prevention at certain service connections and adopt requirements no less stringent than those required by Florida Administrative Code.

The Statutes also require the water system establish a policy regarding the ownership, installation, inspection/testing, and maintenance of backflow prevention where required within the water system. The Statute requirements that policies be adopted and enforced for the temporary or permanent elimination of service connections that fail to meet the regulatory requirements.

### DEFINITIONS

Air Gap Separation - An unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank plumbing fixture, or other device and the flood rim of the receptacle, and shall be at least double the diameter of the supply pipe measured vertically above the flood level rim of the vessel. In no case shall the gap be less than one (1) inch. This gap shall also be above the established 100-year flood level.

Atmospheric Vacuum Breaker - A backflow prevention device which is operated by atmospheric pressure in combination with the force of gravity. The unit is designed to work in a vertical plane only. The moving part consists of a poppet valve, which must be carefully sized to slide in a guided chamber and effectively shut-off the reverse flow of water when a negative pressure exists.

Auxiliary Water Supply - Any water supply on or available to the premises other than the purveyor's approved public potable water supply. These auxiliary water supplies may include water from another purveyor's public potable water supply or any natural source(s) such as a well, spring, river, stream, harbor, etc., or "used waters" or "industrial fluids". These waters may be polluted, contaminated or may be objectionable and constitute an unacceptable water source over which the water purveyor does not have sanitary control.

Backflow - The flow of water or other liquids, mixtures, or substances into the distribution pipes of a potable supply of water from any source or sources other than its intended source.

Back Pressure - Backflow caused by a pump, elevated tank, boiler or other means that could create pressure greater than the supply pressure.

Back Siphonage - Backflow due to a negative or sub atmospheric pressure within a water system. Backflow Prevention Device - A device to counteract back pressure or prevent back siphonage.

Backflow Prevention Device - Approved - The term approved backflow prevention device shall mean a device that has met the requirements of AWWA-C-506, Hersey BSG, or approved equal.

Containment - A method of controlling potential and/or confirmed cross-connections by installation of a double check assembly or a reduced pressure principle backflow prevention device.

Cross-Connection - Any physical arrangement whereby a public water supply system is connected directly or indirectly, with any other water supply system, sewer, drain, conduit, pool, storage reservoir, plumbing fixture, or other device which contains or may contain contaminated water, sewage, or other waste or liquid of unknown or unsafe quality which may be capable of imparting contamination to the public water supply system as a result of backflow. Bypass arrangements, jumper connections, removable sections, swivel or change-over devices, or any other temporary or permanent devices through which or because of which backflow could occur are considered to be cross-connections.

Double Check Valve Assembly - An assembly composed of two single, independently acting check valves, including tightly closing shutoff valves located at each end of the assembly and suitable connections for testing the water tightness of each check valve.

Health Hazard - Any condition, devices, or practices in any water supply system or in its operation which create or may create a danger to the health and wellbeing of the water consumer.

Isolation - A method of controlling potential and/or confirmed cross-connections by installation of an air gap separation or a vacuum breaker.

Pressure Vacuum Breaker - A pressure vacuum breaker is similar to an atmospheric vacuum breaker except that the checking unit "poppet valve" is activated by a spring. This type of vacuum breaker does not require a negative pressure to react and can be used on the pressure side of a valve.

Public Water Supply - Any system or water supply intended or used for human consumption or other domestic use, including source, treatment, storage, and distribution where water is furnished to any community, collection or number of individuals, or is made available to the public for human consumption or domestic use, but excluding supplies serving one single family residence.

Reduced Pressure Principle Backflow Prevention Device - A device incorporating two or more check valves and an automatically operating differential relief valve located between the two check valves, two shutoff valves and equipped with necessary appurtenances for testing. The device shall operate to maintain the pressure in the zone between the two check valves, less than the pressure of the public water supply side of the device even at cessation of normal flow. In case of leakage of either check valve, the differential relief valve shall operate to maintain this reduced pressure by discharging to the atmosphere. When the inlet pressure is two pounds per square inch or less, the relief valve shall open to the atmosphere, thereby providing an air gap in the device. This air gap shall also be above the 100-year flood level

**POLICY**

- (A) Cross-connections, as defined in Rule 62-550.200, F.A.C., are prohibited unless appropriate backflow protection is provided to prevent backflow through the cross-connection into the public water system.
- (B) All single family residential service connections shall be provided with a dual check backflow preventer of the type specified by HNWS Standard Specifications and/or Standard Details.
- (C) All Non-Residential service connections, unless otherwise noted below, shall be provided with a Reduced Pressure Principle backflow prevention device installed per the HNWS Standard Details and/or Standard Specifications.
- (D) All service connections that are intended for a wet pipe sprinkler system, wet standpipe or fire protection system shall be provided with a double check detector assembly or reduced pressure principal backflow device with detector.
- (E) All backflow prevention devices shall be installed at a location designated by the HNWS. Generally, this will be immediately on the customer's side of the meter. If circumstances make this location impractical, then the backflow prevention device may be placed further downstream from the meter. However, any piping between the meter and the backflow prevention device must be either exposed or readily accessible for inspection.
- (F) Backflow prevention devices shall be tested as indicated in the Testing section or as required by regulation.
- (G) Except for the temporary cross-connections described below, cross-connections between a public water system and a wastewater system or reclaimed water system are prohibited (i.e., an air gap shall be maintained between any public water system and any wastewater system or reclaimed water system).
- (H) Temporary cross-connections may be made between the public water system and the wastewater system or reclaimed water system for either of the following purposes:
  - 1. To supply water for flushing or testing a new wastewater force main or new reclaimed water main, in which case a double check valve assembly or reduced-pressure principle assembly shall be provided at the cross-connection.
  - 2. 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.
- (I) HNWS shall prepare and submit cross-connection control program annual reports. The first annual report shall cover calendar year 2016, and subsequent annual reports shall cover each calendar year thereafter. These reports shall be prepared using Form 62-555.900(13), Cross- Connection Control Program Annual Report. Reports shall be submitted to the appropriate Department of Environmental Protection district office within three months after the end of the calendar year covered by the report.
- (J) Upon discovery of a prohibited, bypassed, removed or any other inappropriately protected cross-connection, HNWS either shall ensure that the cross-connection is eliminated, shall ensure that appropriate backflow

protection is installed to prevent backflow into the public water system, or shall discontinue water service. If the discovered cross-connection is on the premises of a customer and if the customer's premises is in a category described in Table 62- 555.360-2 FAC, HNWS shall ensure that appropriate backflow protection is provided by the customer at or for the water service connection to the customer regardless of whether the cross-connection is eliminated or whether internal backflow protection is installed at the cross-connection to the customer's plumbing system. HNWS shall act to meet these requirements by notification as described herein and the discontinuance of service upon failure of the customer to immediately comply.

## **RESPONSIBILITY**

- (A) Holley-Navarre Water System, Inc., is responsible for the protection of its public potable water distribution system from backflow of contaminants or pollutants through any water service connection. HNWS is also responsible for exercising reasonable control over customer's systems to ensure that proper steps are taken to install, maintain, and test the required backflow prevention systems.
- (B) If, in the judgment of the System, an approved backflow prevention device is required at the water service connection to any of its customer's premises for the safety of the users of the water system, the System shall give notice in writing to the customer that an approved backflow prevention device shall be installed at the customer's expense within 45 days.
- (C) If, in the judgment of the System, an existing backflow prevention device is not functioning correctly or has not been maintained or tested in accordance with the requirements of this document and places the safety of the users of the system, the System shall give notice in writing to the customer that replacement or repairs to the approved backflow prevention device shall be made at the customer's expense within 45 days.
- (D) Each commercial customer shall be responsible for the cost of installation of an approved backflow prevention device at each water service. The selection and installation of the backflow device shall be approved by HNWS during the project review process. Construction shall be per the HNWS Standard Details and Standard Specifications. The Standards shall be adopted to be consistent with installation criteria in AWWA Manual M14 as incorporated into subsection 62- 555.360(2), F.A.C., and shall assure the backflow protection is installed as close as practical to the CWS's meter or customer's property line but, in all cases, before the first distribution line off of the customer's water service line. All devices shall meet the applicable AWWA standards for the applicable type. Residential backflow prevention except as outlined above shall be provided by HNWS.
- (E) Each commercial customer shall own, maintain and test the Backflow Prevention System installed on their individual water service in accordance with this document. Residential backflow prevention devices shall be owned, maintained and tested by HNWS.
- (F) Failure, refusal, or inability on the part of the customer to meet the System's written time schedule for installation, replacement or repair of said device or devices shall constitute grounds for discontinuance of water service until such device or devices have been properly installed. Any licensed plumber may install the proper device in the correct manner. (Call (850) 939-2427 if additional information is needed.)

- (G) In the event of any known or suspected accidental pollution or contamination of the consumers or the System's potable water system, the consumer shall promptly take steps to confine any further spread of pollution or contamination and shall immediately notify the System of the situation (telephone number (850) 939-2427, 24 hours). Any customer failing to comply with this requirement shall be subject to the full extent of any penalties of law.

## **INSPECTIONS**

- (A) HNWS shall inspect all new construction for an evaluation of the backflow prevention system to meet the requirements of this document prior to the initiation of service.
- (B) HNWS shall conduct inspections of customer's premises where suspected cross-connections or potential cross-connections may exist or as part of a routine inspection program. Customers shall be notified in advance of the inspections and the reason for the inspections. Should any cross-connections or potential cross-connections be detected, the customer shall be notified in writing of the appropriate type of backflow prevention device to be installed. Refusal by a customer to allow an inspection shall be considered prima facie evidence of the existence of cross-connections, thereby requiring the installation of an approved reduced pressure principle backflow prevention device or the disconnection of service if compliance is not met within 45 days.
- (C) Except as noted below, existing facilities are grandfathered with regards to type of backflow prevention device required as long as the devices are properly maintained and tested. Failure to properly maintain and/or test the devices shall be grounds to require the customer to comply with the more stringent requirements of this document.
- (D) For existing facilities, a survey of the customer's water system may be conducted. HNWS shall evaluate the customer's premises at an existing - i.e., previously constructed - service connection whenever the customer connects to a reclaimed water distribution system, whenever an auxiliary water system is discovered on the customer's premises, whenever a prohibited or inappropriately protected cross-connection is discovered on the customer's premises, and whenever the customer's premises is altered under a building permit in a manner that could change the backflow protection required at or for a service connection to the customer. Such surveys need not be a detailed inspection of the location or disposition of water lines, but can be confined to establishing the water use on the premises; the existence of any cross-connections; the availability of auxiliary water supplies; the availability of pollutants, contaminants and other liquid, solid or gaseous substances that may be used industrially for stabilization of water supplies and other procedures for determining the degree of health hazard. If, in the opinion of the System, the existing use constitutes an extreme hazard to the safety of the users of the system, HNWS may require the customer to comply with the more stringent requirements of this document.
- (E) All water customers of the System shall be required to notify the System in writing or by phone of any changes in their water usage or a change in use of premises. Any change of use shall require the backflow prevention device(s) be brought into compliance with the more stringent requirements of this document.

**MAINTENANCE & TESTING**

- (A) Routine testing of commercial customer backflow prevention device(s) shall be scheduled by the customer with a certified tester and shall be paid for by the customer. The frequency of testing will be dependent upon the type of device installed and the potential health hazard involved. HNWS shall maintain a record of the use of the facility and shall notify the customers of required testing in accordance with the requirements of 62-555.360 FAC.
- (B) All Air Gaps being required at or for service connections pursuant to Table 62-555.360-2, which appears at the end of Rule 62-555.360, F.A.C., shall be inspected at least annually.
- (C) All backflow prevention devices being required at or for non-residential service connections pursuant to Table 62-555.360-2 FAC, which appears at the end of Rule 62-555.360, F.A.C., shall be tested after installation or repair and at least annually thereafter and shall be repaired or replaced if they fail to meet performance standards.
- (D) Backflow prevention devices being required at or for residential service connections pursuant to Table 62-555.360-2 FAC shall be tested after installation or repair and at least biennially thereafter and shall be repaired or replaced if they fail to meet performance standards.
- (E) Dual Checks being required at or for service connections pursuant to Table 62-555.360-2 FAC, which appears at the end of Rule 62-555.360, F.A.C., shall be refurbished or replaced at least once every 5 to 10 years or at a lesser frequency determined by HNWS based on data from backflow sensing meters in its system.
- (F) Residential Service connections not otherwise identified in (B) thru (E) above shall be refurbished or replaced at 10-year intervals unless failure is noted earlier.
- (G) All customers notified of required testing shall be provided 60 days' notice to complete the required testing and provide certification. Testing shall be completed by a certified tester. Upon completion of testing, certification, by the tester, of successful completion of the testing shall be provided to HNWS. Testing that results in the necessity of repairs shall be documented and documentation shall be provided to HNWS along with certification of the completion of repairs or replacement of the backflow prevention device.
- (H) Failure to complete the testing within the 60-day period shall be cause for one of the following actions at the discretion of HNWS:
  - 1. HNWS may elect to test the backflow prevention device and charge the customer for the service on the monthly water bill. Failure to pay the bill shall be cause to discontinue service. Should repairs or replacement be required that in the opinion of HNWS cause a danger to users of the system, the customer will be provided with no more than 24 hours' notice of discontinuation of service. This time WILL NOT be extended for any reason. Otherwise HNWS shall give notice of 14 days to have repairs and or replacement made. Service will be discontinued at the end of the 14 days if repairs/replacement have not been made.
  - 2. HNWS may elect to provide 48 hours' notice of discontinuation of service.

**RECORDS**

HNWS shall maintain an inventory of the service connections in the system and the type of use and backflow prevention devices for each service. HNWS shall maintain records regarding the installation, inspection/testing and repair/replacement of backflow prevention devices within the system in accordance with 62-555.360 FAC.