

San Francisco Public Utilities Commission  
**Rules and Regulations**  
**Governing Water Service to Customers**



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**San Francisco**  
**Water Power Sewer**  
Services of the San Francisco Public Utilities Commission

## SECTION G – CROSS-CONNECTION CONTROL

(As amended per Resolution 19-0191 that was approved on October 8, 2019)

### Rule 1.

#### Applicability

- a) As a condition of receiving water service from the public water system, all property owners shall comply with Section G. This section is promulgated in conformance with the California Code of Regulations, Title 17, Division 1, Chapter 5, Subchapter 1, Group 4; California Health and Safety Code Division 104, Part 12, Chapter 5, Article 2, section 116800; and San Francisco Health Code, Article 12A.
- b) Property owners shall install an approved backflow preventer at the service connection wherever any of the following conditions exists:
  - i. Wastewater pumping and/or treatment plants.
  - ii. Hazardous substances handled in any way the substances could enter the potable water system.
  - iii. Auxiliary water supply.
  - iv. Dual-plumbed property.
  - v. Intricate plumbing and piping arrangements.
  - vi. Repeated history of cross-connections being established or re-established.
  - vii. Dockside watering points or marine facilities.
  - viii. Dedicated irrigation service.
  - ix. Fire protection systems.
  - x. Buildings whose highest point is equal to or greater than 40 feet in height above the point of connection.
  - xi. Inadequate backflow prevention for any on-site processes that the General Manager identifies as requiring additional protection from backflow.
  - xii. Entry to a property or parts of a property 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.
  - xiii. Multiple standard service connections, at least one of which requires backflow protection for containment.
  - xiv. Water storage facility not under control of the public water system.
  - xv. Any other on-site hazard that the General Manager identifies as requiring abatement for the protection of the public water system.

### Rule 2.

#### Definitions

The terms used in this section have the following meanings.

- a) **Annual License Fee:** License fee paid annually to the Tax Collector pursuant to as provided in the San Francisco Business and Tax Regulations Code, Section 249.24.
- b) **Applicant:** A person who seeks to obtain a permit to operate from the General Manager, or his or her designee, under San Francisco Health Code Article 12A.

- c) **Approved Air Gap separation (AG):** a physical break between the water supply line and a receiving vessel that has been approved for such use by the General Manager and is in proper working order. The air gap must be located outside of the receiving vessel, be above grade, and be visible for inspection. The air gap must meet all requirements set forth in the California Plumbing Code, Chapter 6, section 603.
- d) **Approved backflow prevention assembly:** an assembly used to prevent the backflow of substances into the public water system. The assembly must be approved for such use by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research, or comparable organization approved by the General Manager, and be in proper working order.
- e) **Authorized Backflow Prevention Assembly Tester:** any person who possesses a valid certification to test, repair and maintain backflow prevention assemblies and is authorized by the General Manager to do such work in the City in accordance with these rules and regulations.
- f) **Authorized Cross-Connection Control Specialist:** any person who possesses a current certification to administer a cross-connection control test and to conduct site surveys to assess cross-connection control requirements and is authorized by the General Manager to do such work in the City in accordance with these rules and regulations.
- g) **Authorized Representative:** a person designated by a company employing Authorized Backflow Prevention Assembly Testers or Authorized Cross-Connection Control Specialists to purchase backflow tags on behalf of the company.
- h) **Auxiliary water:** any water other than potable water received from the public water system. This category includes, but is not limited to, municipally supplied recycled water, wastewater, graywater, groundwater, rainwater, foundation drainage, black water, and alternate water sources as defined in San Francisco Health Code Article 12C and accompanying rules and regulations.
- i) **Backflow:** the flow, from any source or sources, of water that is of unknown or questionable safety for human consumption or of other liquids, gases, mixtures or other substances into the public water system.
- j) **Backflow preventer:** approved backflow prevention assembly or approved air gap separation.
- k) **Backflow tag:** tag provided by the General Manager to be affixed to a backflow preventer after it has passed testing by an Authorized Backflow Prevention Assembly Tester.
- l) **CCAMS:** San Francisco Public Utilities Commission's Cross-Connection Assembly Management System database.
- m) **City:** City and County of San Francisco.

- n) **Containment:** Protection from backflow at the service connection.
- o) **Cross-connection:** any unprotected actual or potential connection between any part of a potable water system used or potentially used to supply water for drinking purposes and any source or system containing water or any other substance that is not or cannot be approved as safe, wholesome and potable.
- p) **Cross-connection control survey:** an inspection of all parts of a property served by the public water system to identify potential cross-connections.
- q) **Cross-connection test:** a test administered by an Authorized Cross-Connection Control Specialist to verify that no physical uncontrolled connection exists between the potable water piping and any auxiliary water piping system.
- r) **Customer:** The person or entity listed as the customer of record in the Customer Services Bureau database.
- s) **Customer Services Bureau:** Customer Services Bureau of the San Francisco Public Utilities Commission.
- t) **Department of Building Inspection:** San Francisco Department of Building Inspection.
- u) **Double-Check valve backflow prevention assembly (DC):** 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 water-tightness of each check valve.
- v) **Double-Check Detector backflow prevention Assembly (DCDA):** an assembly consisting of a line-sized approved double-check valve assembly with a bypass containing a specific water meter and an approved double-check valve assembly.
- w) **Double-Check Detector backflow prevention Assembly type II (DCDA-II):** an assembly consisting of a line-sized approved double-check valve assembly with a bypass around the second check containing a specific water meter and a check valve.
- x) **Dual-plumbing:** a system that utilizes separate piping systems for auxiliary water and potable water within a property.
- y) **First certificate of occupancy:** either a temporary certificate of occupancy or a Certificate of Final Completion and Occupancy as defined in San Francisco Building Code Section 109A, whichever is issued first.
- z) **General Manager:** General Manager of the San Francisco Public Utilities Commission, or any individual or City agency designated by the General Manager to act on his or her behalf. The Water Quality Division Director is designated to act for the General Manager in relation to Section G of these rules and regulations.
- aa) **On-site hazard:** any actual or potential hazard to the public water supply that may be created as a result of conditions existing on a property.

- bb) **Permit to Operate:** permit to work as an Authorized Backflow Prevention Assembly Tester or Authorized Cross-Connection Control Specialist.
- cc) **Permittee:** Someone who holds a valid permit to operate under San Francisco Health Code Article 12A granted by the General Manager or his or her designee. Permittees are responsible for maintaining their permits and complying with all City rules and regulations related to cross-connection control.
- dd) **Point of connection:** the customer's water meter, except for dedicated fire services, for which the point of connection is the junction of the water supply lateral and the customer's fire protection system.
- ee) **Pressure Vacuum Breaker (PVB):** an assembly containing an independently operating, internally loaded check valve and an independently operating loaded air inlet valve located on the discharge side of the check valve. The assembly must be equipped with properly located resilient seated test cocks and tightly closing resilient seated shutoff valves attached at each end of the assembly.
- ff) **Property:** parcel, premises, building, or other structure that receives potable water from the public water system.
- gg) **Property owner:** the legal owner of a property with a water service connection.
- hh) **Public Water System (PWS):** the potable water system operated and maintained by the San Francisco Public Utilities Commission.
- ii) **Reduced Pressure principle backflow prevention assembly (RP):** a backflow prevention assembly 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 that is equipped with necessary test cocks for testing.
- jj) **Reduced Pressure principle Detector Assembly (RPDA):** a backflow prevention assembly composed of a line-size approved reduced pressure principle backflow prevention assembly with a specific bypass containing a specific water meter and an approved reduced pressure principle backflow prevention assembly.
- kk) **Reduced Pressure principle Detector Assembly type II (RPDA-II):** a backflow prevention assembly composed of a line-size approved reduced pressure principle backflow prevention assembly with a specific bypass around the second check valve containing a specific water meter and an approved check valve.
- ll) **SFDPH-EHB:** San Francisco Department of Public Health, Environmental Health Branch.
- mm) **SFPUC:** San Francisco Public Utilities Commission.
- nn) **USC FCCCHR:** University of Southern California Foundation for Cross-Connection Control and Hydraulic Research.

- oo) **Water Quality Division:** Water Quality Division of the San Francisco Public Utilities Commission.
- pp) **Water service connection:** a connection to the public water system.
- qq) **Water user supervisor (site supervisor):** A person designated to be responsible for the avoidance of cross-connections during the installation, operation and maintenance of a property's pipelines and equipment.

### **Rule 3.**

#### **Backflow Prevention Requirements**

- a) All backflow preventers and associated pipe, fittings, solder and flux must be "lead-free" as defined in the California Health and Safety Code, section 116875. This requirement does not apply to dedicated fire services, the fire service line on combination services, or irrigation and industrial systems.
- b) The types of backflow protection that may be used for containment at permanent connections to the public water system, listed according to increasing level of protection, are double-check valve backflow prevention assembly (DC), reduced pressure principle backflow prevention assembly (RP), and air gap separation (AG). The minimum level of backflow protection by hazard criterion shall be as described in Table 1.
  - i. If more than one of the hazard criteria applies to a property, the criterion requiring the greatest degree of protection shall apply.
  - ii. If an assessment of a property cannot be made to determine the type of hazard present, the San Francisco Public Utilities Commission (SFPUC) shall ensure that an air gap separation is installed.
- c) For isolation of a hazard within a property, the minimum level of backflow protection shall be as set forth in Chapter 6 of the California Plumbing Code, except that an RP is required in the situations listed in Table 1. The requirement for an RP is at the direction of the San Francisco Department of Public Health, Environmental Health Branch (SFDPH-EHB) under its authority set forth in California Health and Safety Code Division 104, Part 12, Chapter 5, Article 2, section 116800.

**Table 1: Hazard Criteria and Required Backflow Protection**

(Some requirements are more stringent than those in the California Plumbing Code)

Attention: See footnotes for important information

<b>Hazard Criteria</b>	<b>Required Level of Protection</b>
<b>Part I: Containment</b>	
<b>Sewage and Hazardous or Potentially Hazardous Substances</b>	
Properties where there are wastewater treatment processes, handling and/or pumping equipment (see Part II of this table for isolation requirements)	AG or RP <sup>1</sup>
Properties where hazardous substances are handled in any manner in which the substance may enter the public water system (PWS) (see Part II of this table for isolation requirements)	AG or RP <sup>1</sup>
Properties with a piping system conveying a fluid not from an approved water supply that is interconnected with the PWS (see Part II of this table for isolation requirements)	AG or RP <sup>1</sup>
Piping system conveying a fluid not from an approved water supply that is not interconnected with the PWS	RP
Properties with a recreational vehicle dump station that is interconnected with the PWS (see Part II of this table for isolation requirements)	AG or RP <sup>1</sup>
<b>Auxiliary Water Supplies (Nonpotable)</b>	
Properties where there is an auxiliary supply that is interconnected with the PWS (see Part II of this table for isolation requirements)	AG or RP <sup>1</sup>
<b>Fire Protection Systems</b>	
Properties where the fire protection system is supplied from the PWS and interconnected with an onsite auxiliary water supply	AG
Properties where the fire protection system is supplied from the PWS with no interconnections with auxiliary water supplies	DCDA or DCDA-II
Properties where chemicals are injected into the fire system	RPDA or RPDA-II
Properties under the jurisdiction of the San Francisco Port Authority	RPDA or RPDA-II
<b>Marina and Port Facilities Under Jurisdiction of Port Authority</b>	
Standard, irrigation, or combination services	RP
<b>Properties with Multiple Service Connections to the PWS</b>	
Properties with multiple standard service connections, at least one of which requires backflow protection for containment	Varies <sup>2</sup>
<b>Irrigation Systems</b>	
Properties with dedicated irrigation meters	RP
Properties with irrigation systems into which fertilizers, herbicides, or pesticides are or can be injected	RP

Hazard Criteria	Required Level of Protection
<b>Water Storage Facility Not under Control of the PWS</b>	
Water storage facility not under control of the PWS	AG
<b>Repeated History of Cross-Connections</b>	
Properties where there is a repeated history of cross-connections being established or re-established	RP or AG <sup>1,3</sup>
<b>Restricted Entry</b>	
Properties where entry is restricted so that inspections for cross-connections cannot be made in accordance with these rules and regulations	RP
<b>Unabated Internal Cross-Connections</b>	
Properties where internal cross-connections are not abated in accordance with these rules and regulations	RP or AG <sup>1</sup>
<b>Buildings Higher than 40 Feet</b>	
Properties where there are buildings with a highest point equal to or greater than 40 feet in height above the point of connection	DC
<b>Temporary Construction Meter, Non-Standard Service</b>	
Connection to existing water service line during construction	RP
<b>Temporary (Non-Fire) Connections to Fire Hydrants</b>	
Connections for temporary uses, such as for construction, street sweeping, or water supply for events	RP or Single swing-check valve <sup>1,4</sup>
<b>Temporary Connections to Fire Hydrants for Firefighting</b>	
Fire trucks that are connected to potable hydrants may not also be connected to the Auxiliary Water Supply System	Spring-loaded check valve
<b>Part II: Isolation</b>	
Sewage and Hazardous or Potentially Hazardous Substances: at the connection of potable water piping within a facility to a system conveying a fluid that is not potable	AG
Auxiliary Water Supplies (Nonpotable): All auxiliary water except rainwater	AG
Auxiliary Water Supplies (Nonpotable): Rainwater	RP
Carbonators in systems with upstream copper pipe	AG or RP
Industrial water chillers	RP

Notes for Table 1:

<sup>1</sup> To be determined by the Water Quality Division based upon the level of hazard.

<sup>2</sup> The same level of protection must be provided for all standard service connections; the level of protection must address the highest degree of hazard on the property that cannot be isolated.

<sup>3</sup> A water user supervisor might also be required.

<sup>4</sup> All customer plumbing must be downstream of the meter and valve attached to a hydrant.



- d) Backflow prevention assembly requirements for permanent installations:
  - i. All backflow prevention assemblies must be testable and have passed laboratory and field evaluation tests performed by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USC FCCCHR) or comparable organization approved by the General Manager.
  - ii. Assemblies may not be modified in any way or installed in a manner that differs from the configuration tested and approved by the recognized testing organization.
  - iii. Assemblies, as installed, shall be field tested to ensure they are functioning properly before being placed into service.
- e) Air gaps shall meet the requirements set forth in the California Plumbing Code, Chapter 6, section 603.

#### **Rule 4.**

#### **Installation Requirements for Backflow Preventers**

- a) All backflow preventers that are installed, replaced or relocated shall be under permit from the Department of Building Inspection, Plumbing Inspection Division, unless the facility falls under a different jurisdiction (Port of San Francisco, Office of Statewide Health Planning and Development, or state Fire Marshal).
- b) All backflow preventers for containment shall be installed as close as practical but in any case within 25 feet of the downstream side of the point of connection to the public water system. If any part of a service line extends over bay or ocean waters, assemblies must be installed upstream of the seawall (and within 25 feet of the point of connection).
- c) No water connections may be made between the point of connection and a backflow prevention assembly. Similarly, no appurtenances may be installed between the point of connection and a backflow prevention assembly, except that a Y strainer may be attached directly to the number 1 shutoff valve.
- d) Assemblies must be installed in the orientation intended by the manufacturer and approved by the USC FCCCHR or comparable organization approved by the General Manager.
- e) All backflow preventers shall be accessible for field testing and maintenance.
- f) RPs must be a maximum of 36 inches above grade as measured from the bottom of the assembly.
- g) RPs and DCs must have their lowest points at least 12 inches above grade.
- h) RPs and DCs must have side clearances of at least 12 inches. On the side of the assembly that contains the test cocks, a side clearance of at least 24 inches is recommended.

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- i) Assemblies must be installed so that the make and serial number are visible in a readily accessible location. These identifiers must not be painted over or otherwise made illegible.
- j) Assemblies may not be installed below grade in pits or vaults.
- k) If an enclosure is used, the enclosure must be large enough or removable to allow for testing/servicing.
- l) When an RP is installed indoors, a drain funnel must also be installed to prevent flooding.

### **Rule 5.**

#### **Inspection Requirements for New Water Services**

- a) All new water services that require a backflow prevention assembly or air gap at the connection to the public water system must receive an initial and final inspection by the Water Quality Division. The property owner or designee must call (650) 652-3199 to schedule these inspections. The inspections are separate from those required by other San Francisco agencies.
- b) An initial inspection is required after a backflow prevention assembly or air gap has been installed at the connection to the public water system. A water service line and meter will not be provided until the backflow preventer has passed this inspection.
- c) A final inspection is required within 48 hours of receiving water service. If this inspection is not conducted, water service will be turned off and will not be restored until the final inspection has been passed and necessary fees have been paid.

### **Rule 6.**

#### **Permits to Operate**

- a) A valid backflow prevention assembly tester permit to operate is required for anyone testing backflow prevention assemblies in the City and County of San Francisco.
- b) A valid cross-connection control specialist permit to operate is required for anyone who administers a cross-connection control test or performs a site survey to assess cross-connection control requirements in the City.
- c) To apply for a permit to operate as an Authorized Backflow Prevention Assembly Tester, an applicant must:
  - i. Submit a completed application form and application fee.
  - ii. Provide a current certification as a backflow prevention assembly tester from one of the following organizations:

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- American Backflow Prevention Association
  - American Society of Sanitary Engineers
  - American Water Works Association
  - Northern California Backflow Prevention Association
  - Other organization approved by the General Manager
- iii. Provide a certificate of general liability insurance in full force and effect, at his or her expense, for all activities performed under the permit to operate, unless the applicant is a City employee. Such insurance shall 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, its officers and employees shall be named as additional insureds under the policy, and a cross-liability clause shall be attached. Such insurance shall provide 10-day prior written notice of cancellation, non-renewal, or material change to the General Manager or his or her designee.
- iv. Complete a written examination administered by the General Manager, or his or her designee, with a passing grade of at least 70 percent.
- d) To apply for a permit to operate as an Authorized Cross-Connection Control Specialist, an applicant must:
- i. Submit a completed application form and application fee.
  - ii. Provide a current certification as a cross-connection control specialist from one of the following organizations:
    - American Backflow Prevention Association
    - American Society of Sanitary Engineers
    - American Water Works Association
    - Northern California Backflow Prevention Association
    - Other organization approved by the General Manager
  - iii. Provide a certificate of general liability insurance in full force and effect, at his or her expense, for all activities performed under the permit to operate, unless the applicant is a City employee. Such insurance shall 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, its officers and employees shall be named as additional insureds under the policy, and a cross-liability clause shall be attached. Such insurance shall provide 10-day prior written notice of cancellation, non-renewal, or material change to the General Manager or his or her designee.
- e) Permit issuance: Applicant information is forwarded to the Office of the Treasurer and Tax Collector for payment of the annual license fee. The permit is issued upon payment of the license fee.
- f) Annual renewal: To maintain a permit in good standing, the permittee must:

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- i. Follow all procedures in the SFPUC's Manual for Cross-Connection Control and the Instructions for Authorized Backflow Assembly Testers (testers only). These documents may be periodically updated and specify current policies and procedures for testers and specialists.
  - ii. Maintain all documentation required under these rules and any other state or local law; such documentation must be made available for inspection at the request of the General Manager.
  - iii. Annually pay to the Office of the Treasurer and Tax Collector of the City and County of San Francisco the annual license fee set forth in Section 249.24 of the San Francisco Business and Tax Regulation Code. Upon the failure of the permittee to pay such fees, the permit to operate shall be considered null and void until the permittee pays the fees and any penalties that might be assessed by the General Manager or his or her designee.
  - iv. Provide to the General Manager or his or her designee:
    - Current and updated original certificate of general liability insurance
    - Copy of a renewed certificate of competency (if the previous certificate has expired)
  - v. Authorized Backflow Assembly Testers: Attend the annual tester meeting in person or complete training approved or provided by the General Manager or his or her designee.
- g) Permit transfer: Permits are issued to individual persons and are not transferable. If a permittee ceases working for an employer that held the permittee's certificate of liability insurance, the permittee must submit valid evidence of liability insurance, as described in c(iii) above, to continue working in the City.
- h) Enforcement, suspension and revocation of permits: Any permit issued under these rules may be revoked or suspended by the General Manager, or his or her designee, if it is determined that the permittee has:
- i. Not paid the annual license fee
  - ii. Violated any provision of San Francisco Health and Safety Code Article 12A or regulation issued pursuant to Article 12A
  - iii. Engaged in conduct in connection with activities covered by the permit to operate that violates state or local laws
  - iv. Engaged in a material misrepresentation when applying for a permit
- i) The General Manager, or his or her designee, may not suspend or revoke a permit issued pursuant to San Francisco Health Code Article 12A or take other enforcement action against a permittee until a notice of violation has been issued and the permittee is provided an opportunity to be heard and respond as provided in these Rules and Regulations. Notwithstanding, the General Manager, or his or her designee, may immediately suspend any permit issued under Article 12A pending a noticed hearing on revocation or suspension when, in the opinion of the General Manager or his or her designee, the public health or safety requires such immediate suspension. Any affected permittee shall be given notice of such immediate suspension in writing delivered to the permittee in person or by registered letter.

- j) Violations and administrative penalties: Any permittee who violates any provision of San Francisco Health Code Article 12A or these Rules and Regulations may be subject to suspension or revocation of the permittee's permit to operate. Citations will be served to the permittee in a manner consistent with Chapter 100 of the San Francisco Administrative Code, which will govern the procedures for imposition, enforcement, and administrative review of administrative citations issued.
- k) Appeals: The final decision of the General Manager, or his or her designee, to grant, deny, suspend, or revoke a permit, as provided in San Francisco Health Code Article 12A, may be appealed to the Board of Appeals in the manner prescribed in San Francisco Business and Tax Regulations Code Article 1.

**Rule 7.**

**Companies Employing Authorized Backflow Prevention Assembly Testers and Authorized Cross-Connection Control Specialists**

- a) Companies that employ Authorized Backflow Prevention Assembly Testers and Authorized Cross-Connection Control Specialists must register with the General Manager or his or her designee.
- b) Companies must maintain general liability insurance in full force and effect, at company expense, for all activities performed by their testers and specialists. 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, its officers, and employees must be named as additional insureds 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 General Manager or his or her designee.
- c) Companies must provide the General Manager, or his or her designee, with the names of testers and cross-connection control specialists working for them and provide notification when a tester or specialist leaves the company.
- d) Companies must maintain a continuous record of the dates and locations of all activities performed in relation to backflow prevention (e.g., tests, repairs, inspections, surveys, cross-connection tests) for three years. The records must be made available at the request of the General Manager or his or her designee.

**Rule 8.**

**Testing, Inspection and Repair Requirements for Backflow Preventers**

- a) All testing, inspections, and repairs shall be at the sole expense of the property owner.
- b) Property owners shall inspect and/or test their backflow preventers at least annually and in any case within 30 days of receiving notice from the Water Quality Division to do so.
- c) Air gap separations shall be visually inspected annually by an Authorized Cross-Connection Control Specialist.

- d) Backflow prevention assemblies:
  - i. An Authorized Backflow Prevention Assembly Tester shall test all backflow prevention assemblies following installation, repair, or re-location and at least annually thereafter. The General Manager may require more frequent testing if determined to be necessary.
  - ii. All backflow prevention assemblies that fail the field test shall be repaired, overhauled or replaced, and immediately retested before being placed into service. If an assembly cannot be repaired or otherwise made functional on the same day as the initial test, the tester must enter the test data into CCAMS by close of business of the day of the initial test.

**Rule 9.**

**Backflow Tag Sales**

- a) Backflow tags are available for sale from the Customer Services Bureau of the SFPUC, located on the first floor at 525 Golden Gate Avenue, San Francisco. Tags may be obtained in person or by mail. Payments may be made by cash (in person only), company or cashier's check (no personal checks), and money order. Checks should be made out to SF Water Department.
- b) Tags may be purchased by Authorized Backflow Prevention Assembly Testers, Authorized Cross-Connection Control Specialists, test company supervisors, and Authorized Representatives of testing companies. Companies may designate up to two people to act as Authorized Representatives for the purchase of backflow tags on behalf of the company.
- c) To purchase tags in person, the buyer must provide official identification (e.g., driver's license), name of the company being represented, and payment.
- d) To purchase tags by mail, buyers must go online to [sfwater.org/backflow](http://sfwater.org/backflow), scroll down to "Backflow Prevention Assembly Testers and Test Companies," and click on "Request to Purchase Backflow Tags." Buyers must fill out the PDF form, print it out, and mail it with payment to Customer Services Bureau, SFPUC, 525 Golden Gate Avenue, 2nd Floor, San Francisco, CA 94102. The bureau will mail the tags by certified mail within five business days of receiving the request.
- e) The cost of backflow tags is set forth in the SFPUC's *Rates Schedules & Fees for Water Power and Sewer Service*.

**Rule 10.****Inspection and Testing Requirements for Dual-Plumbed Systems**

- a) All inspections, testing and repairs shall be at the sole expense of the property owner.
- b) Before being put into service, all systems must pass an initial shutdown test.
- c) After the initial shutdown test, dual-plumbed systems shall be tested for cross-connections as set forth in Table 2 below. At the discretion of the General Manager, a pressure differential test might be accepted in lieu of a shutdown test.

**Table 2: Inspection and Testing Requirements for Auxiliary Water Supplies**

Type	Initial Inspection and Shutdown Test	Annual Inspection <sup>1</sup>	Subsequent Cross-Connection Test
Municipally supplied recycled water	Yes	Yes	Every four years <sup>1</sup> (need not be shutdown test)
Blackwater	Yes	No <sup>2</sup>	Every four years <sup>1</sup> (need not be shutdown test)
Other auxiliary supply (graywater, rainwater, groundwater, etc.)	Yes	No <sup>2</sup>	No

Notes for Table 2:

<sup>1</sup> The General Manager may reduce testing frequency if the property owner can document to the General Manager's satisfaction that there have been no plumbing changes in the dual-plumbed system.

<sup>2</sup> Although the Cross-Connection Control Program does not require annual inspections, all operators of auxiliary water systems in the City are subject to monitoring and reporting requirements under Article 12C of the San Francisco Health Code, which is administered by the SFDPH.

- d) All shutdown or other cross-connection tests must be administered by an Authorized Cross-Connection Control Specialist in the presence of a representative of the Water Quality Division and the water user supervisor for the property. Tests must be conducted in accordance with the City's Manual for Cross-Connection Control, available at [sfwater.org/backflow](http://sfwater.org/backflow). A written report documenting the test must be submitted to the Water Quality Division within five days following completion of the test.
- e) In addition to tests every four years, a cross-connection test is always required in these circumstances:
  - i. When there is material reason to believe that the separation between the potable and non-potable systems has been compromised, for example, based on a visual inspection or following complaints.
  - ii. After remediation of a discovered cross-connection.

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- f) Fees for cross-connection tests are set forth in the SFPUC's Rates Schedules & Fees for Water Power and Sewer Service. Payment must be made to the Customer Services Bureau, located on the first floor at 525 Golden Gate Avenue, San Francisco (in person or by mail). Payments may be made by cash (in person only), company or cashier's check (no personal checks), and money order. Checks should be made out to SF Water Department. Payments by mail should be sent to Customer Services Bureau, SFPUC, 525 Golden Gate Avenue, 2nd Floor, San Francisco, CA 94102. Payment must be received at least 30 days before the desired test date.
- g) Property owners shall inspect and/or test their dual-plumbed systems within 30 days of receiving a notice from the General Manager to do so.
- h) Any changes made to auxiliary water systems must be done under permit from the San Francisco Department of Building Inspection and in conformance with the requirements of San Francisco Health Code Article 12C and the California Plumbing Code. If the degree of hazard changes (e.g., a blackwater treatment system is installed), the required level of protection must conform with Table 1, and the Water Quality Division must be informed at least 30 days before the change is made.
- i) Recordkeeping. Property owners shall maintain cross-connection testing for their properties in accordance with these rules and regulations for a period of three years. The records shall be made available at the request of the General Manager.

### **Rule 11.**

#### **Emergency Cross-Connection Response Plan for Dual-Plumbed Systems**

- a) All emergency response activities and repairs shall be at the sole expense of the property owner.
- b) The customer and property owner shall immediately notify the Water Quality Division upon discovery of the incident.
- c) The customer and property owner shall submit written notification within 24 hours of the incident and include an explanation of the nature of the cross-connection, date and time discovered, and the contact information of the person reporting the cross-connection.
- d) The customer and property owner shall provide potable drinking water for building occupants, if applicable, until the potable water system is deemed safe to drink.
- e) The customer and property owner shall shut down the auxiliary water piping to the building and drain the auxiliary water riser.
- f) The General Manager shall shut down the potable water supply at the point of connection.
- g) The customer and property owner shall locate and disconnect the cross-connection.
- h) After the cross-connection has been remediated, the customer and property owner shall conduct a visual inspection and cross-connection test, as described in Rule 10.



## Section G

- i) The property's internal potable water system shall be disinfected in accordance with the California Plumbing Code, Chapter 16A, section 1620A.
- j) After 24 hours, the customer and property owner shall flush the building's potable water system and conduct a standard bacteriological test.
- k) After approval by the General Manager, the customer and property owner may recharge the property's internal potable water system.

### **Rule 12.**

#### **Emergency Cross-Connection Response Plan for Standard-Plumbed Systems**

- a) All emergency response activities and repairs on the customer side of the water meter shall be at the sole expense of the property owner.
- b) The customer or property owner shall immediately notify the Water Quality Division upon discovery of a cross-connection incident and describe the nature of the cross-connection, date and time discovered, and the contact information of the person reporting the cross-connection.
- c) The customer or property owner shall provide potable drinking water for building occupants, if applicable, until the potable water system is deemed safe to drink.
- d) The customer or property owner shall locate and disconnect the cross-connection.
- e) The property's internal potable water system shall be disinfected in accordance with the California Plumbing Code, section 609.9.
- f) After 24 hours, the customer or property owner shall flush the building's potable water system and conduct a standard bacteriological test.
- g) After approval by the General Manager, water service will be restored, if necessary.

### **Rule 13.**

#### **Water User Supervisor**

- a) For properties that have a multi-piping system that conveys various types of fluids, some of which may be hazardous, and where changes in the piping system are frequently made, the Water Quality Division may require the property owner to designate a water user supervisor.
- b) The water 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.
- c) If a cross-connection is discovered, the water user supervisor shall follow the emergency response plan described in Rule 11 or 12, as applicable.

**Rule 14.**

**Inspections and Notices**

- a) Upon notification by the General Manager, a property owner shall eliminate any unprotected cross-connections within seven calendar days, unless the General Manager authorizes an alternate deadline for remediation.
- b) If a property owner refuses or fails to eliminate a cross-connection within the allotted time, the General Manager may proceed with enforcement activities in accordance with Rule 15 of these rules and regulations.
- c) Right of Entry: The General Manager may inspect any property to determine compliance with the provisions of San Francisco Health Code Article 12A and applicable laws and regulations. The right of entry may be exercised during normal business hours in the absence of advance notice.
- d) High Risk of Hazard: Whenever an existing or potential unprotected cross-connection poses a high risk of hazard to the public water system and requires immediate abatement, as determined by the General Manager, the General Manager may immediately terminate water service without initial or final notification until the cross-connection has been eliminated and necessary payments have been made, including but not limited to fines in accordance with Rule 15 of these rules and regulations and service shut-off and service turn-on fees.

**Rule 15.**

**Enforcement, Violations and Penalties**

- a) If any rule is violated, the General Manager may issue written notices establishing a deadline for compliance and modify or terminate service.
- b) Modification or termination of water service: The General Manager shall implement one or more of the following alternatives and notify the customer or property owner.
  - i. Install a flow restrictor on all non-fire service lines to the property to minimize the backflow hazards until they have been corrected.
  - ii. Disconnect the noncompliant water service(s) until the cross-connection has been eliminated.
  - iii. If the noncompliant water service is a fire service, disconnect the associated domestic water service until the cross-connection has been eliminated.
  - iv. Any other action deemed necessary by the General Manager to protect the public water system.

## Section G

- c) Any customer or property owner who violates any provision of San Francisco Health Code Article 12A or any rule or regulation adopted pursuant to Article 12A may be subject to an administrative penalty of up to \$1,000 per violation per day. Citations will be served to both the customer and the property owner in a manner consistent with Chapter 100 of the San Francisco Administrative Code.
- d) Fees and penalties related to this rule—including but not limited to posting fees, service shut-off and service turn-on fees, and penalties for violations—will be applied to the customer's water bill.
- e) The General Manager may recover any costs and fees, including but not limited to attorney fees, for enforcement initiated through and authorized under San Francisco Health Code Article 12A.
- f) Parties may have the right to petition the Superior Court of San Francisco for judicial review or appropriate relief pursuant to Section 1094.6 of the California Code of Civil Procedures if they disagree with the final decision of the General Manager to impose administrative penalties, as provided in San Francisco Health Code Article 12A.

### **Rule 16. Variances**

Any request for variance shall be made in writing and submitted to the General Manager. The General Manager may grant variances from specific requirements of these rules and regulations for existing buildings or facilities on a limited basis provided that the variances do not pose a threat to the public water system. All variances are subject to additional mitigation that the property owner/customer will be required to implement and maintain.

