

The Board of Commissioners of Powell Valley Road Water District does ordain as follows:

CROSS CONNECTION CONTROL REQUIREMENTS

SECTION 1: No customer or agent of the customer shall introduce or permit the introduction of pollution or contamination of any kind into the District Water supply system. When ever a cross connection or any other condition is found which presents the possibility of contamination or pollution, the water supply to such premises and/or other premises from which cross connection is made shall be discontinued immediately until the cross connection is eliminated or the condition remedied. The Water District will control cross connections, and other pollution to the public water system by periodic inspections of premises where it is thought that cross connection, or pollution could or does exist.

The elimination of cross connections shall be in accordance with any manuals of standard practice pertaining to cross connection control, approved by the General Manager of the District, and any requirements set forth by the OREGON ADMINISTRATIVE RULES CHAPTER 333-61-070, and the ACCEPTED PROCEDURE AND PRACTICE IN CROSS CONNECTION CONTROL MANUAL/FOURTH EDITION. Or any revision thereof. Or any requirements set forth by the "U.S. ENVIRONMENTAL PROTECTION AGENCY" as authorized by the "SAFE DRINKING WATER ACT" PL 93-523 and subsequent applicable legislation.

The District shall require a Backflow prevention device of pattern, design and size which is Approved by the Oregon State Health Division, and which is on the current list of approved devices furnished by the Health Division. The Backflow Device shall be adequate to prevent contamination, and commensurate with the degree of hazard, if the General Manager determines that a complete physical separation from the District water system is not practicable or necessary, or that adequate inspection for cross connection cannot readily be made, or that such backflow prevention device is necessary because of existing or possible backflow resulting from special conditions, use or equipment.

The District shall also regulate the location, installation and testing of such device. Any corrective measure, disconnection or change on private property shall be at the sole expense of the person in control of such property. The cost of any change required in the District system outside the property or between the meter and the supply line or distribution system and any charges for cutoff or disconnection shall be added to the charges for water against the premises necessitating the expenditures.

Any person operating any mobile apparatus which uses the Districts water system or water from any premises within the District must provide for Backflow prevention.

Section 2: Because it is necessary to immediately implement the provisions of this Ordinance in order to avoid the potential health hazards related to contamination of public water supplies, the Board of Commissioners hereby declares an emergency, and the terms and provisions of this Ordinance shall become effective immediately upon its adoption under the provisions of ORS 198.570.

INTRODUCED AND ADOPTED this 11th day of January, 1990.

ORDINANCE NO. 2-90

The Board of Commissioners of Powell Valley Road Water District does ordain as follows:

Page Two.

TESTING OF BACKFLOW PREVENTION DEVICES.

Section 1: Any backflow devices required by the District to be installed on a customer's premises for the protection of the public water supply shall be tested immediately upon installation and on each anniversary thereafter. Such tests shall be performed only by a certified tester. (Results of the tests shall be reported immediately to POWELL VALLEY ROAD WATER DISTRICT). If a test report is not received within thirty days of the date on which the test certification is due, the District may elect to order such test and add the cost of such test, and repairs to the device, if necessary, to the customer's water bill.

Section 2: Because it is necessary to immediately implement the provisions of this Ordinance in order to avoid the potential health hazards related to contamination of public water supplies, the Board of Commissioners hereby declares an emergency, and the terms and provisions of this Ordinance shall become effective immediately upon its adoption under the provisions of ORS 198.570.

INTRODUCED AND ADOPTED this 11th day of January, 1990.





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## POWELL VALLEY ROAD WATER DISTRICT

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### INSTALLATION REQUIREMENTS APPLICABLE TO ALL BACKFLOW DEVICES

1. No part of the backflow prevention device shall be submerged in water or installed in a location subject to flooding. If installed in a vault or basement, adequate drainage must be provided.
2. System containment devices must be installed on private property at the property line immediately adjacent to the water service connection. No backflow device shall be installed in the right-of-way without written permission from Powell Valley Road Water District.
3. The device must be protected from severe environmental conditions. All device's which are installed below grade must be installed in a concrete or plastic enclosure.
4. All backflow prevention devices shall be of a type and model approved by the State of Oregon Health Division, and Powell Valley Road Water District.
5. Only devices specifically approved by the Oregon Health Division and Powell Valley Road Water District (4" or smaller) for vertical installation may be installed vertically.
6. Devices shall be readily accessible with adequate room for testing and maintenance.
  - A) Devices 2" and smaller shall maintain a minimum clearance of 4" on all sides and at both ends.
  - B) Devices larger than 2" shall maintain a minimum clearance of 12" on the back side, 12" below, 24" in front, and 36" above the device. And a 3" clearance around the turn off valves for proper valve operation.
7. A minimum of a double-check valve is required:
  - A) If the building height is 32' or more above the water main.
  - B) If the water service is 2" or larger.
  - C) If the service is commercial/industrial use of water, or if a potential health hazard exists.
8. If the device is installed higher than 5' above the floor or slab, it must be equipped with permanently installed scaffolding acceptable to Powell Valley Road Water District, the Occupational Safety and Health Administration and State of Oregon Occupational Safety and Health Codes.
9. The device shall be readily accessible during regular working hours of 8 a.m. to 5 p.m., Monday through Friday.
10. Upon completion of the installation, Powell Valley Road Water District shall be notified, and all system containment devices must be inspected and a test report provided to the Water District. All backflow prevention devices must be tested by a State certified tester and registered with the Water District prior to water service being provided to the property.
11. All backflow devices over 2" in size shall be supported by rigidly mounted metal Or concrete supports underneath the flanges at each end of the device. If suspended from a ceiling, metal pipe hangers designed to carry such a load will be required at each end of the device.

## **ADDITIONAL INSTALLATION REQUIREMENTS FOR VAULT INSTALLATIONS**

If a double-check valve or a detector double-check valve is installed in a vault or chamber, the vault or chamber shall:

1. Be provided with adequate drainage. A sump pump will be required if the vault is unable to be kept free of water. A connection to a sewer of any kind is not acceptable for drainage.
2. A minimum of 36" frame and cover must be provided for access. A minimum 30" manhole may be provided for parking lot or driveway installation only.
3. Be equipped with an approved ladder if the vault or chamber depth is 5' or greater. An approved extension ladder is required if the depth is 8' or greater. The ladder shall be mounted vertically in the entry way to the vault or chamber and secured at the top and bottom. The top and bottom rungs must be within 12" of the top and floor, respectively. The ladder shall not infringe on the clearances required for the backflow device.
4. Be equipped with a moistureproof light fixture if adequate lighting is not available.
5. Have no other use, except for fire alarm connections.
6. Vaults or chambers for devices larger than 2" in size shall be 6' in depth, or be equipped with a full opening top which encompasses the entire assemble. Access to the vault and device shall remain unrestricted at all times.
7. All double-check valves 2" in size and smaller which utilize a Y-pattern design shall be installed on their sides (see drawing on last page). The test cocks shall be facing up whenever possible. The center of the device shall not exceed a maximum depth of 24". The device must be generally installed at a depth no less than 12" deep and no greater than 24" below grade.
8. It is recommended when 2" and 1 ½ " double check valves are installed below grade, that the Brooks plastic box model #1220-12 be used or the equivalent. For 1" and smaller double check valves, the Brooks box model #1419-18 is recommended. The use of these boxes, or their equivalent will provide the necessary room needed for testing and maintenance.
9. In addition to The Districts requirements, all vaults located on private property must meet City of Portland, Bureau of Buildings standards, including all applicable permit requirements.
10. All backflow devices installed below grade shall be provided with test cock plugs.
11. Only pre-cast concrete or poured-in-place concrete vaults that meet the installation criterion will be accepted. All vaults shall be equipped with hinged frame and covers, except where manhole installations are acceptable.

## **ADDITIONAL INSTALLATION REQUIREMENTS FOR REDUCED PRESSURE BACKFLOW DEVICES**

In addition to the installation requirements for all backflow devices, if a reduced pressure backflow device is installed, then:

1. The minimum clearance below the relief valve to the floor shall be 12". The drain line shall be air gapped and shall be at least twice the inside diameter of the incoming supply line as measured vertically above the top rim of the drain and in no case less than 1".
2. RP devices may be installed in a vault only if the relief valve discharge can be drained to daylight through a "boresight" type drain. The drain shall be of adequate size to carry the full rate flow of the device, and shall be screened on both ends. The relief valve shall be a minimum of 12" above the "boresight" drain.
3. Installation of this type of device may alter the delivery pressure and flow of the water supply. It is the responsibility of the water user to ensure that flow and pressure requirements downstream of the reduced pressure device are adequate.
4. Reduced pressure backflow devices shall not be installed in areas subject to flooding.
5. Reduced pressure backflow prevention devices are to be installed on connections between the potable water supply and any substances that poses a significant risk to health.

See drawings RP1 through 3 for additional details.

### **VARIANCES**

Any variances from these requirements shall be requested in writing by the owner, and approval for such a variance may only be granted by Powell Valley Road Water District prior to the device (s) being installed.



**REQUIREMENTS FOR BACKFLOW DEVICES  
INSTALLED ON FIRELINE SERVICES**

1. A detector double-check valve is typically required on fire services.
2. Where an anti-freeze compound or other chemical is added to a fire system, a reduced pressure detector assemble (RPDA) may be required unless one or more point-of-use RP's are used in conjunction with a double detector check valve at the property line.
3. The mainline device must be installed at the point of delivery of the water supply, on private property just inside the property line.
  - (A) The available area between the building and the property line must have the minimum dimensions of that given in the following table:

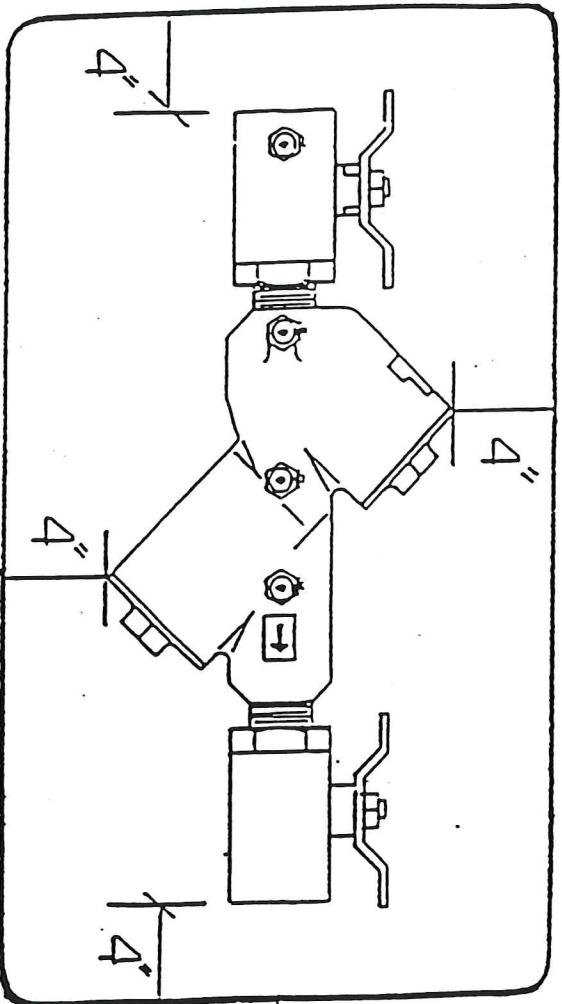
SERVICE SIZE	MIN. AREA	SERVICE SIZE	MIN. AREA
2"	2' X 4'	6"	5' X 8'
3"	3' X 5'	8"	6' X 8'
4"	4' X 6'	10"	7' X 10'

- (B) If these minimum dimensions are not available, the backflow device must be installed immediately inside the building wall.
4. Water services shall not be turned on until all required backflow prevention devices are installed, tested by a State certified tester and registered with the Water District.

**REMOTE READERS**

5. Unless the bypass meter can be easily read through a small door, cover or opening without leaving the right-of-way, the installation of a remote reader will be required. It shall be possible to read this remote reader from the right-of-way.
6. All wires to the remote reader shall be enclosed in a heavy plastic or metal conduit. The conduit shall be installed to within 6" of the bypass meter.
7. Remote readers must be rigidly mounted in the following order of preference.
  - A) On an outside building wall, enclosed in a metal box with a slotted opening which allows for reading the remote without opening the box, at a height of 2' to 6' above the ground and within 5' of the centerline of the water service connection.
  - B) Inside a street facing window at a height of 2' to 6' above the ground and within 5' of the centerline of the water service connection. The view of the remote shall not be obstructed in any way.
  - C) On a pumper connection or post located at or near the property line, in conformance with the aforementioned installation requirements.

# TYPICAL INSTALLATION OF "Y" PATTERN DCVA



← IRRIGATION VALVE BOX

1. All double-check valves 2" in size and smaller which utilize a Y-pattern design shall be installed on their sides. The test cocks shall be facing up whenever possible. The center of the device shall not exceed a maximum depth of 24".
2. All backflow devices installed below grade shall be provided with test cock plugs.
3. Devices shall be accessible with adequate room for testing and maintenance.
  - A) Devices 2" and smaller shall maintain a minimum clearance of 4" on all sides and at both ends.
  - B) Devices larger than 2" shall maintain a minimum clearance of 12" on the back side, 12" below, 24" in front and 36" above the device.