



**Oregon  
Water Utilities**  
A SouthWest Water Company

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**Approval:**

Richard Rich

**Revised Date:**

**Title:** Cline Butte - Cross Connection Control Program

**Standard Operating Procedure and/or Policy**

## 1. PURPOSE

The purpose of this Standard Operating Procedure and/or Policy ("SOPP") is to protect the water supply and distribution system of Oregon Water Utilities – Cline Butte, Inc. ("OWU-CB") from contamination or pollution due to any existing or potential cross connections and to comply with the Oregon Administrative Rule Chapter 333, Division 061, Sections 0070, 0071, 0072, 0073 and 0074, as may be amended.

## 2. DEFINITIONS

For the purposes of this SOPP, the following definitions shall apply unless the context clearly indicates or requires a different meaning. If a word or term used in this SOPP 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.

- a. "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 DHS approved assemblies.
- b. "AUXILIARY SUPPLY" means any water source or system other than the OWU-CB Water System.
- c. "BACKFLOW" means the flow in the direction opposite to the normal flow or the introduction of any foreign liquids, gases, or substances into the OWU-CB Water System.
- d. "CERTIFIED BACKFLOW ASSEMBLY TESTER" means a person who has successfully completed and maintains all DHS requirements to be a backflow assembly tester in the state of Oregon.
- e. "CERTIFIED CROSS CONNECTION CONTROL SPECIALIST" means a person who has successfully completed and maintains all DHS requirements to be a Specialist in the state of Oregon.
- f. "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.
- g. "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.
- h. "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.
- i. "DHS" means Department of Human Services - Public Health Division.
- j. "DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY", "DOUBLE CHECK ASSEMBLY", "DOUBLE CHECK" or "DCVA" means an approved 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.
- k. "DOUBLE CHECK DETECTOR ASSEMBLY" or "DCDA" means an approved 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.

- I. "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.
- m. "MANAGER" means the manager of OWU-CB or his/her designee.
- n. "MOBILE UNITS" means 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 OWU-CB 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 OWU-CB Water System. Uses that are excluded from this definition are recreational vehicles at assigned sites or parked in accordance with other OWU-CB policies pertaining to recreational vehicles and homeowner devices that are used by the property owner in accordance with other provisions of this, or other, OWU-CB policies pertaining to provision of water service to a premise.
- o. "NON-HEALTH HAZARD" means 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.
- p. "OAR" means Oregon Administrative Rule.
- q. "OWU-CB" means Oregon Water Utilities - Cline Butte, Inc.
- r. "OWU-CB WATER SYSTEM" means the OWU-CB 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 OWU-CB's potable water with which the system is supplied.
- s. "PERSON(S)" means a natural person (individual), corporation, company, city, partnership, firm, Limited Liability Company, Joint Venture Company or city, and other such entity.
- t. "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.
- u. "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.
- v. "POTABLE WATER SUPPLY" means any system of water supply intended or used for human consumption or other domestic use.
- w. "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 or within the property.
- x. "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.

- y. "REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY" or "REDUCED PRESSURE PRINCIPLE ASSEMBLY" or "RP ASSEMBLY" means an approved 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.
- z. "REDUCED PRESSURE DETECTOR ASSEMBLY" or "RPDA" means 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.
- aa. "RESIDENT" means a person or persons living within the area(s) served by the OWU-CB Water System.
- bb. "RETROFITTING" means to furnish a service connection with parts or equipment made available after the time of construction or assembly installation.
- cc. "SPECIALIST" means a DHS certified cross connection Specialist, either employed with or contracted by OWU-CB.
- dd. "SUBMERGED HEADS" means irrigation sprinkling or delivery devices that are located below the surface of the landscaped area in which they are installed.
- ee. "THERMAL EXPANSION" means the pressure created by the expansion of heated water.

### **3. APPLICATION AND RESPONSIBILITIES**

This SOPP applies throughout the OWU-CB Water System and to every premises and property served by the OWU-CB Water System. It applies to all premises, regardless of date of connection to the OWU-CB Water System. Every owner, occupant or person in control of any concerned premises is responsible for the terms and provisions contained in this SOPP.

This SOPP shall be enforced at systems that are managed by OWU-CB.

### **4. CROSS CONNECTIONS REGULATED**

- a. No cross connections shall be created, installed, used or maintained within the area(s) served by the OWU-CB Water System, except in accordance with this SOPP.
- b. The Specialist shall carry out or cause surveys to be carried out to determine if any actual or potential cross connection exists. If found necessary, an assembly commensurate with the degree of hazard will be installed at the service connection or within the premises.
- c. The owner, occupant or person in control of any given premises is responsible for all cross connection control within the premises.
- d. All premises found on the table "Premises Requiring Isolation – Health Hazard", in OAR 333-061-0070, shall install an approved Reduced Pressure Principle Backflow Assembly at the service connection in accordance with this SOPP.
- e. It is the responsibility of the property owner/occupant to purchase, install, test, repair and maintain all backflow assemblies.
- f. If there is a change in ownership of any and all property within the OWU-CB service area, it shall be the responsibility of the new owner to determine that all assemblies are in compliance with this SOPP.



**5. BACKFLOW PREVENTION ASSEMBLY REQUIREMENTS**

A Specialist employed by or under contract with OWU-CB shall determine the type of backflow assemblies to be installed within the OWU-CB 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 is in no way limited to the following circumstances:

- a. In the case of any premises where there is any material danger 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 reduced pressure principle backflow prevention assembly.
- b. When the nature and extent of any activity at a premises, or the materials used in connection with any activity at a premises, or materials stored at a premises could contaminate or pollute the potable water supply.
- c. When a premises has one (1) or more cross connections.
- d. When non-correctable internal cross connections are present.
- e. When intricate plumbing arrangements are present making it impractical to ascertain whether cross connections exist.
- f. When the premises has a repeated history of cross connections being established or re-established.
- g. When entry to the premises is restricted so that surveys for cross connections cannot be made with sufficient frequency to verify that cross connections do not exist at the premises.
- h. When hazardous materials are being used such that a health hazard could result if backflow should occur.
- i. When an appropriate cross connection survey report form has not been filed with the OWU-CB Manager.
- j. Any and all used water return systems.
- k. The installation of a reduced pressure principle assembly will be required at the service connection if a point-of-use assembly has not been tested, maintained or repaired as required by this SOPP.
- l. When there is piping or equipment for conveying liquids other than potable OWU-CB water and that piping or other equipment is under pressure and installed and operated in a manner that could cause a cross connection.
- m. When a Specialist deems the installation of an approved backflow prevention assembly to be necessary to accomplish the purposes of this SOPP.
- n. 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 OWU-CB Water System without proper protection from the potential of backflow occurring.
- o. The use of any type of radiator flush kits attached to the premises plumbing is not allowed within the OWU-CB Water System without proper protection from backflow occurring.
- p. Wherever reclaimed water or ditch water is used on premises.
- q. When there is a premises with an auxiliary water supply interconnected to the OWU-CB Water Service or supply system.

**6. NEW CONSTRUCTION**

- a. All new construction shall submit plans to OWU-CB for review and determination of the necessity of installation of an assembly before any construction work is started. The type of assembly, if required, will be commensurate with the degree of hazard as determined by a Specialist.
- b. 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 based on the most hazardous potential use of the building.

**7. RETROFITTING**

Retrofitting shall be required at all service connections where an actual or potential cross connection exists, and wherever else OWU-CB deems retrofitting necessary to comply with the OAR and this SOPP.

**8. IRRIGATION SYSTEMS**

All irrigation systems shall be protected according to the adopted Oregon Plumbing Specialty Code regulations. If an irrigation system is interconnected with the OWU-CB Water System, it must be protected with an appropriate assembly. If any system is equipped with an injector or chemical feed system, a reduced pressure principle assembly will be required.

**9. 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 current adopted Oregon Plumbing Specialty Code.

**10. MOBILE UNITS**

Any mobile unit or apparatus, as defined in Section 2(n) of this SOPP, which uses water from any premises within the OWU-CB Water System, shall first obtain written permission from OWU-CB after inspection to confirm that an approved air gap or reduced pressure principle assembly is installed on the unit.

**11. INSTALLATION REQUIREMENTS**

All backflow prevention assembly installations shall follow the requirements as stipulated by OWU-CB and current OAR Chapter 333, Division 061.

A premises isolation assembly may be installed at an alternate location only with OWU-CB's written permission and OWU-CB must have access to the assembly during regular working hours. No connections can be made between the meter and the backflow assembly. Alternate locations require OWU-CB's written approval prior to installation.

The type of backflow prevention assembly required shall be commensurate with the degree of hazard that exists and must, at all times, meet DHS standards.

All backflow prevention assemblies required under this section shall be of a type, model and installed in the orientation approved by the DHS.



Installation plans shall be submitted to OWU-CB for approval prior to installation. OWU-CB shall be notified when the installation is complete. All assemblies must be tested immediately after installation.

Any variances from the installation requirements shall be requested in writing by the owner and approved in writing by OWU-CB.

**12. PRESSURE LOSS**

Any decrease in water pressure caused by the installation of a backflow assembly shall not be the responsibility of OWU-CB.

**13. 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 health hazard systems;
- c. Wherever a 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.

**14. 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 an OWU-CB Specialist.

**15. PLUMBING CODE**

As a condition of water service, customers shall install, maintain, and operate their piping and plumbing systems in accordance with the Oregon Specialty Plumbing Code then in effect. If there is a conflict between this SOPP and the Plumbing Code, the more stringent provision shall apply.

**16. RIGHT-OF-WAY ENCROACHMENT**

- a. No person shall install or maintain a backflow prevention assembly upon or within any County, State or OWU-CB Water System right-of-way except as provided in this Section.
- b. A backflow prevention assembly required by OWU-CB may be installed upon or within any County, State or OWU-CB Water System right-of-way only if the owner demonstrates to OWU-CB's reasonable satisfaction that there is no other feasible location for installing the assembly, and installing it in the right-of-way will not interfere with traffic or utilities. OWU-CB must approve the location, height, depth, enclosure, and other requisites of the assembly prior to its installation.

- c. The property owner or their lessee and/or tenant must obtain all permits required by the Deschutes County Building Code to perform work in the right-of-way.
- d. If requested by OWU-CB, a property owner shall, at the owner's expense, relocate a backflow prevention assembly which encroaches upon any right-of-way, when such relocation is necessary for street or utility construction or repairs for purposes of public safety.

**17. ACCESS TO PREMISES**

Authorized personnel of OWU-CB, with proper identification and sufficient notice, shall have access during reasonable hours (8:00 am to 5:00 pm, Monday through Friday) 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.

**18. ANNUAL TESTING AND REPAIRS**

All backflow prevention assemblies installed within the area(s) served by OWU-CB shall be tested immediately upon installation, and at least annually thereafter by a DHS-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. OWU-CB may deny or discontinue water service to the premises when assemblies are not tested annually, promptly repaired or replaced.

All repairs on backflow assemblies within OWU-CB's service area must be performed in accordance with all applicable State and local laws and regulations.

**19. MAINTENANCE OF ASSEMBLIES**

Backflow prevention assemblies shall be maintained, tested and repaired in accordance with the requirements set out in this SOPP, the OAR and all applicable State and local laws and regulations. The assembly owner, occupant or person in control of the premises is responsible for protecting the assembly from freezing, vandalism and other damage.

**20. RESPONSIBILITIES OF BACKFLOW PREVENTION ASSEMBLY TESTERS**

- a. All backflow assembly testers operating within the OWU-CB Water System service area must be certified in accordance with all applicable DHS regulations.
- b. Certified backflow assembly testers must comply with all requirements of the United States Occupational Safety and Health Administration and Oregon Occupational Safety and Health Administration.
- c. Certified backflow assembly testers must submit records of all backflow assembly tests and repairs to the OWU-CB within five (5) days of completing the test. At a minimum, test reports shall include the following: date of installation, test or repair; make, model, size, type, and serial number for the assembly; test results and values; determination of working condition; tester name, address, phone number, and certification number; gauge serial number and date of last gauge calibration or gauge accuracy verification.



## **CROSS CONNECTION CONTROL PROGRAM**

### **21. COSTS OF COMPLIANCE**

All costs associated with complying with this SOPP – including, but not limited to, the purchase, installation, surveys, testing, replacement, maintenance, parts and repairs of the backflow prevention assembly – and all costs associated with the enforcement of the requirements of this SOPP are the financial responsibility of the property owner, occupant, or other person in control of the premises.

### **22. RECOVERY OF COSTS**

Any water customer violating any of the provisions of this SOPP who causes damage to or impairs the OWU-CB Water System – including, but not limited to, allowing contamination, pollution, any other solution or used water to enter the OWU-CB Water System – shall be liable to OWU-CB for any expense, loss or damage caused by such violation as well as any costs incurred by OWU-CB for any cleaning, purifying, repair or replacement work or any other expenses incurred in connection with the violation. Refusal to pay the assessed costs shall also constitute a violation of this SOPP and shall result in the termination of service.

All costs associated with any disconnect or reconnect fees resulting from the enforcement of this SOPP are the sole responsibility of the property owner.

### **23. 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, repair or replace a failing assembly promptly, or to discontinue the use of all cross connections and to physically separate cross connections in accordance with this SOPP is sufficient cause for the discontinuance of water service to the premises pursuant to ORA Chapter 333-061-0070, or as amended. In the case of an extreme emergency or an immediate threat to life or public health, discontinuance or termination of public water service to the premises shall be immediate.

In lieu of termination of service, OWU-CB 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.

### **24. 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 SOPP, or who falsifies, tampers with, or knowingly renders inaccurate any backflow assembly, device or method required under this SOPP shall be subject to civil and criminal penalties as provided by applicable State and local law.

### **25. CONSTITUTIONALITY AND SAVING CLAUSE**

Should any provision, section, sentence, clause or phrase of this SOPP, or the application of same to any person or set of circumstances, for any reason be determined to be unconstitutional, void, invalid, or for any reason unenforceable, the validity of the remaining portions of this SOPP, or its application to other persons or circumstances, shall not be affected; no portion or provision or regulation of this SOPP become inoperative or fail by reason of any unconstitutionality or invalidity of any other portion, provision, or regulation.