

Chapter 13.20 CROSS-CONNECTIONS



The City of Harrisburg
PO Box 378
Harrisburg, OR 97446

Sections:

<u>13.20.010</u>	Summary.
<u>13.20.020</u>	Definitions.
<u>13.20.030</u>	Cross-connections.
<u>13.20.040</u>	Backflow prevention assembly.
<u>13.20.050</u>	Cross-connection inspection.
<u>13.20.060</u>	Access to premises for inspection.
<u>13.20.070</u>	Penalty.

13.20.010 Summary.

Pursuant to Chapter 333, Division 61, Section 070 of Oregon Administrative Rules, it is the responsibility of the City of Harrisburg to protect its drinking water by instituting and enforcing a cross-connection program. [Ord. 924 § 1 (Exh. A), 2014.]

13.20.020 Definitions.

Unless the context requires otherwise, for purposes of this chapter the following mean:

“Air gap separation” means the physical vertical separation between the free flowing discharge end of a potable water supply pipe line and the open or non-pressure-receiving vessel. The separation must be at least twice the inside diameter of the supply line, but never less than one inch.

Approved Backflow Prevention Assembly. Assemblies and devices shall be approved by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research, or other Oregon Health Authority approved and equivalent testing laboratories.

“Auxiliary water supply” means any supply of water on or available to the premises other than the City water system.

“Backflow” means the flow of water or other liquids, gases, or other substances into the distributing piping of the public potable water supply.

“Backflow assembly tester” means a person who is certified by the Oregon Health Authority to test approved backflow prevention assemblies.

“Backflow prevention assembly” means assembly used to prevent backflow into a potable water system. Approved assemblies will have attached resilient seat shutoff valves on the inlet and outlet ends of the assembly and the appropriate connections for testing. The types of assembly used include:

- a. Double check valve assembly (DCVA);
- b. Pressure vacuum breaker assembly (PVBA); protects against backsiphonage only;
- c. Reduced pressure backflow assembly (RPBA);
- d. Air gap (AG);
- e. Reduced pressure backflow assembly (RP), low hazard only.

City of Harrisburg
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“Backpressure” means water pressure which exceeds the operating pressure of the public potable water supply system.

“Backsiphonage” means a drop in distribution system pressure that would cause, or tend to cause, water to flow opposite of its intended direction.

“Check valve” means a valve that allows the flow of fluids in only one direction.

“Contamination” means an impairment of the quality of the potable water by any physical, chemical, biological, or radiological substance that would present unreasonable risk to public health. Also referred to as a high hazard.

“Cross-connection” means a point in the plumbing system where the public potable water supply is connected directly, or has the potential of being connected, to an auxiliary water source or a non-potable substance that is not a part of the public potable water supply.

“Cross-connection specialist” means a person certified by the Oregon Health Authority and authorized by the City of Harrisburg to administer the cross-connection control program and conduct cross-connection inspections and surveys.

“Degree of hazard” means either pollution (low hazard) or contamination (high hazard), classification that shall be attached to all actual or potential cross-connections by the City of Harrisburg’s cross-connection specialist.

“Double check valve assembly (DCVA)” means an assembly which consists of two independently acting check valves, loaded to the closed position by springs or weights and installed with shutoff valves on each side of the double check valve assembly and test ports for testing the assembly. This is the minimum protection required for fire sprinkler systems.

“Hazard, high (contamination)” means a condition, device or practice which is conducive to the introduction of waterborne disease producing organisms, harmful chemical, physical or radioactive substances into the City potable water supply and which presents an unreasonable risk to public health.

“Hazard, low” means an actual or potential threat to the physical properties of the City water system with 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.

“Potable water supply” means City supplied water which is safe for human consumption, free from harmful or objectionable materials as described and mandated by the Oregon Health Authority. City of Harrisburg potable water system includes all services, meters, reservoirs, wells, facilities and any equipment used in the process of producing, treating, storing or conveying water for public consumption.

“Potential cross-connection” means a cross-connection that would most likely occur, but may not be taking place at the time of an inspection.

“Pressure vacuum breaker assembly” means an assembly 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 shutoff valves, and two test ports for testing.

“Reduced pressure backflow assembly” (RPBA) means assembly consisting of two independently operating check valves, spring-loaded to the closed position, separated by a spring-loaded differential pressure relief valve loaded in the open position, and installed as a unit with two resilient seat shutoff valves and suitable connections for testing. An RPBA is the most common device required by the City.

“Reduced pressure principle assembly (RP assembly)” means 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 port and tightly closing shutoff valves at each end of the assembly. This assembly is designed to protect against a non-health hazard or a low health hazard.

“Thermal expansion” means pressure created by heated water or fluid that is not given room to expand.

Thermal Expansion Tank. An expansion tank or expansion vessel is a small tank used to protect closed (not open to atmospheric pressure) domestic hot water systems from excessive pressure. [Ord. 924 § 1 (Exh. A), 2014; Ord. 868 § 1, 2008. Formerly 13.20.010.]

13.20.030 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 City may enforce the provisions of this chapter in the inspection of existing, new, and remodeled buildings. The City shall comply and enforce rules adopted by the Oregon Health Authority, OAR [333-061-0070](#), Cross Connection Control Requirements, except where otherwise noted in this chapter. [Ord. 924 § 1 (Exh. A), 2014; Ord. 868 § 2, 2008. Formerly 13.20.020.]

13.20.040 Backflow prevention assembly.

1. The City shall not install or maintain a water service connection to any premises as listed in subsection (4) of this section unless the water supply is protected as required by this chapter. 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 bypassed, 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 available 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 City may deny or immediately discontinue service to the premises by providing 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 a variance is granted by the City. 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 able to be corrected, 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 backsiphonage should occur, a serious health hazard might result.

g. 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 OAR [333-061-0070](#) for premises isolation requirements.

(1) Agriculture (e.g., farms, dairies);

(2) 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);

(3) Car washes;

(4) Chemical plants;

(5) Commercial laundries and dry cleaners;

(6) Premises where both reclaimed and potable water are used;

(7) Film processing plants;

(8) Food processing plants;

(9) Medical centers (e.g., hospitals, medical clinics, nursing homes, veterinary clinics, dental clinics, blood plasma centers);

(10) Premises with irrigation systems that use the water supplier's water with chemical additions (e.g., parks, playgrounds, golf courses, cemeteries, housing estates);

(11) Laboratories;

(12) Metal plating industries;

(13) Mortuaries;

(14) Petroleum processing or storage plants;

(15) Piers and docks;

(16) Radioactive material processing plants and nuclear reactors;

(17) Wastewater lift stations and pumping stations;

(18) Wastewater treatment plants;

(19) Premises with piping under pressure for conveying liquids other than potable water and the piping is installed in proximity of potable water piping;

(20) Premises with an auxiliary water supply that is connected to a potable water supply system;

(21) Premises where the water supplier is denied access or restricted access for survey;

(22) Premises where the water is being treated by the addition of chemical or other additives.

5. Any backflow prevention assembly required by this chapter 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 Health Authority, OAR Chapter 333, Division 061, Tables 48 and 49.

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. Instances where the City deems the hazard to be great enough, the City 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 an Oregon certified backflow assembly tester. 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 City.

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

11. An approved double check valve assembly (DCVA) shall be the minimum protection for fire sprinkler systems.

12. All approved backflow assemblies subject to these rules shall be installed in accordance with OAR 333-061-0071 and the Oregon Plumbing Specialty Code. [Ord. 924 § 1 (Exh. A), 2014; Ord. 868 § 3, 2008. Formerly 13.20.030.]

13.20.050 Cross-connection inspection.

1. The City shall not deliver water to any new 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 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 City 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. [Ord. 924 § 1 (Exh. A), 2014; Ord. 868 § 5, 2008.]

13.20.060 Access to premises for inspection.

1. The City, after obtaining the permission of any person with authority over the property to grant it or after obtaining a warrant, 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. [Ord. 924 § 1 (Exh. A), 2014; Ord. 906 § 1, 2012; Ord. 868 § 7, 2008. Formerly 13.20.070.]

13.20.070 Penalty.

Any person violating any of the provisions of this chapter shall, upon conviction thereof, be punished by a fine not exceeding \$500.00 for each violation. [Ord. 924 § 1 (Exh. A), 2014; Ord. 906 § 1, 2012. Formerly 13.20.080.]

The Harrisburg Municipal Code is current through Ordinance 928, passed January 14, 2015.

Disclaimer: The City Recorder's Office has the official version of the Harrisburg Municipal Code. Users should contact the City Recorder's Office for ordinances passed subsequent to the ordinance cited above.

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(<http://www.ci.harrisburg.or.us/>)
City Telephone: (541) 995-6655
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