



Cedar River Water & Sewer District Premises Isolation Cross-Connection Control Program

PURPOSE:

To protect the public water system from contamination via cross-connections and potential cross-connections.

GENERAL:

The purveyor shall ensure that cross-connections between the distribution system and a consumer's water system are eliminated or controlled by the installation of an approved backflow preventer commensurate with the degree of hazard. This shall be accomplished by the implementation of a cross-connection control program that relies on premises isolation as defined in WAC 246-290-010:

“Premises isolation” means a method of protecting a public water system by installation of approved air gaps or approved backflow prevention assemblies at or near the service connection, prior to any tap or tee.

DEFINITIONS:

Definitions per WAC 246-290-010 and WAC 458-16-080*, or CRWSD CCS**

Approved Air Gap: A physical separation between the free-flowing end of a potable water supply pipeline and the overflow rim of an open or non-pressurized receiving vessel. To be an air gap approved by the department, the separation must be at least:

Twice the diameter of the supply piping measured vertically from the overflow rim of the receiving vessel, and in no case be less than one inch, when unaffected by vertical surfaces (sidewalls); and:

Three times the diameter of the supply piping, if the horizontal distance between the supply pipe and the vertical surface (sidewall) is less than or equal to three times the diameter of the supply pipe, or if the horizontal distance between the supply pipe and intersecting vertical surfaces (sidewalls) is less than or equal to four times the diameter of the supply pipe and in no case less than one and one-half inches.

Approved Backflow Preventer: An approved air gap or an approved backflow prevention assembly. The terms “approved backflow preventer,” “approved air gap,” or “approved backflow prevention assembly” refer only to those approved backflow preventers relied upon by the purveyor for the protection of the public water system. The requirements of WAC 246-290-490

do not apply to backflow preventers installed for other purposes.

Atmospheric Vacuum Breaker (AVB): A device used to prevent back-siphonage in non-health hazard conditions. This device cannot be tested and cannot prevent backpressure backflow. **AVBs are not recognized as an acceptable backflow prevention device by the District.**

Backflow: The undesirable reversal of flow of water or other substances through a cross-connection into the public water system or consumer's potable water system.

Backflow Assembly Tester (BAT): A person holding a valid BAT certificate issued in accordance with chapter [246-292](#) WAC.

Backpressure: A pressure (caused by a pump, elevated tank or piping, boiler, or other means) on the consumer's side of the service connection that is greater than the pressure provided by the public water system and which may cause backflow.

Backsiphonage: Backflow due to a reduction in system pressure in the purveyor's distribution system and/or consumer's water system.

Code Authority and Enforcement: The enforcement of this cross-connection control program in the area served by the water purveyor will be in accordance with WAC 246-290-490 or other lawful procedure.

Consumer: Any person receiving water from a public water system from either the meter, or the point where the service line connects with the distribution system if no meter is present. For purposes of cross-connection control, "consumer" means the owner or operator of a water system connected to a public water system through a service connection.

Consumer's Water System: Any potable and/or industrial water system that begins at the point of delivery from the public water system and is located on the consumer's premises. The consumer's water system includes all auxiliary sources of supply, storage, treatment, and distribution facilities, piping, plumbing, and fixtures under the control of the consumer.

Contaminant: A substance present in drinking water that may adversely affect the health of the consumer or the aesthetic qualities of the water.

Cross-Connection: Any actual or potential physical connection between a public water system or the consumer's water system and any source of non-potable liquid, solid, or gas that could contaminate the potable water supply by backflow.

Cross-Connection Control Program: The administrative and technical procedures the purveyor implements to protect the public water system from contamination via cross-connections as required in WAC [246-290-490](#).

Cross-Connection Control Specialist or CCS: A person holding a valid CCS certificate issued in accordance with chapter [246-292](#) WAC. The District shall appoint a CCS as the Districts program administrator to oversee the program.

Cross-Connection Control Summary Report: The annual report that describes the status of the purveyor's cross-connection control program, also known as the Annual Summary Report (ASR).

Degree of Hazard: Shall express the results of a health, system, or plumbing hazard.

Double Check Detector Backflow Prevention Assembly or DCDA: An assembly composed of a line-sized U.L. approved double check assembly with a bypass containing a specific water meter and an approved double check valve assembly. The meter shall register accurately for very low rates of flow.

Double Check Valve Assembly (DCVA): A Washington State approved backflow prevention assembly composed of two (2) single, independently acting “approved check valves,” including tightly closing resilient seated ball shutoff valves located at each end of the assembly, and suitable connections (test cocks) for testing the water tightness of each check valve.

Flow-Through Fire Protection System: A fire sprinkler system that; (a) is supplied only by the purveyor’s water; (b) does not have a fire department pumper connection; (c) is constructed of approved potable water piping and materials to which sprinkler heads are attached; and (d) terminates at a connection to a toilet or other plumbing fixture to prevent stagnant water.

High Health Cross-Connection Hazard: A cross-connection which could impair the quality of potable water and create an actual public health hazard through poisoning or spread of disease by sewage, industrial liquids or waste.

In-Premises Protection: A method of protecting the health of consumers served by the consumer's potable water system, located within the property lines of the consumer's premises by the installation of an approved air gap or backflow prevention assembly at the point of hazard, which is generally a plumbing fixture.

Local Administrative Authority: The local official, board, department, or agency authorized to administer and enforce the provisions of the Uniform Plumbing Code as adopted under chapter [19.27](#) RCW.

Low Health Cross-Connection Hazard: A cross-connection that could cause an impairment of the quality of potable water to a degree that does not create a hazard to the public health, but does adversely and unreasonably affect the aesthetic qualities of such potable waters for domestic use.

Non-Single Family Residential: A property other than Single Family Residential, including, but not limited to; commercial, restaurants, industrial, irrigation, schools, multi-family, parks, etc.**

Potable: Water suitable for drinking by the public.

Pressure Vacuum Breaker (PVB): A device used to prevent back-siphonage. A PVB is similar to an atmospheric vacuum breaker (AVB), except the PVB contains a spring-loaded poppet. This device cannot prevent backpressure backflow.**

PVBs are not recognized as an acceptable backflow prevention device by the District.

Public Water Supply: The water supply intended or used for human consumption or other domestic use, including source, treatment, storage, transmission and distribution facilities where water is furnished by Cedar River Water and Sewer District.

Purveyor: An agency, subdivision of the state, municipal corporation, firm, company, mutual or cooperative association, institution, partnership, or person or other entity owning or operating a public water system. Purveyor also means the authorized agents of such entities.

Reduced Pressure Backflow Assembly (RPBA): A Washington State approved backflow prevention assembly containing a minimum of two (2) independently acting, approved check valves,” including tightly closing resilient seated ball shutoff valves located at each end of the assembly, and suitable connections (test cocks) for testing the water-tightness of each check valve, together with an automatically operated pressure differential relief valve located between the two approved check valves. During normal flow, the pressure between these two check valves shall be less than the upstream (supply) pressure. In case of leakage of either check valve, the differential relief valve, by discharging to atmosphere, shall operate to maintain the pressure between the two check valves at less than the supply pressure.

Reduced Pressure Detector Assembly (RPDA): 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. This unit must be purchased as a complete assembly. The assembly may be allowed on fire line water services in place of an approved reduced pressure backflow assembly upon approval by the local water purveyor.

Service Connection: A connection between the public water supply distribution system and the consumer’s system. Except, when customer’s water distributes to more than one family dwelling, each dwelling shall be considered as a service connection.

Single Family Residential: A structure maintained and used as a residential dwelling that is designed exclusively for occupancy by one family.*

System Hazard: A threat to the physical properties of the public or the customer’s potable water system by a material not dangerous to health but aesthetically objectionable that would have a degrading effect on the quality of the potable water in the system.

Table 9: The premises listed in WAC 246-290-490 (4) (b) (iii) (Table 9) include: Agricultural (farms and dairies); Beverage Bottling plants; car washes; chemical plants; commercial laundries and dry cleaners; premises where both reclaimed water and potable water are provided; film processing facilities; food processing plants; hospitals, medical centers, nursing homes, veterinary, medical and dental clinics, and blood plasma centers; premises with separate irrigation systems using the purveyor’s water supply and with chemical addition (for example, parks, playgrounds, golf courses, cemeteries, estates, etc.); laboratories; metal plating industries; mortuaries; petroleum processing or storage plants; piers and docks; radioactive material processing plants or nuclear reactors (RPBA’s for connections serving these premises are acceptable only when used in combination with an in-plant approved air gap; otherwise, the purveyor shall require an approved air gap at the service connection); survey access denied or restricted; wastewater lift stations and pumping stations; wastewater treatment plants (RPBA’s

for connections serving these premises are acceptable only when used in combination with an in-plant approved air gap; otherwise, the purveyor shall require an approved air gap at the service connection); premises with an unapproved auxiliary water supply interconnected with the potable water supply.

Unapproved Auxiliary Water Supply: A water supply (other than the purveyor's water supply) on or available to the consumer's premises that is either not approved for human consumption by the health agency having jurisdiction or is not otherwise acceptable to the purveyor.

GENERAL:

It is the intention of this program to provide for the permanent abatement or control of all cross-connections to the public water system. When it is deemed necessary by the administrator of the Cross-Connection Control Program, there shall be installed at the service connection a suitable backflow prevention assembly commensurate with the degree of hazard to protect the public water supply.

The following methods of cross-connection control **at the service connection** are considered the **minimum** protection:

Any premises listed in WAC 246-290-490 (4) (b) (iii) (Table 9) shall require an approved reduced pressure backflow prevention assembly at the service connection.

A premise on which materials dangerous to health or toxic substances are handled or stored shall require an approved reduced pressure backflow prevention assembly at the service connection.

A premise having a repeated history of cross-connections being established or re-established shall require an approved reduced pressure backflow prevention assembly at the service connection.

A premise having an unapproved auxiliary water supply shall require an approved reduced pressure backflow prevention assembly at the service connection.

A fire system four inches and larger with anti-freeze or chemical additives shall require an approved reduced pressure detector check backflow prevention assembly at the service connection. The reduced pressure detector check shall be complete with a 3/4" bypass reduced pressure backflow prevention assembly, and a 5/8" Neptune water meter reading in cubic feet.

A metered fire system three inches and smaller with anti-freeze or chemical additives shall require an approved reduced pressure backflow prevention assembly at the service connection.

Any non-single family residential, as defined above, with no known hazards and no known cross-connections shall require an approved double check valve assembly at the service connection.

Any multi-use commercial establishment regardless of current tenant(s) or degree of hazard shall require an approved reduced pressure backflow prevention assembly at the service connection.

A premise on which is handled a substance that would affect taste and odor (not a health hazard) in a manner constituting a potential cross-connection shall require an approved double check valve assembly at the service connection.

A premise on which any non-health hazard 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, shall require an approved double check valve assembly at the service connection.

A fire system four inches and larger with no anti-freeze or chemical additives shall require an approved double detector check valve assembly at the service connection. The double detector check valve assembly shall be complete with a 3/4" bypass double check valve assembly, and a 5/8" Neptune water meter reading in cubic feet.

A metered fire system three inches and smaller with no anti-freeze or chemical additives shall require an approved double check valve assembly at the service connection.

Any lawn or landscaping irrigation systems commercial or residential with no chemical addition shall require a double check valve assembly at the service connection.

Atmospheric vacuum breakers and pressure vacuum breakers are not allowed and must be replaced with an assembly commensurate with the degree of hazard.

Single Family Residential irrigation systems with in-premises protection installed prior to December 5, 2017 will not be required to upgrade to premises isolation protection. All residential irrigation systems installed after December 5, 2017 will be required to install premises isolation protection.

ANNUAL TESTING:

As required by Washington State law, annual testing of backflow prevention assemblies must be satisfactorily completed by a licensed Backflow Assembly Tester (BAT). Receipt of satisfactorily completed (passing) backflow assembly test report forms are due each year by May 31st. All backflow assembly test reports shall be placed in the Cross-Connection Control Program file for the property.

Initial Letter: An Initial Letter will be sent to the property owner on or near April 1st stating receipt of a passing backflow assembly test report is due to the District by May 31st.

First Past Due Notice: If the required passing test report/s is not received by May 31st a First Past Due Notice will be sent to the property owner on or near June 1st reminding them of the requirement and initiating a corrective action completion date of June 30th.

Second Past Due Notice: If the required passing test report/s is not received by June 30th a Second Past Due Notice will be sent to the property owner on or near July 1st reminding them of the requirement and initiating a second corrective action completion date of July 31st.

Final Notice: If the required passing test report/s is not received by July 31st a Final Notice will be sent to the property owner and hand delivered to the property on or near August 1st stating

their water service will be disconnected after the second Board of Commissioners Meeting in August (will include the specific date). The notice will inform them of their right to contest the water service disconnection with the Board of Commissioners at the second Board Meeting in August.

Disconnected Accounts: The property owner must notify the District when their BAT will be on-site to test their backflow assembly. The District will unlock the meter by 8:00AM that morning and re-lock the meter at 2:00PM that afternoon if a passing test report has not been received by the District. Each time an account is locked for non-compliance, a disconnection fee will be charged based on the District's Rate & Fee Schedule.

MONITORING PROGRAM – New Water Services:

The elimination and control of cross-connections requires cooperation between the property owners and the District. The District has primary responsibility to prevent contamination of the public water supply (WAC 246-290-490). The property owners have a responsibility to allow District inspections and comply with the District's Cross-Connection Control Program, and must understand they may be held responsible for contamination of the public water system whether or not they are negligent.

New water services require the inspection and evaluation of all new and existing buildings, structures, and grounds for cross-connections and sanitary hazards. The District must employ a Washington State Certified Cross-Connection Control Specialist (CCS) who is knowledgeable in the field of plumbing, piping arrangements, and cross-connection control. This person will be designated as the District's Cross-Connection Control Program Administrator and be the primary inspector for cross-connection control.

Inspection and evaluation of new water services shall be conducted as outlined below.

Non-Single Family Residential / Commercial Water Services

Design: The Program Administrator will review the design drawings/property use and, if adequate detail/information is provided, determine the appropriate level of backflow prevention.

Pre-Construction Meeting: The Program Administrator will attend the pre-construction meeting to review the District's premises isolation backflow prevention requirements with the property owner and/or their representative. If the exact property use has not been established and/or provided to the District, the default backflow prevention requirement will be an approved Reduced Pressure Backflow Assembly. A copy of the District's Premise Isolation Cross-Connection Control Program will be provided to the property owner.

Property Use: If the exact property use is provided to the District in writing during construction, the Program Administrator may reduce the backflow prevention requirement from a Reduced Pressure Backflow Assembly to a Double Check Valve Assembly if applicable.

Water Meter Permit: Upon initiation of a water meter permit, the Program Administrator shall, if possible, perform a cross-connection control inspection of the buildings and structures to confirm the backflow prevention device/s is commensurate to the property use/degree of hazard.

Water Meter Installation: Upon installation the water meter will be locked by District staff. A passing test report on the backflow prevention device from a Washington State Certified BAT must be provided to the District in order to unlock the meter and initiate water service. The property owner or their representative will coordinate the test with the Program Administrator who will unlock the meter for the test. If a passing test report is not received by the end of the day the meter will be re-locked.

Change in Property Use: If the property use changes from the original information provided to the District, corrective action may be required depending on the degree of hazard. Failure to comply with required corrective action may result in water service disconnection.

Single Family Residential Water Services – Rural Properties

Connection Charges: At the time connection charges are provided to the property owner, the District's backflow prevention requirements for fire sprinkler systems, landscape irrigation systems, and/or other potential hazards are also provided. Note: The requirement for a fire sprinkler system is typically known at this time.

Water Meter Permit: Upon initiation of the water meter permit, documentation of any known fire sprinkler system, landscape irrigation system, or other potential hazard/s will be included on the meter installation work order.

Water Meter Installation: Upon installation, the water meter will be locked by District staff if there are backflow prevention requirements including flow-through fire protection systems. A passing test report on the backflow prevention device from a Washington State Certified BAT must be provided to the District, or inspection and approval of a flow-through fire protection system, in order to unlock the meter and initiate water service. The property owner or their representative will coordinate the test with the Program Administrator who will unlock the meter for the test. If a passing test report is not received by the end of the day the meter will be re-locked.

Single Family Residential Water Services – Urban Developments

Water Meter Permit: Upon initiation of a water meter permit, documentation of a known fire sprinkler system, landscape irrigation system, or other potential hazard/s will be included on the meter installation work order.

Water Meter Installation: Upon installation, the water meter will be locked by District staff if there are backflow prevention requirements including flow-through fire protection systems. A passing test report on the backflow device from a Washington State Certified BAT must be provided to the District, or inspection and approval of a flow-through fire protection system, in order to unlock the meter and initiate water service. The property owner or their representative will coordinate the test with the Program Administrator who will unlock the meter for the test. If a passing test report is not received by the end of the day the meter will be re-locked.

SURVEY PROGRAM – Existing Water Services:

Non-single family residential properties served by the public water system are subject to periodic premises inspections and/or evaluations prioritized by degree of health hazard by the Program Administrator. Single family residences may be inspected as determined by the Program Administrator.

Survey Request Letter: To initiate a premises inspection the Program Administrator will send a Survey Request Letter to the property owner.

Second Survey Request Letter: If the property owner does not respond within the required time frame a Second Survey Request Letter will be sent. If the property owner does not respond within the required time frame the property will fall into non-compliance status and will be sent the non-compliance letter/s.

Compliance Letter: If there are no action items to correct based on the premises inspection, a Compliance Letter will be sent to the property owner confirming all is satisfactory. The Compliance Letter will also be sent to the property owner after District issued corrective action items have been completed.

Non-Compliance Letter:

If there are action items to correct based on the premises inspection, a Non-Compliance Letter will be sent to the property owner outlining the corrective action/s along with a corrective action completion date commensurate to the hazard/s.

If there is no response to the Second Survey Request Letter, the property will be deemed a table 9 facility due to denial of access. A Non-Compliance/Table 9 letter will be sent to the property owner outlining the corrective action requiring installation of an RPBA with a corrective action completion of 30 days.

Second Non-Compliance Letter:

On or shortly after the corrective action completion date the Program Administrator will re-inspect the premises. If the corrective actions have been completed the Program Administrator will issue a Compliance Letter to the property owner. If the corrective actions have not been completed, the Program Administrator will issue a Second Non-Compliance Letter with a new corrective action completion date commensurate to the hazard/s.

On or shortly after the corrective action completion date on the Non-Compliance/Table 9 Letter, the Program Administrator will inspect the premises for the installation and testing of the RPBA. If the corrective actions have been completed the Program Administrator will issue a Compliance Letter to the property owner. If the corrective actions have not been completed, the District Operations Manager / General Manager will authorize a Disconnect Letter notifying the property owner that water service to the premises will be disconnected following the next Board of Commissioners Meeting (will include the specific date). The Disconnect Letter will inform them of their right to contest the water service disconnection with the Board of Commissioners at that meeting. The Disconnect Letter will be hand delivered as well as mailed.

Disconnect Letter:

On or shortly after the corrective action completion date of the Second Non-Compliance Letter the Program Administrator will re-inspect the premises. If the corrective actions have been completed the Program Administrator will issue a Compliance Letter to the property owner. If the corrective actions have not been completed, the District Operations Manager / General Manager will authorize a Disconnect Letter notifying the property owner that water service to the premises will be disconnected following the next Board of Commissioners Meeting (will include the specific date). The Disconnect Letter will inform them of their right to contest the water service disconnection with the Board of Commissioners at that meeting. The Disconnect Letter will be hand delivered as well as mailed.

Following the Board of Commissioners Meeting, the Program Administrator will re-inspect the premises. If the corrective actions have been completed the Program Administrator will issue a Compliance Letter to the property owner. If the corrective actions have not been completed, the Program Administrator will disconnect water service (shut off/lock meter - a disconnection fee will be charged based on the District’s Rate & Fee Schedule).

Restoration of Water Service: Completion of all corrective actions is required in order to restore water service. The property owner must notify the Program Administrator of the completed corrective actions and request a re-inspection. If the corrective actions have been completed (including any backflow assembly testing) the Program Administrator will restore water service and issue a Compliance Letter.

NOTE: The procedures outlined above may be adjusted on a case by case basis as deemed necessary by the Program Administrator, Operations Manager, and/or General Manager to achieve compliance.

RECORDS & REPORTS:

The following information shall be kept on file for a minimum of ten years:

- Copies of all correspondence with property owners relative to Cross-Connection Control.
- Copies of all inspection reports complete with field drawings if applicable.
- Copies of all backflow assembly test reports.

An Annual Summary Report (ASR) shall be made available to the Washington State Department of Health upon request. These reports describe the current status of the purveyor’s Cross-Connection Control Program.

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Board Approval: Resolution #18-33

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