

**CROSS-CONNECTION CONTROL**

Chapter 13.20

**CROSS-CONNECTION CONTROL**

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**13.20.010 Cross-connection control - General policy.**

- A. Purpose. The purposes of this chapter are as follows:
  1. To protect the public water supply system from contamination or pollution by isolating within the customer's water system contaminants or pollutants which could backflow through the service connection into the public water supply system.
  2. To promote the elimination or control of existing cross-connections, actual or potential, between the public or customer's potable water system and non-potable water systems, plumbing fixtures and sources or systems containing substances of unknown or questionable quality.
  3. To provide for the maintenance of a continuing program of cross-connection control which will prevent the contamination or pollution of the public and customer's potable water systems.
- B. Application. This chapter shall apply to all premises which may be served by the public potable water supply system of the city.
- C. Policy. The customer shall be responsible for protection of the public water supply system from contamination due to backflow or back-siphonage of contaminants through the customer's water service connection. If, in the judgment of the Director of Public Works or his authorized designee, an approved backflow prevention device is necessary for the safety of the public water supply system, the Director of Public Works shall give notice to the customer to install such approved backflow prevention device at each service connection to the premises. The customer, after written notice and within the time indicated on the notice, shall install such approved device or devices at his own expense. Failure, or refusal on the part of the customer to install such device or devices immediately shall constitute grounds for discontinuing water service to the premises until such device or devices have been installed. The customer shall retain records of installation,

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maintenance, testing and repair as required in Section 13.20.100 (D) below for a period of at least five years after such record has been prepared or after the date the entry was made.  
(Ord. 1997-M-102 § 1; Ord. 1989-M-41 § 1.)

### 13.20.020 Definitions.

The following definitions shall apply in the interpretation and enforcement of this chapter:

"Agency" means Illinois Environmental Protection Agency.

"Air Gap" means 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 the receptacle.

"Approved backflow prevention device" means any device, method, or type of construction intended to prevent backflow into a potable water system. All devices used for approved backflow prevention devices must meet the standards of the Illinois Plumbing Code, 77 Ill. Adm. Code, Part 8980, Appendix A, Table A. "Approved Standards for Plumbing Appliances/Appurtenances/Devices," Ill. Adm. Code Part 653, Subpart H, and the requirements herein.

"Approved cross-connection control devices or methods" means backflow prevention devices or methods of installation approved by the city council of the city. Such approved devices or methods shall include those as described in the Illinois Plumbing Code, 77 Ill. Adm. Code 890 and consistent with 35 Ill. Adm. Code Part 653, Subpart H.

"Auxiliary Water Systems" means a source of water outside of the city's public water supply system. No connection to the city's public water supply system shall be made with any other water system without the approval of the city council.

"Backflow" means the flow of water or other liquids, mixtures, or substances into the distribution pipes of a potable water system from any source other than the intended source of the potable water supply. Back siphonage is one type of backflow.

"City" means, the city of St. Charles, Kane and DuPage Counties, Illinois.

"Consumer" or "Customer" means the person in whose name the water service is registered with the city and shall include the occupant, owner of record, contract purchaser, lessee and anyone else in control of the premises.

"Consumer's or Customer's water system" means any water system serving the premise, commencing at the outlet side of the service pipe shutoff valve location as stated in Section 13.16.060 hereof and shall include the fitting for such service pipe.

"Contamination" means the introduction into water of micro-organisms, chemicals, wastes, or wastewater in a concentration that makes water unfit for its intended use.

"Cross Connection" means any connection through which a supply of potable water could be contaminated or polluted. This includes any physical connection or arrangement between two otherwise separate piping systems, one of which contains potable water and the other water of unknown or questionable safety or steam, gases or chemicals whereby there may be a flow from one system to the other.

"Cross Connection Control Device" means a safety device installed in a potable water line to prevent potable water and fluids of any kind from being mixed. Cross-connection control devices include, but are not limited to: atmospheric vacuum breaker, double check valve backflow preventer, double detector check valve backflow preventer, dual check valve backflow preventer, and reduced pressure principle backflow preventer.

"Cross Connection Control Device Inspector" ("CCCDI") means a person who is a licensed plumber in the state of Illinois and who has been certified by the Agency in accordance

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with 35 Ill. Adm. Code 653.802 to inspect, test, maintain and repair cross-connection control devices.

“Director of Public Works” means the Director of Public Works of the city, or his authorized deputy, agent or representative.

“Double Check Valve Backflow Preventer Assembly (DVC)” means a double check valve backflow preventer assembly device covered by ASSE Standard #1015-1988, for intermittent or continuous use, low hazard conditions and consists of valves located at each end of the device. It is also supplied with test cocks.

“Double Check Backflow Preventer with Intermediate Atmospheric Vent Assembly” means a double check backflow preventer with an intermediate atmospheric vent assembly covered by ASSE Standard #1012-1978 and which is capable of preventing back siphonage and backflow in water lines under continuous or intermittent pressure conditions. This device has two (2) independent internal force-loaded check valves separated by an intermediate chamber with a means for automatically venting to the atmosphere. It is approved for low hazard use.

“Double Detector Check Valve Backflow Preventer Assembly (DDC)” means a double detector check valve assembly device covered by ASSE Standard #1048-1990, constructed of two (2) independent check valves internally force-loaded with two (2) tightly closing valves located at each end of the device and four (4) test cocks for testing the check valves. In addition, the device has a by-pass line with a water meter and two (2) independent check valves located within that line. The device is for low hazard conditions.

“Dual Check Valve Backflow Preventer Assembly (DuC)” means a dual check valve backflow preventer assembly device covered by ASSE Standard #1024-1990, constructed to operate under intermittent or continuous pressure conditions, consisting of two (2) independent internal force-loaded valves and is for low hazard conditions. This device must be located between two (2) tightly closing valves. The check valves are removable for testing.

“Fixed air gap” means the unobstructed vertical distance through the free atmosphere between the water discharge point and the flood level rim of the receptacle.

“Health hazard” means any condition, device or practice in a water system or its operation resulting from a real or potential danger to the health and well-being of customers. The word “severe” as used to qualify “health hazard” means a hazard to the health of the user that could be expected to result in death or significant reduction in the quality of life.

“Inspection” means a plumbing inspection to examine carefully and critically all materials, fixtures, piping and appurtenances, appliances and installations of a plumbing system for compliance with requirements of the Illinois Plumbing Code, 77 Ill. Adm. Code 890 and this Chapter.

“Local Authority” means mayor of the city.

“Non-potable water” means water not safe for drinking, personal, or culinary use as determined by the requirements of 35 Ill. Adm. Code 604.

“Plumbing” means the actual installation, alteration or extension of a plumbing system by any person. Plumbing includes all piping, fixtures, appurtenances and appliances for a supply of water for all purposes, including without limitation lawn sprinkler systems, from the source of a private water supply on the premises or from the main in the street, alley or at the curb to, within and about any building or buildings where a person or persons live, work or assemble. Plumbing includes all piping, from discharge of pumping units to and including pressure tanks in water supply systems. Plumbing includes all piping, fixtures, appurtenances, and appliances for a building drain and a sanitary drainage and related

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ventilation system of any building or buildings where a person or persons live, work or assemble from the point of connection of such building drain to the building sewer or private sewage disposal system five feet beyond the foundation walls.

"Pollution" means the presence of any foreign substance (organic, inorganic, radiological, or biological) in water that tends to degrade its quality so as to constitute a hazard or impair the usefulness of the water.

"Potable water" means water which meets the requirements of 35 Ill. Adm. Code 604 for drinking, culinary, and domestic purposes.

"Potential Cross-Connection" means a fixture or appurtenance or other connection which would extend the customer's water system through which the supply of potable water could be contaminated or polluted.

"Process fluid(s)" means any fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration such as would constitute a health, pollutional, or system hazard if introduced into the public or a customer's potable water system. This includes but is not limited to:

- polluted or contaminated waters;

- process waters;

- used waters originating from the public water supply system which may have deteriorated in sanitary quality;

- cooling water;

- questionable or contaminated natural waters taken from wells, lakes, streams, or irrigation systems;

- chemicals in solution or suspension;

- oils, gases, acids, alkalis and other liquid and gaseous fluids used in industrial or other processes, or for fire fighting purposes;

"Public Water Supply System" means all mains, pipes and structures owned and/or maintained by the city through which water is obtained and distributed to the public, including wells and well structures, intakes and cribs, pumping stations, treatment plants, reservoirs, storage tanks and appurtenances, collectively or severally, actually used or intended for use for the purpose of furnishing potable water.

"Reasonable notice" is the time interval in which the Director of Public Works, in the exercise of standard engineering practice, finds it acceptable to order a water customer to correct an unprotected cross connection with due consideration for the potable water supply system as a whole any oral notice being followed by written notice.

"Reduced Pressure Principle Backflow Preventer Assembly" (RPZ) means a reduced pressure principle backflow preventer assembly device covered by ASSE Standard #1013-1988 consisting of two (2) internal force-loaded check valves separated by an intermediate chamber for automatic venting/discharging to the atmosphere. The first check valve reduces the supply pressure a predetermined amount so that during the normal flow, and at cessation of normal flow, the pressure between the two (2) check valves will be lower than the supply pressure. If either check valve leaks, the relief valve will discharge to atmosphere and maintain the pressure in the zone between the two (2) check valves lower than the supply pressure. This device has two (2) shut-off valves located at each end of the device and four (4) test cocks for testing the check valves. This device is for high hazard conditions and is approved for continuous use.

"Service connection" means the physical connection to the water main including all fittings, and appurtenances, through which water is supplied to the customer.

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"Survey" means the collection of information pertaining to a customer's piping system regarding the location of all connections to the public water supply system and must include the location, type and most recent inspection and testing date of all cross-connection control devices and methods located within that customer's piping system. The survey shall be completed on a form supplied by the city.

"Residential Dwelling" means a customer's premises which is intended for use as a dwelling unit.

"Non-Residential Premises" means a customer's premises which are not intended for a dwelling unit.

(Ord. 1997-M-102 § 1; Ord. 1989-M-41 § 1.)

### 13.20.030 Cross-connection prohibited.

- A. Connections between the public water supply system and other systems or equipment containing water or other substances of unknown or questionable quality are prohibited except when and where approved cross-connection control devices or methods are installed, tested and maintained to insure proper operation on a continuing basis.
- B. No connection shall be permitted between the public water supply system and any other water supply not of equal or better bacteriological and chemical quality as determined by inspection and analysis by the city.
- C. There shall be no arrangement or connection by which contamination may enter the public water supply system.

(Ord. 1997-M-102 § 1; Ord. 1989-M-41 § 1.)

### 13.20.040 Where protection is required.

- A. An approved backflow prevention device shall be installed on each water service line to a customer's water system, when in the judgment of the Director of Public Works or his authorized representative, actual or potential hazards to the public water supply system may exist. The installation shall be done by a licensed plumber with a CCCDI registration at the sole expense of the customer being served. All approved backflow prevention devices shall be installed as follows:
  - 1. Installation shall be in a location where the unit is readily accessible for maintenance, observation, testing and replacement.
  - 2. Minimum clearance as recommended by the manufacturer shall be observed.
  - 3. All devices shall be protected against flooding.
  - 4. No backflow prevention device shall be installed where it would be subject to freezing.
  - 5. Free draining of the relief port shall be maintained under all conditions.
  - 6. Floor drains shall be provided.
  - 7. If installed at ceiling level, a collection system shall be installed with a fixed proper air gap under the drain port to protect areas below the unit from discharge.
  - 8. There shall be no reduction made in the size of the relief port drain.
- B. All in-line backflow/back siphonage preventers shall have a full port type valve with a resilient seated shut-off valve on each side of the preventer and located within five (5) feet of the preventer.
- C. A protective strainer shall be located upstream of the first check valve on all bakcflow/back siphonage preventers unless the device contains a built-in strainer. Fire safety systems are exempt from the strainer requirement.
- D. Atmospheric vacuum breakers shall be installed with the critical level above the flood level rim of the fixture they serve, and on the discharge side of the last control valve of the fixture. No shut-off valve or faucet shall be installed beyond the vacuum breaker.
  - 1. An atmospheric vacuum breaker shall be installed between the control valve and the fixture in such a manner that it will not be subject to water pressure, except the pressure incidental to

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- water flowing to the fixture. An atmospheric vacuum breaker shall be installed on the outlet side of the control valve.
2. Flush valves shall be equipped with vacuum breakers installed on the discharge side of the flushing valve with the critical level at least four (4) inches above the overflow rim of the bowl or four (4) inches above the top of the urinal.
  3. Flushing tanks shall be equipped with anti-siphon ball cocks. The ball cock shall be installed with the critical level of the vacuum breaker at least one (1) inch above the full opening of the overflow pipe. In cases where the ball cock has no hush tube, the bottom of the water supply inlet shall be installed one (1) inch above the top of the overflow pipe.
- E. No in-line double check valve backflow preventer assembly (DCV), double check backflow preventer with intermediate atmospheric vent assembly, or reduced pressure principle backflow preventer assembly (RPZ) shall be located more than five (5) feet above a floor. After installation, each double check valve backflow preventer assembly (DCV), double check backflow preventer with intermediate atmospheric vent assembly, and reduced pressure principle backflow preventer assembly (RPZ) shall be field tested in-line in accordance with the manufacturer's instructions by a CCCDI before initial operation.
- F. An approved backflow prevention device shall be installed on each water service line to a customer's water system where the following conditions exist:
1. Premises having an auxiliary water system, unless such auxiliary water system is accepted as an additional source by the Director of Public Works and the source is approved by the Agency and city.
  2. Premises where any substance(s) exist which can create an actual or potential hazard to the public water supply system.
  3. Premises having internal cross-connections that, in the judgment of the Director of Public Works are not correctable or intricate plumbing arrangements which make it impossible to determine whether or not cross-connections exist.
  4. Premises where, because of security requirements or other prohibitions or restrictions, it is impossible or impractical as determined in accordance with standard engineering practices to make a complete cross-connections survey.
  5. Premises having a repeated history of cross-connections being established or re-established.
- G. An approved backflow prevention device shall be installed on each water line to a customer's water system serving, but not necessarily limited to, the following types of facilities unless the Director of Public Works determines that no health hazard to the public water supply system exist:
1. Hospital, mortuaries, clinics, nursing homes.
  2. Laboratories.
  3. Piers, docks, waterfront facilities.
  4. Sewage treatment plants, sewage pumping stations or storm water pumping stations.
  5. Food or beverage processing plants.
  6. Chemical plants.
  7. Metal plating industries.
  8. Petroleum processing or storage plants.
  9. Radioactive material processing plants or nuclear reactors.
  10. Car washes.
  11. Facilities utilizing an auxiliary water source, and/or booster pumps for fire suppression.
  12. Residential dwellings.
  13. Facilities where kidney dialysis equipment is utilized. The water supply inlet to kidney dialysis equipment shall have a reduced pressure principle backflow preventer assembly conforming with ASSE 1013-1988 or a fixed air gap.

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14. Facilities where backflow of storm water or sewage could occur. Backwater valves conforming to ASME/ANSI A 112.14.1-1975 (R1990) shall be installed in the building storm drain or the building drain to prevent backflow into the building.

- H. Closed water systems created by properly installed backflow prevention devices shall have a properly sized thermal expansion tank located in the cold water supply as near to the water heater as possible and with no shut-off valve or other device between the heater and the expansion tank.
  - 1. In existing buildings with a closed water system, a properly sized relief valve may be substituted in place of a thermal expansion tank.
  - 2. For closed water systems created by backflow protection in manufactured housing, a ball cock with a relief valve may be substituted for the thermal expansion tank.

(Ord. 1997-M-102 § 1; Ord. 1989-M-41 § 1.)

**13.20.050 Type of protection required.**

- A. The type of protection required shall depend on the degree of hazard and toxicity of the backflow liquid. Approved backflow preventers or vacuum breakers shall be installed with all plumbing fixtures and equipment that may have a submerged potable water supply outlet and that are not protected by a minimum fixed air gap. Connection to the potable water supply system for the following fixtures or equipment shall be protected against backflow with one of the appropriate devices as indicated below:
  - 1. Inlet to receptacles containing non-toxic substances:
    - a. fixed air gap fitting;
    - b. reduced pressure principle backflow preventer assembly;
    - c. atmospheric vacuum breaker unit;
    - d. double check valve backflow preventer assembly; or
    - e. double check backflow preventer with atmospheric vent assembly.
  - 2. Inlet to receptacles containing toxic substances of low or moderate toxicity:
    - a. fixed air gap fitting;
    - b. reduced pressure principle backflow preventer assembly; or
    - c. atmospheric vacuum breaker unit;
  - 3. Outlets with hose attachments which may constitute a cross-connection:
    - a. fixed air gap fitting;
    - b. reduced pressure principle backflow preventer assembly; or
    - c. atmospheric vacuum breaker unit;
  - 4. Coils or jackets used as heat exchangers in compressors, degreasers, and other such equipment involving toxic substances:
    - a. fixed air gap fitting; or
    - b. reduced pressure principle backflow preventer assembly;
  - 5. Direct connections which are subject to back pressure:
    - a. Receptacles containing non-toxic substances:
      - i) fixed air gap fitting;
      - ii) reduced pressure principle backflow preventer assembly;
      - iii) atmospheric vacuum breaker unit;
      - iv) double check valve backflow preventer assembly; or
      - v) double check backflow preventer with atmospheric vent assembly.
    - b. Receptacles containing toxic substances of low or moderate toxicity:
      - i) fixed air gap fitting;
      - ii) reduced pressure principle backflow preventer assembly;

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6. Inlet to or direct connection with sewage or lethal substances of high toxicity: fixed air gap fitting.
- B. The installation of any fire safety system involving the potable water supply system shall be protected against backflow as follows:
1. A fire safety system that does not have chemical additives or a method of supplying chemical additives to the system, does not have any non-potable connection, does not have a fire department hose (siamese) connection, and has less than five (5) sprinkler heads shall be separated from the potable water supply system by a double check valve backflow preventer assembly.
  2. A double detector check valve backflow preventer assembly shall be installed at the fire safety system's point of connection to the potable water supply when:
    - a. A fire safety system has no chemical additives, non-potable connection or fire department hose (but has five (5) or more sprinkler heads); or
    - b. A fire safety system has no chemical additives or non-potable connection, but has one (1) or more fire department hose connections (for boosting pressure and flow to the fire safety system) which are served only by fire fighting apparatus connected to a public water supply or a fire department which does not use chemical additives or rely upon any non-potable water supply.
  3. A fixed air gap with a break tank or other storage vessel or a reduced pressure principle backflow preventer assembly (RPZ) shall be installed at the fire safety system's point of connection to the potable water supply when:
    - a. The fire safety system contains additives such as antifreeze, fire retardant or other chemicals. (The RPZ may be located at the point of connection to that section of the system containing such additives when the system's connection to the water supply is protected by a double detector check valve backflow preventer assembly); or
    - b. Non-potable water flows into the fire safety system by gravity; or
    - c. There is a permanent or emergency connection whereby water can be pumped into the fire safety system from any other non-potable source; or
    - d. Fire department connections are available that could permit water to be pumped into the fire safety system from a non-potable source capable of serving the fire safety system. (A non-potable source of water shall be considered capable of serving the fire safety system under the following conditions: It must be capable of year-round use, maintained with at least 50,000 gallons of usable water not subject to freezing, accessible to fire fighting pumper equipment, and located within 1,700 feet of the facility.).

(Ord. 1997-M-102 § 1; Ord. 1989-M-41 § 1.)

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### **13.20.060 Backflow prevention device.**

If in accordance with the Illinois Plumbing Code, 77 Ill. Adm. Code Part 890, the provisions hereof, or in the judgment of the Director of Public Works, based on generally accepted engineering practices, an approved backflow prevention device, as defined in this chapter, is necessary for the safety of the public water supply system, the Director of Public Works or his authorized designee will give notice to the water customer to install such an approved backflow prevention device immediately. The water customer shall, at his own expense, install such an approved device at a location and in a manner in accordance with the Illinois Plumbing Code and all applicable ordinances, and shall have inspections and tests made of such approved devices as required by the Illinois Plumbing Code and all applicable ordinances. The device shall be installed so that it is accessible to testing and servicing as required by the Illinois Plumbing Code, the provisions hereof or the Director of Public Works based on generally accepted engineering practices.

(Ord. 1997-M-102 § 1; Ord. 1989-M-41 § 1.)

### **13.20.070 Water supply connection.**

No person, firm or corporation shall establish or allow to be established or maintain or allow to be maintained any connection whereby a private, auxiliary or emergency water supply other than the regular public water supply of the city may enter the supply or distribution system of the city; except, where there is a connection in existence on January 1, 1989, in which case, there shall be an approved cross-connection control device as described in Section 13.20.060. (Ord. 1997-M-102 § 1; Ord. 1989-M-41 § 1.)

### **13.20.080 Surveys/investigations - Hazards.**

The Director of Public Works shall cause surveys and investigations to be made of industrial and other properties served by the city water supply and distribution system to determine whether actual or potential hazards to such public water supply may exist. Such surveys and investigations shall be open for public inspection to the extent required by the Illinois Freedom of Information Act and shall be repeated at least every two years, or more often if the Director of Public Works shall deem it necessary. Records of such surveys shall be maintained and made available for review to the extent required by law for a period of at least five years. (Ord. 1997-M-102 § 1; Ord. 1989-M-41 § 1.)

### **13.20.090 Inspection right.**

The city CCCDI shall have the right to enter at any reasonable time any property served by a connection to the public water supply or distribution system of the city for the purpose of verifying the presence or absence of cross-connections, and that the Director of Public Works or his authorized designee shall have the right to enter at any reasonable time any property served by a connection to the public water supply or distribution system of the city for the purpose of verifying information submitted by the customer regarding the cross-connection control inspection required herein.

On demand, the owner, leasees, or occupants of any property so served shall furnish to the Director of Public Works any information which he may request regarding the piping system or systems or water use on such property. The refusal of such information, when demanded, shall, within the discretion of the Director of Public Works, be deemed evidence of the presence of improper connections as prohibited in this chapter. (Ord. 1997-M-102 § 1; Ord. 1989-M-41 § 1.)

### **13.20.100 Violation - Service discontinuance.**

The Director of Public Works of the city is hereby authorized and directed to discontinue, after notice to the customer in the manner hereinafter provided, the water service to any property wherein any connection in violation of the provisions of this chapter is known to exist, and to take such other precautionary measures as he may deem necessary to eliminate any danger of contamination of the public water supply distribution mains. Water service to such property shall not be restored until such conditions have been eliminated or corrective

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action is taken in compliance with the provisions of this chapter, and until a reconnection fee in accordance with Section 16.16.220 hereof is paid to the city. (Ord. 1997-M-102 § 1; Ord. 1989-M-41 § 1.)

### **13.20.110 Customer cost responsibility.**

The customer responsible for backsiphoned material or contamination through backflow, if contamination of the potable water supply system occurs through an illegal cross-connection or an improperly installed, maintained or repaired device, or a device which has been bypassed, shall bear the cost of clean-up of the potable water supply system. (Ord. 1997-M-102 § 1; Ord. 1989-M-41 § 1.)

### **13.20.120 Survey and investigations non-residential premises.**

- A. The non-residential customer's premises shall be open at all reasonable times to the certified CCCDI as defined in 13.20.020(A) (13) for the inspection of the presence or absence of cross-connections within the non-residential customer's premises, and testing, repair and maintenance of cross-connection control devices within the customer's premises.
- B. On request by the Director of Public Works, or his authorized designee, the non-residential customer shall furnish information regarding the piping system or systems for water use within the customer's premises and cross-connection inspection results. The non-residential customer's premises shall be open at all reasonable times to the Director of Public Works, or his designee, for the verification of information submitted by the customer regarding the piping systems for water use and cross-connection inspection results.
- C. It shall be the responsibility of the non-residential water customer to arrange periodic surveys according to Section 13.20.080, of water use practices on the customer's premise to determine whether there are actual or potential cross-connections to the customer's water system through which contamination or pollution could backflow into the customer's or the public potable water system. All cross-connection control or other plumbing inspections must be conducted in accordance with 225 ILCS 320/3, as amended. (Ord. 1996-M-53 § 29.)
- D. It is the responsibility and financial obligation of the water customer to prevent backflow into the public water supply system by ensuring that:
  1. All cross-connections are removed; or approved cross-connection control devices are installed for control of backflow and back-siphonage.
  2. Cross-connection control devices shall be installed in accordance with the manufacturer's instructions.
  3. Cross-connection control devices shall be inspected at least annually by a person approved by the Agency as a CCCDI. The inspection of mechanical devices shall include physical testing in accordance with the manufacturer's instructions and such additional requirements, if any, of the city.

(Ord. 1997-M-102 § 1; Ord. 1996-M-53 § 30 &31; Ord. 1989-M-41 § 1.)

### **13.20.130 Inspection and maintenance**

- A. It shall be the duty of the customer at premises on which backflow prevention devices required by this chapter are installed to have inspection, tests, maintenance and repair made in accordance with the following schedule or more often where inspections indicate a need or are specified in manufacturer's instructions.
  1. Fixed air gap separation devices shall be inspected at the time of installation and at least annually thereafter.
  2. Dual check valve assemblies shall be inspected and tested at time of installation and at least annually thereafter, and required service performed within 15 days after any such inspection or testing.

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3. Reduced pressure principle backflow prevention devices shall be tested at least annually or more frequently if recommended by the manufacturer.
- B. Testing shall be performed by a person who is a CCCDI as defined in this chapter. Proof of status as a CCCDI shall be in writing.
- C. Each device shall have a tag attached including the information as required in Section 13.20.100, Subsections (E) (3) and (E) (4).
- D. Whenever backflow prevention devices required by this chapter are found to be defective, they shall be repaired or replaced at the expense of the customer within 15 days or as otherwise specified by the Director of Public Works.
- E. Backflow prevention devices shall not be bypassed, made inoperative, removed or otherwise made ineffective without specific written authorization by the Director of Public Works.
- F. Copies of all test results shall be forwarded to the Director of Public Works at the time of each inspection as described in Section 13.20.140 (E).

(Ord. 1997-M-102 § 1; Ord. 1989-M-41 § 1.)

### 13.20.140 Testing and Records

- A. Each installed cross-connection control device shall be tested and maintained at least annually by a CCCDI, or more frequently if recommended by the manufacturer or Director of Public Works.
- B. Original records submitted to the Director of Public Works shall be available for inspection by Agency personnel in accordance with 415 ILCS 5/4(e). These original records will be maintained by the city.
- C. Records to verify testing and maintenance shall also be available at the site of the installation of the device.
- D. Each device shall have a tag attached listing the date of most recent test, name of CCCDI, and type and date of repairs.
- E. A maintenance log shall be maintained and include:
  1. Date of each test;
  2. Name and approval number of person performing the inspection or test;
  3. Test results/inspection;
  4. Repairs or servicing required;
  5. Repairs and date completed; and
  6. Services performed and date completed.
- F. Confidential information.
  1. Water customers that file reports with the city may request in writing that portions of a report which may disclose trade secrets or proprietary processes shall not be made available for inspection by the public. To the extent permitted by law, confidential portions shall be made available upon written request to government agencies for uses related to this chapter. To the extent permitted by law, portions of a report shall be available for use by the state or any state agency in judicial review or enforcement proceedings involving the water customer furnishing the report.
  2. Any information accepted as confidential shall not be transmitted to the general public until and unless written notification is given to the water customer. It shall be the responsibility of the water customer to prove confidentiality to the city by timely presenting the basis for such a claim of confidentiality. The city shall not be required to make data available to the public except in accordance with the St. Charles Municipal Code and the Illinois Freedom of Information Act, 5 ILCS 140/1 et seq.

## CROSS-CONNECTION CONTROL

3. Nothing herein shall be construed to limit or restrict any water consumer from exercising any right it may have to object to any request by the city for confidential information from such user.

(Ord. 1997-M-102 § 1.)

### **13.20.150 Booster pumps.**

- A. Where a booster pump has been installed on the service line to or within any premises, such pump shall be equipped with a low pressure cut-off device designed to shut off the booster pump when the pressure in the service line on the suction side of the pump drops to 20 psi or less.
- B. It shall be the duty of the water customer to maintain the low pressure cut-off device in proper working order as described in Section 13.20.150(A) and to certify in writing to the Director of Public Works at least once a year that the device is in proper working order.

(Ord. 1997-M-102 § 1; Ord. 1989-M-41 § 1.)

### **13.20.155 Heat exchange cross-connections.**

- A. Instantaneous water heaters or water storage heaters using shell and tube design steam-fired heat exchangers used for heating water for domestic use shall be acceptable for such use if they meet the conditions set forth in 35 Ill. Adm. Code 653.804(a) (1994), which are incorporated herein by reference.
- B. Instantaneous water heaters and water storage heaters using shell and tube design hot water boiler-fired heat exchangers shall be acceptable for heating water for domestic use if they meet the conditions set forth in 35 Ill. Adm. Code 653.804(b) (1994), which are incorporated herein by reference.

(Ord. 1997-M-102 § 1.)

### **13.20.160 Violations.**

- A. The Director of Public Works may deny or discontinue, after notice to the customer and occupant thereof, the water service to any premises wherein any approved backflow prevention device required by these regulations is not installed, tested, maintained and repaired in a manner acceptable to the Director of Public Works; if it is found that the backflow prevention device has been removed or bypassed; if an unprotected cross-connection exists on the premises; or if a low pressure cut-off required by these regulations is not installed and maintained in working order.
- B. Water service to such premises shall not be restored until the customer or his successor has corrected or eliminated such conditions or defects in conformance with this chapter to the satisfaction of the Director of Public Works and the required reconnection fee is paid.
- C. Any person, firm, or corporation who is found to have violated an order of the Director of Public Works or of the city council or who has violated any provision of this chapter shall upon conviction be fined in an amount not more than one thousand dollars (\$1,000.00). In addition to the penalties provided herein, the city may recover reasonable attorney's fees, court costs, court reporter fees and other expenses of litigation by appropriate suit at law against the person found to have violated this chapter or the orders issued hereunder.
- D. Any person, firm, or corporation who knowingly makes any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to this chapter or who tampers with any device or method required under this chapter, shall upon conviction be fined not more than one thousand dollars (\$1,000.00).

(Ord. 1997-M-102 § 1; Ord. 1989-M-41 § 1.)

### **13.20.170 Corrective actions.**

## **CROSS-CONNECTION CONTROL**

Nothing herein contained shall prevent the city of St. Charles from taking such other action as it deems necessary to prevent or remedy a violation of this chapter. (Ord. 1997-M-102 § 1; Ord. 1989-M-41 § 1.)

**Appendix A**

**Approved Standards for Plumbing Appliances/Appurtenances/Devices**

Anti-Backflow Freezeless Wall Hydrants	ANSI/ASSE	1019-1978
Anti-siphon Self Drawing Frost Proof Sillcock	ANSI/ASSE	1019-1978
Back Water Valves	ASME/ANSI	A112.14.1-1986
Double Check Detector Assembly	ANSI/ASSE	1048-1990
Double Check with Atmospheric Vent	ASSE	1012-1978
Double Check Valve Assembly	ASSE	1015-1988
Dual Check Valve	ANSI/ASSE	1024-1990
Dual Check Valve (Carbonated Beverage) (Relief Port Required)	ASSE	1032-1980
Reduced Pressure Detector Assembly	ANSI/ASSE	1047-1990
Reduced Pressure Principle Backflow Preventer	ASSE	1013-1988
Vacuum Breakers, Anti-Siphon	ANSI/ASSE	1001-1990
Vacuum Breakers Hose Connection	ANSI/ASSE	1011-1982
Vacuum Breaker (Laboratory Faucet)	ANSI/ASSE	1035-1984
Vacuum Breakers Pressure Type	ASSE	1020-1989

Abbreviations used in Appendix A refer to the following agencies or organizations:

- 1) ANSI American National Standards Institute  
1430 Broadway  
New York, NY 10018
  
- 2) ASME American Society of Mechanical Engineers  
United Engineer Center  
345 East 47th Street  
New York, NY 10017
  
- 3) ASSE American Society of Sanitary Engineering  
P.O. Box 40362  
Bay Village, OH 44140