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CROSS CONNECTION CONTROL PROGRAM FOR WATER SYSTEMS

FIELD SERVICES
DRINKING WATER PROGRAM

3.300 PURPOSE. The purpose of this Ordinance is to protect the water supply and distribution system of the City of Bend from contamination or pollution due to any existing or potential cross connections and to comply with Oregon Law, including statutes, Oregon Administrative Rules, and Appellate Court decisions. If the provisions of this ordinance appear to be in conflict with other provisions of law regulating the same subject, then the provision that provides the greater protection to the public health, safety and welfare shall control.

3.305 DEFINITIONS. For the purposes of this Ordinance, the following definitions shall apply unless the context clearly indicates or requires a different meaning. If a word or term used in this Ordinance is not contained in the following list, its definition, or other technical terms used, shall have the meanings or definitions listed in the Oregon Administrative Rules, Chapter 333, or the most recent edition of the Manual of Cross Connection Control published by the Foundation for Cross Connection Control and Hydraulic Research, University of Southern California ("USC").

- (1) "APPROVED BACKFLOW PREVENTION ASSEMBLY" or "BACKFLOW ASSEMBLY" or "ASSEMBLY" means an assembly to counteract backpressure and/or prevent back-siphonage. This assembly must appear on the list of approved assemblies issued by the Oregon Department of Human Services - Health Services.
- (2) "AUXILIARY SUPPLY" means any water source or system other than the City of Bend Water System.
- (3) "BACKFLOW" means the flow in the direction opposite to the normal flow or the introduction of any foreign liquids, gases, or substances into the water system of the City of Bend.
- (4) "CERTIFIED BACKFLOW ASSEMBLY TESTER" shall mean a person who has successfully completed and maintains all requirements as established by the Department of Human Services - Health Services to be a Tester in the state of Oregon.
- (5) "CERTIFIED CROSS CONNECTION CONTROL SPECIALIST" shall mean a person who has successfully completed and maintains all requirements as established by the Department of Human Services - Health Services to be a Specialist in the state of Oregon.

- (6) "CITY" shall mean the City of Bend.
- (7) "CITY WATER SYSTEM" shall refer to and mean the City of Bend Water System, which shall include wells, treatment mechanisms or processes, pumping stations, reservoirs, supply trunk or feeder lines, service lines, meters and all other appurtenances, device lines and items necessary to the operation of the system and to supply water service to individual property or premises and shall include the City of Bend's potable water with which the system is supplied.
- (8) "CONTAMINATION" means the entry into or presence in a public water supply system of any substance which may be deleterious to health and/or quality of the water.
- (9) "CROSS CONNECTION" means any physical arrangement where a potable water supply is connected, directly or indirectly, with any other non-drinkable water system or auxiliary system, sewer, drain conduit, swimming pool, storage reservoir, plumbing fixture, swamp coolers or any other device which contains, or may contain, contaminated water, sewage or other liquid of unknown or unsafe quality which may be capable of imparting contamination to the public water system as a result of backflow. Bypass arrangements, jumper connections, removable sections, swivel or changeover devices or other temporary or permanent devices through which or because of which backflow may occur, are considered to be cross connections.
- (10) "DEGREE OF HAZARD" means the NON-HEALTH HAZARD or HEALTH HAZARD or HIGH HAZARD classification that shall be assigned to all actual or potential cross connections.
- (11) "DHS" means Department of Human Services - Health Services.
- (12) "DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY", "DOUBLE CHECK ASSEMBLY", "DOUBLE CHECK" or "DCVA" means an assembly which consists of two (2) independently-operating check valves which are spring-loaded or weighted. The assembly comes complete with a resilient seated shut-off valve on each side of the checks, as well as test cocks to test the checks for tightness.
- (13) "DOUBLE CHECK DETECTOR ASSEMBLY" or "DCDA" means an assembly which consists of two independently operating check valves which are spring-loaded or weighted. The assembly comes complete with a shut-off valve on each side of the checks, as well as test cocks to test the checks for tightness. It shall also be provided with a factory bypass arrangement with a meter and a

minimum of an approved double check assembly.

- (14) "HEALTH HAZARD" means an actual or potential threat of contamination of a physical, chemical or biological nature to the public potable water system or the consumer's potable water system that would be a danger to health.
- (15) "MANAGER" shall mean Water Utility Manager or his/her designee.
- (16) "MOBILE UNITS" shall mean units that are temporary in nature, connecting to the water system through a legally-permitted hydrant, hose bib, or other appurtenance of a permanent nature that is part of the City of Bend's water system or a permanent water service to a premise. Examples can include but are not limited to the following: water trucks, pesticide applicator vehicles, chemical mixing units or tanks, waste hauler's trucks or units, sewer cleaning equipment, carpet or steam cleaning equipment other than homeowner use, rock quarry or asphalt/concrete batch plants or any other mobile equipment or vessel that poses a threat of backflow in the City of Bend Water System. Uses that are excluded from this definition are recreational vehicles at assigned sites or parked in accordance with other City of Bend policies pertaining to recreational vehicles and homeowner devices that are used by the property owner in accordance with other provisions of this, or other, City of Bend policies pertaining to provision of water service to a premise.
- (17) "NON-HEALTH HAZARD" shall mean the classification assigned to an actual or potential cross connection that could allow a substance that may be objectionable, but not hazardous to one's health, to backflow into the potable water supply.
- (18) "OAR" shall mean Oregon Administrative Rule.
- (19) "PERSON(S)" shall mean a natural person (individual), corporation, company, city, partnership, firm, limited liability company, joint venture company or city, and other such entity.
- (20) "POINT OF USE ISOLATION" means the appropriate backflow prevention within the consumer's water system at or near the point at which the actual or potential cross connection exists.
- (21) "POLLUTION HAZARD" means an actual or potential threat to the physical properties of the 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 intensity of pollution to which the potable water system could be degraded under this definition would cause minor damage to the system or its appurtenances.

- (22) "PREMISES" means any piece of property to which water service is provided, including, but not limited to, all improvements, mobile structures and other structures located upon it.
- (23) "PREMISES ISOLATION" means the appropriate backflow prevention at the service connection between the public water system and the premises. This location will be at or near the property line and downstream from the service connection meter.
- (24) "REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY" or "REDUCED PRESSURE PRINCIPLE ASSEMBLY" or "RP ASSEMBLY" shall mean an assembly containing two independently-acting approved check valves together with a hydraulically-operated, mechanically-independent pressure differential relief valve located between the check valves, and at the same time, below the first check valve. The assembly shall include properly located test cocks and two tightly closing shut-off valves.
- (25) "REDUCED PRESSURE DETECTOR ASSEMBLY" or "RPDA" shall mean an approved assembly consisting of two approved reduced pressure backflow assemblies, set in parallel, equipped with a meter on the bypass line to detect small amounts of water leakage or use. The assembly should include properly-located test cocks and two tightly closing shut off valves.
- (26) "RESIDENT" means a person or persons living within the area(s) served by the City of Bend Water System.
- (27) "RETROFITTING" means to furnish a service connection with parts or equipment made available after the time of construction or assembly installation.
- (28) "SPECIALIST" means a Department of Human Services - Health Services certified cross connection Specialist, either employed with the City of Bend or under contract to the City of Bend.
- (29) "SUBMERGED HEADS" means irrigation sprinkling or delivery devices that are located below the surface of the landscaped area in which they are installed.

- (30) "THERMAL EXPANSION" means the pressure created by the expansion of heated water.

3.310 APPLICATION AND RESPONSIBILITIES. This Ordinance applies throughout the City of Bend Water System and to every premises and property served by the City of Bend Water System. It applies to all premises, regardless of date of connection to the City of Bend Water System. Every owner, occupant or person in control of any concerned premises is responsible for the terms and provisions contained in this Ordinance.

3.315 CROSS CONNECTIONS REGULATED.

- (1) No cross connections shall be created, installed, used or maintained within the area(s) served by the City of Bend Water System, except in accordance with this Ordinance.
- (2) The Specialist shall carry out or cause surveys to be carried out to determine if any actual or potential cross connection exists. If deemed necessary, an assembly commensurate with the degree of hazard will be installed at the service connection.
- (3) The owner, occupant or person in control of any given premises is responsible for all cross connection control within the premises.
- (4) All premises found on Table 32 48* referenced in OAR 333-061-0070 (in effect at the time of adoption of this ordinance and as amended) shall install a Reduced Pressure Backflow Assembly at the service connection in accordance with this Ordinance.
- (5) It is the responsibility of the property owner/occupant to purchase, install, test, repair and maintain all backflow assemblies.
- (6) If there is a change in ownership of any and all property within the City's service area, it shall be the responsibility of the new owner to determine that all assemblies are in compliance with this Ordinance.

3.320 BACKFLOW PREVENTION ASSEMBLY REQUIREMENTS. A Specialist employed by or under contract with the City of Bend, shall determine the type of backflow assemblies to be installed within the City of Bend's Water System. All assemblies shall be installed at the service connection unless it is determined by the

Specialist and approved by the Manager that it should be installed at the point of use. An approved assembly shall be required in each of the following circumstances, but the Specialist's authority is in no way limited to the following circumstances:

- (1) In the case of any premises where there is any material dangerous to health which is handled in such a fashion as to permit entry into potable water system, the potable water system shall be protected by an approved air gap separation or an approved reduced pressure principle backflow prevention assembly.
- (2) When the nature and extent of any activity at a premise, or the materials used in connection with any activity at premises, or materials stored at a premise, could contaminate or pollute the potable water supply.
- (3) When a premise has one (1) or more cross connections, as that term is defined in Section 1.
- (4) When internal cross connections are present which are not correctable.
- (5) When intricate plumbing arrangements are present making it impractical to ascertain whether cross connections exist.
- (6) When the premise has a repeated history of cross connections being established or re-established.
- (7) When entry to the premises is restricted so that surveys for cross connections cannot be made with sufficient frequency to assure cross connections do not exist.
- (8) When materials are being used such that, if backflow should occur, a health hazard could result.
- (9) When an appropriate cross connection survey report form has not been filed with the City of Bend Manager.
- (10) Any and all used-water return systems.
- (11) If a point-of-use assembly has not been tested or repaired as required by this Ordinance, the installation of a reduced pressure principle assembly will be required at the service connection.

- (12) There is piping or equipment for conveying liquids other than potable City of Bend water and that piping or other equipment is under pressure and installed and operated in a manner that could cause a cross connection.
- (13) When installation of an approved backflow prevention assembly is deemed by a Specialist to be necessary to accomplish the purpose of this Ordinance.
- (14) The use of any type of chemical spray attachment connected to the premises plumbing, including garden hose fertilizers and pesticide applicators, is not allowed within the City of Bend's Water System without proper protection from the potential of backflow occurring.
- (15) The use of any type of radiator flush kits attached to the premises plumbing is not allowed within the City of Bend's Water System without proper protection from backflow occurring.
- (16) Wherever reclaimed water or ditch water is used on premises.
- (17) When there is a premise with an auxiliary water supply which is interconnected to the City of Bend Water Service or supply system.

3.325 NEW CONSTRUCTION.

- (1) On all new non-residential construction, an approved backflow assembly shall be installed at the service connection. The type of the assembly will be commensurate with the degree of hazard as determined by a Specialist.
- (2) When a building is constructed on commercial premises, and the end use of the building is not determined or could change, a reduced pressure principle backflow prevention assembly shall be installed at the service connection to provide protection of the public water supply in the event of the most hazardous use of the building.

3.330 RETROFITTING. Retrofitting shall be required at all service connections where an actual or potential cross connection exists, and wherever else the Manager or Specialist deems retrofitting necessary to comply with the OAR and this Ordinance.

3.335 IRRIGATION SYSTEMS. All irrigation systems shall be protected according to plumbing code regulations. In the event any system is equipped with an injector system, a reduced pressure principle assembly will be required.

3.340 THERMAL EXPANSION. If a closed system has been created by the installation of a backflow prevention assembly, or other appurtenances, it is the responsibility of the property owner, the occupant, or person in control of the property to eliminate the possibility of damage from thermal expansion in accordance with the Plumbing Code.

3.345 MOBILE UNITS. Any mobile unit or apparatus, as defined in Section 1 Subsection (16) of this Ordinance, which uses the water from any premises within the City of Bend Water System, shall first obtain a permit from the City of Bend and be inspected to assure an approved air gap or reduced pressure principle assembly is installed on the unit.

3.350 INSTALLATION REQUIREMENTS. All backflow prevention assembly installations shall follow the requirements as stipulated by the City of Bend and current OAR Chapter 333, Division 061.

If the premise isolation assembly is allowed to be installed at an alternate location, the City of Bend must have access to the assembly. No connections can be made between the meter and the backflow assembly.

The type of backflow prevention assembly required shall be commensurate with the degree of hazard that exists and must, at all times, meet the standards of the Department of Human Services - Health Services. All backflow prevention assemblies required under this section shall be of a type and model approved by the DHS.

3.355 PRESSURE LOSS. Any decrease in water pressure caused by the installation of a backflow assembly shall not be the responsibility of the City of Bend.

3.360 FIRE SYSTEMS. An approved double check detector assembly shall be the minimum protection on all new fire sprinkler systems using piping material that is not approved for potable water use, and/or that does not provide for periodic flow-through. A reduced pressure principle detector assembly must be installed, if any solution other than potable water can be introduced into the sprinkler system. Retrofitting on fire

sprinkler systems will be required in each of the following circumstances:

- (a) Where improper maintenance has occurred.
- (b) On all high hazard systems;
- (c) Wherever a Manager or Specialist deems necessary; and
- (d) Wherever required by the OAR.

In the event an assembly is installed on a designated lateral, a detector assembly commensurate with the degree of hazard will be required.

3.365 TEMPORARY METERS AND HYDRANT VALVES. Backflow protection will be required on all temporary meters and hydrant valves before any use. The type of assembly will be commensurate with the degree of hazard and will be determined on a case-by-case basis by a City of Bend Manager or Specialist.

3.370 PLUMBING CODE. As a condition of water service, customers shall install, maintain, and operate their piping and plumbing systems in accordance with the current Uniform Plumbing Code, or as amended. If there is a conflict between this Ordinance and the Plumbing Code, the one that provides the greater protection to the public health, safety or welfare shall control.

3.375 RIGHT-OF-WAY ENCROACHMENT. All backflow assemblies must be installed in accordance with the Right-of-Way Encroachment stipulated by the City's "Right of Way" Encroachment Document.

3.380 ACCESS TO PREMISES. Authorized personnel of the City of Bend, with proper identification and sufficient notice, shall have access during reasonable hours to all parts of a premise and within the structure to which water is supplied. However, if any owner, occupant or person in control refuses authorized personnel access to a premise, or to the interior of a structure, during these hours for inspection, a reduced pressure principle assembly must be installed at the service connection to that premise.

3.385 ANNUAL TESTING AND REPAIRS. All backflow prevention assemblies installed within the area(s) served by the City of Bend shall be tested immediately upon installation, and at least annually thereafter by a certified backflow assembly tester. All such assemblies found not functioning properly shall be promptly repaired or replaced at the expense of the owner, occupant or person in control of the premises. In the event an assembly is moved, repaired or replaced it must be retested immediately.

All repairs on backflow assemblies within the City of Bend service area must be performed according to all State and other applicable regulations.

3.390 MAINTENANCE OF ASSEMBLIES. Backflow prevention assemblies shall be maintained, tested and repaired in accordance with the requirements set out in this Ordinance, the OAR and all applicable State agency regulations. The assembly owner is responsible for protecting their assembly from freezing, vandalism or other damage.

In the event an assembly is not properly tested and repaired, the City of Bend will have the assembly tested and repaired and apply all costs associated with this to the water bill of the assembly owner or person responsible for the water bill for the premises.

3.395 RESPONSIBILITIES OF BACKFLOW PREVENTION ASSEMBLY TESTERS

- (1) All backflow assembly testers operating within the City of Bend Water System service area shall be certified in accordance with all applicable regulations of the DHS.
- (2) Persons certified as backflow assembly testers shall agree to abide by all requirements of the United States Occupational Safety and Health Administration ("OSHA") and Oregon Occupational Safety and Health Administration ("OR-OSHA").
- (3) It is the responsibility of backflow assembly testers to submit records of all backflow assembly test repairs to the City of Bend within 10 days of completing the test.

3.400 COSTS OF COMPLIANCE. All costs associated with purchase, installation, surveys, testing, replacement, maintenance, parts and repairs of the backflow prevention assembly, and all costs associated with enforcement of this document, are the financial responsibility of the property owner, occupant, or other person in control of the premises.

3.405 RECOVERY OF COSTS. Any water customer violating any of the provisions of this Ordinance and who causes damage to or impairs the City of Bend's Water System, including, but not limited to, allowing contamination, pollution, any other solution or used water to enter the City of Bend's Water System, shall be liable to the City of Bend for any expense, loss or damage caused by such violation. The City of Bend shall collect from the violator the cost incurred by the City of Bend for any cleaning, purifying, repair or replacement work or any other expenses caused by the violation. Refusal to pay the assessed costs shall constitute a violation of this Ordinance and shall result in the

termination of service.

All cost associated with any disconnect or reconnect fees resulting from the enforcement of this Ordinance are the sole responsibility of the water utility account holder and/or owner of the premises.

3.410 TERMINATION OF SERVICE. Failure on the part of any owner, occupant or person in control of the premises to install a required assembly, have it tested annually and/or to discontinue the use of all cross connections and to physically separate cross connections in accordance with this Ordinance is sufficient cause for the discontinuance of public water service to the premises pursuant to Oregon Administrative Rule chapter 333-061-0070, or as amended. In the case of an extreme emergency or where an immediate threat to life or public health is found to exist, discontinuance or termination of public water service to the premises shall be immediate.

The City of Bend may, at the property owner's expense, install a reduced pressure assembly at the meter. Testing, maintenance and repair of the assembly will be the responsibility of the property owner.

3.415 FALSIFYING INFORMATION. Any person who knowingly makes any false statement, representation, record, report or other document filed or required to be maintained pursuant to this Ordinance, or who falsifies, tampers with, or knowingly renders inaccurate any backflow assembly, device or method required under this Ordinance shall be subject to civil and/or criminal penalties provided by state law.

3.420 CONSTITUTIONALITY AND SAVING CLAUSE. Should any provision, section, sentence, clause or phrase of this Ordinance, or the application of same to any person or set of circumstances, are for any reason held to be unconstitutional, void, invalid, or for any reason unenforceable, the validity of the remaining portions of this Ordinance, or its application to other persons or circumstances, shall not be affected; thereby, it being the intent of the City of Bend System in adopting and approving this Ordinance that no portion hereof or provision or regulation contained herein shall become inoperative or fail by reason of any unconstitutionality or invalidity of any other portion, provision, or regulation.

[Section 3.300 to 3.420 added by Ord. NS-2102, adopted August 6, 2008]

[Bend Code 3.315 (4) references Table 32 in OAR 333-061-0070. Table 32 was renumbered as Table 48, amended February 11, 2011]