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TECHNICAL SERVICES  
DRINKING WATER PROGRAM

3-4.2

ORDINANCE NO. 519

AN ORDINANCE ADOPTING THE RULES AND REGULATIONS RELATING TO WATER SUPPLY CROSS-CONNECTIONS AND REPEALING ORDINANCE NO. 459.

The City of Columbia City ordains as follows:

The rules and regulations of the City of Columbia City Water Department shall include the following regulations pertaining to potable water supply cross-connections:

Section 1. Water Supply Cross-Connection. The purpose of these regulations is to protect the public health of water consumers by the control of actual and/or potential cross-connections to customers and the public water supply.

Section 2. Definitions.

A. **BACKFLOW** means the flow in the direction opposite to the normal flow caused by back-siphonage or backpressure. Back-siphonage is caused by negative or reduced pressure in the supply piping, and backpressure occurs when the potable supply piping is connected to a system or fixture, which exceeds the operating pressure of the supply piping.

B. **BACKFLOW PREVENTION DEVICE ASSEMBLY** means a device assembly such as a pressure vacuum breaker, a double check valve, or a reduced pressure principle device; and the attached shut-off valves on the inlet and outlet ends of the device assembled as a complete unit.

C. **BACKFLOW PREVENTION DEVICES [type]** means any approved device [State of Oregon] used to prevent backflow into a potable water system. The type used should be based on the degree of hazard either existing or potential.

D. **CONTAMINATION** means the entry into or presence in, the public water supply system of any substance, which may be deleterious to health, and/or quality of the water.

E. **CROSS-CONNECTION** means 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. Bypass 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.

F. **DIVISION** means the Health Division of the Oregon Department of Human Resources.

G. **HAZARD, DEGREE OF** shall be derived from the evaluation of a health, system, plumbing, or pollutional hazard.

H. HAZARD, HEALTH means an actual or potential threat of contamination of a physical or toxic nature to the public potable water system or the consumer's potable water system that would be a danger to health.

I. HAZARD, PLUMBING means 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, washtrays, domestic washing machines, plumbing paralleled fire sprinkler, and irrigation systems. Plumbing-type cross-connections can be located in homes, apartments, commercial, and industrial establishments.

J. HAZARD, POLLUTIONAL means an actual or potential threat to the physical properties of the water system or the potability of the public or consumer's potable water system, which would not constitute a health hazard, as defined. The degree of 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.

K. HAZARD, SYSTEM means an actual or potential threat of severe danger to the physical properties of the public or consumer's potable water system, or of a pollution or contamination, which would have a direct effect on the quality of the potable water in the system.

L. HEALTH DIVISION OFFICER means the Oregon State Health Division Officer or authorized agent.

M. POTABLE WATER SUPPLY means any system of water supply intended or used for human consumption or other domestic use.

N. SUPERINTENDENT means the Superintendent of the City of Columbia City.

Section 3. Cross-Connection. The installation or maintenance of a cross-connection, which will or may endanger the water quality of the potable water supply system of the City is unlawful and is prohibited. Any such cross-connection now existing or hereafter installed is declared to be a public hazard and the same shall be abated. The control or elimination of cross-connections shall be in accordance with this ordinance and in compliance with the Oregon Administrative Rules 333-61-070. The City of Columbia City shall have the authority to establish requirements more stringent than state regulations if it is deemed that the conditions so dictate. The City of Columbia City may adopt rules and regulations as necessary to carry out the provisions of this ordinance. The building official is authorized to enforce the provisions of this ordinance in the inspection of existing, new, and remodeled buildings. The Superintendent of Public Works shall administer the cross-connection program and verify that ongoing and periodic inspections are provided and approved.

Section 4. Use of backflow prevention devices.

A. 1. All new water service connections shall be protected by an approved backflow prevention device assembly installed by the City. The cost of the backflow device, including installation, shall be charged to the applicant in the water connection fee. Service of water to any premises shall be discontinued by the City if a backflow prevention device assembly required by these regulations if it is found that a backflow prevention device assembly has been removed or bypassed, or if any unprotected cross-connection exists on the premises. Service will not be restored until such conditions or defects are corrected.

2. The City will add approved backflow prevention device assemblies to all existing, unprotected water connections in the City over time, as meters are changed out and/or repaired, until the water supply is completely protected.

[Amended by Ordinance No. 01-575-O 11/1/01]

B. The consumer's system shall be opened for inspection and tests at all reasonable times to authorized representatives of the City to determine whether cross-connections or other structural or sanitary hazards, including violations of these regulations, exist. When such a condition becomes known, the Superintendent shall deny or immediately discontinue service to the premises by providing for a physical break in the service line until the consumer has corrected the condition(s) in conformance with the state and City regulations.

C. An approved backflow prevention device assembly shall be installed downstream of the City water meter at or near the property line.

D. The City shall prioritize the installation of backflow prevention device assemblies for unprotected existing service connections by targeting service connections when [Amended by Ordinance No. 01-575-O 11/1/01]:

1. There is not an approved air gap.  
2. There is an auxiliary water supply, which is or can be connected to the potable water piping.  
3. There is piping for conveying liquids other than potable water, and where that piping is under pressure and is installed in a manner which could cause a cross-connection.

4. There is intricate plumbing which makes it impractical to ascertain whether or not cross-connections exist.

5. There is back siphonage potential.

6. The 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 and cooling waters.

7. The 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.

8. The following types of facilities will fall into one of the following categories where a backflow prevention device assembly is

required to protect the public. [RPBD – Reduced Pressure Backflow Device; DC – Double Check Valve; AG – Air Gap; VB – Vacuum Breaker.] A backflow prevention device assembly shall be installed at these facilities unless the City determines that no hazard or potential hazard exists:

RPBD	1.	Auxiliary water supply – well or surface water
RPBD	2.	Premises where inspection is restricted
RPBD	3.	Hospitals, mortuaries, clinics, medical and dental offices
RPBD	4.	Laboratories to include dialysis
RPBD	5.	Piers and docks
RPBD	6.	Sewage treatment plants
RPBD	7.	Food and beverage dispensing facilities
RPBD	8.	Plants using chemicals with a water process
RPBD	9.	Metal plating industries
RPBD	10.	Petroleum dispensing, storage, or processing plants
RPBD	11.	Radioactive material processing plants
RPBD	12.	Car washes, laundromats
DC RPBD	13.	Hot tubs, whirlpools, or garden pools
DC RPBD	14.	Swimming pools
AG VB	15.	Janitor basins or slop sinks, interior locations only
RPBD	16.	Boiler – hot water or steam
DC RPBD	17.	Lawn sprinklers or irrigation systems with or without chemical application device
RPBD	18.	Fireline and fireline with sprinklers
RPBD	19.	Swamp-type cooling systems
DC	20.	All three-story buildings or water service in buildings over 30 feet above grade of the street.
AG-RPBD-DC	21.	Any mobile apparatus which disconnects to the water supply that may produce a cross-connection hazard.
DC	22.	Plumbing parallel fire sprinkler
RPBD-DC	23.	Solar systems connected to potable water
AG-DC-RPBD	24.	Other as specified by the City of Columbia City

**Section 5. Design, Installation, Maintenance, and Testing Standards of Protective Devices.** The type of protective device required shall depend on the degree of hazard which exists:

A. An approved air gap of at least twice the inside diameter, but not less than one inch of the incoming supply line, measured vertically above the top rim of the vessel, or an approved reduced pressure backflow device [RPBD]. This assembly [RPBD] shall be installed where the substance which could backflow is hazardous to health.

B. An approved double-check valve assembly [DCVA] shall be installed where the substance, which could backflow, is objectionable, but does not pose an unreasonable risk to health. An approved DCVA shall be the minimum protection for fire sprinkler systems using piping material that is approved for potable water use and/or that will provide for periodic flow-through during each 24-hour period.

C. An approved atmospheric vacuum breaker shall be installed where the substance which could backflow is objectionable, but does not pose an unreasonable risk to health, and where there is no possibility of backpressure in the downstream piping. A shutoff valve shall not be installed on the downstream piping from the atmospheric vacuum breaker.

D. All backflow prevention device assemblies required under this section shall be of a type and model approved by the Division; the Division maintains a list of backflow prevention device assemblies approved for use in Oregon.

E. All Device assemblies installed after the effective date of these rules shall meet the specifications of construction, testing, and approval of backflow prevention assemblies as specified in the Manual of Cross-Connection Control published by the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California and A.W.W.A. Standard 506.

F. All backflow prevention device assemblies shall be installed in accordance with OAR 333-61-099 (1) through (4). Pressure Vacuum Breaker, Double Check Valve, and Reduced Pressure Device Assemblies shall have fully ported ball valves provided by the device manufacturer for both shutoff valves and for the test cocks. Other valves shall not be substituted unless specific permission is given by the Division.

G. Backflow prevention device assemblies required by this ordinance shall be installed by the City. [Amended by Ordinance No. 01-575-O 11/1/01]

H. The City shall approve any protective device required by this ordinance.

I. These devices shall be furnished and installed by and at the expense of the City. [Amended by Ordinance No. 01-575-O 11/1/01]

J. Backflow prevention devices installed with City approval prior to the date of this ordinance and that are no longer on the current list of approved device assemblies, shall be permitted to remain in service provided they are properly maintained, are commensurate with the degree of hazard, are tested at least annually, and perform satisfactorily. If these backflow prevention devices are moved; require more than minimum maintenance; or are on services that are modified, changed in size, or remodeled, they shall be replaced by a device that is on the Division list of approved device assemblies.

K. The City's Oregon State certified tester shall test backflow prevention device assemblies at least once a year. Devices installed at facilities which pose an extreme health risk and devices which repeatedly fail shall be

tested on a more frequent basis as determined by the City. Devices found not to be functioning properly shall be repaired or replaced as determined by the City. Devices shall be tested immediately after installation and/or after they are moved. The certified tester shall prepare reports on the test. [Amended by Ordinance No. 01-575-O 11/1/01]

L. Failure of the water user or owner of the premises to cooperate in the installation, maintenance, testing, or inspection of backflow prevention devices required by the City or by State law shall be grounds for the termination of water service to the premises.

M. Inspections shall be made at the discretion of the City cross-connection inspector for the purpose of ascertaining whether cross-connections exist. The City shall make such inspections.

Section 6. Liability. This ordinance shall not be construed to hold the City responsible for any damage to persons or property by reason of the inspection or testing, the failure to inspect, or by reason of approval of any cross-connections.

Section 7. Penalties for Violations. In addition to the immediate disconnection of a determined cross-connection provided by these rules and regulations, if convicted of any such violation, such person shall be punished by a fine of not more than \$250 per day for each violation.

Prior to reinstatement of any water service that has been disconnected due to violation of the provisions of this ordinance, the following requirements will apply.

1. Any and all cross-connection will be corrected.
2. By direction of the Superintendent, an inspection for compliance will be conducted.

[Section 8. Severability.]

Section 9. Repealer. Now, therefore, the City of Columbia City ordains that Ordinance No. 459, adopted April 4, 1991, is hereby repealed.

Adopted by the council and approved by the mayor May 7, 1998.