SECTION V – CROSS CONNECTION CONTROL

A. Scope

The Coos Bay-North Bend Water Board shall implement and maintain a program for the detection and elimination of contaminant hazards that exist due to cross connections with customer water systems.

B. Definition

For the purpose of this section, the terms listed below are defined as follows:

1. Air Gap Separation - a physical break between a supply pipe and a receiving vessel. The air gap shall be at least twice the inside diameter of the supply pipe, measured vertically above the overflow rim of the vessel; but in no case less than one inch (1").

2. Approved Device - a backflow preventer listed as approved by the USC Foundation For Cross Connection Control Research, the Oregon State Health Division, or approved in writing by the Coos Bay-North Bend Water Board.

3. Auxiliary Water Supply - any water supply that is or may be cross connected to the domestic water supply system. Auxiliary water supplies include, but are not limited to, private wells, ponds, lakes, springs, or streams on or available to the property served, storage tanks, holding tanks, processing equipment, plumbing fixtures or any other vessel or piping system where the physical or chemical quality of the water contained is not under the direct supervision and control of the Water Board.

4. Backflow - the flow of water or other fluid or substance or mixture thereof into the Water Board supply system from any source other than the intended source of water supply.

5. Check Valve - a valve which allows flow in one direction. It must be carefully machined to have free-moving parts and assured water tightness, and seat readily and completely. The face of the closure element and/or valve seat must be of molded synthetic rubber, composition, or other non-corrodible material which will seat tightly under all prevailing conditions of field use. Pins and bushings shall be of bronze or other non-corrodible, non-sticking material, machined for easy, dependable operation. The closure element shall be internally loaded to promote rapid and positive closure in all sizes where this feature is available.

6. Contaminant - any physical, chemical, biological, or radiological substance or matter in water. A contaminant may or may not present a "health hazard."

7. Cross Connection - means any actual or potential connection, link or channel between the Water Board supply system and a pipe or piping

system used or intended to be used for some other purpose; or between the Water Board supply system and a plumbing fixture, appliance, receptacle, vessel or other service; or a source other than the intended source of water supply whereby it may be possible for contaminated water or water of questionable or unsafe quality, or fluid substance other than potable water, to enter any part of the domestic water supply system.

8. Double Check Valve Assembly - an assembly of at least two independently-acting approved check valves, including tightly-closing shut-off valves on each side of the check valve assembly and suitable leak detector drains complete with test cocks available for testing the water tightness of each check valve.

9. Public Health Hazard - a condition whereby there are sufficient quantities of biological, chemical, or physical, including radiological, agents relating to water or sewage which are likely to cause human illness, disorders, or disability. These include, but are not limited to, pathogenic viruses, bacteria, parasites, toxic chemicals, and radioactive isotopes.

10. Reduced Pressure Principle Backflow Preventer - a device incorporating two or more check valves; an automatically-operating differential relief valve located between the two check valves; two tightly-closing shut-off valves; and equipped with the necessary appurtenances for testing, including test cocks. The device shall operate to maintain the pressure in the zone between the two check valves at a value less than the pressure on the water supply system side of the device. At cessation of normal flow, the pressure between the check valves shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve shall operate to maintain this reduced pressure by discharging to atmosphere. When the inlet pressure is two pounds per square inch or less, the relief valve shall open to the atmosphere, thereby providing an air gap separation in the device.

C. Water Board Authority

The Coos Bay-North Bend Water Board shall have the authority to:

1. Inspect and classify all customer water systems according to cross-connection status at Water Board expense;

2. Assure that the proper backflow measures are installed and maintained by the customer;

3. Terminate water service for non-compliance with provisions of this section.

D. Customer Responsibility

The customer shall:

1. Make his premises and water system reasonably available for inspection for cross-connection hazards by authorized members of the Water Board staff. Premises not made available for inspection shall be assumed to present a public health hazard and appropriate corrective measures shall be taken;

2. Install required backflow prevention devices in accordance with Water Board instructions at the customer's expense;

3. Maintain the device in good working order, including required testing at the customer's expense. The Water Board shall perform the initial performance test following installation on request at no cost to the customer.

E. Minimum Backflow Protection for Large Services

A single "check valve" as defined in Subsection B of this section shall be installed on all water services of diameter size 1-1/2" and larger immediately downstream of the meter in the meter box, and shall be considered and paid for as part of the Water Board service installation.

F. Conditions Requiring Backflow Protection

When any of the following conditions are found to exist within a customer's water system or on the customer's premises, an approved backflow prevention device shall be installed in the customer's service line upstream of the first branch line or point of use.

1. Where an "auxiliary water supply" exists;

2. Where any substance is handled under pressure in a manner that may permit its entry into the potable system. This includes process water and water originating from the potable system which may have deteriorated in quality;

3. Where an internal piping cross connection exists that is not correctable or where an intricate plumbing arrangement makes it impractical to determine whether or not a cross connection may exist;

4. Where the customer's water system is not available for inspection.

G. Type of Backflow Prevention to be Required

The type of protection required for cross connection control shall depend upon the degree of hazard as follows:

1. Where there is an auxiliary water supply as stated in Subsection F. 1. or where the customer's system is not available for inspection as in Subsection F. 4., the Water Board system shall be protected by an

approved air gap separation or an approved reduced pressure principle backflow prevention device.

2. Where a substance that would be objectionable but not hazardous to health, if introduced into the Water Board distribution system, is handled in a manner which may permit entry into the potable water system, an approved double check valve assembly shall be installed.

3. Where a substance that would produce a health hazard, if introduced into the Water Board distribution system, is handled in a manner which may permit entry into the potable water system, an approved air gap separation or an approved reduced pressure principle backflow preventer shall be installed.

H. Use of Vacuum Breakers

Use of pressure-type and atmospheric-type vacuum breakers for backflow prevention shall be limited to irrigation services where one or more of the following do not exist:

1. The device may be subjected to positive back pressure;

2. A chemical injection system is used in the customer's system;

3. An auxiliary water supply exists.

Vacuum breakers must be approved as defined in Subsection B. 2.

I. Existing Backflow Preventers

All backflow prevention devices presently installed which do not meet the requirements of this section but were approved devices for the purposes described herein at the time of installation and which have been properly maintained shall, except for the requirements of Subsection K, "Testing and Inspection," be exempt from the requirements of this section so long as they satisfactorily protect the water system. Whenever the existing device is moved or requires more than minimum maintenance or constitutes a health hazard, the device shall be replaced by a backflow preventer which meets the requirements of this section.

J. Methods of Installation

1. Generally, backflow preventers shall be installed in a manner and location which provides ample space for access and testing. A pit or structure housing a device shall be drained to daylight. Additional directions for installation will be provided by the Water Board on a case-by-case basis.

2. Backflow preventers shall be installed in the customer's service line between the meter and the first branch line or point of use, except that the Water Board shall allow isolation of a cross connection within a customer's water system to provide protection for the remainder of the customer system, as well as the Water Board system, so long as the customer demonstrates adequate control of the remainder

of his water system.

K. Testing and Inspection

1. Backflow prevention devices shall be tested and inspected by persons certified as competent by the State of Oregon at least annually or whenever:

   a. A device is moved or replaced;

   b. A device requires maintenance;

   c. A history of repeated failures indicates more frequent testing is necessary.

2. Customer water systems shall be subject to, and available for, inspection by authorized Water Board personnel upon request.

L. Failure to Comply with This Section

Failure to comply with the provisions of this section shall result in termination of water service until such time as the violation has been corrected.