

JACKSON COUNTY WATER AND SEWERAGE AUTHORITY

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**Cross-Connection Control Program**

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# JACKSON COUNTY WATER AND SEWERAGE AUTHORITY

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## **Cross-Connection Control Program**

### **I. Purpose**

- a. To protect the public potable water supply served by the Jackson County Water and Sewerage Authority from the possibility of contamination or pollution by isolating, within its customers internal distribution system, such contaminants or pollutants which could backflow or back-siphon into the public water system.
- b. To promote the elimination or control of existing cross- connections, actual or potential, between its customers in-plant potable water system, and non-potable systems.
- c. To provide for the maintenance of a continuing program of cross-connection control which will effectively prevent the contamination or pollution of the Authority's public water system by cross- connection.

### **II. Authority**

- a. The Federal Safe Drinking Water Act of 1986, and the statutes of the State of Georgia, Rules for Safe Drinking Water, 391-3-5, provides that the water purveyor has the primary responsibility for preventing water from unapproved sources, or any other substances, from entering the public potable water system.
- b. Jackson County Water and Sewerage Authority Policy, adopted.

### **III. Responsibility**

The Authority Manager shall be responsible for the protection of the public potable water distribution system from contamination or pollution due to the backflow or backsiphonage of contaminants or pollutants through the water service connection. If, in the judgment of the Authority Manager, an approved backflow device is required at the Authority's water service connection to any Subscriber's premises, the Authority Manager, or his designee, shall give notice in writing to said Subscriber to install an approved backflow prevention device at each service connection to his premises. The subscriber shall, within thirty (30) days install such approved device, or devices, at his own expense, and failure or refusal, or inability on the part of the Subscriber to install said device or devices within thirty (30) days, shall constitute a ground for discontinuing water service to the premises until such device or devices have been properly installed in accordance with Section 608 of the International Plumbing Code, 2006 Edition, and tested by a person certified by the State of Georgia (BPAT) in testing backflow prevention assemblies.

## **IV. Definitions**

### **A. Approved**

Accepted by the Authority Manager or his delegated representative, as meeting an applicable specification stated or cited in this Policy, or as suitable for the proposed use.

### **B. Auxiliary Water Supply**

Any water supply, on or available, to the Subscriber's premises other than the Authority's public potable water supply.

### **C. Backflow**

The flow of water or other liquids, mixtures or substances, under positive or reduced pressure in the distribution pipes of a potable water supply from any source other than its intended source.

### **D. Backflow Preventer, Backflow Device, Backflow Assembly**

The terms above, for the purposes of this Policy, are used interchangeably. All are a mechanical means designed to prevent backflow or backsiphonage. Most commonly categorized as air gap, reduced pressure principle device, double check valve assembly, pressure vacuum breaker, atmospheric vacuum breaker, hose bibb vacuum breaker, residential dual check, double check with intermediate atmospheric vent, and barometric loop.

#### ***D.1 Air Gap***

A physical separation sufficient to prevent backflow between the free-flowing discharge end of the potable water system and any other system. Physically defined as a distance equal to twice the diameter of the supply side pipe diameter but never less than one (1) inch.

#### ***D.2 Atmospheric Vacuum Breaker***

A device which prevents backsiphonage by creating an atmospheric vent when there is either a negative pressure or sub-atmospheric pressure in a water system.

#### ***D.3 Barometric Loop***

A fabricated piping arrangement rising at least thirty five (35) feet at its topmost point above the highest fixture it supplies. It is utilized in water supply systems to protect against backsiphonage.

#### ***D.4 Double Check Valve Assembly (DCVA)***

An assembly of two (2) independently operating spring loaded 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.

#### ***D.5 Double Check Valve with Intermediate Atmospheric Vent***

A device having two (2) spring loaded check valves separated by an atmospheric vent chamber.

#### ***D.6 Hose Bibb Vacuum Breaker***

A device which is permanently attached to a hose bibb and which acts as an atmospheric vacuum breaker.

#### ***D.7 Pressure Vacuum Breaker***

A device containing one or two independently operated spring loaded check valves and an independently operated spring loaded air inlet valve located on the discharge side of the check or checks. Device includes tightly closing shut-off valves on each side of the check valves and properly located test cocks for the testing of the check valve(s).

#### ***D.8 Reduced Pressure Principle Backflow Preventer (RPZ)***

An assembly consisting of two (2) independently operating approved check valves with an automatically operating differential relief valve located between the two (2) check valves, tightly closing shut-off valves on each side of the check valves plus properly located test cocks for the testing of the check valves and the relief valve.

#### ***D.9 Residential Dual Check***

An assembly of two (2) spring loaded, independently operating check valves without tightly closing shut-off valves and test cocks. Generally employed immediately downstream of the water meter to act as a containment device.

### **E. Backpressure**

A condition in which the owners system pressure is greater than the suppliers system pressure.

### **F. Backsiphonage**

The flow of water or other liquids, mixtures or substances into the distribution 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.

### **G. Containment**

A method of backflow prevention which requires a backflow prevention device at the water service entrance.

### **H. Contaminant**

A substance that will impair the quality of the water to a degree that it creates a serious health hazard to the public leading to poisoning or the spread of disease.

### **I. Cross-Connection**

Any actual or potential connection between the public water supply and a source of contamination or pollution.

### **J. Authority**

Jackson County Water and Sewerage Authority or JCWSA, a political subdivision of the State of Georgia, H.B. No. 1995, Act No. 1367.

### **K. Fixture Isolation**

A method of backflow prevention in which a backflow preventer is located to correct a cross connection at an in-plant location rather than at a water service entrance.

### **L. Subscriber/Owner**

Any person, who has legal title to, or license to operate or inhabit in, a property upon which a cross-connection evaluation is to be made or upon which a cross-connection is present, or has an executed Water Service Account Agreement with the Authority

### **M. Person**

Any individual, partnership, company, public or private corporation, political subdivision or agency of the State, a department, agency or instrumentality of the United States or any other legal entity.

### **N. Pollutant**

A foreign substance, that if permitted to get into the public water system, will degrade its quality so as to constitute a moderate hazard, or impair the usefulness or quality of the water to a degree which does not create an actual hazard to the public health but which does adversely and unreasonably effect such water for domestic use.

## **O. Water Service Entrance**

That point in the Subscriber's water system beyond the sanitary control of the Authority; generally considered to be the outlet end of the water meter and always before any unprotected branch.

## **P. Authority Manager**

The Manager, or his delegated representative in charge of the Authority's water distribution, is charged with the authority and responsibility for the implementation of a cross-connection control program and for the enforcement of the provisions of the Policy.

## **Q. State**

The State of Georgia, Department of Natural Resources, Environmental Protection Division.

## **V. Administration**

- a. The Authority shall operate a cross-connection control program, to include the keeping of necessary records, which fulfills the requirements of the Georgia Rules for Safe Drinking Water, 391-3-5, Cross Connection Regulations and is approved by the State of Georgia.
- b. As a condition of providing water service to a premise, the Subscriber agrees that an evaluation of the premises is conducted at the sole discretion of the Authority for possible cross-connections and their degrees of hazards, and shall follow the provisions of the Authority's program and the State of Georgia's Regulations if a cross-connection is permitted.
- c. The Authority, where practical, requires that the public supply be protected at the water service entrance (containment). The Subscriber shall be responsible for water quality beyond the outlet end of the containment device and should utilize fixture outlet protection for that purpose.
- d. The Subscriber may utilize public health officials, a licensed plumbing contractor, personnel from the Jackson County Building Inspection Department, or their delegated representatives, to assist him in the survey of his facilities and to assist him in the selection of proper fixture outlet devices, and the proper installation of these devices.

## **VI. Requirements**

### **A. Authority**

- a. On new installations, the Authority shall provide on-site evaluation and/or inspection of plans in order to determine the type of backflow preventer, if any, that will be required. As part of its evaluation the Authority shall take into consideration the guidelines established by the International Plumbing Code, Section 608, 2006 Edition and adopted by the Jackson County Building Department and the State of Georgia Department of



Community Affairs. In any case, a minimum of a dual check valve will be required in any new construction

- b. For commercial/industrial premises existing prior to the start of this program, the Authority may find it necessary to perform evaluations based on available plans, documents and/or information provided by the Subscriber and inform the Subscriber or Subscriber's representative by letter of any corrective action deemed necessary, the method of achieving the correction, and the time allowed for the correction to be made. Ordinarily, thirty (30) days will be allowed, however, this time period may be shortened depending upon the degree of hazard involved and the history of the device(s) in question.
- c. The Authority shall not allow any cross-connection to remain unless it is protected by an approved backflow preventer that has been properly installed and which shall be regularly tested to insure the device's satisfactory operation.
- d. The Authority shall inform the Subscriber by letter, of any failure to comply, by the time of the first re-inspection. The Authority will allow an additional thirty (30) days for the correction. In the event the Subscriber fails to comply with the necessary correction by the time of the second re-inspection, the Authority will inform the Subscriber by letter, that the water service to the Subscriber's premises will be terminated within a period not to exceed five (5) days. In the event that the Subscriber informs the Authority of extenuating circumstances as to why the correction has not been made, a time extension may be granted by the Authority but in no case will exceed an additional thirty (30) days.
- e. If the Authority determines at any time that a serious threat to the public health exists, the water service shall be terminated immediately.
- f. The Authority shall allow testing by any Georgia state certified (BPAT) tester. All charges for these tests shall be the responsibility of the Subscriber of the water service.

## **B. Subscriber**

- a. The Subscriber shall be responsible for the elimination or protection of all cross-connections on his premises.
- b. The Subscriber, after having been informed by a letter from the Authority, shall at his expense, install, maintain, and test, or have tested, any and all backflow preventers on his premises, to include any device installed downstream of the Authority's meter.
- c. The Subscriber shall correct any malfunction of the backflow preventer which is revealed by periodic testing within thirty (30) days.
- d. The Subscriber shall inform the Authority of any proposed or modified cross-connections and also any existing cross-connections of which the Subscriber is aware but has not been found by the Authority.
- e. The Subscriber shall not install a bypass around any backflow preventer unless there is a backflow preventer of the same type on the bypass. Subscribers who cannot shut down

operation for testing of the device(s) must supply additional devices necessary to allow testing to take place.

- f. The Subscriber shall install backflow preventers in a manner approved by the Authority or the International Plumbing Code, Section 608, 2006 Edition, and including the Georgia State Amendments to said Code, 2007.
- g. The Subscriber shall install only backflow preventers approved by the Authority or the State of Georgia.
- h. Any Subscriber having a private well or other private (auxiliary) water source cannot have a cross-connection to the Authority's water system. Permission to cross-connect will be denied by the Authority.
- i. The Subscriber may be required to install a backflow preventer at the water service entrance if a private water source is maintained, even though a cross-connection to the Authority's system may not be apparent.
- j. In the event the Subscriber installs plumbing to provide potable water for domestic purposes which is on the Authority's side of the backflow preventer, such plumbing must have its own Authority-approved backflow preventer installed.
- k. The Subscriber shall be responsible for the payment of all fees as they relate to the Authority's Water Service Agreement, or for any required permits, annual or semi-annual device testing, retesting in the case that the device fails to operate correctly, and all subsequent device retesting required to remain in compliance with this Policy's requirements.

## **VII. Degree of Hazard**

The Authority, in coordination with Section 608 of the International Plumbing Code, 2006 Edition, recognizes the threat to the public water system arising from cross-connections. All threats will be classified by degree of hazard and will require the installation of approved reduced pressure principle backflow prevention devices (RPZ's) or double check valve assemblies (DCVA's).

## **VIII. General**

The Authority shall not permit a cross-connection within the public water supply system unless it is considered necessary and that it cannot be eliminated. A testable backflow device is not required when fixture isolation is achieved with the utilization of a non-testable backflow preventer.

## **IX. Existing in-use backflow prevention devices.**

Any existing backflow preventer shall be allowed by the Authority to continue in service provided the device tests satisfactorily as required under this Policy. Where the degree of backflow hazard has increased, as in the case of a residential installation converting to a business

establishment, any existing backflow preventer must be upgraded to either a reduced pressure principle device or a testable double check valve assembly depending on the increased hazard level as determined by the Authority.

## **X. Periodic Testing**

- a. Reduced pressure principle backflow devices shall be tested and inspected at least semi-annually. Double Check Valve Assemblies shall be tested at least annually.
- b. Periodic testing shall be performed by a person certified in the testing of backflow prevention assemblies by the Georgia Statewide Backflow Prevention Assembly Certification Program, as approved by the state, the American Backflow Prevention Association (ABPA). Only testers with valid and current BPAT numbers through the State of Georgia shall be allowed. This testing shall be done at the owner's expense.
- c. Any backflow preventer which fails during a periodic test shall be repaired or replaced. When repairs are necessary, upon completion of the repair the device will be re-tested at Subscriber's expense to insure correct operation. High hazard situations will not be allowed to continue unprotected if the backflow preventer fails the test and cannot be repaired immediately. In other situations, a compliance date of not more than thirty (30) days after the test date will be established. The Subscriber is responsible for spare parts, repair tools, or a replacement device. Parallel installation of two (2) devices is an effective means of the owner insuring that uninterrupted water service during testing or repair of devices and is strongly recommended when the Subscriber desires such continuity.

Backflow prevention devices shall be tested more frequently than specified in (a.) above, in cases where there is a history of test failures and the Authority feels that due to the degree of hazard involved, additional testing is warranted. Cost of the additional tests shall be borne by the Subscriber. Failure of the Subscriber to repair, replace or test a backflow device within the thirty (30) day time frames outlined in this Policy shall subject the Subscriber's Premises water service to termination after written notification by the Authority.

## **XI. Records and Reports**

### **A. Records**

The Authority will initiate and maintain the following:

- a. Master files on customer cross-connection tests and/or inspections.
- b. If required, master files on cross-connection permits.
- c. If required, copies of permits and permit applications.
- d. Upon request, copies of lists and summaries supplied to the state.

## **B. Reports**

Upon request, the Authority shall submit the following to the state:

- a. Initial listing of low hazard cross-connections.
- b. Initial listing of high hazard cross-connections.
- c. Annual update lists of items 1 and 2 above.
- d. Annual summary of cross-connection inspections.

## **XII. Fees and Charges**

None Presently

## **XIII. RELATED NOTES**

### **A. Strainers**

The Authority strongly recommends that all new retrofit installations of reduced pressure principle devices (RPZ's) and double check valve assemblies(DCVA's) include the installation of strainers located immediately upstream of the backflow device. The installation of strainers will preclude the fouling of backflow devices due to both foreseen and unforeseen circumstances occurring to the water supply system such as water main repairs, water main breaks, fires, periodic cleaning and flushing of mains, etc. These occurrences may "stir up" debris within the water main that will cause fouling of backflow devices installed without the benefit of strainers.