

Village of Chatham

APPENDIX: CROSS -CONNECTION CONTROL REGULATIONS

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§ 1 PURPOSE, APPLICATION AND POLICY.

(A) Purpose. The purpose of these rules and regulations is:

(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 consumer's potable water system and non-potable water systems, plumbing fixtures and sources or systems containing substances of unknown or questionable safety.

(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 consumer's potable water systems.

(B) Application. These rules and regulations shall apply to all premises served by the public potable water supply system of the village. These regulations are applicable to all water systems as long as such are physically connected to the public potable water supply system of the Village, regardless of whether such system is actually in use. The Consumer shall bear the ultimate responsibility of ensuring compliance with this Appendix.

(C) Policy. The owner or official custodian 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 Water Department Foreman or his authorized representative, an approved backflow prevention device is necessary for the safety of the public water supply system, the Water Department Foreman shall give notice to the consumer to install such approved backflow prevention device at each service connection to the premises. The consumer shall immediately install such approved device or devices at his own expense; failure, refusal or inability on the part of the consumer 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 consumer shall retain records of installation, maintenance, testing and repair as required in § 5(D)(4) of this appendix for a period of at least five years.

§ 2 DEFINITIONS.

For the purpose of this chapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

AGENCY. Illinois Environmental Protection Agency.

APPROVED. Backflow prevention devices or methods approved by the Research Foundation for Cross -Connection Control of the University of Southern California, Association of State Sanitary Engineers, American Water Works Association, American National Standards Institute or certified by the National Sanitation Foundation.

AUXILIARY WATER SYSTEM. Any water source or system on or available to the premises other than the public water supply system and includes the water supplied by the system. These auxiliary waters may include water from another purveyor's public water supply system; or water from a source such as wells, lakes or streams or process fluids or used water. These waters may be polluted or contaminated or objectionable or constitute a water source or system over which the water purveyor does not have control.

BACKFLOW. 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.

BACKFLOW PREVENTION DEVICE. Any device, method or type of construction intended to prevent backflow into a potable water system. All devices used for backflow prevention in Illinois must meet the standards of the Illinois Environmental Protection Agency.

CONSUMER or CUSTOMER. The owner, official custodian or person in control of any premises supplied by or in any manner connected to a public water system.

CONSUMER'S WATER SYSTEM. Any water system located on the customer's premises. A building plumbing system is considered to be a customer's water system.

CONTAMINATION. An impairment of the quality of the water by entrance of any substance to a degree which could create a health hazard.

CROSS-CONNECTION . Any physical connection or arrangement between two otherwise separate piping systems, one of which contains potable water and the other a substance of unknown or questionable safety or quality, whereby there may be a flow from one system into another.

(1) **DIRECT CROSS-CONNECTION.** A cross -connection formed when a water system is physically joined to a source of unknown or unsafe substance.

(2) **INDIRECT CROSS-CONNECTION.** A cross -connection through which an unknown substance can be forced, drawn by vacuum or otherwise introduced into a safe potable water system.

DOUBLE CHECK VALVE ASSEMBLY. An assembly composed of single, independently acting check valves approved under ASSE Standard 1015. A double check valve assembly must include tight shutoff valves located at each end of the assembly and suitable connections for testing the water tightness of each check valve.

FIXED PROPER AIR GAP. The unobstructed vertical distance through the free atmosphere between the water discharge point and the flood level rim of the receptacle.

HEALTH HAZARD. 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 consumers. 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. 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 Illinois Administrative Code 890.

NON-POTABLE WATER. Water not safe for drinking, personal or culinary use as determined by the requirements of Illinois Administrative Code 604.

PLUMBING. The actual installation, repair, maintenance, 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 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 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. 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. Water which meets the requirements of 35 Illinois Administrative Code 604 for drinking, culinary and domestic purposes.

POTENTIAL CROSS-CONNECTION . A fixture or appurtenance with threaded hose connection, tapered spout or other connection which would facilitate extension of the water supply line beyond its legal termination point.

PROCESS FLUID(S). 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 consumer's potable water system. This includes but is not limited to:

- (1) Polluted or contaminated waters;
- (2) Process waters;
- (3) Used water originating from the public water supply system which may have deteriorated in sanitary quality;
- (4) Cooling waters;
- (5) Questionable or contaminated natural waters taken from wells, lakes, streams or irrigation systems;
- (6) Chemicals in solution or suspension; and
- (7) Oils, gases, acids, alkalis, and other liquid and gaseous fluids used in industrial or other processes or for fire-fighting purposes.

PUBLIC WATER SUPPLY. All mains, pipes and structures 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 water for drinking or general domestic use and which serve at least 15 service connections or which regularly serve at least 25 persons at least 50 days per year. A public water supply is either a "community water supply" or a "non-community water supply."

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION DEVICE. A device containing a minimum of two independently acting check valves together with an automatically operated pressure differential relief valve located between the two check valves and approved under ASSE Standard 1013. During normal flow and at the cessation of normal flow, the pressure between these two checks shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve, by discharging to the atmosphere, shall operate to maintain the pressure between the check valve at less than the supply pressure. The unit must include tightly closing shutoff valves located at each end of the device and each device shall be fitted with properly located test cocks.

SERVICE CONNECTION. The opening, including all fittings and appurtenances, at the water main through which water is supplied to the user.

SURVEY. 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 must be in written form and should not be an actual plumbing inspection.

SYSTEM HAZARD. A condition through which an aesthetically objectionable or degrading material not dangerous to health may enter the public water supply system or a consumer's potable water system.

USED WATER. Any water supplied by a public water supply system to a consumer's water system after it has passed through the service connection and is no longer under the control of the water supply official custodian.

WATER PURVEYOR. The owner or official custodian of a public water system.

§ 3 WATER SYSTEM.

(A) The water system shall be considered as made up of two parts: the public water supply system and the consumer's water system.

(B) The public water supply shall consist of the source facilities and the distribution system and shall include all those facilities of the potable water system under the control of the Superintendent of Water up to the point where the consumer's water system begins.

(C) The source shall include all components of the facilities utilized in the production, treatment, storage and delivery of water to the public water supply distribution system.

(D) The public water supply distribution system shall include the network of conduits used to deliver water from the source to the consumer's water system.

(E) The consumer's water system shall include all parts of the facilities beyond the service connection used to convey water from the public water supply distribution system to points of use.

§ 4 CROSS-CONNECTION PROHIBITED.

(A) Connections between potable water systems 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 physical connection shall be permitted between the potable portion of a supply and any other water supply not of equal or better bacteriological and chemical quality as determined by inspection and analysis by the Agency.

(C) There shall be no arrangement or connection by which an unsafe substance may enter a supply.

§5 SURVEYS AND INVESTIGATIONS.

(A) The consumer's premises shall be open at all reasonable times to the approved cross - connection device inspector for the inspection of the presence or absence of cross -connections within the consumer's premises and testing, repair and maintenance of cross -connection control devices within the consumer's premises.

(B) On request by the Water Department Foreman or his authorized representative, the consumer shall furnish information regarding the piping system or systems or water use within the customer's premises. The consumer's premises shall be open at all reasonable times to the Water Department Foreman for the verification of information submitted by the inspection consumer to the public water supply custodian regarding cross -connection inspection results.

(C) It shall be the responsibility of the water consumer to arrange annual inspections through a licensed Cross-Connection Control Device Inspector (“CCCDI”) of water use practices on his premises to determine whether there are actual or potential cross-connections to his or her water system through which contaminants or pollutants could backflow into his or her water system or

the public potable water system. All cross-connection control or other plumbing inspections must be conducted in accordance with 225 ILCS 320/3 (1).

(D) It is the responsibility of the water consumer to prevent backflow into the public water 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 the time of installation and at least annually by a person approved by the Agency as a Cross -Connection Control Device Inspector (CCCDI). The inspection of mechanical devices shall include physical testing in accordance with the manufacturer's instructions.

(4) All inspection and maintenance requirements under this Appendix are met.

§ 6 WHERE PROTECTION IS REQUIRED.

(A) An approved backflow device shall be installed on all connections made after the effective date of these regulations to the public water supply as described in the Plumbing Code, 77 Illinois Administrative Code 890; and the Agency's regulations, 35 Illinois Administrative Code 680. In addition, an approved backflow prevention device shall be installed on each service line to a consumer's water system serving premises, where in the judgment of the Superintendent of Water, actual or potential hazards to the public water supply system exist.

(B) An approved backflow prevention device shall be installed on each service line to a consumer's water system serving premises where the following conditions exist:

(1) Premises having an auxiliary water supply, unless such auxiliary supply is accepted as an additional source by the Water Department Foreman and the source is approved by the Illinois Environmental Protection Agency.

(2) Premises on which any substance is handled which can create an actual or potential hazard to the public water supply system. This shall include premises having sources of systems containing process fluids or waters originating from the public water supply system which are no longer under the sanitary control of the Water Department Foreman.

(3) Premises having internal cross -connections that, in the judgment of the Superintendent of Water and the Cross -Connection Control Device Inspector, are not correctable or intricate plumbing arrangements which make it impractical 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 to make a complete cross -connection survey.

(5) Premises having a repeated history of cross -connections being established or re-established.

(C) An approved backflow device shall be installed on all connections to the public water supply as described in the Plumbing Code, 77 Illinois Administrative Code 890; and the Agency's regulations, 35 Illinois Administrative Code 653. In addition, an approved backflow prevention device shall be installed on each service line to a consumer's water system serving, but not necessarily limited to, the following types of facilities unless the Water Department Foreman determines that no actual or potential hazard to the public water supply system exists:

- (1) Hospitals, 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) Pesticide or herbicide or extermination plants and trucks.
- (12) Farm service and fertilizer plants and trucks.

§ 7 TYPE OF PROTECTION REQUIRED.

(A) The type of protection required under § 6 of this appendix shall depend on the degree of hazard which exists as follows:

(1) An approved fixed proper air gap separation shall be installed where the public water supply system may be contaminated with substances that could cause a severe health hazard.

(2) An approved fixed proper air gap separation or an approved reduced pressure principle backflow prevention device shall be installed where the public water supply system may be contaminated with a substance that could cause a system or health hazard.

(3) An approved fixed proper air gap separation or an approved reduced pressure principle backflow prevention device shall be installed where the public water supply system may be polluted with substances that could cause a pollution hazard not dangerous to health.

(B) The type of protection required under § 6(B)(4) of this appendix shall be an approved fixed proper air gap separation or an approved reduced pressure principle backflow prevention device.

(C) Where a public water supply or an auxiliary water supply is used for a fire protection system, reduced pressure principle backflow preventers shall be installed on fire safety systems connected to the public water supply when:

(1) The fire safety system contains antifreeze, fire retardant or other chemicals.

(2) Water is pumped into the system from another source.

(3) Water flows by gravity from a non-potable source, or water can be pumped into the fire safety system from any other source.

(4) There is a connection whereby another source can be connected to the fire safety system.

§ 8 BACKFLOW PREVENTION DEVICES.

(A) All backflow prevention devices or methods required by this appendix shall be approved by the Research Foundation for Cross -Connection Control of the University of Southern California, American Water Works Association, American Society of Sanitary Engineering or American National Standards Institute or certified by the National Sanitation Foundation to be in compliance with applicable industry specification.

(B) Installation of approved devices shall be made in accordance with 35 Illinois Administrative Code 653.802 and only as specified by the Research Foundation for Cross - Connection Control of the University of Southern California or applicable industry specifications. Maintenance as recommended by the manufacturer of the device shall be performed. Manufacturer's maintenance manual shall be available on-site.

§ 9 INSPECTION AND MAINTENANCE.

(A) It shall be the duty of the consumer at any premises on which backflow prevention devices required by these regulations 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. Beginning on February 1, 2019, the

Village of Chatham will provide or contract for services to coordinate, facilitate and organize testing records for all cross-connection assemblies that are connected to the Village of Chatham's water distribution system. The Village of Chatham or its vendor will make the back-flow testing data available 24 hours a day, seven days a week to Village of Chatham personnel, who in turn can produce and submit required back-flow testing reports to the Illinois Environmental Protection Agency thereby closely following the established requirements outlined in the IEPA's Illinois Cross-Connection Control Program. The annual fee to the Village of Chatham for data collection and mailing service will be a \$495.00. There will also be a charge \$12.95 for each back-flow test submittal by any accredited CCCDI tester licensed in the State of Illinois. It is also required that any CCCDI licensed tester be registered with the Village of Chatham at no additional charge for registration. Any homeowner or business owner can access a list of certified CCCDI testers through the Environmental Resources Training Center (ERTC) website at <http://www.siue.edu/ertc/> or Village of Chatham's website at www.chathamil.net.

Each backflow testing company performing backflow testing within the Village shall set up an account in the Online System, supplying and maintaining required information pertaining to the testing company, testers, test kits and licenses. Each testing company shall adhere to all procedural policies and agree to all terms specified in the Online system.

For each backflow test report submitted by the backflow testing company via the Online system, the testing company will be required to pay a filing fee due at the time of submittal. All backflow test reports must be submitted electronically via the online system. The filing fee shall be paid directly to the firm acting as the Village's authorized Online system provider. The tester may elect to absorb the filing fee for competitive marketing purposes or pass it along to the device owner when invoicing for the test.

All Test/Maintenance reports must include the following information:

ADMINISTRATIVE INFORMATION

- Water customer or Facility name
- Contact Name and Telephone Number
- Complete Service Address (Physical Address)
- Complete Mailing Address
- Physical Location of Backflow Prevention Assembly/Device within facility or on the property (room number, room name, landmarks)
- Type of Assembly/Device (RP, RPDA, DCVA, DCDA, etc.)
- Assembly Make, Model, Size and Serial Number
- CCCDI Printed Name, Signature, and CCCDI License Number
- Date and Time of Test

TEST INFORMATION

- Whether the valve Passed or Failed the test
- Gauge readings for each component tested (check valves, relief valve opening point, air inlet opening point, etc.)
- Repair Information (any new parts used, components cleaned and replaced, etc.)

OTHER INFORMATION

- Notations of any unsafe conditions or safety issues
- Notations of any installation abnormalities or deficiencies

(1) Fixed proper air gap separations shall be inspected to document that a proper vertical distance is maintained between the discharge point of the service line and the flood level rim of the receptacle at the time of installation and at least annually thereafter.

(2) Double check valve assemblies shall be inspected and tested at time of installation and at least annually thereafter and required service performed within 15 days.

(3) Reduced pressure principle backflow prevention devices shall be tested at the time of installation and at least annually or more frequently if recommended by the manufacturer and required service performed within five days.

(B) Testing shall be performed by a person who has been approved by the Agency as competent to service the device. Proof of approval shall be in writing.

(C) Each device shall have a tag attached listing the date of most recent test or visual inspection, name of tester and type and date of repairs.

(D) A maintenance log shall be maintained and include:

- (1) Date of each test or visual inspection;
- (2) Name and approval number of person performing the test or visual inspection;
- (3) Test results;
- (4) Repairs or servicing required;
- (5) Repairs and date completed; and
- (6) Servicing performed and date completed.

(E) Whenever backflow prevention devices required by these regulations are found to be defective, they shall be repaired or replaced at the expense of the consumer without delay.

(F) Backflow prevention devices shall not be bypassed, made inoperative, removed or otherwise made ineffective without specific authorization by the Superintendent of Water.

§ 10 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 consumer to maintain the low pressure cut-off device in proper working order and to certify to the Superintendent of Water, at least once a year, that the device is operable.

§ 11 VIOLATIONS.

(A) **Discontinuance of water service.** The Water Department Foreman shall deny or discontinue, after reasonable notice to the occupants thereof the water service, or shall ensure the auxiliary water system is disabled, to any premises wherein any backflow prevention device required by these regulations is not installed, tested, maintained and repaired in a manner acceptable to the Water Department Foreman or if it is found that the backflow prevention device has been removed or bypassed or 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) Correction of prohibited conditions. Water service to such premises shall not be restored until the consumer has corrected or eliminated such conditions or defects in conformance with these regulations and to the satisfaction of the Water Department Foreman and the required reconnection fee is paid.