

# AUBURN WATER SYSTEM, INC

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## BACKFLOW / CROSS CONNECTION CONTROL PROGRAM



### Rules and Regulations

1.1 PURPOSE The purpose of this rule is:

- 1.1.1 To protect the public potable water supply of Auburn Water System Inc. and it's customers from the possibility of contamination or pollution by containing within the property owner's internal distribution system(s) or the property owner's private water System(s), such contaminants or pollutant which could backflow by backpressure or backsiphonage into the community water supply system.
- 1.1.2 To promote the elimination or control of existing cross connections, **actual or potential**, between the property owner's on-site potable water system(s) and non-potable water systems, plumbing fixtures industrial piping systems, and irrigation.
- 1.1.3 To provide for the maintenance of a continuing program of cross connection control which will systematically and effectively prevent the contamination or pollution of all potable water systems.

## 1.2 RESPONSIBILITY

The General Manager of Auburn Water System, Inc. shall be responsible for the protection of the community potable water distribution system from contamination or pollution. If, in the judgment of said general manager an approved backflow prevention assembly is required at the community's water service Connection to any property owners premises, for the safety of the water system, the general manager or his / her designated agent shall give notice in writing to said **property owner to install such an approved assembly or assemblies at his own expense; and failure, refusal or inability on the part of the property owner to install said assembly or assemblies immediately shall constitute grounds for discontinuing water service** to the premises until such assembly or assemblies have been properly installed. (**Only** Auburn Water System, Inc Certified Backflow Technicians annually test all assemblies, a fee will be applied to your account upon successful testing.)

## 1.3 AUTHORITY

These Rules and Regulations of Auburn Water System Inc., relating to cross connection control are adopted and implemented pursuant to the requirements of Sections 403.850 - 403.864, Florida statutes, and Florida Safe Drinking Water Act, and rules adopted pursuant thereto by the **Florida Department of Environmental Protection, Florida Administrative Code,, Chapter 62-555.360**

## SECTION 2 DEFINITIONS

### 2.1 GENERAL MANAGER

The General Manager of Auburn Water System, Inc. is invested with the authority and responsibility for the implementation of an effective cross-connection control program and for the enforcement of the provisions of these rules and regulations.

2.2 **Approved.** Accepted by the authority responsible as meeting an applicable specification stated or cited in these rules and regulations, or as suitable for the proposed use.

2.3 **Auxiliary Water Supply-** Any water supply on or available to the premises other than the purveyor's approved public potable water supply. These auxiliary waters 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 water" or industrial fluids. These waters may be polluted or contaminated or they may be objectionable and constitute an unacceptable water source over which the water purveyor does not have sanitary control.

2.4 **Backflow.** The undesirable reversal of flow in a potable water distribution system as a result of a cross connection.

- 2.5 **Backpressure.** A pressure, higher than the supply pressure, caused by a pump, elevated tank, boiler or any other means that may cause backflow.
- 2.6 **Back-siphonage.** The flow of water, liquids or other mixtures of substances into the distributing pipes of a potable water supply system from any source other than its intended source caused by the sudden reduction of pressure in the potable water supply system.
- 2.7 **Backflow Preventer.** An assembly or means designed to prevent backflow.
- 2.7.1 **Air Gap.** The 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 level rim of said vessel. An approved air-gap shall be at least double the inside diameter of the supply pipe, measured vertically, above the top of the rim of the vessel; and, in no case less than one inch, when an air-gap is used at the service connection to prevent the contamination or pollution of the public potable water system, an emergency bypass may be installed around the air-gap system and an approved reduced pressure principal assembly shall be installed in the by-pass system.
- 2.7.2 **Pressure Principle Assembly.** An assembly of two independently operating approved check valves with an automatically operating differential relief valve between the two check valves, tightly closing shut-off valves on either side of the check valves, plus properly located test cocks for the testing of the check and relief valves. The entire assembly shall meet the design and performance specifications and approval of a recognized and system approved testing agency for backflow prevention assemblies. The assembly shall operate to maintain the pressure in the zone between the two check valves at a level lower than the pressure on the community water supply side of the assembly. At cessation of normal flow the pressure between the two check valves shall be less than the pressure on the water supply side of the assembly. In case of leakage of either of the check valves the differential relief valve shall operate to maintain the reduced pressure in the zone between the check valves 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. To be approved these assemblies shall be readily accessible for in-line maintenance and testing and shall be installed in a location where ***no part of the assembly will be submerged*** Generally installed 12 to 18 inches above the ground but has to be at least 12 to 36 inches above the ground, drainage system, or flood elevation. Pit installations are not allowed.
- 2.7.3 **Double Check Valve Assembly.** An assembly of two independently operating approved check valves with tightly closing shut-off valves on each side of the check valves, plus properly located test cocks for the testing of each check valve. The entire assembly shall meet the design and performance specifications and approval of a recognized and system approved testing agency for backflow prevention assemblies. To be approved these assemblies shall be readily accessible for in-line maintenance and testing.
- 2.7.4 **Double Check Valve Assembly Installation.** Generally installed 12 to 18 inches above the ground but has to be at least 12 to 36 inches above the ground, drainage system, or flood elevation. Pit installations are not recommended.

- 2.8 **Contamination.** An impairment of a potable water supply by the introduction or admission of any foreign substance that degrades the quality and creates a health hazard.
- 2.9 **Cross-Connection.** A connection or a potential connection between any part of a potable water system and any other environment containing other substances in a manner that, under any circumstances, would allow such substances to enter the potable water system. Other substances may be gases, liquids or solids, such as chemicals, waste products, steam, water from other sources (potable and non-potable), or any matter that may change the color or add odor to the water.
- 2.10 **Cross-Connections - Controlled.** A connection between a potable water system and a not-potable water system with an approved backflow prevention assembly properly installed that will continuously afford the protection warranted by the degree of hazard.
- 2.11 **Cross-Connection Control by Containment.** The installation of an approved backflow prevention assembly at the water service connection to any property owner's premises where it is physically and economically infeasible to find and permanently eliminate or control all actual or potential cross-connections within the property owner's water system; or, it shall mean the installation of an approved backflow prevention assembly on the service line leading to and supplying a portion of a property owner's water system where there are actual or potential cross-connections which cannot be effectively eliminated or controlled at the point of cross-connection.
- 2.12 **Hazard, Degree Of.** The term is derived from an evaluation of the potential risk to public health and the adverse effect of the hazard upon the potable water system.
- 2.12.1 **Hazard - Health.** A cross connection or potential cross connection involving any substance that could, if introduced in the potable water system, cause death, illness, spread disease, or have a high probability of causing such effects.
- 2.12.2 **Hazard – Plumbing.** A plumbing type cross- connection in a consumer's potable water system that has not been properly protected by an approved vacuum breaker, air-gap separation or backflow prevention assembly. Unprotected plumbing type cross-connections are considered to be a health hazard.
- 2.12.3 **Hazard- non-health.** A cross- connection or a potential cross- connection involving any substance that generally would not be a health hazard but which would constitute a nuisance or be aesthetically objectionable if introduced into the potable water system.
- 2.12.4 **Hazard- System.** An actual or potential threat of severe damage to the physical properties of the public potable water system or the consumer's potable water system or of a pollution or contamination which would have a protracted effect on the quality of the potable water in the system.

- 2.13 Industrial Fluids System.** Any system containing a fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration such as would constitute a health, system, pollution or plumbing hazard if introduced into an approved water supply. This may include, but not be limited to: polluted or contaminated waters; all types of process waters and "used waters" originating from the public potable water system which may have deteriorated in sanitary quality; chemicals in fluid form; plating acids and alkalies; circulated cooling waters connected to an open cooling tower and/or cooling towers that are chemically or biologically treated or stabilized with toxic substances; contaminated natural waters such as from wells, springs, streams, rivers, bays, harbors, seas, irrigation canals or systems, etc.; oils, gases, glycerin, paraffins, caustic and acid solutions and other liquid and gaseous fluids used in industrial or other purposes or for firefighting purposes.
- 2.14 Pollution.** The presence of any foreign substance in water which tends to degrade its quality so as to constitute a non-health hazard or impair the usefulness of the water.
- 2.15 Water - Potable.** Any water that is safe for human consumption as prescribed by the public health authority having jurisdiction.
- 2.16 Water – Non-potable.** Water that is not safe for human consumption or which according to recognized standards is of questionable quality.
- 2.17 Water - Reclaimed.** Shall mean water which, as a result of treatment of wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur, and is not safe for human consumption.
- 2.18 Water - Service Connections.** The terminal end of a service connection from the public potable water system; i.e., where the water purveyor loses jurisdiction and sanitary control over the water at its point of delivery to the property owner's system. If a meter is installed at the end of the service connection, then the service connection shall mean the downstream end of the meter. There should be no unprotected connections from the service end of the meter. There should be no unprotected connections from the service line ahead of any meter or backflow prevention assembly located at the point of delivery to the property owner's water system. Service connection shall also include water service connection from a fire hydrant and all other temporary or emergency water service connections from the public water system.
- 2.19 Water - Used.** Any water supplied by a water purveyor from the public potable water system to a consumer's water system after it has passed through the point of delivery and is no longer under the sanitary control of the water purveyor.

## **Section 3 REQUIREMENTS**

### **3.1 Water System.**

- 3.1.1** The water system shall be considered as made up of two parts: The utility system and the customer system.
- 3.1.2** Utility system shall consist of the source facilities and the distribution system; and shall include all those facilities of the water system under the complete control of the utility, up to the point where the customer's system begins.
- 3.1.3** The source shall include all components of the facilities utilized in the production, treatment, storage, and delivery of water to the distribution system.
- 3.1.4** The distribution system shall include the network of conduits used for the delivery of water from the source to the customer's system.
- 3.1.5** The customer's system shall include those parts of the facilities beyond the termination of the utility distribution system which are utilized in conveying utility delivered domestic water to points of use.

### **3.2 Policy.**

- 3.2.1** No water service connection to any premises shall be installed or maintained by the water purveyor unless the water supply is protected as required by state laws and regulations and the Auburn Water System's rules and regulations. Service of water to any premises shall be discontinued by the water purveyor if a backflow prevention assembly required by these rules and regulations is not installed, tested and maintained, or if it is found that a backflow prevention assembly has been removed, bypassed, or if an unprotected cross-connection exists on the premises. Service will not be restored until such conditions or defects are corrected.
- 3.2.2** The property owner's system should be open for inspection at all reasonable times to authorized representatives of Auburn Water System to determine whether cross-connections or other sanitary hazards, including violations of these regulations, exist. When such a condition becomes known, the General Manager shall deny or immediately discontinue service to the premises by providing for a physical break in the service line until the property owner has corrected the condition (s) in conformance with state and county statutes and ordinances relating to plumbing and water supplies and regulations adopted pursuant thereto.
- 3.2.3** At no time will an approved backflow assembly restrict the flow of water in either a domestic potable water or dedicated fire line service.

**3.2.3 a** In the case of both commercial and domestic water service the bore of the backflow assembly shall be no smaller than the full flow bore of the measuring device (meter).

**3.2.3 b** In the case of dedicated fire lines, the backflow assembly's bore will be the same diameter as the required tap, as per state and local fire statutes.

**3.2.4 An approved backflow prevention assembly shall be installed on each service line to a customer's water system at or near the property line, or in a location approved by the General Manager or his/her designee, but, in any case before the first branch line leading off the service line wherever the following conditions exist:**

**3.2.4 a** In the case of premises having an auxiliary water supply which is not or may not be safe for human consumption and which is not acceptable as an additional source by the general manager, the public water system shall be protected against backflow from the premises by installing an approved reduced pressure backflow prevention assembly on the service line.

**3.2.4 b** In the case of premises on which any industrial fluids or any other objectionable substance is handled in such a fashion as to create an actual or potential hazard to the public water system, the public system shall be protected against backflow from the premises by installing an approved reduced pressure backflow prevention assembly on the service line. This shall include the handling of process waters and waters originating from the utility system which have been subject to deterioration in quality.

**3.2.4 c** In the case of premises having (1) internal cross - connections that cannot be permanently corrected and controlled, or (2) intricate plumbing and piping arrangements or where entry to all portions of the premises is not readily accessible for inspection purposes making it impracticable or impossible to ascertain whether or not dangerous cross-connections exist, the public water system shall be protected against backflow from the premises by installing an approved reduced pressure backflow prevention assembly on the service line.

**3.2.5** The type of protective assembly required under subsections 3.2.4.a, b, and c shall depend upon the degree of hazard which exists as follows:

**3.2.5 a** In the case of any premises where there is an auxiliary water supply as stated in subsection.

**3.2.4 b** Of this section and it is not subject to any of the following rules; the public water system shall be protected by an approved reduced pressure principle backflow prevention assembly.

**3.2.5 b** In the case of any premises where there is water or substance that would be objectionable but not hazardous to health, if introduced into the public water system, the public water system shall be protected by an approved reduced pressure principal assembly.

**3.2.5 c** In the case of any premises where there is any material dangerous to health which is handled in such a fashion as to create an actual or potential hazard to the public water system, the public water system shall be protected by an approved reduced pressure principal backflow prevention assembly. Examples of premises where these conditions will exist include sewage treatment plants, sewage pumping stations , chemical manufacturing plants , hospitals , mortuaries , plating plants , veterinary offices , film processing labs , hair salons , lumber mills , and any situation determined by the general manager or his/her designee determines to be a health hazard.

**3.2.5 d** **In the case of any premises where there are uncontrolled cross-connections, either actual or potential, the public water system shall be protected by an approved reduced pressure principal backflow prevention assembly at the service connection.**

**3.2.5 e** In the case of any premises where, because of security requirements or other prohibitions or restrictions, it is impossible or impractical to make a complete in — plant cross-connection survey, the public water system shall be protected against backflow from the premises by an approved reduced pressure principal backflow prevention assembly and it shall be installed on each service to the premises.

**3.2.5 f** In the case of a dedicated fire line tap whether for fire sprinklers and/or hydrants, the public water system shall be protected by an approved double check backflow prevention assembly. If a hydrant is to be present on any project, other than single family residences, the hydrant is to be installed on the dedicated fire line downstream of the backflow assembly. If a dedicated fire line is to have any substance (e.g., antifreeze or dry chemicals) present other than potable water, an immediate upgrade in protection to a reduced pressure assembly is required.

**3.2.5 g** In the case of irrigation supplied by a public potable water system as described in section 2.15, the public water system shall be protected with the minimum of an approved double check backflow prevention assembly. If any alternate source of water is cross-connected, an immediate upgrade to an approved reduced pressure backflow prevention assembly is required. If any chemicals are to be injected into the system (e.g., chemigation) an immediate upgrade in protection to a reduced pressure backflow prevention assembly is required.

**3.2.5 h** In the case of pools that are protected with an approved air gap , all potable hose bibs within 100 feet of the pool and pumping systems will be required to have an ASSE approved hose bib vacuum breaker installed . If the pool's air gap does not meet AWWA installation requirements, an immediate repair will need to be performed, or a reduced pressure backflow prevention assembly will be required.

**3.2.5 i** In the case of any property (s), other than single family dwellings, which utilizes reclaimed water for any purpose, an approved reduced pressure backflow prevention assembly will be required either as a new installation or as a retro-fit. The assembly will be required to meet all AWWA installation requirements and shall be installed at the point of service on the potable water.

**3.2.5 j** Auburn Water System will furnish and install an in-line dual check backflow prevention device on all residential potable water services which are one (1) inch in diameter or less. There will be a one time charge to the customer for all dual check backflow devices installed by Auburn Water System. All residential potable water services larger than one (1) inch will require a reduced pressure or double check backflow prevention device, depending on the situation. Auburn Water System will install and maintain all backflow prevention devices up to two (2) inch in diameter and bill the customer accordingly.

**3.2.6** As per the Florida contracting statutes chapter 489, all backflow assemblies are required to be installed by a licensed contractor with the following exemptions (chapter 489.103)

- a. "Allows you, as the owner of the property, to act as your own contractor with certain restrictions, even if you do not have a license."
- b. "Or an employee of the owner as defined as a person who receives compensation from and is under the supervision and control of an employer who regularly deducts the F.I.C.A. and withholding tax and provides workers compensation , all as prescribed by law."
- c. C. "Any work or operation of a casual, minor or inconsequential nature in which the aggregate contract price for labor, materials and all other items is less than \$1,000."

**3.2.7** Any backflow prevention assembly required herein shall be of a model and size approved by the general manager or his/her designee. The term " approved backflow prevention assembly" shall mean an assembly that has been manufactured in full conformance with the standards established by the American Water Works Association entitled : AWWA C510-89 Standard for Double Check Valve Backflow Prevention Assembly, and AWWA C 511-89 Standard for Reduced Pressure Backflow Prevention Assembly and have met completely the laboratory and field performance specifications of the Foundation for Cross-Connection Control and Hydraulic Research of the University of California established by " Specifications of Backflow Prevention Assemblies" - Sec 10 of the most current issue of the Manual for Cross Connection Control. Said AWWA and FCCC&HR standards and specifications have been adopted by Auburn Water System Inc. Final approval shall be evidenced by a Certificate of Approval issued by an approved testing laboratory certifying full compliance with said AWWA and FCCC&HR standards and specifications. The following testing laboratory has been qualified by Auburn Water System Inc. to test and certify Backflow Preventers: Foundation for Cross Connection Control and Hydraulic Research University of Southern California University Park Los Angeles, Ca. 90089

Testing laboratories, other than the laboratory listed above, will be added to an approved list as they are qualified by Auburn Water System Inc... Backflow Preventers which may be subjected to backpressure or backsiphonage that have been fully tested and have been granted a certificate of approval by said qualified laboratory and are listed on the laboratory's current list of " approved backflow prevention assemblies" may be used without further qualifications . It is also required that all backflow prevention assemblies will have replaceable seats. Auburn Water System reserves the right to disapprove any assembly in this purveyor system, which is otherwise approved, but has a chronic and excessively high failure rate.

- Florida Department of Environmental Protections requires all community water systems to establish a routine cross-connection control program. Additionally, the water systems are required to provide a written plan developed using accepted practices of the American Water Works Association, AWWA M14 and 7. This is outlined in Florida Department of Environmental Protection Rule 62-555-360.
- AWWA Manual M14 states: “An approved backflow-prevention assembly shall be installed at the service connection of the water purveyor to any premises where there is an auxiliary water supply or system, even though there is no connection between the auxiliary water supply and the public potable water system. It is important to define premises as referred to in this statement. Premises = A tract of land with its component parts (as buildings); also A building or part of a building usually with its appurtenances (as grounds or easements). It is important to note here that the backflow prevention assembly is to be required even if NO connection between the auxiliary water supply and the public potable water system exists. Potential is: existing in possibility: capable of development into actuality. It is clear that the statement that the backflow is required even if no connection between the auxiliary water supply and the public potable water system exists is in place to protect the system and its other customers should the cross connection be made at some point in the future.