FLORIDA GOVERNMENTAL UTILITY AUTHORITY
CROSS-CONNECTION CONTROL PLAN

INTRODUCTION

The FGUA drinking water systems have the responsibility to supply safe water to each and every customer under foreseeable circumstances. Each instance where water is used so as to create the possibility of backflow threatens the health and safety of our customers. Such situations may result in the public water system becoming a transmitter of disease organisms, toxic materials or other hazardous substances, which may adversely affect large numbers of people. The only protection against such occurrences is the elimination of such cross-connections or the isolation of such hazards from the water supply lines by properly installed, approved backflow prevention devices.

FGUA supplies mainly potable water to its customers. There is reuse water available for irrigation the North Fort Myers utility system, Pasco utility system, Lehigh Acres utility system and portions of the Unified Utility system. There are also private wells located throughout all of the FGUA systems which pose a potential for cross connection.

GOALS

A. Protection of the Public Water Supply System

To protect the public potable water supply from the possibility of contamination or pollution by isolating actual and/or potential cross-connections from the public potable water supply system that could create backflow by backpressure or back-siphonage (Rule 62-555, F.A.C.).

B. Elimination of Cross Connections

To promote the elimination and control of cross connections, actual or potential, between the public potable water system(s), and any other system(s) or plumbing fixture(s) in existing and future buildings and developments.

C. Cross-Connection Control Program

To provide for the maintenance and operation of a continuing program of cross-connection control, which will systematically and effectively prevent the contamination or pollution of the public water supply system, as required by the FDEP (Rule 62-555, F.A.C.).
AUTHORITY FOR CONTROLLING CROSS CONNECTIONS

A. Federal

The United States Congress enacted the Safe Drinking Water Act (PL 93-532) into law on December 16, 1974. The purpose of the law is to assure that the nation’s potable water supply systems meet minimum National Health Standards for the protection of public health.

In accordance with the Safe Drinking Water Act, the National Interim Primacy Drinking Water Regulations were promulgated on December 24, 1975 and became effective on June 24, 1977. These regulations replaced the Public Health Service Drinking Water Standard of 1962. It is stated in Appendix A of the rule that “minimum protection should include programs that result in prevention of health hazards, such as cross-connections.”

The Safe Drinking Water Act and its regulations cover all public potable water systems with 15 or more service connections and systems that regularly serve 25 individuals. Under Section 1413 of the Safe Drinking Water Act, States may obtain primary enforcement responsibilities for their water quality program. However, the state’s regulations must be equal to or exceed the federal regulations. The administrator of the EPA retains authority over states that do not obtain primacy.

B. State of Florida

The State was granted primacy over the water program under the authority of the “Florida Safe Drinking Water Act” Chapter 403.850 - 403.864, Florida Statutes and Rule 17-22, F.A.C. “Public Drinking Water Systems”. The regulations went into effect in November 1977. The State’s regulations were revised in November of 1987 to address the topic of cross-connection control and incorporated more specific language than that contained in the federal regulations. The State’s regulations (Rule 17-22, F.A.C) were revised again, and renumbered in January of 1989 as Rules 17-555 and 17-560, F.A.C. In December of 1996, Florida revised and renumbered their regulations again to Rules 62-550 and 62-555, F.A.C., respectively.

Rule 62-550.200 (18), F.A.C. defines a cross-connection as “any physical arrangement whereby a public water supply 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 as the result of backflow. By-pass arrangements, jumper connections, removable sections, swivel or changeable devices and other temporary or permanent devices through which or because of which backflow could occur are considered to be cross connections. Rule 62-555.360(1), F.A.C. states, “Cross-connection as defined in
Rule 62-550.200, F.A.C. is prohibited.”

Rule 62-555.360(2), F.A.C. states that community water systems shall establish a routine cross-connection control program to detect and prevent cross-connections that create or may create an imminent and substantial danger to the public health.

The water purveyor is given the authority and responsibility to discontinue service to any Customer who refuses installation of a cross connection control assembly where an actual and/or a potential cross-connection may exist, (Rule 62-555.360(3), F.A.C.).

The authority to control and supervise the installation of approved cross connection control devices rests with the “supplier of water or his designated representative…” (Rule 62-555.360(4), F.A.C).

C. Ordinances

The Florida Governmental Utility Authority (FGUA) is a legal entity and public body created by interlocal agreement pursuant to Section 163.01(7) Florida Statutes. It is unable to adopt or pass ordinances requiring Cross Connection Control and Backflow prevention measures but as the purveyor of water is required to implement and enforce all applicable Cross Connection Control and Backflow prevention measures as required by Florida Statutes and Florida Administrative Codes.

DEFINITIONS

A. Abbreviations - Agencies

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AASHTO</td>
<td>American Association of State Highway and Transportation Officials</td>
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<tr>
<td>ANSI</td>
<td>American National Standards Institute</td>
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<td>APWA</td>
<td>American Public Works Association</td>
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<tr>
<td>ASSE</td>
<td>American Society of Sanitary Engineers</td>
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<tr>
<td>ASTM</td>
<td>American Society for Testing Materials</td>
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<tr>
<td>AWWA</td>
<td>American Water Works Association</td>
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<tr>
<td>DIPRA</td>
<td>Ductile Iron Pipe Research Association</td>
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<tr>
<td>EPA</td>
<td>United States Environmental Protection Agency</td>
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FCCCHR  Foundation for Cross Connection Control and Hydraulic Research of the University of Southern California
FDOT  Florida Department of Transportation
FDEP  Florida Department of Environmental Protection
FDNR  Florida Department of Natural Resources
FDOH  Florida Department of Health
FGUA  Florida Governmental Utility Authority
FPSC  Florida Public Service Commission
NCPI  National Clay Pipe Institute
NEC  National Electric Code
NEMA  National Electrical Manufacturers Association
NFPA  National Fire Protection Association
OSHA  Occupational Safety and Health Administration (Federal and/or State)

B. Abbreviations – General

DIP  Ductile Iron Pipe
FPS  Feet Per Second
F.A.C.  Florida Administrative Code
GPD  Gallons Per Day
GPM  Gallons Per Minute
HDPE  High Density Polyethylene
MGD  Million Gallons Per Day
P.S.I.  Pounds per Square Inch (gauge)
PVC  Polyvinyl Chloride
ROW  Right-of-Way
C. Definitions

Except where specific definitions are used within a specific section of this Policy for the purpose of such sections, the following terms, phrases, words, and their derivations shall have the meaning given when not inconsistent with the context.

**Air Gap Separation** shall mean a physical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel. An “approved air gap separation” shall be at least 2 times the diameter of the supply pipe measure vertically above the overflow rim of the vessel with a minimum separation distance of 3 inches.

**Approved** shall reference an air-gap separation, a double check valve assembly, a reduced pressure principle cross connection control assembly or other cross connection control assemblies or methods that meet the requirements of Rule 62-555 F.A.C.

**Atmospheric Vacuum Breaker (AVB)** shall mean a cross connection control device that is operated by atmospheric pressure in combination with the force of gravity as defined by Rule 62-555 F.A.C. The unit shall be designed to work on a vertical plane only. The one moving part consists of a poppet valve that must be carefully sized to slide in a guided chamber and effectively shut off the reverse flow of water when a negative pressure exists. Use of this device shall be restricted to internal plumbing applications and not used for containment purposes at the service connection. (ASSE 1001)

**Auxiliary Water Supply** shall mean any water supply on or available to the premises other the FGUA’s potable water supply. These auxiliary waters may include other potable water supplies, wells, ponds, pools, canals, retention areas, or any other natural or manmade water source.

**Backflow** shall mean the undesirable reversal of water flow or mixtures of water and other liquids, gases or other substances into the distribution pipes of the potable water system from any source or sources as defined by Rule 62-555 F.A.C.

**Backpressure** shall mean any elevation of pressure in the downstream piping system (by pump, elevation of piping or by steam, and/or air pressure) above the supply pressure at the point of consideration that would cause or tend to cause a reversal of the normal direction of flow.

**Backsiphonage** shall mean a form of backflow due to a reduction in system pressure, which causes a negative or sub-atmospheric pressure to exist at a site in water system that would cause or tend to cause a reversal of the normal direction of flow.
**Cross Connection Control Assembly** shall mean an assembly that has been manufactured in full conformance with AWWA Standards and meets the laboratory and field performance specifications of the FCCCHR. Cross Connection Control Assemblies shall also comply with the requirements of Rule 62-555 F.A.C.

**Certified Cross Connection Control Assembly Tester** (also known as a Certified Backflow Prevention Device Tester) shall mean a person who can provide documentation proving competency in testing cross connection control assemblies to the satisfaction of the FGUA. The tester shall have attended and successfully completed an AWWA approved course for Cross Control Assembly Testers, or a course endorsed by the AWWA, or other programs or training acceptable the FDEP.

**Certified Cross Connection Control Assembly Repairer** (also known as a Certified Backflow Prevention Assembly Repairer) shall mean a person who can provide documentation proving competency in repairing cross connection control assemblies to the satisfaction of the FGUA. The repairer shall have attended and successfully completed an AWWA approved course for cross connection control assembly repairers, or a course endorsed by the AWWA, or other programs or training acceptable to the FDEP.

**Check Valve** shall mean a valve that is drip-tight in the normal direction of flow when the inlet pressure is at least 1 p.s.i. and the outlet pressure is 0 p.s.i. The check valve shall permit no leakage in a direction reverse to the normal flow. The closure element (e.g. clapper, poppet, or other design) shall be internally loaded to promote rapid and positive closure. An approved check valve is only one component of an approved cross connection control assembly, i.e., pressure vacuum breaker, double check valve assembly, or reduced pressure principle assembly.

**Contamination** shall mean impairment of the water quality that creates and actual hazard to the public health through poisoning or through the spread of disease or illness by sewage, industrial fluids, or any other means.

**Cross Connection** shall mean a connection or 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 or non-potable), or any matter that may change the color or add odor to the water.

Cross Connection Control by Containment shall mean the installation of an approved backflow-prevention assembly at the water service connection to any Customer’s premises, where it is physically and economically unfeasible to find and permanently eliminate or control all actual or potential cross connections.
within the Customer’s water system; or it shall mean the installation of an approved backflow-prevention assembly on the service line leading to and supply a portion of a Customer’s water system where there are actual or potential cross connections that cannot be effectively eliminated or controlled at the point of cross connection.

**Customer** shall mean the owner or operator of a private plumbing and/or water system who receives water from FGUA’s potable water system.

**Double Check Detector Assembly (DCDA)** shall mean a specifically designed assembly composed of an approved double check valve assembly with a specific bypass water meter and an approved double check valve assembly all properly sized. The meter shall register accurately for low flow rates and shall total all flows. The valves are located between two tightly closing resilient-seated shutoff valves as an assembly and equipped with properly located resilient-seated test cocks. This assembly shall be used to protect against a non-health hazard (pollutant) and uses subject to low water flows such as fire protection systems (ASSE 1015)

**Double Check Valve Assembly (DCVA)** shall mean an assembly consisting of two internally loaded check valves, either spring loaded or internally weighted installed as a unit between two tightly closing resilient-seated shutoff valves and fittings with properly located resilient-seated test cocks. This assembly shall be used to protect against a non-health hazard (pollutant) and uses not subject to low water flows. (ASSE 1015)

**Fire Protection System** shall mean any system, public or private, used exclusively for the purpose of having water ready for the extinguishing of fire, usually sprinkler systems, hose rack systems, or hydrant systems, metered and unmetered, connected or independent of the waterworks system.

**Hazard (degree)** shall be derived from the evaluation of conditions within a system, which can be classified as either a “pollution” (non-health), or a “contamination” (health) hazard.

**Hazard (plumbing)** shall mean an internal cross connection in a Customer’s potable water system that may be either a pollution or a contamination type hazard. This includes but is not limited to cross-connections with toilets, sinks, lavatories, wash trays, domestic washing machines and lawn sprinkling systems. Plumbing type cross connections can be located in homes, apartment houses, hotels, commercial and industrial establishments, and other structures. An appropriate type of cross connection control assembly must properly protect all structures.

**Hazard (pollution)** shall mean an actual or potential threat to the physical properties of the potable water system or the potability of the public or the Customer’s potable water system, but not constituting a health system hazard.
This type of hazard results in the degradation of the potable water system to levels that can be aesthetically objectionable or could cause minor damage to the system or its appurtenances.

**Health Agency** refers to the FDOH or FDEP, depending upon jurisdiction.

**Hose Bib Vacuum Breaker (HBVB)** shall be any approved cross connection control devise that consists of a spring loaded check valve that allows the device to vent to the atmosphere when the water is turned off. Use of this device shall be restricted to internal plumbing applications and not used for containment purposes at the service connection (ASSE 1011)

**Industrial Fluids** shall mean any fluid or solution that may physically, chemically, or biologically or otherwise contaminate or pollute potable water if introduced into the potable water system or Customers plumbing system or potable water system. Industrial fluids may include, but not be limited to polluted or contaminated water; all types of process water and “used waters” originating from the public potable water system which may deteriorate in sanitary quality; chemicals in fluid form; plating acids and alkalis; circulated cooling water connected to an open cooling tower and/or cooling waters that are chemically or biologically treated or stabilized with toxic substances; contaminated natural water such as from wells, springs, streams, rivers, bays, harbors, seas, irrigation canals or systems, etc., oil, gases, glycerin, paraffins, caustic and acid solutions; and other liquid and gaseous fluids used in commercial/industrial type processes or for fire fighting purposes.

**Industrial Piping System (Customer's)** shall mean any system used by the Customer for transmission, confinement or storage of any liquid, solid or gaseous substance other than an approved potable water supply. An industrial piping system includes all pipes, conduits, tanks receptacles, fixutres, equipment and appurtenances used to produce, convey or store substances that can pollute or contaminate potable water.

**Internal Use** shall mean the utilization of a device or devices within any premises on the Customer’s side of a water supply meter and/or master meter assembly and beyond the Cross Connection Control Device that protects the public water supply.

**Master Meter Assembly** shall mean a meter and cross connection control assembly combination that serves two or more entities on a single non-single family or non-duplex residential premise. The meter shall be a compound type and the cross connection control assembly shall be a reduced pressure detector assembly type.

**Plumbing Official** shall mean an applicable County Division of Codes and Building Code Enforcement Official

**Plumbing System** shall mean the water supply and distribution pipes, plumbing
fixtures and traps, soil, waste and vent pipes, building drains and sewers, including their respective connections, devices and appurtenances within the property line of the premises, and water-treating or water-using equipment.

Pollution shall mean an impairment of the quality of potable water to a degree that does not create a hazard to public health, but does adversely and unreasonably affect the aesthetic qualities of such waters for domestic use.

Pressure Vacuum Breaker Assembly (PVB) shall mean an assembly containing an independently operating internally loaded check valve and an independently operating loaded air inlet valve located on the discharge side of the check valve, with properly located resilient-seated test cocks and tightly closing resilient-seated shutoff valves attached at each end of the assembly. This assembly shall be designed to protect against a health hazard (contaminant) under a backsiphonation condition only and should not be used if backpressure could develop in the downstream piping. This assembly shall be used typically on irrigation systems not utilizing an auxiliary water source and not having elevated sprinkler heads. (ASSE 1020)

Reclaimed Water (also known as Reuse Water and Effluent Reuse) shall mean treated and disinfected effluent from a wastewater treatment plant used for irrigation, dust control, and all other purposes permitted by the F.A.C.

Reduced Pressure Detector Assembly (RPDA) shall mean an assembly containing two independently acting check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve with a specific bypass water meter and an approved double check valve assembly all properly sized. The meter shall register accurately for low flow rates and shall total all flows. These units are located between two tightly closing resilient-seated shutoff valves as an assembly and equipped with properly located resilient-seated test cocks. This assembly shall be designed to protect against a health hazard (contaminant) and uses subject to low water flows. (ASSE 1013)

Reduced Pressure Principle Assembly (RPPA) shall mean an assembly containing two independently acting approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. These units are located between two tightly closing resilient-seated shutoff valves as an assembly and equipped with properly located resilient-seated test cocks. This assembly shall be designed to protect against a health hazard (contaminant) and uses not subject to low water flows. (ASSE 1013)

Service Connection shall mean the terminal end of a service connection from the public potable water system, i.e., where the water purveyor may lose jurisdiction and sanitary control over the water at its point of delivery to the Customer’s water 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.

**Water (potable)** shall mean any water, which according to recognized standards is safe for human consumption.

**Water Purveyor** shall mean the public or private owner or operator of the potable water system supplying an approved water supply to the public.

**Water Supply (approved)** shall mean any public potable water supply that has been investigated and approved by FDEP. The system must be operating under a valid permit.

**Water Supply (auxiliary)** shall mean any water supply available to the premises other than the purveyor’s approved public water supply. Auxiliary water supplies include water from another purveyor’s potable water supply; other water sources such as a well, spring, river, stream, harbor, reclaimed water, industrial fluids, or any other type of water supply not controlled by the primary water purveyor.

**Water Supply (unapproved)** shall mean a water supply that has not been approved for human consumption by FDEP and/or is not operating under a valid permit.

**Water System(s) Customer’s** shall include any plumbing and/or water system located on the Customer’s premises whether supplied by a public potable water system or an auxiliary water supply. The system or systems may be either a potable water system or an industrial piping system.

**Water System(s) Customer’s potable** shall mean that portion of a privately owned potable plumbing and/or water system between the point of potable water delivered by the water purveyor and the Customer’s point of use. This system will include all pipes, conduits, tanks, receptacles, fixtures, equipment and appurtenances used to produce, convey, store, or use the potable water.

**Water System (public)** shall mean FGUA’s water supply system operated as a public water system under a valid permit from FDEP and other applicable regulatory agencies to supply potable water for domestic purposes. This system will include all sources, facilities, and appurtenances between the source and the point of delivery such as valves, pumps, pipes, conduits, tanks, receptacles, fixtures, equipment and appurtenances used to produce, convey, treat, or store potable water for public consumption or use.

**PLAN OF ACTION: COMMERCIAL, INDUSTRIAL, MULTI-STORY BUILDINGS AND REUSE CUSTOMERS**

Commercial, industrial and reuse customers are considered potential High Hazard cross-connections. Therefore, they will be handled as follows:
1. Identify all commercial, industrial, multi-story buildings and reuse customers within each of the respective FGUA systems.

2. After all commercial, industrial, multi-story buildings and reuse customers are identified, determine which accounts have existing backflow prevention devices installed and log the information into the system accounts (size, manufacturer, model, serial number, type, date of last test, etc...). Site visits may be required to identify which commercial, industrial and reuse customers do not have existing backflow prevention devices.

3. Informational material will be distributed annually to FGUA customers to educate them on backflow prevention and cross connection control, FGUA/customer responsibilities, hazard analysis surveys, testing requirements and steps the FGUA is taking to eliminate cross-connections within the water distribution system.

4. All commercial, industrial, multi-story buildings and reuse customers found to have no existing backflow prevention device will be notified of the requirement to install an approved backflow prevention device at their premises.

5. Annual testing notifications will be distributed to all commercial, industrial, multi-story buildings and reuse customers with instructions on testing requirements, record keeping and FGUA enforcement policies.

**PLAN OF ACTION: RESIDENTIAL SINGLE FAMILY (NOT ON REUSE)**

Residential Single Family Premises (not on reuse) are more likely to have Low Hazard cross-connections. Therefore, they will be handled as follows:

1. Informational material will be distributed annually to FGUA customers to educate them on backflow prevention and cross connection control, FGUA/customer responsibilities, hazard analysis surveys, testing requirements and steps the FGUA is taking to eliminate cross-connections within the water distribution system.

2. Hazard analysis surveys at each residential single family premises connection will be conducted when the customer initiates service at the premises. This will apply to new construction and existing premises that are changing ownership or activating service at the premises. The FGUA will conduct the Hazard Analysis Survey located in Attachment ‘E’ prior to activating water service to the premises.

   When the Hazard Analysis Survey is filled out, any existing residential backflow prevention devices will be logged into the FGUA account system (address, make, model etc...). If the certification tag on the backflow prevention device is expired, the customer will be responsible to contract with a certified backflow tester and will be required to submit the certification form located in Attachment ‘B’ prior to the FGUA activating water service to the premises.

   If based on the Hazard Analysis Survey it is determined that a backflow prevention device is required at the premises but not currently installed, the customer will be required to install an approved backflow prevention device at the
premises by a licensed technician. The customer will be required to submit to the FGUA the certification form located in Attachment ‘B’ which will be recorded in the FGUA system account.

3. Annual testing notifications will be distributed to all residential single family premises customers with existing backflow prevention devices including instructions on testing requirements, record keeping and FGUA enforcement policies.

CROSS CONNECTION HAZARD ANALYSIS SURVEYS

Since commercial, industrial, multi-story buildings and reuse customers are considered potential high hazard for Cross Connections, FGUA’s policy is that ALL commercial, industrial, multi-story buildings and reuse customers require an approved backflow prevention device installed at the point of connection to FGUA’s potable water system. Since ALL commercial, industrial, multi-story building and reuse customers will be required to install an approved backflow prevention device in accordance with applicable regulatory standards, the hazard analysis surveys to these customers will be limited to identifying the appropriate level of backflow prevention to be installed along with the logging of appropriate information. The customer will be responsible for surveying and identifying any internal cross connections within their plumbing or irrigation systems.

Residential Single Family Premises (Non Reuse) customers are considered a low hazard for Cross Connections unless there is a suspicion of a cross connection. The FGUA may perform a Hazard Analysis survey of the residential customer’s external premises in order to identify the presence of potential or actual cross connection sources including but not limited to: irrigation systems, auxiliary water systems including (wells, private storage tanks, reservoirs or systems capable of pumping water from lakes, streams, ponds, etc...), ornamental ponds, fountains, solar energy systems and any actual cross connections. The customer will be responsible for conducting any surveys of the residencies internal plumbing system.

PUBLIC AWARENESS EFFORTS

The Utility recognizes that it is important to inform its customers of the health hazards associated with cross connections and to acquaint them with the control program being pursued. Information will be displayed and delivered to residents through local civic clubs, bulletin boards, publications, the FGUA website www.fgua.com, bill stuffers and information brochures to be made available at each of the FGUA customer service offices.

Prior to golf course irrigation with reclaimed water commencing, golf course scorecards will have an advisory notice printed on them. Contractors involved with new home construction as well as drinking water and irrigation piping installation will have access to copies of this plan and be advised of required
construction standards surrounding cross connections.

RESPONSIBILITY

A. Customer’s Responsibility

The customer shall bear the expense to install, maintain and annually test their backflow prevention device if one is required on their premises. Also, the customer shall bear the expense to relocate the water meter, if required to properly install the backflow device.

B. FGUA’s Responsibility

The FGUA shall be responsible to enforce said cross connection control program in accordance with applicable regulatory requirements. The FGUA will notify its customers of testing and installation requirements and maintain the test results for a period of 5 years.

ENFORCEMENT

Where actual or potential residential, commercial or industrial cross connections are found to exist, the utility will require the cross connection(s) be eliminated, or isolated by a properly installed, approved backflow prevention device. Such protective measures will include a backflow protection device on the customer’s water service line ahead of any water outlets. Every effort will be made to secure the voluntary cooperation of the customer in correcting cross connection hazards. If voluntary corrective action cannot be obtained within a reasonable period of time, water service may be discontinued, for the protection of the public health and safety. Where cross connections are found which pose an extreme hazard of immediate concern, water service to the premises will be immediately disconnected.

The FGUA will notify customers in writing of the requirement to submit annual testing certifications for their backflow prevention devices. The customer will be responsible for contracting with a licensed backflow preventer technician to test their backflow device and submit to the FGUA the required certifications. Every effort will be made to notify the customer in writing of the backflow preventer testing requirements. In cases where the FGUA is unable to obtain the necessary annual testing certifications after appropriate written notification and subsequent re-notification has been performed, the FGUA may discontinue water service to the premises.

As stated previously the FGUA is a legal entity and public body created by interlocal agreement pursuant to Section 163.01(7), Florida Statutes and is unable to adopt or pass Ordinances. Since it is unable to adopt /pass Ordinances it is unable to impose penalties or fines for non-compliance with the Cross Connection Control Policy. It is however able to discontinue water service to the
premises for non-compliance with the Cross Connection Control Policy and may discontinue water service to the premises for failure to submit the required testing certifications or for failure to install a backflow prevention device at the premises if it has been determined to be necessary.

PROCEDURES FOR INSPECTIONS OF SUSPECTED CROSS CONNECTIONS

In most cases, the customer will be required to contract with a certified inspector. When the need arises for Utility personnel to inspect, the following procedures will be followed. This will only be done if a premise is considered to possess a possible source of backflow that may cause contamination or pollution of Utility facilities.

It is recognized that many customers may not recognize that they have a situation that would permit backflow into the water supply lines. In these cases where a device is not required but a hazard is suspected, a thorough investigation will be made by the Utility of the premises. Such inspections will involve the customer’s entire internal water delivery system including the various outlets, water using equipment, and other system components in an effort to locate all actual and potential cross connections. The findings will be reported to the owner or occupant in writing along with a request for needed corrective action necessary to properly protect the public water system.

A. Complaints

When a complaint is received by the FGUA customer service office and a cross connection is suspected, the complaint will be logged and a work order issued for a field visit.

B. Field Visits Procedures

During the investigation, a field sheet will be completed showing details of significant findings. The hazards that cross connections pose will be explained fully to the persons participating in the survey. The customer will be informed that the information gathered during the survey will be reviewed by the Utility, and that a written report containing any recommendations will be delivered to them as soon as possible. The customer will be given a time limit for making the needed corrections in the correspondence. Time for making corrections may vary, depending upon the seriousness of the cross connections involved, and upon the complexity and difficulty of correcting the problems.

C. Follow-up Visit and Re-inspection

Follow-up visits will be made as needed to assist the customer, and to
assure that satisfactory progress has been made. Such visits will continue until all corrective action has been completed to the satisfaction of the Utility.

D. **Emergencies**

During emergency circumstances when a high hazard cross-connection is identified, water service to the premises will be immediately disconnected. Affected customers will be notified, distribution lines will be flushed and sampled to ensure the water is not contaminated, and protective measures will be required to be installed prior to reactivation of service.

**INSTALLATION OF BACKFLOW PREVENTION DEVICES**

Where the customer is required to install a backflow prevention device, the customer will be informed of the approved device. An approved cross connection control assembly or device shall be both manufactured in full conformance with the standards established by the AWWA entitled: AWWA C505-69 “Standards for Reduced Pressure Principle and Double Check Valve Assemblies”, or later adopted version and conform with the laboratory and field performance specifications of the University of Southern California’s Foundation for Cross Connection Control and Hydraulic Research (FCCCHR). In addition, minimum acceptable installation criteria will be supplied. It will be pointed out that a unit cannot be approved until it has been certified and tested by a licensed backflow prevention technician and the appropriate certifications received by the FGUA.

All approved cross connection control assemblies shall also be in compliance with the standards set forth by the following agencies: FDEP – Rule 62-555.360 and 62-555.335 F.A.C., American Society of Sanitary Engineers (ASSE) and State Standard Plumbing Codes.

The backflow prevention device or assembly will be installed at a location acceptable to the FGUA. Devices over 2 inches may require a preconstruction conference with the FGUA prior installation.

A. **Approval of New Installations**

The Utility will not consider the installation of protective measures to be complete until, (1) the installation has been inspected and approved by a certified backflow prevention technician, (2) where applicable, tests are performed to determine that the protective devices meet acceptable performance standards, (3) testing certification of the new device is submitted to the appropriate local utility office.

B. **Plan Review and New Construction**

Commercial – When a commercial project is the early stages of
development, the developer is required to submit initial construction plans to the FGUA. At this point the FGUA reviews the plans and if a backflow prevention device is not already indicated on the plans, FGUA informs the developer of the requirement of a backflow prevention device. Prior to final project acceptance and closeout the FGUA requires certification of backflow installation and testing to be submitted to the FGUA which is subsequently logged into our tracking system.

Residential – Upon initial request from the property owner or developer to activate service at a residential premise the FGUA will perform an external hazard analysis survey of the property to determine if a backflow prevention device is required at the premises. If a backflow prevention device is required the property owner will be required to install an approved device and submit the required certification prior to FGUA activating service at the premises.

PREMISES REQUIRING PROTECTION MEASURES

A. Extreme Hazards Requiring Immediate Correction

Where cross connections are found which pose an extreme hazard of immediate concern, the premises shall be required to take immediate corrective action. In the case of non-compliance, immediate steps will be taken to disconnect water service and not reestablish until the necessary corrections have been made.

B. Premises of Less Immediate Concern

In cases where there is less hazard, or less likelihood of cross connections contaminating the system, a reasonable time period will be allowed for corrections.

C. Level of Protection

The following partial list of facilities shall be served by an approved backflow prevention device of the type designated, installed at the meter or service connection of the public potable drinking water supply. In the event of a conflict regarding the level of protection needed, the most protective assembly or device shall be utilized.

DCDA = Double Check Detector Assembly
DCVA = Double Check Valve Assembly
RPDA = Reduced Pressure Detector Assembly
RPPA = Reduced Pressure Principle Assembly (aka RPZ)
DuC = Dual Check Device
<table>
<thead>
<tr>
<th>Type of Facility</th>
<th>Minimum Type of Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Commercial, Industrial and Multi Story Buildings</td>
<td>RPDA or RPPA allowed if assembly is two (2) inches or smaller</td>
</tr>
<tr>
<td>(commercial or residential)</td>
<td></td>
</tr>
<tr>
<td>All Reuse Customers</td>
<td>Commercial - RPPA</td>
</tr>
<tr>
<td></td>
<td>Residential – RPPA or DCVA</td>
</tr>
<tr>
<td>Single Family Residential Premises - Identified by the</td>
<td>RPPA</td>
</tr>
<tr>
<td>FGUA as having the potential for cross connections.</td>
<td></td>
</tr>
<tr>
<td>Typical potentials for cross connection at residential</td>
<td></td>
</tr>
<tr>
<td>premises include but not limited to the following:</td>
<td></td>
</tr>
<tr>
<td>• Irrigation systems</td>
<td></td>
</tr>
<tr>
<td>• Auxiliary water systems present including wells,</td>
<td></td>
</tr>
<tr>
<td>private storage tanks, reservoirs capable of pumping</td>
<td></td>
</tr>
<tr>
<td>water from lakes, streams, ponds etc…</td>
<td></td>
</tr>
<tr>
<td>Fire Protection System (No Additives)</td>
<td>DCDA or RPDA</td>
</tr>
</tbody>
</table>

**Note:** Existing backflow prevention devices meeting acceptable FDEP minimum standards will be grandfathered into FGUA’s CCCP policy. Any existing backflow prevention device not meeting acceptable FDEP minimum standards will be required to be replaced in accordance with the above FGUA standards. All new installs shall meet the above referenced FGUA standards.

**D. Fire Protection Systems**

All fire protection system service lines shall have an approved double check detector assembly installed on the premises prior to the connection point with the potable water system. Mains specifically for private fire hydrants shall have an approved double check detector assembly installed on the premises prior to the connection point with FGUA’s potable water system. A fire protection system, which incorporates chemical additives, shall have an approved reduced pressure detector assembly installed on the premises prior to the connection point with the potable water system.

When backflow prevention devices are added to existing fire protection systems it may alter the hydraulics of the system and therefore it is highly
recommended that the property owner consult with a registered professional engineer or certified fire-protection system contractor to check the hydraulics of the existing fire protection system prior to installation of a new backflow prevention device.

E. Assessment of Hazard and Protection for Internal Protection

The FGUA’s responsibility for backflow prevention and cross connection control ends at the point of connection to the potable water system. It is the customers responsibility to safe guard any internal plumbing devices, and/or fixtures. Below is a partial list of internal plumbing devices, and/or fixtures that typically require backflow prevention devices.

1. Commercial dishwashing machines
2. Degreasing equipment
3. Garbage can washers
4. Ice Machines
5. Lawn irrigation systems with and without fertilizer injection systems
6. Vending machines
7. Rubber hoses and Mop Sinks
8. Steam Generators
9. Heating equipment
10. Autopsy and Mortuary Equip.
11. Dye Vats or Machines
12. Cooling Towers w/ Chemical Additives

TESTING OF PROTECTIVE DEVICES

The Utility recognizes that it is essential that continuous pressure type backflow prevention devices be tested on a regular basis by a certified backflow tester, if the devices are to be relied upon. It is recognized that the devices can fail to meet the performance standards for which they are designed due to fouling, wear, or mechanical problems. Routine testing and proper maintenance is considered essential for proper operation. In conjunction with the visit for testing backflow prevention devices, the certified backflow tester will investigate to determine, (1) that cross connection, actual or potential, have not been added ahead of the protective device(s), and (2) that the protection has not been bypassed or altered in some other way that would compromise the desired protection.

A. Routine Testing of Backflow Prevention Devices

All backflow prevention devices that are utilized for the protection of the water system will be tested routinely by a trained certified tester at the following intervals:
(1) Immediately following installation.
(2) At least annually, and possibly more frequently for high hazards;
(3) Any time protective devices have been partially disassembled for cleaning and/or repairs and;
(4) Where there is indication that the unit may not be functioning properly (i.e., excessive or continuous discharges from relief valve, chatter or vibration of internal parts).

B. Accepted Test Procedures

Testing of these units will be made using test equipment and test procedures conforming to those outlined in the latest edition of the “Cross connection Control Manual” published by the Foundation for Cross connection Control and Hydraulic Research - University of Southern California.

C. Repairs

Should a protective device be found defective (not meeting above referenced performance standards), the Utility will require the device to be repaired promptly and placed in proper operating condition. Following repairs, the device is to be tested again to verify that it is meeting performance standards. The owner will be held responsible for maintaining protective measures in a good state of repairs. All costs associated with the installation, repair and testing of privately owned backflow prevention devices will be the sole responsibility of the customer.

D. Official Tests

Only a test performed by a certified backflow tester will be considered as an official test by the Utility. Results of said backflow certification test shall be submitted to the appropriate FGUA customer service office.

E. Prior Arrangements for Testing

Unless otherwise requested, arrangements for testing the backflow device are the responsibility of the customer. The customer, upon notification by the FGUA, has an obligation to schedule a time for testing protective devices.

F. Parallel Units

The Utility may require the installation of parallel units if the customer cannot readily accommodate interruptions of water service for periodic testing and repairs of the backflow prevention device, or is unwilling to cooperate in scheduling a shutdown promptly for testing during normal hours worked by Utility personnel.

G. Discontinuance of Service

In cases where the FGUA is unable to obtain the necessary annual testing certifications after appropriate written notification and subsequent re-notification
has been performed the FGUA may discontinue water service to the premises.

RECORDS

Adequate records will be maintained as a part of the Utility’s permanent files to:
(1) Document the overall effort of the water system to properly discharge its responsibility to see that each customer receives safe water under all foreseeable circumstances;
(2) Provide a historical perspective and the current status of individual premises regarding the potential for backflow, corrections made, etc.
(3) To support enforcement action, whenever necessary, to obtain backflow protection and;
(4) Document that protective measures have been properly installed, maintained, and routinely tested

Records to be maintained by the Utility will include, but not necessarily be limited to the following:
(1) Records on initial surveys, recommendations, follow-up, corrective action, routine re-inspection, test results, etc. for individual premises;
(2) Correspondence between the Utility and its customers, health department, plumbing inspection agency, etc.
(3) A master listing of all protective devices, showing the location, kind of protective device, make, model, size, etc.;
(4) Test reports on each protective device;

ATTACHMENTS

A) FGUA STANDARD DETAILS FOR CROSS CONNECTION CONTROL ASSEMBLIES

B) BACKFLOW PREVENTION DEVICE FIELD TEST & MAINTENANCE REPORT

C) FGUA LIST OF APPROVED DEVICES

D) PARTIAL LIST OF LOCAL CERTIFIED BACKFLOW TESTING AND REPAIR TECHNICIANS

E) FGUA EXTERNAL PREMISES HAZARD ANALYSIS SURVEY

F) FREQUENTLY ASKED QUESTIONS, BROCHURES AND INFORMATIONAL MATERIAL

END