

BACKFLOW PROTECTION**§ 52.20 DEFINITIONS.**

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

AGENCY. The Illinois Environmental Protection Agency.

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

AUXILIARY WATER SYSTEMS. A source of water outside the village's public water supply system. No connection of the village's public water supply system shall be made with any other water system without the approval of the local authority.

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 DEVICES. 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 Plumbing Code and 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 or CUSTOMER'S WATER SYSTEM. Any water system servicing the premise, commencing at the outlet side of the service pipe shutoff valve location as stated in the municipal code.

CONTAMINATION. The introduction into water of micro-organisms, chemicals, wastes or wastewater in a concentration that makes water unfit for its intended use.

CROSS-CONNECTION. Any connection through which a supply of potable water could be contaminated or polluted.

DOUBLE CHECK VALVE ASSEMBLY. An assembly composed of single, independently acting check valves, including tight shutoff valves located at each end of the assembly and suitable connections for testing the water-tightness of each check valve.

FIXED 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* is used to qualify *HEALTH HAZARD*, meaning 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 Ill. Adm. Code 890.

LOCAL AUTHORITY. The Village President and Board of Trustees.

NON-POTABLE WATER. Water not safe for drinking, personal or culinary use as determined by the requirements of 35 Ill. Adm. 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 sources 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 buildings where persons live, work or assemble. Plumbing includes all piping, fixtures, appurtenances and appliances for a building drain and a sanitary drainage and related ventilation system of any building where 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 Ill. Adm. Code 604 for drinking, culinary and domestic purposes.

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

PROCESS FLUIDS. 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 waters originated from the public water supply system which may have deteriorated in sanitary quality;
- (4) Cooling waters;
- (5) Questionable or contaminated natural water taken from wells, lakes streams or irrigation systems;
- (6) Chemicals in solution or suspension;
- (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 SYSTEM. All mains, pipes and structures owned and/or maintained by the village 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.

REDUCED PRESSURE ZONE PRINCIPLE BACKFLOW PREVENTION DEVICE (RPZ). 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. 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 valves 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 physical connection to the water main including all fittings and appurtenances through which water is supplied to the consumer.

SURVEY. The collection of information pertaining to a customer's piping system regarding the location of all connections of the public water supply system and must include the location, type, serial number 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 village.
(Ord. 0-90-23, passed 5-14-90)

§ 52.21 COMPLIANCE WITH STATE INSTALLATION REGULATIONS; APPROVED BACKFLOW PREVENTION DEVICE.

(A) All plumbing installed within the village shall be installed in accordance with the Illinois Plumbing Code, 77 Ill. Adm. Code 890. The Illinois Plumbing Code is hereby adopted by reference as if set forth fully herein. Three copies of the Illinois Plumbing Code shall be on file in the Village Clerk's Office for review by the public during business hours.

(B) If, in accordance with the Illinois Plumbing Code or in the judgement of the director of public works, an approved backflow prevention device is necessary for the safety of the public water supply system, the Director of Public Works will give notice to the water customer to install such an approved device immediately.

(C) 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, Illinois Environmental Protection Agency and all applicable local regulation.

(D) The customer shall have inspections and tests made of such approved devices upon installation and as required by the Illinois Plumbing Code, Illinois Environmental Protection Agency and all applicable local regulations.
(Ord. 0-90-23, passed 5-14-90) Penalty, see § 52.99

§ 52.22 PRIVATE, AUXILIARY OR EMERGENCY WATER SUPPLY; ENTRY INTO SUPPLY OR DISTRIBUTION SYSTEM.

No person, firm or corporation shall establish or permit to be established or maintain or permit to be maintained any connection whereby a private, auxiliary or emergency water supply other than the regular public water supply of the village may enter the supply or distribution system of the municipality unless such private, auxiliary or

emergency water supply and the method of connection and use of such supply shall have been approved by the Director of Public Works and Illinois Environmental Protection Agency.
(Ord. 0-90-23, passed 5-14-90) Penalty, see § 52.99

§ 52.23 SURVEYS AND INVESTIGATIONS.

(A) On request by the Director of Public Works or his authorized representative the consumer shall furnish information regarding the piping system for water use within the consumer's premises and cross-connection inspection results.

(B) The consumer's premises shall be open at all reasonable times to:

(1) The Director of Public Works for the verification of information submitted by the consumer regarding the piping system for water use and cross-connection inspection results.

(2) The certified Cross-Connection Control Device Inspector (CCCDI) 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 with the consumer's premises.

(C) It shall be the responsibility of the water consumer to arrange periodic surveys of water use practices on the consumer's premise to determine whether there are actual or potential cross-connections to the consumer's water system through which contamination or pollution could backflow into the consumer's or the public potable water system. All cross-connection control or other plumbing inspections must be conducted in accordance with ILCS Ch. 225, Act 320, § 3(1).

(D) It is the responsibility and financial obligation of the water consumer 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 Cross-Connection Control Device Inspector. The inspection of mechanical devices shall include physical testing in accordance with the manufacturer's instructions.

(E) Each device shall be tested at least annually or more frequently if recommended by the manufacturer or director of public works.

(1) The cost of the required testing shall be borne by the consumer.

(2) Records submitted to the director of public works shall be available for inspection by agency personnel in accordance with ILCS Ch. 415, Act 5, § 4.

(3) Each device shall have a tag attached listing the date of most recent test, the name of CCCDI and the type and date of repairs.

(4) A maintenance log shall be kept and include:

- (a) Date of each test;
- (b) Name and certification number of person performing the inspection or test;
- (c) Test results/inspection;
- (d) Repairs or servicing required;
- (e) Repairs and date completed; and
- (f) Services performed and complete dated.

(Ord. 0-90-23, passed 5-14-90) Penalty, see § 52.99

§ 52.24 RIGHT OF ENTRY UPON PROPERTY FOR INSPECTION.

(A) The Director of Public Works or his authorized agent 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 village for the purpose of verifying the presence or absence of cross-connections.

(B) The Director of Public Works or his authorized agent 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 village for the purpose of verifying information submitted by the customer regarding the required cross-connection control inspection.

(C) On request the owner, lessee or occupant of the property so served shall furnish to the Director of Public Works any information which he may request regarding the piping system or water use on such property. If the water customer refuses to provide the requested information in a reasonable amount of time the Director of Public Works shall have the right to terminate service to the property until such information is provided in order to protect the integrity of the village water system.

(Ord. 0-90-23, passed 5-14-90) Penalty, see § 52.99

§ 52.25 RESPONSIBILITY FOR COST OF CLEAN-UP.

The consumer responsible for back-siphoned or back-pressured material or contamination through backflow, if contamination of the potable water system occurs through an illegal cross-connection or an improperly installed, maintained or repaired device or a device which has been bypassed, must bear the cost of clean-up of the potable water supply system.

(Ord. 0-90-23, passed 5-14-90) Penalty, see § 52.99

§ 52.26 CROSS-CONNECTION CONTROL; POLICY; EXCEPTION.

(A) These rules and regulations shall apply to all premises served by the village's public potable water supply system:

(1) 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 ensure proper operation on a continuing basis.

(2) 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 agency and/or village.

(3) There shall be no arrangement or connection by which contamination may enter the public water supply.

(4) 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.

(5) If, in the judgement of the Director of Public Works or his authorized representative, an approved backflow prevention device is necessary for the safety of the public water supply system, he shall give notice to the consumer to install such approved back-flow prevention device at each service connection to the premises. The consumer, after due written notice and within the prescribed time indicated on the notice, shall install such approved device at his own expense.

(6) Failure or refusal on the part of the consumer to install such device immediately shall constitute grounds for discontinuing water services to the premises until such device has been installed. The consumer shall retain records of installation maintenance, testing and repair for at least five years.

(B) The purposes of the village's cross-connection control rules and regulations are:

(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 systems and non-potable water supply system, 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's and consumer's potable water systems.
(Ord. 0-90-23, passed 5-14-90) Penalty, see § 52.99

§ 52.27 WHERE PROTECTION IS REQUIRED.

(A) An approved backflow prevention device shall be installed on each water service line to a consumer's water system when:

(1) Actual or potential hazards to the public water supply system, in the judgement of the Director of Public Works or his authorized representative, may exist.

(2) An auxiliary water system serves the premises, unless such system is accepted by the Director of Public Works as an additional source and the source is approved by the agency and local authority.

(3) Any substance which can create an actual or potential hazard to the public water supply system exist on premises.

(4) Premises have internal cross-connections that, in the judgement of the Director of Public Works, are not correctable or are intricate plumbing arrangements which make it impractical to determine whether cross-connections exist.

(5) It is impossible or impractical to make a complete cross-connection survey because of a premises' security requirements or other prohibitions or restrictions.

(6) A repeated history of cross-connections being established or re-established exists for a premises.

(B) Installation of an approved backflow prevention device on each water line to a consumer's water system servicing shall be made at, but not necessarily be limited to, the following types of facilities unless the Director of Public Works 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 and 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, herbicide, extermination or lawn care plants and trucks; and
- (12) Farm service and fertilizer plants and trucks.

(Ord. 0-90-23, passed 5-14-90)

§ 52.28 TYPE OF PROTECTION REQUIRED.

(A) The type of protection required under these regulations shall be an approved fixed proper air gap separation or an approved reduced pressure principle backflow protection device.

(1) An approved fixed air gap shall be installed where the public water supply system may be contaminated, causing a severe health hazard.

(2) An approved fixed air gap or an approved reduced pressure zone principle backflow prevention device shall be installed where the public water supply system may be contaminated, causing a system health hazard.

(3) An approved fixed proper air gap separation or an approved reduced pressure zone 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) 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 between the fire sprinkler systems connected to the public water supply system when:

(1) The sprinkler system contains anti-freeze and/or chemical additives.

(2) Water pumped into the system from another source can be connected to the sprinkler system.

(Ord. 0-90-23, passed 5-14-90) Penalty, see § 52.99

§ 52.29 BACKFLOW PREVENTION DEVICES; INSTALLATION.

(A) All backflow prevention devices or methods required by these rules and regulations shall be:

(1) Approved by the Research Foundation for Cross-Connection Control of the University of Southern California, the American Water Works Association, the American Society of Sanitary Engineering or American National Standards Institute; or

(2) Certified by the National Sanitation Foundation to be in compliance with applicable industry specifications.

(B) Approved devices shall be:

(1) Installed in accordance with 35 Ill. Adm. 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;

(2) Maintained as recommended by their manufacturer. The manufacturer's maintenance manual shall be available on-site.

(Ord. 0-90-23, passed 5-14-90) Penalty, see § 52.99

§ 52.30 INSPECTION AND MAINTENANCE.

(A) It shall be the duty of the consumer at 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.

(1) Fixed proper air gap separations shall be inspected at the time of installation and at least annually thereafter.

(2) Double check valve assemblies shall be inspected and tested for tightness 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 least annually or more frequently if recommended by the manufacturer.

(B) Testing shall be performed by the village or its agent, and the party providing such inspection shall be certified by the state in backflow prevention. The cost of such inspection, as well as the responsibility for all maintenance and repairs, shall be borne by the owner (consumer). The annual fee for inspection shall be the cost of same as billed to or quoted to the village by the agent providing the inspection, plus an administrative fee of up to 15%. The annual fee may be added to any water bill in conjunction with the regular billing cycle established by the village.

(C) Each device shall have a tag attached including the information as required by this subchapter.

(D) Whenever backflow prevention devices required by these regulations are defective, they shall be repaired or replaced at the expense of the consumer within 15 days or as specified by the Director of Public Works.

(E) Backflow prevention devices shall not be bypassed, made inoperative, removed or otherwise made ineffective without specific 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 this subchapter.

(Ord. 0-90-23, passed 5-14-90; Am. Ord. 0-93-26, passed 4-12-93) Penalty, see § 52.99

§ 52.31 BOOSTER PUMPS.

(A) Where a booster pump has been installed on the service line to or within any premises, it shall be equipped with a low-pressure cutoff device designed to shut off the booster pump when the pressure in the device 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 cutoff device in working order and to certify to the Director of Public Works at least once a year that the device is operable.

(Ord. 0-90-23, passed 5-14-90) Penalty, see § 52.99

§ 52.32 DENIAL OR DISCONTINUANCE OF WATER SERVICE.

(A) The Director of Public Works may deny or discontinue, after reasonable notice to the occupants thereof, the water service to any premises wherein:

(1) Any backflow prevention device required by these regulations is not installed, tested, maintained or repaired in a manner acceptable to the Director of Public Works;

(2) The backflow prevention device has been removed or bypassed;

(3) An unprotected cross-connection exists on the premises;

(4) A low-pressure cutoff required by these regulations is not installed or maintained in working order; and

(5) Any connection in violation of the provisions of this subchapter 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.

(B) Immediate disconnection with verbal notice can be effected when the Director of Public Works is assured that imminent danger of harmful contamination of the public water supply system exists. Such action shall be followed by written notification of the cause of disconnection.

(C) Immediate disconnection without notice to any party can be effected to prevent actual or anticipated contamination or pollution of the public water supply, provided that, in the reasonable opinion of the Director of Public Works or the Illinois Environmental Protection Agency, such action is required to prevent actual or potential contamination or pollution of the public water supply.

(D) Water service to such premises shall not be restored until:

(1) The consumer has corrected or eliminated such condition or defects in conformance with these regulations and to the satisfaction of the Director of Public Works; and

(2) The required \$30 re-connection fee is paid to the village water department.

(E) Neither the public water supply, the Director of Public Works or its agents or assignees shall be liable to any customer for any injury, damages or lost revenues which may result from termination of the customer's water supply in accordance with the terms of this code, whether the termination was with or without notice.
(Ord. 0-90-23, passed 5-14-90)

§ 52.33 CORRECTIVE ACTIONS.

Nothing contained herein shall prevent the village from taking such other action as it deems necessary to prevent or remedy a violation of this chapter.
(Ord. 0-90-23, passed 5-14-90)

WATER CONSERVATION AND USE

§ 52.40 COMPLIANCE WITH STANDARDS FOR PLUMBING FIXTURES.

All new plumbing fixtures and any replacement plumbing fixtures shall comply with the following standards of water use:

(A) *Water closet, tank-type, residential only*, maximum per flush, 3.5 gallons.

(B) *Water closet, flushometer, any location*, maximum per flush, 3.0 gallons.