

ARTICLE 8

BACKFLOW AND CROSS-CONNECTION CONTROL

8.01 CROSS-CONNECTIONS

8.01.01 General Provisions: These regulations are adopted pursuant to the State of California Code of Regulations, Title 17, Sections 7583 through 7605 inclusive, entitled "Regulations Relating to Cross-Connections." These provisions shall be in addition to, but not in lieu of, the controls and requirements of other regulatory agencies such as local government agencies and local and State health departments. These regulations are intended to protect the District's potable water supply and are not intended to provide regulatory measures for protection of consumers from the hazards of cross-connections within their own premises. Backflow prevention devices, as required in these provisions, shall be provided and maintained by the applicant, owner, or consumer at his/her expense. Such devices shall be located on the premises of the property served and shall not be considered part of the District's water distribution system.

It is the intent of these regulations to prevent any person, firm, or corporation from making or maintaining or causing to be made or maintained, temporarily or permanently, for any period of time whatsoever, any cross-connection between plumbing pipes or water fixtures being served with water by the District and any other source of water supply, or to maintain any sanitary fixture or other appurtenance or fixture which, by reason of its construction, may cause or allow backflow of water or other substances into the water supply system of the District.

The purpose of these regulations are:

- 8.01.01.01 To protect the District's water system against actual or potential cross-connections by isolating, within the premises, contamination that may occur because of some undiscovered or unauthorized cross-connection on the premises.
- 8.01.01.02 To eliminate existing connections between the District's water system and other sources of water that are not approved as safe and potable for human consumption.
- 8.01.01.03 To eliminate cross-connections between drinking water systems and other sources of water or processed water used for any purpose whatsoever which jeopardize the safety of the potable water supply.
- 8.01.01.04 To prevent the making of cross-connections in the future.

8.02 CROSS-CONNECTION PROTECTION

- 8.02.01 Whenever backflow protection has been determined necessary by the District, the consumer will be required to install an approved backflow prevention assembly at his/her expense. Any such assembly will be installed as close as practicable to the downstream side of the consumer's metered service or the connection to the District's distribution system in accordance with District Standard Drawing No. 4.
- 8.02.02 Whenever backflow protection has been determined to be necessary on a water supply line entering a consumer's premises, then any and all water supply lines from the District's mains entering such premises, buildings, or structures shall be protected by an approved backflow prevention assembly. The type of assembly to be installed shall be in accordance with the requirements set forth in these Rules and Regulations.

8.03 REQUIREMENT FOR PROTECTION ASSEMBLIES

- 8.03.01 **Protection from an Auxiliary Supply:** Each service connection originating from the District's water system for supplying water to premises having an auxiliary water supply shall be protected against backflow of water from the premises into the public water system, unless the auxiliary water supply is accepted as an additional source by the District and is approved by the health agency.
- 8.03.02 **Protection from Processed Water:** Each service connection originating from the District's water system for supplying water to premises on which any substance is handled in such fashion as to permit its entry into the water system shall be protected against backflow of water from the premises into the public system. This shall include the handling of processed waters and waters originating from the District's water supply system which have been subject to deterioration in quality.
- 8.03.03 **Protection from Internal Cross-Connection:** Backflow prevention assemblies shall be installed on the service connection to any premises that has: (a) internal cross-connections, (b) intricate plumbing and piping arrangements, or (c) restrictions where entry to all portions of the premises is not readily accessible for inspection purposes, making it impractical or impossible to determine whether or not cross-connections exist.
- 8.03.04 **Protection from Recycled Water:** A property which is also supplied with recycled water, in addition to the District's potable water supply, shall also comply with such additional cross-connection provisions specified in these Rules and Regulations pertaining to recycled water service. Protective devices will be required on the District's potable water services, although under no circumstances will the District tolerate an actual or potential cross-connection between the District's potable water supply and the consumer's on-site recycled water facilities. Tracer dyes may be periodically required to be introduced into the recycled water system by the owner, where feasible, so that the existence of cross-

connections with (or backflow into) the potable water system will be visible. In all cases in which recycled water is used on individually and privately owned premises and is under individual and private control, such as in the case of an industrial user, or in which recycled water is used at schools and public parks with extensive systems and high public exposure and use, or in which the on-site recycled water system has additional pressure added through pumping, the District shall require a backflow prevention device on its potable water supply. The type of protection device shall be determined by the District in accordance with Article 8.07 herein.

8.04 TYPE OF PROTECTION REQUIRED

The type of protection that shall be provided to prevent backflow shall be commensurate with the degree of hazard that exists on the consumer's premises. The type of protective assembly that may be required includes: Double Detector Check Assembly (DDC), Reduced Pressure Principle Backflow Prevention Assembly (RP), and an Air-Gap Separation (AG). The consumer may choose a higher level of protection than is required by the District. The minimum types of backflow protection to premises with varying degrees of hazard are listed below. Situations which are not covered shall be evaluated on a case-by-case basis, and the appropriate backflow protection assembly shall be determined by the District and/or health agency.

8.05 APPROVED BACKFLOW PREVENTION ASSEMBLIES

- 8.05.01 Only backflow prevention assemblies which have been approved by the District shall be acceptable for installation by a consumer at his/her connection to the District's potable water system. The approved list shall be based on the current list periodically published by the University of Southern California Foundation for Cross-Connection Control.
- 8.05.02 The District will provide, upon request, to any interested or affected consumer a list of approved backflow prevention assemblies.

8.06 BACKFLOW PREVENTION ASSEMBLY INSTALLATION

Backflow prevention assemblies shall be installed in a manner prescribed in Section 7603, Title 17, of the California Code of Regulations. Location of the assemblies should be as close as practical to the consumer's connection. The District shall have the final authority in determining the required location of a backflow prevention assembly. In any event, no connections will be permitted to be made to the service piping between the District's facilities and the backflow prevention assembly.

8.07 PROTECTIVE ASSEMBLIES

The protective assembly required shall depend on the degree of hazard as tabulated below:

- 8.07.01 **Assembly for Auxiliary Water Supply:** At the service connection to any premises where there is an auxiliary water supply handled in a separate piping system with no known cross-connection, the District's water supply

shall be protected by an approved, reduced-pressure principle backflow prevention assembly or air-gap separation assembly.

- 8.07.02 **Assembly for Recycled Water:** At the service connection to any premises where the District's potable water system is used to supplement a recycled water supply, or where recycled water is used and there is no interconnection, the District's water supply shall be protected by an air-gap separation. The air-gap separation shall be located as close as practicable to the metered service, and all piping between the metered service and the receiving tank shall be visible or available for inspection. If these conditions cannot be reasonably met, the potable water supply shall be protected with an approved, reduced-pressure principle backflow prevention assembly, providing this alternative is acceptable to both the District and the health agency.
- 8.07.03 **Assembly for Objectionable Substance:** At the service connection to any premises on which a substance that would be objectionable (but not necessarily hazardous to health), if introduced into the District's water supply, is handled so as to constitute a cross-connection, the District's water supply shall be protected with an approved, reduced-pressure principle backflow prevention assembly installed in accordance with District standards.
- 8.07.04 **Assembly for Internal Cross-Connections:** At the service connection to any premises on which there is an auxiliary water supply where cross-connections are known to exist and which cannot be presently eliminated, the District's water supply shall be protected with an approved, reduced-pressure principle backflow prevention assembly installed in accordance with District standards.
- 8.07.05 **Assembly For Toxic Substance:** At the service connection to any premises on which any material dangerous to health or toxic substance in toxic concentration is or may be handled, the District's water supply shall be protected by an air-gap separation. The air-gap separation shall be located as close as practicable to the metered service, and all piping between the metered service and receiving tank shall be visible or available for inspection. If these conditions cannot be reasonably met, the potable water supply shall be protected with an approved, reduced-pressure principle backflow prevention assembly, providing this alternative is acceptable to both the District and the health agency.
- 8.07.06 **Assembly for Sewage:** At the service connection to any sewage treatment plant or sewage pumping station, the District's water supply shall be protected by an air-gap separation. The air-gap separation shall be located as close as practicable to the metered service, and all piping between the metered service and receiving tank shall be visible or available for inspection. If these conditions cannot be reasonably met, the potable water supply shall be protected with an approved, reduced-pressure principle backflow prevention assembly, providing this alternative is acceptable to both the District and the health agency.

- 8.07.07 **Assemblies for Master Metered Connections and Looped Private Fire Protection Systems:** At service connections to any premises served by a master meter assembly, or which have a looped private fire protection system that is not maintained by the District, the District's water supply shall be protected with an approved, reduced-pressure principle backflow prevention assembly installed in accordance with District standards.
- 8.07.08 **Assemblies for Commercial and Industrial Developments:** At the service connection to any commercial or industrial development, the District's water supply shall be protected with an approved, reduced-pressure principle backflow prevention assembly installed in accordance with District standards.
- 8.07.09 **Assemblies for Private Fire Protection Systems:** At the service connection to any Class I or II private fire protection system, the District's water supply shall be protected with an approved, double-detector check assembly installed in accordance with District Standard Drawing No. 20A. Other classes of private fire protection systems shall be protected with a minimum of an approved, double-detector check assembly installed in accordance with District standards. Higher levels of protection, as determined by the District, may be required for Class III or higher private fire protection systems.
- 8.07.10 **Assemblies for Landscape Irrigation Service:** At the service connection to any landscape irrigation service, including those for landscape maintenance districts, the District's water supply shall be protected with an approved, reduced-pressure principle backflow prevention assembly installed in accordance with District standards.
- 8.07.11 **Fire Protection System:** The District's water supply shall be protected by an air-gap separation on premises where the fire protection system is directly connected to the District's system and is interconnected with an unapproved auxiliary water supply. If these conditions cannot be reasonably met, the potable water supply shall be protected with an approved reduced pressure principle backflow prevention assembly, providing this alternative is acceptable to both the District and the health agency.
- 8.07.12 **Use of Pumps on Consumer's Side of the Meter:** When a consumer receiving service at the District's main or service connection must, by means of a pump of any kind, elevate or increase the pressure of the water received, the pump shall not be attached to any pipe directly connected to the District's main or service pipe. Such pumping or boosting of pressure shall be done from a sump, cistern, or storage tank which shall be served by the District's distribution facilities through an approved air-gap assembly. If these conditions cannot be reasonably met, the potable water supply shall be protected with an approved, reduced-pressure principle backflow prevention assembly, providing this alternative is acceptable to both the District and the health agency.

8.08 BACKFLOW PREVENTION ASSEMBLY CHANGES

Approval must be obtained before a backflow prevention assembly is removed, relocated, or replaced. All costs related to removal, relocation, replacement, repair, or testing of a backflow prevention assembly shall be borne by the consumer.

- 8.08.01 **Removal:** The use of an assembly may be discontinued and the assembly removed from service upon presentation of sufficient evidence acceptable to the District to verify that a hazard no longer exists or is not likely to be created in the future.
- 8.08.02 **Relocation:** An assembly may be relocated following confirmation by the District that the relocation will continue to provide the required protection and satisfy installation requirements. A retest will be required following the relocation of the assembly.
- 8.08.03 **Repair:** An assembly may be removed and replaced, provided the water use is either discontinued until repair is completed and the assembly is returned to service or the service connection is equipped with other backflow protection approved by the District. A retest will be required following the repair of the assembly.
- 8.08.04 **Replacement:** An assembly may be removed and replaced provided the water use is discontinued until the replacement assembly is installed. All replacement assemblies must be approved by the District and must be commensurate with the degree of hazard involved.

8.09 SITE SUPERVISOR

At each premises, where it is determined by the District to be necessary, a site supervisor shall be designated by and at the expense of the consumer. This site supervisor shall be responsible for the monitoring of the consumer's backflow prevention assemblies and for avoidance of cross-connections. In the event of contamination or pollution of the drinking water system resulting from a cross-connection on the premises, the District shall be immediately notified by the site supervisor so that appropriate measures may be taken to overcome the contamination. The consumer shall provide the District with the names of all site supervisors and notify the District whenever a change occurs, or on an annual basis, whichever occurs first.

8.10 RESPONSIBILITIES

- 8.10.01 **Cross-Connection Protection Determination:** It shall be the responsibility of the General Manager to determine whether any service connection or the handling of substances within the premises served is deemed to constitute a hazard to the District's water system and to determine the degree of hazard and to establish the requirements for protection. The General Manager shall accomplish the requirements for protection in conjunction with the health agency.

- 8.10.02 **Cross-Connection Protection Installation and Maintenance:** It shall be the responsibility of the consumer to install and maintain the required protective assembly and to have the assembly inspected and tested at least once a year, or upon change of ownership, whichever occurs first. Testing shall be performed by a person who has demonstrated to the District his/her competency in testing backflow devices. The assembly shall be repaired, overhauled, or replaced at the expense of the consumer whenever it is found to be defective. It shall be the duty of the District to see that these tests are made in accordance with the responsibility designated in Section 7584 of Title 17, California Code of Regulations.

8.11 **WATER SYSTEM SURVEY**

- 8.11.01 The District shall review all requests for new services to determine what degree and type of backflow protection is required. Plans and specifications must be submitted to the District upon request for review of possible cross-connection hazards as a condition of service for new service connections. If it is determined that a backflow prevention assembly is necessary to protect the public water system, the required assembly must be installed before service will be granted.
- 8.11.02 The District may require an on-premise inspection to evaluate cross-connection hazards. Any consumer who cannot or will not allow an on-premise inspection of his/her piping system shall be required to immediately install a District-approved backflow prevention assembly immediately downstream from the consumer's metered service.
- 8.11.03 The District may, at its discretion, require a re-inspection for cross-connection hazards on any premise to which it serves water. Any consumer who cannot or will not allow an on-premise inspection of his/her piping system shall be required to immediately install a District-approved backflow prevention assembly immediately downstream from the consumer's metered service.

8.12 **CONSUMER NOTIFICATION – ASSEMBLY INSTALLATION**

- 8.12.01 The District will notify the consumer of the findings of any such inspection provided for in Article 8.11 above, listing corrective action to be taken if required. A period of approximately sixty (60) days will be given to complete all corrective action required, including installation of backflow prevention assemblies.
- 8.12.02 A second notice will be sent to each consumer who fails to take the required corrective action prescribed in the first notice within the time period allowed. The second notice shall give the consumer a two (2) week period to comply with the required corrective action. If no action is taken within the two (2) week period, the District will disconnect water service to the affected consumer until the required corrective actions are taken.

8.13 BACKFLOW PREVENTION ASSEMBLY TESTING

- 8.13.01 The owners of any premises on which, or on account of which, backflow prevention assemblies are installed shall have the assemblies tested by a person who has demonstrated to the District his/her competency in testing these assemblies. Backflow prevention assemblies must be tested at least annually and immediately after installation, relocation, repair, or when the ownership or downstream water use has been changed. Testing intervals shall be set by the District. Required intervals for such testing may be shortened if it is determined by the District that a history of malfunctioning has been established, or if the degree of hazard makes more frequent inspections advisable. No assembly shall be placed back into service unless it is functioning as required. A report in a form provided by the District shall be returned to the District each time an assembly is tested, relocated, repaired, or when ownership or downstream water use has been changed.
- 8.13.02 The District will supply affected consumers with a list of persons acceptable to the District to test backflow prevention assemblies. The District will notify affected consumers by mail when initial, annual, or periodic testing of an assembly is required and also supply consumers with the necessary forms, which must be filled out and returned to the District each time an assembly is tested or repaired.

8.14 CONSUMER NOTIFICATION – TESTING AND MAINTENANCE

- 8.14.01 The District will annually notify each affected consumer by mail when it is time for the backflow prevention assembly installed at his/her service connection to be tested. This written notice shall provide the consumer approximately thirty (30) days in which to have the assembly tested and shall supply the consumer with the necessary form to be completed and submitted to the District.
- 8.14.02 A second notice shall be sent to each consumer who fails to test his/her backflow prevention assembly as prescribed in the first notice within the thirty (30) day period allowed. The second notice will give the consumer a two (2) week period to have the backflow prevention assembly tested.
- 8.14.03 A third notice shall be sent if no action is taken within the two (2) week period following the second notice. This notice shall provide the consumer with a final two (2) week period to have the backflow prevention assembly tested.
- 8.14.04 If the backflow prevention assembly still remains untested at the end of this final two (2) week period, the District shall proceed to disconnect the consumer's water service as set forth in Article 8.15. The water service will remain terminated until acceptable documentation of a successful test on the backflow prevention assembly is received at the District office.

8.15 DISCONNECTION OF SERVICE FOR CROSS-CONNECTION VIOLATION

Service of water to any premises may be disconnected by the District after reasonable notification if unprotected cross-connections exist on the premises, if any defect is found in an installed backflow prevention assembly, or if a backflow prevention assembly has been removed or bypassed. Service will not be reconnected until such conditions or defects are corrected. Disconnection of service may be summary, immediate, and without notice whenever, in the judgment of the General Manager or health agency, such action is necessary to protect the purity of the water supply or the safety of the water system.

8.15.01 **Basis for Disconnection:** Conditions or water uses that create a basis for water service disconnection shall include, but are not limited to, the following:

- 8.15.01.01 Refusal to install a required backflow prevention assembly
- 8.15.01.02 Refusal to test a backflow prevention assembly
- 8.15.01.03 Refusal to repair a faulty backflow prevention assembly
- 8.15.01.04 Refusal to replace a faulty backflow prevention assembly
- 8.15.01.05 Direct or indirect connection between the District water system and a sewer line
- 8.15.01.06 Unprotected direct or indirect connection between the District water system and a system or equipment containing contaminants
- 8.15.01.07 Unprotected direct or indirect connection between the District water system and an auxiliary water system
- 8.15.01.08 A situation which presents an immediate health hazard to the District water system
- 8.15.01.09 If ordered by local or State Health Department

8.15.02 **Water Service Disconnection Procedures:** For conditions 8.15.01.01 through 8.15.01.09, the District will disconnect service to a consumer's premises after two (2) written notices have been sent specifying the corrective action needed and the time period in which it must be done. If no action is taken within the allowed time period, water service will be disconnected. The District may disconnect any service without notice if an immediate health threat to other consumers or to the District's potable supply is evident.

- END OF ARTICLE 8 -