



CITY OF SUNNYVALE

ENVIRONMENTAL SERVICES DEPARTMENT



CROSS-CONNECTION CONTROL PROGRAM

POLICIES AND REGULATIONS

JULY 2015

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Title 17 Code of Regulations

**DIVISION 1. STATE DEPARTMENT OF HEALTH SERVICES
CHAPTER 5. SANITATION (ENVIRONMENTAL)
GROUP 4. DRINKING WATER SUPPLIES
ARTICLE 1. GENERAL**

7583. Definitions

In addition to the definitions in Section 4010.1 of the Health and Safety Code, the following terms are defined for the purpose of this Chapter

- (a) "Approved Water Supply" is a water supply whose potability is regulated by a State or local health agency.
- (b) "Auxiliary Water Supply" is any water supply other than that received from a public water system.
- (c) "Air-gap Separation (AG)" is a physical break between the supply line and a receiving vessel.
- (d) "AWWA Standard" is an official standard developed and approved by the American Water Works Association (AWWA).
- (e) "Cross-Connection" is an unprotected actual or potential connection between a potable water system used to supply water for drinking purposes and any source or system containing unapproved water or a substance that is not or cannot be approved as safe, wholesome, and potable. By-pass arrangements, jumper connections, removable sections, swivel or changeover devices, or other devices through which backflow could occur, shall be considered to be cross-connections.
- (f) "Double Check Valve Assembly (DC)" is an assembly of at least two independently acting check valves including tightly closing shut-off valves on each side of the check valve assembly and test cocks available for testing the watertightness of each check valve.
- (g) "Health Agency" means the California Department of Health Services, or the local health officer with respect to a small water system.
- (h) "Local Health Agency" means the county or city health authority.
- (i) "Reclaimed Water" is a wastewater which as a result of treatment is suitable for uses other than potable use.
- (j) "Reduced Pressure Principle Backflow Prevention Device (RP)" is a backflow preventer incorporating not less than two check valves, an automatically operated differential relief valve located between the two check valves, a tightly closing shut-off valve on each side of the check valve assembly, and equipped with necessary test cocks for testing.
- (k) "User Connection" is the point of connection of a user's piping to the water supplier's facilities.

(l) "Water Supplier" is the person who owns or operates the public water system.

(m) "Water User" is any person obtaining water from a public water supply.

7584. Responsibility and scope of program

The water supplier shall protect the public water supply from contamination by implementation of a cross-connection control program. The program, or any portion thereof, may be implemented directly by the water supplier or by means of a contract with the local health agency, or with another agency approved by the health agency. The water supplier's cross-connection control program shall for the purpose of addressing the requirements of Sections 7585 through 7605 include, but not be limited to, the following elements:

(a) The adoption of operating rules or ordinances to implement the cross-connection program.

(b) The conducting of surveys to identify water user premises where cross-connections are likely to occur,

(c) The provisions of backflow protection by the water user at the user's connection or within the user's premises or both,

(d) The provision of at least one person trained in cross-connection control to carry out the cross-connection program,

(e) The establishment of a procedure or system for testing backflow preventers, and

(f) The maintenance of records of locations, tests, and repairs of backflow preventers.

7585. Evaluation of hazard

The water supplier shall evaluate the degree of potential health hazard to the public water supply which may be created as a result of conditions existing on a user's premises. The water supplier, however, shall not be responsible for abatement of cross-connections which may exist within a user's premises. As a minimum, the evaluation should consider: the existence of cross-connections, the nature of materials handled on the property, the probability of a backflow occurring, the degree of piping system complexity and the potential for piping system modification. Special consideration shall be given to the premises of the following types of water users:

(a) Premises where substances harmful to health are handled under pressure in a manner which could permit their entry into the public water system. This includes chemical or biological process waters and water from public water supplies which have deteriorated in sanitary quality.

(b) Premises having an auxiliary water supply, unless the auxiliary supply is accepted as an additional source by the water supplier and is approved by the health agency.

(c) Premises that have internal cross-connections that are not abated to the satisfaction of the water supplier or the health agency.

(d) Premises where cross-connections are likely to occur and entry is restricted so that cross-connection inspections cannot be made with sufficient frequency or at sufficiently short notice to assure that cross-connections do not exist.

(e) Premises having a repeated history of cross-connections being established or re-established.

7586. User supervisor

The health agency and water supplier may, at their discretion, require an industrial water user to designate a user supervisor when the water user's premises has a multipiping system that convey various types of fluids, some of which may be hazardous and where changes in the piping system are frequently made. The user supervisor shall be responsible for the avoidance of cross-connections during the installation, operation and maintenance of the water user's pipelines and equipment.

ARTICLE 2. PROTECTION OF WATER SYSTEM

7601. Approval of backflow preventers

Backflow preventers required by this Chapter shall have passed laboratory and field evaluation tests performed by a recognized testing organization which has demonstrated their competency to perform such tests to the Department.

7602. Construction of backflow preventers

(a) Air-gap Separation. An Air-gap separation (AG) shall be at least double the diameter of the supply pipe, measured vertically from the flood rim of the receiving vessel to the supply pipe; however, in no case shall this separation be less than one inch.

(b) Double Check Valve Assembly. A required double check valve assembly (DC) shall, as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Double Check Valve Type Backflow Preventive Devices which is herein incorporated by reference.

(c) Reduced Pressure Principle Backflow Prevention Device. A required reduced pressure principle backflow prevention device (RP) shall, as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Reduced Pressure Principle Type Backflow Prevention Devices which is herein incorporated by reference.

7603. Location of backflow preventers

(a) Air-gap Separation. An air-gap separation shall be located as close as practical to the user's connection and all piping between the user's connection and the receiving tank shall be entirely visible unless otherwise approved in writing by the water supplier and the health agency.

(b) Double Check Valve Assembly. A double check valve assembly shall be located as close as practical to the user's connection and shall be installed above grade, if possible, and in a manner where it is readily accessible for testing and maintenance.

(c) Reduced Pressure Principle Backflow Prevention Device. A reduced pressure principle backflow prevention device shall be located as close as practical to the user's connection and shall be installed a minimum of twelve inches (12") above grade and not more than thirty-six inches (36") above grade measured from the bottom of the device and with a minimum of twelve inches (12") side clearance.

7604. Type of protection required.

The type of protection that shall be provided to prevent backflow into the public water supply shall be commensurate with the degree of hazard that exists on the consumer's premises. The type of protective device that may be required (listed in an increasing level of protection) includes: Double check Valve Assembly--(DC), Reduced Pressure Principle Backflow Prevention Device--(RP) and an Air gap Separation--(AG). The water user may choose a higher level of protection than required by the water supplier.

The minimum types of backflow protection required to protect the public water supply, at the water user's connection to premises with various degrees of hazard, are given in Table 1. Situations not covered in Table 1 shall be evaluated on a case-by-case basis and the appropriate backflow protection shall be determined by the water supplier or health agency.

Section 7605. Testing and maintenance of backflow preventers

(a) The water supplier shall assure that adequate maintenance and periodic testing are provided by the water user to ensure their proper operation.

(b) Backflow preventers shall be tested by persons who have demonstrated their competency in testing of these devices to the water supplier or health agency.

(c) Backflow preventers shall be tested at least annually or more frequently if determined to be necessary by the health agency or water supplier. When devices are found to be defective, they shall be repaired or replaced in accordance with the provisions of this Chapter.

(d) Backflow preventers shall be tested immediately after they are installed, relocated or repaired and not placed in service unless they are functioning as required.

(e) The water supplier shall notify the water user when testing of backflow preventers is needed. The notice shall contain the date when the test must be completed.

(f) Reports of testing and maintenance shall be maintained by the water supplier for a minimum of three years.

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CITY OF SUNNYVALE MUNICIPAL CODE

CROSS-CONNECTIONS AND

BACKFLOW PROTECTION

ORDINANCE

456 West Olive Ave.
Sunnyvale, CA 94086
Telephone (408) 730-7500

On October 31, 1967, The Sunnyvale City Council adopted Ordinance No. 1402, which added Chapter 12.28, “Cross-Connection and Backflow Protection,” to the Sunnyvale Municipal Code. The purpose of the ordinance was a further implementation of the California Administrative Code (Title 17, Sections 7583-7605 inclusive). These laws were adopted for the purpose of protecting the public water supply and/or the drinking water supply within the premises where plumbing defects or cross-connections may endanger it, due to some undiscovered or unauthorized cross-connection.

Chapter 12.28. CROSS-CONNECTIONS AND BACKFLOW PROTECTION

12.28.010. Definitions—Generally.

For the purpose of this chapter, unless it is plainly evident from the context that a different meaning is intended, certain terms used herein are defined in Sections 12.28.020 to 12.28.180. (Ord. 1402 § 1, 1967; prior code § 11-1.101).

12.28.020. Air gap separation defined.

“Air gap separation” means a physical break between a supply pipe and a receiving vessel. The air gap shall be at least double the diameter of the supply pipe, measured vertically above the top rim of the vessel, and in no case less than one inch. (Ord. 1402 § 1, 1967; prior code § 11-1.101(a)).

12.28.030. Approved check valve defined.

“Approved check valve” means a check valve that seats readily and completely. It must be carefully machined to have free-moving parts and assured watertightness. The face of the closure element and valve seat must be bronze, composition, or other noncorrodible material which will seat tightly under all prevailing conditions of field use. Pins and bushings shall be of bronze or other noncorrodible, nonsticking material, machined for easy, dependable operation. The closure element (e.g., clapper) shall be internally weighted or otherwise internally equipped to promote rapid and positive closure in all sizes where this feature is obtainable. (Ord. 1402 § 1, 1967; prior code § 11-1.101(b)).

12.28.040. Approved double check valve assembly defined.

“Approved double check valve assembly” means an assembly of at least two independently acting approved check valves including tightly closing shutoff valves on each side of the check valve assembly and suitable leak detector drains plus connections available for testing and watertightness of each check valve. Unless otherwise authorized by the director, a pressure relief valve, rated at no more than fifty p.s.i. greater than the water service pressure, shall be installed on the downstream side of the double check valve assembly. (Ord. 1402 § 1, 1967; prior code 11-1.101(c)).

12.28.050. Approved reduced pressure principle backflow prevention device defined.

“Approved reduced pressure principle backflow prevention device” means a device incorporating two or more check valves and an automatically operating differential relief valve located between the two checks, two shutoff valves, and equipped with necessary appurtenances for testing. The device shall operate to maintain the pressure in the zone between the two check valves,

less than the pressure on the public water supply 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 the 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 in the device. To be approved these devices must be readily accessible for maintenance and testing and installed in a location where no part of the device will be submerged. Unless otherwise authorized by the director, a pressure relief valve, rated at no more than fifty p.s.i. greater than the water service pressure, shall be installed on the downstream side of the reduced pressure principle backflow prevention device. (Ord. 1402 § 1, 1967; prior code § 11-1.101(d)).

12.28.060. Approved water supply defined.

“Approved water supply” means any water supply approved by, or under the public health supervision of, a public health agency of the state of California, the county of Santa Clara, or the city of Sunnyvale. In determining what constitutes an approved water supply, the Department of Public Health of the state of California (herein called State Department of Public Health) shall have the final judgment as to its safety and potability. (Ord. 1402 § 1, 1967; prior code § 11-1.101(e)).

12.28.070. Auxiliary water supply defined.

“Auxiliary water supply” means any water supply on or available to the premises other than the city water supply. (Ord. 1402 § 1, 1967; prior code § 11-1.101(f)).

12.28.080. City defined.

“City” means the city of Sunnyvale. (Ord. 1402 § 1, 1967; prior code § 11-1.101(g)).

12.28.090. City health officer defined.

“City health officer” means the Santa Clara County health officer, his assistants, or authorized deputies acting as, or any other person appointed as, health officer of the city of Sunnyvale. (Ord. 1402 § 1, 1967; prior code § 11-1.101(h)).

12.28.100. City water supply defined.

“City water supply” means an approved water supply sold and delivered to consumers’ premises through the waterworks system of the city of Sunnyvale. (Ord. 1402 § 1, 1967; prior code § 11-1.101(i)).

12.28.110. Consumer defined.

“Consumer” means any person to whom water is sold and furnished from the city water supply by the city of Sunnyvale. (Ord. 1402 § 1, 1967; prior code § 11-1.101(j)).

12.28.120. Contamination defined.

“Contamination” means an impairment of the quality of the city water supply by the presence of any foreign substance (organic, inorganic, radiological or biological) to a degree which creates a

hazard to the public health through poisoning or through the spread of disease. (Ord. 1402 § 1, 1967; prior code § 11-1.101(k)).

12.28.130. Cross-connection defined.

“Cross-connection” means any unprotected connection between any part of the city waterworks system used or intended to supply water for drinking purposes and any source or system containing water or substance that is not or cannot be approved as safe, wholesome, and potable for human consumption. (Ord. 1402 § 1, 1967; prior code § 11-1.101(l)).

12.28.140. Director defined.

“Director” means the director of public works of the city of Sunnyvale, or his authorized representatives. (Ord. 1402 § 1, 1967; prior code § 11-1.101(m)).

12.28.150. Person defined.

“Person” means any natural person, firm, association, organization, partnership, trust or association of persons, joint venture, corporation, or company, and includes the United States, the state of California, the county of Santa Clara, any special purpose district, and any officer or agent thereof. (Ord. 1402 § 1, 1967; prior code § 11-1.101(n)).

12.28.160. Premises defined.

“Premises” means integrated land area including improvements thereon undivided by public thoroughfares or water distribution mains of the city of Sunnyvale and where all parts of the premises are operated under the same management and for the same purpose. (Ord. 1402 § 1, 1967; prior code § 11-1.101(o)).

12.28.170. Protective device defined.

“Protective device” means any of the following devices:

- (a) Air gap separation;
- (b) Approved reduced pressure principle backflow prevention device; or
- (c) Approved double check valve assembly. (Ord. 1402 § 1, 1967; prior code § 11-1.101(p)).

12.28.180. Service connection defined.

“Service connection” means the terminal end of a service connection from the city water supply at its point of delivery to the consumer. If a meter is installed “service connection” means the downstream end of the meter. No unprotected takeoffs from the service line ahead of any meter or backflow protective device located at the point of delivery to the consumer shall be permitted. (Ord. 1402 § 1, 1967; prior code § 11-1.101(q)).

12.28.190. Where protection required—Auxiliary water supply.

(a) Each service connection from the city water supply for furnishing water to premises having an auxiliary water supply shall be protected against backflow of water from the premises into

the city water supply, unless the auxiliary water supply is an approved water supply or is accepted as an additional source by the director and is approved by the State Department of Public Health.

(b) If the auxiliary water supply is not an approved water supply, or if it is not accepted as an additional source and approved in the manner specified above, and the auxiliary water supply is handled in a separate piping system with no known cross-connection, the city water supply shall be protected by an approved double check valve assembly installed at the service connection to the premises. When the auxiliary water supply may be contaminated, the director may order the city water supply protected by an air gap separation or an approved reduced pressure principle backflow prevention device installed at the service connection.

(c) If the auxiliary water supply is not an approved water supply, or if it is not accepted as an additional source and approved in the manner specified above, and cross-connections are known to exist between the city water supply and the auxiliary water supply which cannot presently be eliminated, the city water supply shall be protected by an approved reduced pressure principle backflow prevention device installed at the service connection to the premises. A double check valve assembly may be used in lieu of such device if the experience of the director indicates that double check valves are reliably operated, and if approved by the director and the city health officer.

When the auxiliary water supply may be contaminated, the director may order the city water supply protected by an air gap separation installed at the service connection. (Ord. 1402 § 1, 1967; prior code § 11-1.102(a)).

12.28.200. Where protection required—Toxic or hazardous substances under pressure.

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 under pressure, the city water supply shall be protected by an air gap separation. The air gap shall be located as close as practicable to the service cock and all piping between the service cock and receiving tank shall be entirely visible. If these conditions cannot reasonably be met, the city water supply shall be protected with an approved reduced pressure principle backflow prevention device which is acceptable to both the director and the city health officer. (Ord. 1402 § 1, 1967; prior code § 11-1.102(b)).

12.28.210. Where protection required—Toxic or hazardous substances not under pressure.

At the service connection to any premises on which any material dangerous to health or toxic substance in toxic concentration is not handled under pressure but is otherwise handled in such a manner as to constitute a cross-connection, the city water supply shall be protected by an approved reduced pressure principle backflow prevention device, unless such cross-connection is abated to the satisfaction of the director and approved by the city health officer. An approved double check valve assembly may be used in lieu of such device if experience indicates that double check valves are reliably operated and if approved by the director and the city health officer. (Ord. 1402 § 1, 1967; prior code § 11-1.102(c)).

12.28.220. Where protection required—Nonhazardous substances.

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 city water supply is handled in such a

manner as to constitute a cross-connection, the city water supply shall be protected by an approved double check valve assembly unless such cross-connection is abated to the satisfaction of the director and approved by the city health officer. (Ord. 1402 § 1, 1967; prior code § 11-1.102(d)).

12.28.230. Where protection required—Sewage treatment plants and pumping stations.

At the service connection to any sewage treatment plant or sewage pumping station, the city water supply shall be protected by an air gap separation. The air gap shall be located as close as practicable to the service cock and all piping between the service cock and receiving tank shall be entirely visible. If these conditions cannot be reasonably met, the city water supply shall be protected with an approved reduced pressure principle backflow prevention device, providing this alternative is acceptable to both the director and the city health officer. A final decision in this matter shall be made by the State Department of Public Health. (Ord. 1402 § 1, 1967; prior code § 11-1.102(e)).

12.28.240. Where protection required—Substances flowing from premises to city water supply.

Each service connection from the city water supply for furnishing water to premises on which any substance is or may be handled in such a manner as to permit entry into the city water supply shall be protected against backflow of the substance from the premises into the city water supply. This shall include the handling of process waters and waters originating from the city water supply which have been subject to change in quality. (Ord. 1402 § 1, 1967; prior code § 11-1.102(f)).

12.28.250. Where protection required—Premises having internal cross-connections.

Backflow protective devices shall be installed on the service connection to any premises that have internal cross-connections unless such cross-connections are abated to the satisfaction of the director and approved by the city health officer. (Ord. 1402 § 1, 1967; prior code § 11-1.102(g)).

12.28.260. Where protection required—Consumer responsibility.

It shall be the responsibility of each consumer at his own expense to furnish, install, and keep in good working order and safe condition any and all protective devices required in this chapter. The city shall not be responsible for any loss or damage directly or indirectly resulting from or caused by the improper or negligent installation, operation, use, repair or maintenance of, or interfering with, any protective device by any consumer or any other person. (Ord. 1402 § 1, 1967; prior code § 11-1.102(h)).

12.28.270. Where protection required—Conflicts.

Whenever two or more conditions exist on any premises for the correction of which different protective devices are required in this chapter, the consumer shall be required only to install the protective device which, in the opinion of the director and city health officer, affords the maximum protection to the city water supply. (Ord. 1402 § 1, 1967; prior code § 11-1.102(i)).

12.28.280. Inspections—Required—Repair or replacement—Records—Cost.

The consumer on whose premises any protective device is installed shall have each such device inspected annually. If successive inspections disclose repeated failures in the operation of any device, the director may require more frequent inspections. Each device shall be repaired, overhauled or replaced at the expense of the consumer whenever it is found to be defective. Records of such tests, repairs, and overhauls shall be kept and made available to the director and the city health officer. The director shall have the duty of determining that the inspections required herein are performed properly. If following demand therefor the consumer fails to have any of the inspections made as required herein or to make the above-described records available, the director shall have the right to inspect the device and the consumer shall pay the cost thereof. The cost of any inspection made by the director shall be included as a part of the next ensuing municipal water bill presented to the consumer. (Ord. 1402 § 1, 1967; prior code § 11-1.103).

12.28.290. Noncompliance—Protection required for service connection.

No water service connection shall be installed on the premises of any consumer unless the city water supply is protected as required by this chapter. (Ord. 1402 § 1, 1967; prior code § 11-1.104(a)).

12.28.300. Noncompliance—Discontinuance of service.

Delivery of water to the premises of any consumer may be discontinued by the director if any protective device required by this chapter has not been installed, inspected, tested and maintained, or is defective, or has been removed or bypassed. (Ord. 1402 § 1, 1967; prior code § 11-1.104(b)).

12.28.310. Noncompliance—Discontinuance without notice when.

Delivery of water shall be discontinued immediately and without notice to the consumer if the director or city health officer determines that:

- (a) The city water supply is being contaminated or is in immediate danger of contamination;
- (b) A protective device required by this chapter has not been installed, or is defective, or has been removed or bypassed; and
- (c) The consumer cannot immediately be located. Delivery of water shall not be resumed until any protective device required by this chapter and approved by the director has been properly installed, or until conditions at the consumer's premises causing the contamination or danger of contamination have been abated or corrected to the satisfaction of the director and the city health officer. (Ord. 1402 § 1, 1967; prior code § 11-1.104(c)).

12.28.320. Noncompliance—Discontinuance—Notice.

- (a) Except as provided in Section 12.28.310, delivery of water shall not be discontinued until written notice thereof has been given to the consumer.
- (b) The notice shall state:
 - (1) The conditions or defects which must be corrected;
 - (2) The manner in which the stated conditions or defects are to be corrected; and
 - (3) The date on or after which delivery of water will be discontinued, and which shall not be less than fifteen nor more than ninety days following the date of delivery or mailing of the notice.

(c) The director may grant the consumer an extension of an additional period not to exceed ninety days if he determines the consumer has exercised due diligence but has been unable to comply with the notice within the time originally allowed.

(d) The notice shall be given by delivering the same to the consumer, the manager or agent thereof, or to any person in charge of, or employed in the place of business of the consumer; or, the consumer has no place of business, then at the place of residence of the consumer if known, or by leaving the notice at either the place of business or the residence of the consumer. If the consumer cannot be found and service of the notice cannot be made in the manner provided herein, then a copy of the notice shall be mailed, postage fully prepaid, addressed to the consumer at the place of business or residence set forth in the application of consumer for water service in the records of the city.

(e) Once discontinued, delivery of water shall not be resumed until any protective device required by this chapter and approved by the director has been properly installed, or until the conditions at the consumer's premises creating the need for a protective device have been abated or corrected to the satisfaction of the director and the city health officer. (Ord. 1402 § 1, 1967; prior code § 11-1.104(d)).

12.28.330. Noncompliance—Right of entry for inspections.

For the purpose of making any inspections or discharging the duties imposed by this chapter, the director and city health officer shall have the right to enter upon the premises of any consumer. Each consumer as a condition of the continued delivery to his premises of water from the city water supply shall be considered as having stated his consent to the entry upon his premises of the director and city health officer for the purposes stated herein. (Ord. 1402 § 1, 1967; prior code § 11-1.104(e)).

The following is a list of plants or facilities where backflow protection is required, but not limited to:

1. Aircraft and Missile Plants
2. Automotive Plants
3. Auxiliary Water Systems
4. Beverage Bottling Plants
5. Breweries
6. Buildings – Hotels, Apartment Houses, Public and Private Buildings, or any other structures having unprotected actual or potential cross-connections.
7. Canneries, Packing Houses and Reduction Plants
8. Chemical Plants – Manufacturing, Processing, Compounding or Treatment
9. Chemically Contaminated Water Systems
10. Civil Works
11. Dairies and Cold Storage Plants
12. Film Laboratories
13. Fire Systems with Pumps
14. Hospitals, Medical Buildings, Sanitariums, Morgues, Mortuaries, Autopsy Facilities, Nursing and Convalescent Homes and Clinics.
15. Irrigation Systems-Premises having separate systems such as Parks, Playgrounds, Cemeteries, Golf Courses, Schools, Estates, Ranches, etc.
16. Laundries, Dye Works and Cleaners
17. Metal Manufacturing, Cleaning, Processing & Fabrication Plants
18. Motion Picture studios
19. Oil and Gas Production-Storage or transmission properties
20. Paper and Paper Products Plants
21. Plating Plants
22. Power Plants
23. Radioactive Materials or Substance – Plants or Facilities Handling
24. Restricted, Classified or Other Closed Facilities
25. Rubber Plants – Natural or Synthetic
26. Sand and Gravel Plants
27. School and Colleges
28. Sewage and Storm Drain Facilities
29. Water Front Facilities and Industries
30. Food Establishments
31. Animal Grooming Shops
32. Barber, Beauty and Hair Styling Shops
33. Meat & Produce Markets
34. Nurseries (Plants)
35. Cocktail Lounges
36. Automotive Repair Shops
37. Facilities Using Recycled or Treated Water

Copies of the applicable portions of the State of California Administrative Code and of Section 12.28 of the Sunnyvale Municipal Code are reprinted herein for reference purposes.



STANDARD OPERATING PROCEDURES FOR
THE CROSS-CONNECTION CONTROL
PROGRAM

Standard Operating Procedures for the Cross-Connection Control Program

Instructions for Certified Backflow Prevention Assembly Testers

Purpose

The purpose of these instructions is to set forth the responsibilities of and requirements for backflow prevention assembly testers in the City of Sunnyvale. The instructions describe the requirements for operating in Sunnyvale, what forms to use, and how to communicate with the various City departments involved in the Cross-Connection Control Program. Information provided by testers and installers is used to maintain the Cross-Connection Control Program database and assists the City in creating new accounts and updating existing accounts. It is important that testers ensure the accuracy of reports and information submitted to the program.

These instructions are organized into the following sections:

- 1 Backflow Prevention Tester and Installer Application
- 2 Certified Tester and Installer Responsibilities
- 3 Obtaining Backflow Tags and Tag Requirements
- 4 Obtaining Backflow Assembly Test Report Forms
- 5 Backflow Field Inspection Permits
- 6 New Installations
- 7 Removal, Replacement or Relocation of Backflow Prevention Assemblies
- 8 Recording or Correcting Information on Pre-Printed Forms
- 9 Submitting Test Reports
- 10 Reporting Problems Observed in the Field
- 11 Other Information

1. Backflow Prevention Tester and Installer Application

- Testers and installers who operate within the City of Sunnyvale must obtain an annual Backflow Testing Permit in order to perform any testing or installation of backflows within the City of Sunnyvale.
- The application packet can be obtained from the Sunnyvale Environmental Services Department:

City of Sunnyvale

Department of Finance/Utility Billing Division

ATTN: Cross-Connection Control Program

650 W. Olive Avenue

Sunnyvale, CA 94086-7637

(408) 730-7387 Office

backflow@sunnyvale.ca.gov

- All applicants must hold a valid Backflow Prevention Assembly General Tester certificate from the American Water Works Association. It is the tester's responsibility to keep the permit current.
- All applicants are required to hold a current State of California Contractor's License, in either the C36, A, or B class.
- Each holder of a permit must maintain general liability insurance in full force and effect, at his or her expense, for all activities performed under the permit. Such insurance must include coverage for bodily injury, personal injury, including death resulting therefrom, and property damage insurance, with limits not less than \$1 million each occurrence combined single limit. The City of Sunnyvale, its officers, and employees must be named as additional insured under the policy, and a cross-liability clause must be attached. The insurance must provide 10-day prior written notice of cancellation, non-renewal, or material change to the Sunnyvale Environmental Services Department. The department will not issue a permit before receiving a certificate of insurance meeting these requirements.
- Each permit is valid for one year from the date of issuance. The permit may be renewed if the holder maintains a current Backflow Prevention Assembly General Tester certificate and maintains insurance as described above.
- The Director may suspend or revoke a permit at any time for cause.

2. Certified Tester and Installer Responsibilities

- All applicants must hold a valid Backflow Prevention Assembly General Tester certificate from the American Water Works Association.
- Equipment for testing backflow prevention assemblies must be calibrated at least once a year and proof must be submitted annually to the Water Division at:

City of Sunnyvale

Department of Finance/Utility Billing Division

ATTN: Cross-Connection Control Program

650 W. Olive Avenue

Sunnyvale, CA 94086-7637

(408) 730-7387 Office

backflow@sunnyvale.ca.gov

- If a tester/installer finds an assembly that has been modified or incorrectly installed, the tester/installer must immediately report the situation to the Cross-Connection Control Program and **not test the assembly**. To report the situation, describe it in the "Comments" section of the Backflow Assembly Test Report Form and submit the form. (See Section 9 for how to submit test report forms). All assemblies installed in Sunnyvale must be on the "Approved Backflow Prevention Assemblies" list developed by the University of

Southern California (USC) Foundation for Cross-Connection Control and Hydraulic Research. Any modification of an assembly—such as relocation of valves, bypass arrangements, and jumper connections, whether temporary or permanent—invalidates the foundation's approval and is not permitted. Likewise, an assembly that has been installed in an orientation for which it was not designed or approved is also not permitted.

- For existing backflow devices, it is the tester/installer responsibility to ensure that the device meets these minimum Title 17 standards:

Double Check Valve Assembly. A double check valve assembly shall be located as close as practical to the user's connection and shall be installed above grade, if possible, and in a manner where it is readily accessible for testing and maintenance.

Reduced Pressure Principle Backflow Prevention Device. A reduced pressure principle backflow prevention device shall be located as close as practical to the user's connection and shall be installed a minimum of twelve inches (12”) above grade and not more than thirty-six inches (36”) above grade measured from the bottom of the device and with a minimum of twelve inches (12”) side clearance.

- Any device that fails to meet these minimum standards shall not be tested, it shall be auto-failed, and the condition reported to the Cross-Connection Control Program immediately.
- Tester/installer must submit test results by mail or electronically on forms obtained from the Cross-Connection Control Program. (See Section 4 for how to obtain forms).
- Tester/installer must maintain a continuous record of the dates and locations of each inspection performed, any tests made, and results for three years. The records must be made available at the request of the Sunnyvale Environmental Services Department.
- Failure to adhere to any of these requirements may result in the revocation of a backflow tester's Backflow Testing Permit for a period of one year.

3. Obtaining Backflow Tags and Tag Requirements

- Tester/installers must obtain backflow tags from the City of Sunnyvale, located at:

City of Sunnyvale
Department of Finance/Utility Billing Division
ATTN: Cross-Connection Control Program
650 W. Olive Avenue
Sunnyvale, CA 94086-7637
(408) 730-7387 Office
(408) 737-4950 FAX
backflow@sunnyvale.ca.gov

- Tags must be obtained in person.
- Representatives obtaining tags will need the following information:
 - Letter on company letterhead that provides the certified tester/installer information with his or her signature on the letter.
 - Copy of Backflow Testing Permit.
- Backflow tag requirements:
 - Backflow tags shall be installed in a manner that allows for ease of accessibility.
 - Backflow tags shall be installed after the testing of the device is completed.
 - Backflow tags shall be completely filled out, the writing shall be legible, and the ink shall be weather resistant.
- Failure to adhere to these requirements will void the test.

4. Obtaining Backflow Assembly Test Report Forms

- A City of Sunnyvale Backflow Assembly Test Report must be used to report test results for existing backflow prevention assemblies, (for new installations, see Section 6). This form must also be used if you remove or replace a backflow prevention assembly, rebuild or repair it, or do anything at a location where a backflow prevention assembly once existed.
- Backflow Assembly Test Report forms are sent to customers along with the 30-day notices indicating that testing is due.
- The notices also include the customer's utility account number, which is associated with the assemblies at a given service address.
- Testers can either download test report forms from *backflow.insunnyvale.com* or obtain them from the customer, for example, when meeting him or her at the location where the backflow assembly is to be tested.
- If the customer cannot locate the utility account number(s), then the customer may obtain the number(s) or preprinted test forms by calling (408) 730-7387. To access his or her account, the customer must have the service address. Only the customer, not the tester, may obtain utility account numbers from the Cross-Connection Control Program.
- If the 30-day notice is sent to an "accounts receivable" department outside of Sunnyvale, or a tester has a contract with an out-of-city customer to perform annual testing, the tester may call the Cross-Connection Control Program in the month that a site is due for testing to obtain either a set of pre-printed test forms (by mail or email). This exception is made so that testers can proceed with testing for out-of-city customers in a timely manner.
- If a customer needs to obtain preprinted test forms at a time not associated with annual testing, for example, because a leaking assembly needs repair, the tester may call the Cross-Connection Control Program at (408) 730-7387. To access his or her account, the customer must have the utility account number or service address, for multiple taps.

5. Backflow Field Inspection Permits

- A Backflow Field Inspection Permit must be obtained in person in order to proceed with the installation, removal, replacement, or relocation of a backflow prevention assembly.
- Permits can be obtained at:

City of Sunnyvale

Department of Finance/Utility Billing Division

ATTN: Cross-Connection Control Program

650 W. Olive Avenue

Sunnyvale, CA 94086-7637

(408) 730-7387 Office

backflow@sunnyvale.ca.gov

- The failure to obtain a Backflow Field Inspection Permit may result in an administrative citation.

6. New Installations

- New installations must be reported on "New Assembly Installation Report" forms, which can be obtained from either the Cross-Connection Control Program website at backflow.insunnyvale.com, or from the Department of Finance/Utility Billing Division.
- Note that this form should only be used in two cases:
 - If a backflow prevention assembly has never existed at the service address.
 - If a backflow prevention assembly exists at a site but has not been entered into the Cross-Connection Control Program's database, for example, it does not have a Sunnyvale tag. (If an assembly does not have a tag, inform the customer and the Cross-Connection Control Program immediately.)
- Enter the utility account number, if known, on the New Assembly Installation Report. This information is important for associating the correct customer with a particular backflow prevention assembly.
- Under "Backflow Assembly Location," try to be as specific as possible. Example 1: Building B, 2nd Floor, north wall utility closet labeled J2. Example 2: Basement, 25 feet east of the northeast corner, below stairwell.

7. Removal, Replacement or Relocation of Backflow Prevention Assemblies

- To remove, replace or relocate a backflow prevention assembly, you must first obtain a Backflow Field Inspection Permit from the Department of Finance/Utility Billing Division.
- Permits can be obtained at:

City of Sunnyvale
Department of Finance/Utility Billing Division
ATTN: Cross-Connection Control Program
650 W. Olive Avenue
Sunnyvale, CA 94086-7637
(408) 730-7387 Office
backflow@sunnyvale.ca.gov

- To schedule a backflow field inspection, call (669) 600-7322 between the hours of 7:00 a.m. to 4:00 p.m.
- Report the removal or replacement of a backflow prevention assembly on a Backflow Prevention Assembly Test Report. If the assembly being removed or replaced was tested, be sure to record the results of the test in the "Initial Test" area of the form. If a new assembly is installed, record its information in the areas provided. Then record the test results for the new assembly in the "Final Test" area of the form. It is important that the information for both the old and new assemblies be reported on the same form. That way, the customer will have the correct serial number and associated backflow prevention assembly inactivated; the serial number and associated information for the new assembly will be entered into the Cross-Connection Control Program's database; and the old and new assemblies will be tied together in the database history.

8. Recording or Correcting Information on Backflow Assembly Test Report Forms

- On pre-printed test forms, cross out the incorrect information.
- If you wish to add a contact to the account, such as a chief engineer or person to call, add it to the "On-Site Contact Name" field on the left side of the upper section of the test report or to the "Comments" field below the second section of the test report. All comments are forwarded to the Department of Finance/Utility Billing Division. The information will be entered into the Cross-Connection Control Program's database.
- If you believe that information on a pre-printed test form is incorrect, such as the location or make of a backflow prevention assembly, contact the Cross-Connection Control Program to report the error, or enter the correct information into the "Comments" field below the second section of the test report. All comments are forwarded to the Department of Finance/Utility Billing Division for review. Staff will review the program's database and verify the information.
- If customer information (name or mailing address) needs to be updated, the customer must contact Utility Billing at (408) 730-7387 to have the changes made. Information will then be updated in the Cross-Connection Control Program's database.
- If a customer wishes to change the testing date to another month or synchronize multiple accounts, he or she can arrange this by contacting the Cross-Connection Control Program at (408) 730-7387.

9. Submitting Test Reports

- Test report forms must be the approved City of Sunnyvale Test forms or they will not be accepted.
- Test results must be submitted within five calendar days of the test date. Test results may be submitted electronically, by mail, or in hard-copy format. Testers/installers are responsible for submitting their own test reports.
- If results are in hard-copy format, submit only original, signed test reports by mail or high-resolution scan of the signed test reports by email. Faxed copies, mailed-in faxed copies, and reports that have been faxed at any time (whether before or after information has been entered into the form) are not acceptable.
- Hard-copy reports that have been electronically altered in any way are not acceptable.
- Test reports can be submitted by mail or email:

City of Sunnyvale

Department of Finance/Utility Billing Division

ATTN: Cross-Connection Program

650 W. Olive Avenue

Sunnyvale, CA 94086-7637

(408) 730-7387 Office

backflow@sunnyvale.ca.gov

10. Reporting Problems Observed in the Field

- If a backflow prevention assembly fails a test, the results of the test are to be recorded in the "Initial Test" results area of the test form. The tester should then contact the customer and request authorization to repair the assembly or recommend that it be replaced. If the repair or replacement is not, or is not expected to be, completed within five days of the initial test date, then the tester must submit the test report showing the failed initial test to the Department of Finance/Utility Billing Division. The test results must be received within five days of the initial test date.
- If a tester finds a cross-connection hazard that is unprotected, that is, with no backflow prevention assembly or the wrong type of assembly, the tester must inform the customer of the hazard and potential health risk associated with it. The tester must also report the situation to the Cross-Connection Control Program immediately at (669) 600-7322 (by telephone if the hazard has no protection at all). An assembly that is the wrong type for the hazard shall not be tested and also reported.
- If a tester finds a backflow assembly that has been modified or incorrectly installed (e.g., illegal by-pass, relocated shut-off valve, or wrong orientation), the assembly must be reported to the Cross-Connection Control Program immediately and shall not be tested.
- If a tester finds an existing backflow prevention assembly that is not tagged or is out of compliance with its test date, the tester must inform the customer of the need to test the

assembly and must report the assembly to the Cross-Connection Control Program immediately.

- Contact Information:

City of Sunnyvale

Environmental Services Department/Water Division

ATTN: Cross-Connection Control Program

221 Commercial Street

Sunnyvale, CA 94080-3707

(669) 600-7322 Office

backflow@sunnyvale.ca.gov

11. Other Information

- Contacting Cross-Connection Control Program staff from the field can save you time and resources; often, questions can be answered or issues rectified on the spot. In addition, vital information that you might not otherwise know to record might be needed from the site.
- If test results for a given month are not received early enough to be entered into the Cross-Connection Control Program's database by the 6th of the following month, the database automatically generates a "Notice of Violation," and the customer might receive this notice after having paid for testing. If this happens, testers should explain the situation to the customer. Testers and customers can call Cross-Connection Control Program staff at (408) 730-7387 to check on the compliance status of their accounts.

Backflow Prevention Tester and Installer Application

The following is a criteria list to be met in order to apply for inclusion in our annual backflow testing program. Please review the below listed criteria prior to filling out and submitting the application for review.

1. All applicants must be certified and be current as American Water Works Association Backflow Prevention Assembly General Testers for a period of two years prior to applying.
2. All applicants and/or Company must have a current State of California Contractor's License C-36, A, or B.
3. All applicants and/or Company must have a current City of Sunnyvale Business License.
4. Applicant and/or Company must not have been removed from another Agency's list, reprimanded by or subject of an investigation by an agency, or water utility related to backflow prevention device testing, installation, and repair or reporting.
5. Applicant and/or Company must not have engaged in dishonest or illegal business practices or installed, repaired or tested devices in a negligent manner within the City of Sunnyvale.
6. Applicant and/or Company must have tested a combined total of 100 backflow devices within the last two years, or is employed by a company with a staff member who has such experience (e.g., journeyman).
7. Applicant and/or Company must not have performed backflow prevention installation, removal, replacement, or relocation within City limits without first obtaining a Backflow Inspection Permit.
8. Applicant and/or Company must not have performed backflow prevention testing within City's service area without City approval.
9. Applicant and/or Company must not have any unresolved customer complaints reported to the City, the Better Business Bureau, or the State Contractor's License Board.
10. The Director may suspend or revoke approval of an individual tester and or company from the list of approved testers if the individual or company fails or refuses to comply with the City's Cross-Connection Control Program Policies and Regulations or engages in dishonest business practices in the City of Sunnyvale, fails to maintain a valid "Backflow Prevention Assembly Tester Certificate" from the American Water Works Association or installs, repairs or tests the devices in a negligent manner. Failure to abide by any of these requirements may be grounds for exclusion from the approved testers list for period of (2) two-years.

APPLICATION FOR CERTIFICATION AS A BACKFLOW PREVENTION TESTER AND INSTALLER

- 1. Name of Applicant/Business: _____
- 2. Address of Applicant/Business: _____
- 3. Phone Number of Applicant/Business: _____
- 4. Email Address: _____

5. Please fill out the following information for all persons who will perform tests and/or repairs.

(Attach a separate sheet if necessary)

Name: _____

Residence Address: _____

Relationship to Applicant: _____

Years as a Tester: _____

Length of Employment: _____

Certificate Number: _____

Approximately how many backflow prevention assemblies were tested by applicant in the last 2 years? _____

6. Does each person work full-time (at least 30 hours per week) for applicant?

Yes

No

7. If not, please indicate the average number of hours per week he/she worked for applicant during the past year. _____

8. Please attach a copy of your backflow tester certificate and current wallet card for each person listed.

9. Please list name, address, and phone number of five (5) customers for whom applicant performed testing last year.

1.) Name: _____

Address: _____

Phone: _____

2.) Name: _____
Address: _____
Phone: _____

3.) Name: _____
Address: _____
Phone: _____

4.) Name: _____
Address: _____
Phone: _____

5.) Name: _____
Address: _____
Phone: _____

10. Has the applicant, any predecessor of applicant, or any shareholder, director, officer, partner or employee of applicant (or any other company owned or controlled by any of the foregoing) been removed from a list of certified/approved testers, reprimanded by or the subject of an investigation by any governmental agency, or water utility related to backflow prevention assembly testing?

- Yes
- No

If "yes", please give full details on separate sheet.

11. If the applicant is a business:

- Is it in good standing and authorized to do business in California?

- Yes
- No

- Please give names and addresses of owners, partners, directors and officers on a separate sheet.

12. Attach either a State of California C-36, A, or B License (at least one is required)

13. Attach City of Sunnyvale Business License.

14. Fee Schedule:

Annual Backflow Testing Permit\$182.00

Backflow Tags\$11.00

Backflow Inspection Permits\$272.00

Cross-Connection Control & Backflow Code Violations:

First Violation\$100.00

Second Violation within 12 months of the most recent citation date.....\$200.00

Third Violation within 12 months of the most recent citation date\$500.00

I (1) agree to comply with all Cross-Connection Control Program Policies and Regulations and to instruct all individuals employed or otherwise engaged by applicant to perform tests to comply with them; (2) agree that failure to comply with such policies and regulations may result in the City of Sunnyvale removing the applicant and/or company from the list of approved testers and testing companies; and (3) authorize the City of Sunnyvale to contact any government agency, water utility or customer with regard to this application.

Signature of Authorized Representative of Applicant

Please Print Name

Position/Title

Date Signed: _____

Return application by mail or electronically to:

City of Sunnyvale
Department of Finance/Utility Billing Division
ATTN: Cross-Connection Program
650 W. Olive Avenue
Sunnyvale, CA 94086-7637
(408) 730-7387 Office
backflow@sunnyvale.ca.gov

Standard Operating Procedures for the Cross-Connection Control Program

Instructions for City of Sunnyvale Certified Backflow Prevention Assembly Testers

Purpose

The purpose of these instructions is to set forth the responsibilities of and requirements for backflow prevention assembly testers in the City of Sunnyvale. The instructions describe the requirements for backflow testers employed by the City of Sunnyvale, what forms to use, and how to communicate with the various City departments involved in the Cross-Connection Control Program. Information provided by testers is used to maintain the Cross-Connection Control Program database and assists the City in creating new accounts and updating existing accounts. It is important that testers ensure the accuracy of reports and information submitted to the program.

These instructions are organized into the following sections:

- 1 Certified Tester Responsibilities
- 2 Obtaining Backflow Tags
- 3 Obtaining Backflow Assembly Test Report Forms
- 4 New Installations
- 5 Removal, Replacement and Relocation of Backflow Prevention Assemblies
- 6 Recording or Correcting Information on Pre-Printed Forms
- 7 Submitting Test Reports
- 8 Reporting Problems Observed in the Field
- 9 Other Information

1. Certified Tester Responsibilities

- All City of Sunnyvale testers must hold a valid Backflow Prevention Assembly General Tester certificate from the American Water Works Association.
- Equipment for testing backflow prevention assemblies must be calibrated at least once a year and submit proof annually to the Cross-Connection Control Program Manager.
- If a tester finds an assembly that has been modified or incorrectly installed, he or she must immediately report the situation to the Cross-Connection Control Program and not test the assembly. To report the situation, describe it in the "Comments" section of the Backflow Assembly Test Report Form and submit the form. (See Section 7 for how to submit test report forms). All assemblies installed in Sunnyvale must be on the "Approved Backflow Prevention Assemblies" list developed by the University of Southern California (USC)

Foundation for Cross-Connection Control and Hydraulic Research. Any modification of an assembly—such as relocation of valves, bypass arrangements, and jumper connections, whether temporary or permanent—invalidates the foundation's approval and is not permitted. Likewise, an assembly that has been installed in an orientation for which it was not designed or approved is also not permitted.

- Testers must submit test results by mail or electronically on forms obtained from the Cross-Connection Control Program. (See Section 3 for how to obtain forms).
- Testers must maintain a continuous record of the dates and locations of each inspection performed, any tests made, and results for three years. The records must be made available at the request of the Cross-Connection Control Program Manager.

2. Obtaining Backflow Tags

- Testers must obtain backflow tags from the City of Sunnyvale, located at:

City of Sunnyvale

Department of Finance/Utility Billing Division

ATTN: Cross-Connection Control Program

650 W. Olive Avenue

Sunnyvale, CA 94086-7637

(408) 730-7387 Office

(408) 737-4950 FAX

backflow@sunnyvale.ca.gov

3. Obtaining Backflow Assembly Test Report Forms

- A Backflow Assembly Test Report must be used to report test results for existing backflow prevention assemblies, (for new installations, see Section 4). This form must also be used if you remove or replace a backflow prevention assembly, rebuild or repair it, or do anything at a location where a backflow prevention assembly once existed.
- Backflow Assembly Test Report forms are sent along with the 30-day notices indicating that testing is due. The notices also include the utility account number, which is associated with the assemblies at a given service address.
- Testers can either download test report forms from *backflow.insunnyvale.com* or obtain them from the Department of Finance/Utility Billing Division.

4. New Installations

- New installations must be reported on "New Assembly Installation Report" forms, which can be obtained from either the Cross-Connection Control Program website at *backflow.insunnyvale.com*, or from the *City Cross-Connection Control Specialist*.
- Note that this form should only be used in two cases:
 - If a backflow prevention assembly has never existed at the service address.
 - If a backflow prevention assembly exists at a site but has not been entered into the Cross-Connection Control Program's database, for example, it does not have a Sunnyvale tag. (If an assembly does not have a tag, inform the customer and the Cross-Connection Control Program immediately.)
- Enter the utility account number, if known, on the New Assembly Installation Report. This information is important for associating the correct customer with a particular backflow prevention assembly.
- Under "Backflow Assembly Location," try to be as specific as possible. Example 1: Building B, 2nd Floor, north wall utility closet labeled J2. Example 2: Basement, 25 feet east of the northeast corner, below stairwell.

5. Removal, Replacement or Relocation of Backflow Prevention Assemblies

- Report the removal or replacement of a backflow prevention assembly on a Backflow Prevention Assembly Test Report. If the assembly being removed or replaced was tested, be sure to record the results of the test in the "Initial Test" area of the form. If a new assembly is installed, record its information in the areas provided. Then record the test results for the new assembly in the "Final Test" area of the form. It is important that the information for both the old and new assemblies be reported on the same form. The serial number and associated information for the new assembly will be entered into the Cross-Connection Control Program's database; and the old and new assemblies will be tied together in the database history.

6. Recording or Correcting Information on Backflow Assembly Test Report Forms

- On pre-printed test forms, cross out the incorrect information.
- If you wish to add a contact to the account, such as a chief engineer or person to call, add it to the "On-Site Contact Name" field on the left side of the upper section of the test report or to the "Comments" field below the second section of the test report. All comments are forwarded to the Department of Finance/Utility Billing Division. The information will be entered into the Cross-Connection Control Program's database.
- If you believe that information on a pre-printed test form is incorrect, such as

the location or make of a backflow prevention assembly, contact the Cross-Connection Control Program to report the error, or enter the correct information into the "Comments" field below the second section of the test report. All comments are forwarded to the Department of Finance/Utility Billing Division for review. Staff will review the program's database and verify the information.

- If information (name or mailing address) needs to be updated, contact Utility Billing at (408) 730-7387 to have the changes made. Information will then be updated in the Cross-Connection Control Program's database.
- If the testing date needs to be changed to another month or synchronize multiple accounts, you can arrange this by contacting the Cross-Connection Control Program at (408) 730-7387.

7. Submitting Test Reports

- Test results must be submitted within five calendar days of the test date. Test results may be submitted electronically, by mail, or in hard-copy format. Testers are responsible for submitting their own test reports.
- If results are in hard-copy format, submit only original, signed test reports by mail or high-resolution scan of the signed test reports by email. Faxed copies, mailed-in faxed copies, and reports that have been faxed at any time (whether before or after information has been entered into the form) are not acceptable.
- Hard-copy reports that have been electronically altered in any way are not acceptable.
- Test reports can be submitted by mail or email:

City of Sunnyvale

Department of Finance/Utility Billing Division

ATTN: Cross-Connection Control Program

650 W. Olive Avenue

Sunnyvale, CA 94086-7637

(408) 730-7387 Office

backflow@sunnyvale.ca.gov

8. Reporting Problems Observed in the Field

- If a backflow prevention assembly fails a test, the results of the test are to be recorded in the "Initial Test" results area of the test form. The tester should then contact the customer and request authorization to repair the assembly or recommend that it be replaced. If the repair or replacement is not, or is not expected to be, completed within five days of the initial test date, then the tester must submit the test report showing the failed initial test to the

Department of Finance/Utility Billing Division. The test results must be received within five days of the initial test date.

- If a tester finds a cross-connection hazard that is unprotected, that is, with no backflow prevention assembly or the wrong type of assembly, the tester must inform the customer of the hazard and potential health risk associated with it. The tester must also report the situation to the Cross-Connection Control Program immediately at (669) 600-7322 (by telephone if the hazard has no protection at all). An assembly that is the wrong type for the hazard shall not be tested.
- If a tester finds a backflow assembly that has been modified or incorrectly installed (e.g., illegal by-pass, relocated shut-off valve, or wrong orientation), the assembly must be reported to the Cross-Connection Control Program immediately and shall not be tested.
- If a tester finds an existing backflow prevention assembly that is not tagged or is out of compliance with its test date, the tester must inform the customer of the need to test the assembly and must report the assembly to the Cross-Connection Control Program immediately.
- Contact Information:

City of Sunnyvale

Environmental Services Department/Water Division

ATTN: Cross-Connection Control Program

221 Commercial Street

Sunnyvale, CA 94080-3707

(669) 600-7322 Office

backflow@sunnyvale.ca.gov

9. Other Information

- Contacting Cross-Connection Control Program staff from the field can save you time and resources; often, questions can be answered or issues rectified on the spot. In addition, vital information that you might not otherwise know to record might be needed from the site.
- If test results for a given month are not received early enough to be entered into the Cross-Connection Control Program's database by the 6th of the following month, the database automatically generates a "Notice of Violation," and the customer might receive this notice after having paid for testing. If this happens, testers should explain the situation to the customer. Testers and customers can call Cross-Connection Control Program staff at (669) 600-7322 to check on the compliance status of their accounts.

Instructions for Testing and Maintenance of Air-Gaps

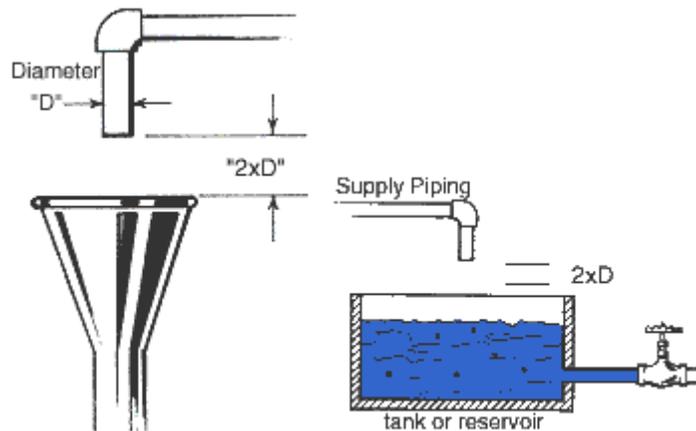
AIR-GAP SEPARATION

Air gaps are a non-mechanical means of backflow prevention. An acceptable air gap must be twice the supply pipe diameter, but never less than one inch, measured vertically above the receiving vessel. Air gaps must be rigidly mounted and the discharge end of the supply pipe must not be threaded or provided with a means for making connections. Use of an air gap means that there will be clear vertical separation between the pressurized supply pipe and a non-pressurized receiving vessel.

In addition to the above, the following should be considered when deciding upon whether or not to use an air gap in your particular installation:

1. In a continuous piping system, each air gap would require the added expense of reservoirs or tanks and perhaps the installation of a secondary pumping system.
2. The air gap may be easily defeated if the proper gap isn't maintained, thus negating backflow protection.
3. At an air gap, the water is exposed to the surrounding air with its inherent airborne pollutants or contaminants and thus may no longer be potable.
4. For these and other reasons, air gaps must be inspected frequently to assure that they are providing adequate backflow protection.

The general configuration of an approved air gap is illustrated below:



It will be necessary for you to report at the end-of-each year to this Department (at the address mentioned below) that this method of protection has remained operative and effective throughout the year without being by-passed.

Contact Information:

City of Sunnyvale

Environmental Services Department/Water Division

ATTN: Cross-Connection Control Program

221 Commercial Street

Sunnyvale, CA 94080-3707

(669) 600-7322 Office

backflow@sunnyvale.ca.gov

Recycled Water Backflow Prevention Devices

The provision of recycled water to a premises constitutes an auxiliary water supply not approved for potable use as described in Sunnyvale Municipal Code 12.28.190. All premises served by both potable water and recycled water shall have but not limited to air gaps or reduced pressure principle devices (RP) on the potable and recycled water system. Pressure regulating devices may be required as to further protect the potable water system, as the Water Division deems necessary.

In certain cases, the City may require RPs or other backflow prevention devices to be installed on the recycled water service. Such protection might be deemed necessary in cases where backflow from onsite uses has the potential to impact the quality or safety of the recycled water supply. The City will evaluate the need for such protection on a case-by-case basis.

Approved RPs on potable water services, as required in these provisions, shall be provided, installed, tested, and maintained by the customer at the customer's expense. Test reports shall be submitted to the Water Division as directed. RPs shall be located on the property served immediately downstream of the meter and shall not be on the City's facilities. All devices shall be readily accessible for testing and maintenance and no device shall be submerged at any time.

Requirements governing backflow prevention are intended to protect the City's potable and recycled water supplies, and are not intended to protect customers from potential hazards of cross-connections within their own property.

Test equipment must be dedicated for use with recycled water only, and must not be reused on potable water systems.

All backflow prevention devices are to meet the City Standard Detail Drawings, Cross-Connection Control Program Policies and Regulations, State Water Resources Control Board Regulations Related to Recycled Water, and the City of Sunnyvale Reclaimed Water Program Manual.

STANDARD DETAIL DRAWINGS

**CITY OF SUNNYVALE
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