

ARTICLE IV
CROSS CONNECTION CONTROL AND
BACKFLOW PREVENTION

SECTION 111-103. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this article, except where the context clearly indicates a different meaning:

Acceptable entry conditions means the conditions that must exist in a permitted space to allow entry and to ensure that employees involved with a permit required confined space entry can safely enter into and work with the space.

Approved means accepted by the director of utilities or his designee as meeting an applicable specification stated or cited in this regulation, or as suitable for the purpose used.

Auxiliary Water Supply means any water supply, on or available, to the premise other than the purveyor's approved public potable water supply.

Backflow means the undesirable reversal of flow of water or mixtures of water and other liquids, gases or other substances into the distribution piping of the potable water supply.

Backflow Preventer means a device or means designed to prevent backflow or backsiphonage. Backflow preventers are most commonly categorized as air gap, reduced pressure principal device (RPZ), double check valve assembly, pressure vacuum breaker, atmospheric vacuum breaker, hose bib vacuum breaker, residential dual check valve, double check valve with atmospheric vent, and barometric loop.

- (1) ***Air Gap*** means 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 inch.
- (2) ***Atmospheric Vacuum Breaker*** means 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.
- (3) ***Barometric Loop*** means a fabricated piping arrangement rising at least 35 feet at its topmost point above the highest fixture it supplies. It is utilized in water supply systems to protect against backsiphonage.
- (4) ***Double Check Valve Assembly*** means an assembly of two independently operating spring loaded check valves with tightly closing shut off valves on each side of the check valves, plus properly located cocks for the testing of each check valve.
- (5) ***Double Check Valve With Intermediate Atmospheric Vent*** means a device having two spring loaded check valves separated by an atmospheric vent chamber.

- (6) ***Hose Bibb Vacuum Breaker*** means a device which is permanently attached to a hose bibb and which acts as an atmospheric vacuum breaker.
- (7) ***Pressure Vacuum Breaker*** means 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. Such 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 valves.
- (8) ***Reduced Pressure Principle Backflow Preventer*** means an assembly consisting of two independently operating approved check valves with automatically operating differential relief valve located between the two 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.
- (9) ***Residential Dual Check Valve*** means an assembly of two spring-loaded, independently operating check valves without tightly closing shut-off valves and test cocks. Such assembly is generally employed immediately downstream of the water meter to act as a containment device.

Back-pressure means a condition in which the owner's system pressure is greater than the City's system pressure.

Backsiphonage means 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.

City-owned and Operated Backflow Preventer means a backflow preventer that may also be installed by the City on a water service line that is owned and operated by the City. The presence of a City-owned and operated backflow preventer does not excuse a customer from meeting the requirements of the City to install a separate back flow preventer that must be maintained by the customer.

Confined space means a space that:

- (1) Is large enough and so configured that an employee can bodily enter and perform assigned work;
- (2) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults and pits are spaces that may have limited means of entry); and
- (3) Is not designed for continuous employee occupancy.

Containment means a method of backflow prevention which requires a backflow preventer at the at the water service entrance.

Contaminant means a substance that will impair the quality of a water supply to a degree that it creates a serious health hazard to the public leading to poisoning, the spread of disease, or death if ingested.

Cross connection means any actual or potential connection between the public water supply and a source of contamination or pollution. Potential contaminants include but are not limited to: industrial fluid, chemicals, gas, sewage, well water, irrigation water, reuse water, lawn chemicals, or other substance.

Customer means the owner, renter, or lessee of residential, commercial, industrial or government facilities receiving water service from the City water system.

Degree of Hazard the inherent ability of a substance to do harm, cause illness, spread disease, or cause death due to its toxicity, corrosiveness, flammability, or other characteristic, and the potential for that substance to come into contact with persons or the environment. The city determines the degree of hazard posed by a connection to the City water system based on the potential of substances on the customer's premises to contaminate the City's water system due to a backflow situation and affect the health and welfare of its customers.

Department means the City Department of Utilities.

Director means the Director of the City of Cumming Department of Utilities, or a duly authorized representative invested with the authority for the implementation of a cross connection control program and for the enforcement of the provisions of this article.

Fixture Isolation means 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.

Health Hazard means an actual or potential threat of contamination to the public potable water system that would be a danger to health.

Owner means any person who has legal title to, or license to operate or habitate in, a property upon which a cross connection inspection is to be made or upon which a cross connection is present.

Permit means a document issued by the Department which allows the use of a backflow preventer.

Person means any individual, partnership, co-partnership, firm, company, corporation, association, joint-stock company, trust estate, governmental entity, or any other legal entity; or their legal representatives, agents, or assigns. This definition includes all Federal, State, and local governmental entities.

Pollutant means 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 and actual hazard to the public health but which does adversely and unreasonably affect such water for domestic use.

Purveyor means a water supplier.

Service Connection means the point of delivery of water to a premises, normally at the location of the water meter. It is the end of the water purveyor's jurisdiction and the beginning of the customer's responsibility.

SECTION 111-104. Purpose.

The purpose of this article shall be to:

(a) Protect the public from potential hazards that could jeopardize health, safety and welfare.

(b) Protect the public potable water supply served by the City of Cumming Department of Utilities from the possibility of contamination or pollution by requiring City customer to isolate, within the customer's internal distribution system, such contaminants or pollutants which could backflow or back-siphon into the public water system.

(c) Eliminate or control existing and potential cross connections between the City's potable water system and other potable water systems or non-potable systems.

(d) Create and maintain an ongoing cross connection control program by requiring the proper installation and on-going maintenance of appropriate backflow prevention devices.

SECTION 111-105. Authority.

(a) In accordance with the federal Safe Drinking Water Act of 1974, the statutes of the state, and chapter 391-3-5.13 of the Georgia Rules for Safe Drinking Water, 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) This article is adopted under the authority of the City Department of Utilities rules and regulations.

SECTION 111-106. General Responsibility.

(a) Thermal Expansion. It shall be the responsibility of the owner of any premise to provide necessary protection against thermal expansion as needed and specified by relevant standards enforced by the city.

(b) Confined space. Customers shall comply with OSHA regulations codified at 29 CFR 1910.146, regarding permit-confined spaces.

SECTION 111-107. Department Responsibility.

(a) The City shall provide an on-site evaluation in order to determine if a backflow preventer or if multiple backflow preventers will be required, and if so, which type.

(b) A plan must be submitted to the City by the customer for all new installations of backflow preventers and the plan must be approved by the City prior to installation by the customer.

(c) All backflow preventers shall be installed according to and meet the requirements of the Manual of Technical Specifications and Construction Details for the City of Cumming Water Distribution System.

(d) The customer shall have all backflow preventers on their premises installed by a licensed plumber who is qualified in the State of Georgia to install backflow prevention devices.

(e) Once the backflow device has been installed and tested, the customer must contact the Department of Utilities for an inspection of the device before it can be placed into operation.

(f) For premises existing prior to the adoption of the ordinance from which this section is derived, the city water system will perform evaluations and inspections of plant and/or premises and inform the customer by letter of any corrective action deemed necessary, the method of implementing the corrective action, and the time frame allowed for the correction to be made depending on the degree of hazard.

(g) The City will not allow any service connection to remain unless it is protected by an approved backflow preventer for which a permit has been issued and which will be tested regularly to ensure satisfactory operation.

(h) The City shall inspect a customer's premise to determine compliance with this Ordinance and will provide written notice of violations and resulting fines to the customer. If a violation is discovered, the City will allow an additional 7 days for the required corrective action to be completed. If the owner fails to complete the required corrective action at the time of the second inspection, the water service to the premises will be terminated. If the owner demonstrates to the City water system that extenuating circumstances existed that prevented completion of corrective action, a time extension may be granted by the City. However, in no case shall the extension exceed an additional 24 hours.

(i) If the City determines at any time that a serious threat to the public health exists, the water service will be terminated immediately.

(j) The Director of Utilities shall be responsible for administering the city cross connection control program for the city to protect the public potable water distribution system from contamination due to the backflow or backsiphonage of contaminants through a water service connection. If, in the judgment of the Director of Utilities, an approved backflow device is required, the director, or his delegated agent, shall give notice in writing to such customer to install an approved backflow prevention device at each service connection to his premises. The customer shall, within 90 days, install such approved device, or devices, at his own expense, and failure or refusal, or inability on the part of the customer, to install such device or devices within 90 days shall result in the loss of water service to the premises until such device or devices have been properly installed.

SECTION 111-108. Commercial Customer Responsibility

(a) All new water customers applying for service shall bring their premise into compliance with this ordinance before the City will allow water service to be established.

(b) In general, all commercial customers shall install and maintain an RPZ backflow preventer on each water service line and the RPZ shall be installed prior to the point on the service line where water usage occurs including but not limited to a service line branch that supplies water to an irrigation system. RPZ devices must be installed above grade in a hot box. Steps should be taken to ensure that the device does not freeze during the winter months.

(c) In some cases, where the City determines that the degree of hazard or the potential for the customer to contaminate the public water supply is extremely low, the City may determine that a testable double check valve will suffice as the customer's backflow preventer. In either case, the responsibility for installing, testing, repairing, and reporting requirements lies with the customer.

(d) All commercial irrigation meters must be equipped with a City-approved RPZ backflow device and a rain sensor shut off valve, both of which shall be installed, tested and maintained, and kept in good working condition by the customer and at no cost to the City.

(e) The commercial customer shall be responsible for the elimination of and protection from all internal cross connections on his/her premises. This requirement is for all internal processes that have the potential to cause contamination of the potable water supply inside a building (i.e. to keep chemicals used by the customer from contaminating the customer's drinking water).

(f) The commercial customer shall be responsible for ensuring that all water hoses, hose bibs, and sinks and other devices connected to their internal water system both inside and outside of their facility are equipped with a proper vacuum breaker.

SECTION 111-109. Residential Customer Responsibility

(a) The residential customer shall be responsible for ensuring that all water hoses, hose bibs, and sinks or other devices connected to their water system both inside and outside of their residence are equipped with a proper vacuum breaker.

(b) In most cases, the City will be responsible for the installation and periodic replacement of residential double check type backflow preventers at the meter. In most cases, residential backflow preventers will be installed or replaced by the City simultaneously with the water meter. The City's replaces water meters and backflow preventers typically once every 10 to 15 years.

(c) All residential irrigation meters must be equipped with a City-approved RPZ backflow device and a rain sensor shut off valve, both of which shall be installed, tested and maintained, and kept in good working condition by the customer and at no cost to the City.

SECTION 111-110. Fire Vault and Fire Line Backflow Prevention.

(a) All fire lines shall be equipped with a Double Detector Check (DDC) as described in the Manual of Technical Specifications and Construction Details for the City of Cumming Water Distribution System.

(b) All DDCs shall be tested at least once annually by the customer and the test results reported to the City on a city-approved form.

(c) All fire vaults and DDCs must be maintained by the customer at no expense to the City.

(d) All DDCs must be equipped with a radio-read water meter as per City specification.

(e) Each fire vault must be locked at all times. All fire vaults locks must be keyed the same as the City's standard lock.

SECTION 111-111. Testing, Reporting, and Inspections.

(a) All backflow testing and re-testing shall be performed at no cost to the City. If a customer fails to have a device tested in a timely manner, the city may at its discretion, test the device and charge the customer for the cost of the test plus administrative costs and all needed repairs.

(b) The customer shall have all backflow prevention devices on his/her premises tested by a Georgia-certified backflow tester at least once annually, if not more frequently as

required by the City. The results of such test(s) must be reported in writing to the City within 7 business days of the customer receiving favorable results.

(c) If a backflow prevention device is found to be defective or if the device fails a test, the customer must report the failure to the City within 24 hours of the test and must have the device repaired or replaced immediately. A subsequent test must be conducted by the customer and the test results must be submitted to the City within 48 hours of the initial device failure.

(d) Test results shall be made to the City on a City-approved backflow test report form. All tests and repair records must be kept on-site and made available to City inspectors upon request.

(e) The customer's premises shall be open for inspection at all reasonable times to authorized representatives of the City to determine the existence of cross connection, other structural or sanitary hazards, or violations of the article.

(f) Records of testing and repairs must be kept on the premises by the customer at all times and made available to the City upon request.

SECTION 111-112. Enforcement and Penalties.

(a) A written notice of noncompliance will be given, including a recommendation that will bring the customer into compliance within a specific time period. The time period will be determined based on the degree of hazard.

(b) Failure of compliance at the expiration of the specified time period may be subject to:

- (1) Assessment of a fine not to exceed \$1,000.00 per day per offense and/or termination of water, sewer, and garbage service;
- (2) Issuance of a citation and summons to appear in court for each violation; and/or
- (3) Termination of water, sewer, and garbage service until compliance has been achieved and all fines have been satisfied.

SECTIONS 111-113—111-127. Reserved.