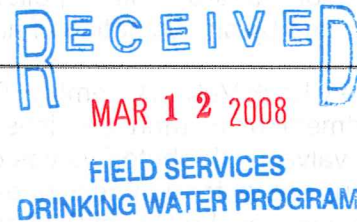


~~City of GRESHAM # 00357~~

## Article 5.55 CROSS CONNECTION CONTROLS

~~GRESHAM PWO - WATER SECTION~~  
Section 5.55.010 Definitions.

Unless the context requires otherwise, for purposes of GRC Article 5.55, the following mean:

Air Gap Separation. The physical vertical separation between the free flowing discharge end of a potable water supply pipe line and the open or nonpressure receiving vessel.

Approved Backflow Prevention Assembly. An assembly approved by both the Oregon Department of Human Services and the city for preventing backflow occurrences.

Auxiliary Water Supply. Any supply of water used to augment the supply obtained through the city water system which serves the premises in question.

Backflow. The flow of water or other liquids, mixtures, or substances into the distributing pipes of a potable supply of water from any sources other than its intended source, and is caused by backsiphonage or backpressure.

Backflow Preventer. An assembly or method to prevent backflow into the potable water system.

Backflow Prevention Assembly. Any city or state approved assembly used to prevent backflow into a potable water system. The types of assembly used include:

- (1) Double Check Valve Assembly
- (2) Pressure Vacuum Breaker Assembly
- (3) Reduced Pressure Principle Assembly
- (4) Air gap separation.
- (5) Spill resistant vacuum breaker.

Backpressure. An elevation of pressure downstream of the distribution system that would cause, or tend to cause, water to flow opposite of its intended direction.

Backsiphonage. A drop in distribution system pressure below atmospheric pressure (partial vacuum), that would cause, or tend to cause, water to flow opposite of its intended direction.

Check Valve. A valve that permits flow in only one direction.

Contaminant. Any physical, chemical, biological, or radiological substance or matter in water that creates a health hazard or potential health hazard.

Contamination. The entry into or presence in a public water supply of any substance that may be injurious to health or quality of the water.

Cross-Connection. Any unprotected actual or potential connection or structural arrangement between a public or a consumer's potable water system and any other source or system through which it is possible to introduce into any part of the potable system any used water, industrial fluid, gas, or substance other than the intended potable water with which the system is supplied. By-pass arrangements, jumper connections, removable sections, swivel or changeover devices, and other temporary or permanent devices through which or because of which backflow can or may occur are considered to be cross-connections.



Degree of Hazard. Either pollution (non-health hazard) or contamination (health hazard) determined by an evaluation of hazardous conditions within a system.

Double Check Valve Assembly (DC Assembly). An assembly approved by both the Oregon Department of Human Services and the city which consists of two independently acting check valves with shutoff valves on each side of the check valve assembly and test ports for checking the water tightness of each check valve. This is the minimum protection required at property line by the City of Gresham.

Hazard, Plumbing. An internal or plumbing type cross-connection in a consumer's potable water system that may be either a pollutional or a contamination type hazard. This includes, but is not limited to, cross-connections to toilets, sinks, lavatories, wash trays, domestic washing machines, and lawn sprinkling systems.

Hazard, Low. An actual or potential threat to the physical properties of the city water system or the potability of the public or the consumer's potable water system but which would not constitute a health or system hazard, as defined. The maximum degree or intensity of pollution to which the potable water system could be degraded under this definition would cause a nuisance or be aesthetically objectionable or could cause minor damage to the system or its appurtenances.

Health Hazard (Contamination). An impairment of the quality of the water that could create an actual hazard to the public health through poisoning or through the spread of disease by sewage, industrial fluids, waste or other substances.

Irrigation System. A metered connection intended for seasonal use and delivering water which is not discharged into the sanitary sewerage system.

Pollutant. A substance that creates an impairment of the quality of the water to a degree which does not create a hazard to the public health, but which does adversely affect the aesthetic qualities of the water.

Potential Cross Connection. A cross connection that would most likely occur, but may not be taking place at the time of an inspection.

Pressure Vacuum Breaker Assembly. An assembly approved by both the Oregon Department of Human Services and the city consisting of one or two spring loaded check valves in the supply line, a spring loaded air inlet on the downstream side of the check valve which will open to atmosphere when the pressure in the assembly drops below one pound per square inch, two shut-off valves, and two test ports for checking water tightness of the check valve.

Public Health Hazard. A condition, device or practice which is conducive to the introduction of water borne disease organisms, or harmful chemical, physical, or radioactive substances into a public water system, and which represents an unreasonable risk to health.

Reduced Pressure Principle Assembly (RP-Assembly). An assembly containing two independently acting approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. The unit shall include properly located test cocks and tightly closing shut-off valves at each end of the assembly. This assembly is designed to protect against a non-health hazard or a health hazard.

Secondary Contaminant. Those contaminants that at the levels generally found in drinking water do not present an unreasonable risk to health, but do: (1) have adverse effects on the taste, odor, and color of water; (2) produce undesirable staining of plumbing fixtures; or (3)

interfere with the treatment process by the public water supply.

Safe Drinking Water. Water which has sufficiently low concentrations of microbiological, inorganic chemical, organic chemical, radiological, or physical substances so that individuals drinking such water at normal levels of consumption will not be exposed to disease organisms or other substances which may produce harmful physiological effects.

Spill Resistant Pressure Vacuum Breaker Backsiphonage Prevention Assembly (SVB). An assembly containing an independently operating, internally loaded check valve and independently operating loaded air inlet valve located on the discharge side of the check valve. The assembly is to be equipped with a properly located resilient seated shutoff valve attached at each end of the assembly. This assembly is designed to protect against a non-health hazard or a health hazard under a backsiphonage condition only.

(Ord. No. 1647, Amended, 09/20/2007, Prior Text; Ord. No. 1602, Amended, 04/01/2005, Prior Text; Ord. No. 1507, Amended, 09/19/2000, Prior Text)

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**Section 5.55.020 Cross Connections.**

The installation or maintenance of any cross-connection that will endanger the water quality of the potable water supply system of the city is unlawful. The manager may enforce the provisions of this code in the inspection of existing, new, and remodeled buildings. The city shall comply and enforce rules adopted by the Oregon Department of Human Services, Oregon Administrative Rule 333-061-0070 Cross Connection Control Requirements, except where otherwise noted in this code.

(Ord. No. 1647, Amended, 09/20/2007, Prior Text)



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**Section 5.55.030 Backflow Prevention Assembly.**

(1) The city shall not install or maintain a water service connection to any premises as listed in subsection (4) unless the water supply is protected as required by this code. The city shall discontinue water service to any premises if a backflow prevention assembly required by this code is not installed, tested, and maintained. The city shall discontinue service if a backflow prevention assembly, that is still required, is removed or by-passed, or if an unprotected cross-connection exists on the premises. Service shall not be restored until such conditions or defects are corrected.

(2) A customer's system shall be open for inspection and tests at all reasonable times to the city to determine whether cross-connections or other violations of this article exist. If a violation is found, the manager may deny or immediately discontinue service to the premises by providing for a physical break in the service line until the customer corrects the violation.

(3) Water services to any premises known or found to have such defects and hazards will be disconnected and not restored until such defects and hazards have been eliminated or until the appropriate backflow assembly as determined by the city has been installed and tested.

(4) A city approved backflow prevention assembly will be installed on each service line to user's water system at or near the property line unless variance is granted by the manager. If a variance is granted, then the backflow prevention assembly will be located immediately inside the building being served but, in all cases, before the first branch line leading off the service line wherever the following conditions exist:

- (a) Premises having an auxiliary water supply.
- (b) Premises having cross-connections that are not correctable, or intricate plumbing arrangements which make it impractical to ascertain whether or not cross-connections exist.
- (c) Premises where entry is restricted so cross-connection inspections cannot be made to determine if cross-connections exist.
- (d) Premises having a history of repeating the same or similar cross-connections or backflow even though these have been removed or disconnected.
- (e) Premises on which any substance is handled under pressure so as to permit entry into the public water supply, or where a cross-connection could reasonably be expected to occur. This shall include the handling of process waters, cooling waters, solar water systems, and private fire systems.
- (f) Premises where materials of a toxic or hazardous nature are handled in such a way that if back siphonage should occur, a serious health hazard might result.
- (g) Premises having a service connection to another jurisdiction's public water system. Backflow prevention assemblies shall be installed to the standards of the jurisdiction to which the service is connected or to the city's standards, whichever is greater. This requirement shall also apply to a public line connected to another jurisdiction's public water system.
- (h) The following types of facilities will fall into one of the above categories where a backflow prevention assembly is required to protect the public water supply. A backflow prevention assembly shall be installed at these facilities (unless the city determines that no hazard exists) requiring isolation

by an approved air gap or reduced pressure principle type of assembly for known health hazards. Refer to Oregon Administrative Rule 333-061-0070(8) for premise isolation requirements.

- Agriculture (e.g., farms, dairies)
- Beverage bottling plants (a Double Check Valve Backflow Prevention Assembly could be used if the city determines there is only a non-health hazard at a beverage bottling plant)
- Car washes
- Chemical plants
- Commercial laundries and dry cleaners
- Premises where both reclaimed and potable water used
- Film processing plants
- Food processing plants
- Medical Centers (e.g., hospitals, medical clinics, nursing homes, veterinary clinics, dental clinics, blood plasma centers)
- Premises with irrigation systems that use the water supplier's water with chemical additions (e.g., parks, playgrounds, golf courses, cemeteries, housing estates)
- Laboratories
- Metal plating industries
- Mortuaries
- Petroleum processing or storage plants
- Piers and docks
- Radioactive material processing plants and nuclear reactors
- Wastewater lift stations and pumping stations
- Wastewater treatment plants
- Premises with piping under pressure for conveying liquids other than potable water and the piping is installed in proximity of potable water piping
- Premises with an auxiliary water supply that is connected to a potable water supply system
- Premises where the water supplier is denied access or restricted access for survey
- Premises where the water is being treated by the addition of chemical or other additives



(i) Premises with domestic water meter 1-1/2 inch size and larger.

(j) Any premise considered to be commercial or industrial users.

(5) Any backflow prevention assembly required by this code shall be an approved backflow prevention assembly.

(6) The type of backflow prevention assembly required shall depend on the degree of hazard that exists consistent with the Oregon Department of Human Services Oregon Administrative Rules Chapter 333, Division 061, Tables 32 and 33.

(7) A backflow prevention assembly required shall be inspected and approved by the city upon installation. The customer shall pay a fee for inspection of each new backflow prevention assembly installed. A fee for the installation inspection shall be set by council resolution.

(8) Backflow prevention assemblies shall be furnished and installed by and at the expense of the customer.

(9) It shall be the duty of the customer at any premises where backflow prevention assemblies are installed to have certified inspections and operational tests made after the assembly is installed, and at least once per year or sooner if required by the manager. In those instances where the manager deems the hazard to be great enough, the manager may require certified inspection at more frequent intervals.

(a) These inspections and tests shall be at the expense of the water user and shall be performed by a certified tester approved by the manager. The manager shall see that these timely tests are made. The customer shall notify the manager 48 hours in advance when the tests are to be undertaken. These assemblies shall be repaired, overhauled or replaced at the expense of the customer whenever they are found to be defective. Records of such tests, repairs, and overhaul shall be kept and copies sent to the manager.

(b) The customer may request that the city perform an annual inspection and operational test for the customer's backflow prevention assemblies and shall pay a fee for each backflow prevention assembly tested. The council shall set by resolution the fee for providing the annual inspection and testing. The customer shall be given advance notice of the date and time of the inspection and testing. A written report of the inspection and test results shall be furnished to the customer. If the city finds the backflow prevention assemblies to be defective, the customer shall repair, overhaul, or replace the assemblies at the customer's expense.

(10) No irrigation system may be installed without adequate backflow prevention assemblies.

(11) All customers required by state law to have backflow prevention assemblies shall pay a charge for each assembly to cover administration of the cross connection program mandated by the state. A cross connection program fee shall be set by council resolution.

(Ord. No. 1647, Amended, 09/20/2007, Prior Text; Ord. No. 1534, Amended, 10/02/2001, Prior Text; Ord. No. 1507, Amended, 09/19/2000, Prior Text; Ord. No. 1332, Amended, 11/03/1994, Prior Text; Ord. No. 1307, Amended, 05/05/1994, Prior Text)

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Section 5.55.035 Fee for Temporary Use of a Backflow Prevention Assembly.

A customer, developer or governmental entity may request that the city install a backflow prevention assembly for temporary use of the city water system during construction. The customer, developer or governmental entity shall pay for installing and removing the assembly plus a rental charge for the use of the assembly. The customer, developer or governmental entity shall deposit an amount equal to the estimated installation, rental, and removal cost of the backflow prevention assembly. The amount of the charge for rent, installation, and removal shall be set by council resolution.

(Ord. No. 1647, Amended, 09/20/2007, Prior Text; Ord. No. 1332, Amended, 11/03/1994, Prior Text)



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**Section 5.55.040 Cross-Connection Inspection.**

(1) The city shall not deliver water to any structure built within the city or within areas served by city water until the premises have been inspected by the city and found free of cross-connections.

(2) Any construction for industrial or other purposes which is classified as hazardous facilities where it is reasonable to anticipate intermittent cross-connections, or as determined by the manager, shall be protected by the installation of one or more backflow prevention devices at the point of service from the public water supply or any other location designated by the city.

(3) The manager may inspect all buildings, structures, or improvements of any nature now receiving water through the city's water system, for the purpose of ascertaining whether cross-connections exist.

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**Section 5.55.050 Installation Permits.**

If backflow prevention devices are found to be necessary, the owner of the property served must apply to the city for a specific installation permit. The council may set by resolution an installation permit fee.

(2) Any construction for industrial or other purposes which is classified as hazardous facilities where it is responsible to install backflow prevention devices at the point of service from the public water supply or any other location designated by the manager, shall be protected by the installation of one or more backflow prevention devices.

(3) The manager may inspect all buildings, structures, or improvements of any nature receiving water through the city's water system for the purpose of ascertaining whether cross-connections exist.



Article 5.55 CROSS CONNECTION CONTROLS

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**Section 5.55.060 Access to Premises for Inspection.**

(1) The city shall have the right of access during reasonable hours to all parts of an owner's building or premises for purposes of inspecting the conditions of private waterlines and plumbing fixtures to determine whether cross connections or other structural or sanitary hazards exist and the manner in which water is being used.

(2) If the owner refuses access or prevents authorized city employees from making such necessary inspections, water service may be refused or discontinued.

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ARTICLE 15 CROSS CONNECTION CONTROLS

Section 15.05 050 Access to Premises for Inspection

(1) The city shall have the right of access during reasonable hours to all parts of an owner's building or premises for the purpose of inspecting the condition of private waterlines and plumbing fixtures to determine whether cross-connection, other structural or sanitary defects exist and the manner in which water is being used.

(2) If the owner refuses access or prevents authorized city employees from making such necessary inspections, water service may be refused or discontinued.