Humboldt Community Services District

Cross-Connection Control and Prevention of Backflow Program

Cross-Connection Control Standards

Humboldt Community Services District (District) shall from time to time adopt cross-connection control standards that establish the District's requirements for design, construction, installation, and maintenance of backflow prevention assemblies. The purpose of these standards is to protect the potable water supply of the Humboldt Community Services District from unapproved sources entering the District's water distribution system through cross-connections. Any person receiving or using water from the District's water distribution system shall comply with all provisions of the District's current cross-connection control standards, and the violation of any provision thereof shall constitute an infraction. In the event a water customer is found to be in violation of the cross-connection control standards by the District, the customer's water service may be discontinued. The foregoing provisions shall be cumulative and in addition to any other remedy provided under any applicable law or regulation.

Cross-Connection Control (CCC) Program Plan

Public Water System (PWS) Information

Our PWS has ownership of all buildings served by the PWS. YES ☐ NO ☒

If "no", attach a copy of the operating rule(s), ordinance(s), bylaws, resolution(s), or other document(s) which authorize the PWS to enforce the CCC program requirements. **See Appendix A**

PWS Name:	Humboldt Community Services District
PWS Number:	CA 1210009
Facility Address:	5055 Walnut Drive, Eureka CA 95503
Number of Single-Family Service Connections:	7,187
Number of Multifamily Residential Service Connections:	475
Number of Commercial Connections:	290
Number of Industrial Service Connections:	0
Number of Agricultural Service Connections:	0
Number of Landscape Irrigation Connections:	38
Total Number of Service Connections:	7,990

PWS Background CCC Information

Number of Fire Protection System Service Connections (Residential)	3
Number of Fire Protection System Service Connections (Non-Residential)	137
Number of Air Gaps used for backflow protection at the service connection	0
Number of Service Connections where internal protection is used in lieu of premises containment	0
Number of Recycled Water (RW) use sites	0
Number of Swivel-ells used for backflow protection at the service connection (applies to Recycled Water use sites)	0
Number of Sites requiring a water user supervisor (CCCPH Section 3.2.2 (f))- applies to any sites using recycled water, complex piping systems, or a user supervisor deemed necessary by the PWS	0

Backflow Testing

Our PWS has backflow prevention assemblies installed? YES ☒ NO ☐

Required backflow prevention assembly maintenance, repair, or replacement will happen within **30** days after identification.	
All backflow prevention assemblies are tested at least **one** time each year. Testing procedures shall follow University of Southern California (USC) Manual of Cross-Connection Control 10th Edition Backflow Test Procedures	
Names and certification numbers of the certified testers used at the PWS.	**Maples Plumbing** (David Webb)- AWWA #19654 exp. 5/31/27 **Mario Palmero-** NCBPA #687 exp. 7/12/27 **Gary Ciraulo**- NCBPA #607 exp. 1/27/26 **Brian McNeill**- AWWA #10383 exp. 6/30/28 **Christopher Armstrong**-AWWA #20147 exp. 3/31/28
I certify that our testers' field test kit is accurate and recently verified.	YES ☒ NO ☐

I certify that testers provide the PWS with copies of the backflow prevention assembly test results.	YES ☒ NO ☐
The PWS has non-testable backflow preventers used for internal protection (for example single check valves)?	YES ☒ NO ☐ If yes, complete **Appendix B**-inventory of non-testable backflow preventers.
If "yes", were the non-testable backflow preventers installed and maintained in accordance with the CA Plumbing Code?	YES ☒ NO ☐

Certification

I certify that the information submitted in this CCC Plan is accurate and that we will comply with the Cross-Connection Control Policy Handbook (effective date July 1, 2024). Our PWS will ensure its Cross-Connection Control Plan is, at all times, representative of the current operation of its Cross-Connection Control program.

Attached (**Appendix K**) are copies of our backflow prevention assembly inventories.

Name: Brian McNeill **Role:** Cross-Connection Control Specialist

Signature: **Date:**

DDW Review:

The water system has demonstrated compliance with the CCC Plan requirements of the CCCPH.

Name: Scott Gilbreath **Title:** Water Resource Control Engineer

Signature: **Date:**

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1 General Provisions

Objective

In order to protect the public water system, Humboldt Community Services District, Public Water System CA 1210009, located at 5055 Walnut Drive, Eureka CA 95503, is hereinafter referred to as "District" or "PWS", has the responsibility to protect the public water supply through implementation and enforcement of a cross-connection control (CCC) program.

The CCC requirements are contained in the Cross-Connection Control Policy Handbook (CCCPH), which are incorporated into the State of California's Drinking Water Regulations and became effective July 1, 2024. The CCCPH and its standards apply to all California PWSs, as defined in California's Health and Safety Code (CHSC, section 116275 (h)). Compliance with this CCCPH is mandatory for all California PWSs.

The Humboldt Community Services District Board of Directors, has previously adopted Ordinance No. 2025-01 providing the legal authority for the District's *Cross-Connection Control and Prevention of Backflow Program* (Program). **Appendix A**.

The objectives of the Cross-Connection Control Program are to:

- Protect the PWS at the service connection against any actual or potential cross-connection between the PWS and any source or system containing any substance that is not, or cannot be, approved as safe, wholesome and potable for human consumption.
- Outline District and Customer responsibilities for protection of the public water system.
- Outline criteria determining when backflow protection is required.
- Specify requirements for backflow prevention assemblies to protect the water system.
- Comply with Federal, State, and local laws and policies and to allow the District to meet applicable regulatory requirements and standards.

All Customers of the District are subject to the conditions of this Program, as set forth herein.

1.2 Administration

Except as otherwise provided, District staff, under the direction of the cross-connection control specialist, shall administer, implement, and enforce the provisions of this Program. Any powers granted to or duties imposed by the District General Manager may be delegated to a duly authorized employee.

1.3 Policy Development Background and Legal Authorities

Through the adoption of the CCCPH, the State Water Board is exercising its authority, under California's Safe Drinking Water Act (SDWA), to establish enforceable standards applicable to California's PWSs. Failure to comply with the CCCPH may result in the issuance of compliance, enforcement, or other corrective actions against a PWS. **See Appendix H** for more information.

1.3.1 California Safe Drinking Water Act

On October 6, 2017, Assembly Bill 1671 (AB 1671) was approved and filed with the Secretary of State. AB 1671 amended California's SDWA through the establishment of CHSC sections 116407 and 116555.5. AB 1671 also amended section 116810 of the CHSC.

On October 2, 2019, Assembly Bill 1180 (AB 1180) was approved and filed with the Secretary of State. AB 1180 amended Section 116407 of the CHSC and added section 13521.2 to the Water Code. AB 1180 requires that the CCCPH include provisions for the use of a swivel or changeover device (swivel-ell).

AB 1671 and 1180 established the following:

- The State Water Board must adopt standards for backflow protection and cross-connection control by January 1, 2020.
- The State Water Board may establish standards for backflow protection and cross-connection control through the adoption of the CCCPH, with the CCCPH not being subject to the requirements of the CA Administrative Procedure Act.
- If standards for backflow protection and cross-connection control are established via the CCCPH, the State Water Board must:
    - Consult with state and local agencies and persons, identified by the State Water Board, as having expertise on the subject of backflow protection and cross-connection control.
    - Hold at least two public hearings before adoption of the CCCPH.
    - Post the CCCPH on the State Water Board website.
- Upon the effective date of the CCCPH, the previous cross-connection control standards become inoperative, and are repealed 90 days later, unless the State Water Board determines not to repeal a specific existing regulation.
- A PWS must implement a cross-connection control program that complies with the standards adopted by the State Water Board.
- Use of a swivel-ell must be consistent with any notification and backflow protection provisions contained in the CCCPH.

Pursuant to sections 116407 and 116555.5 of the CHSC, the State Water Board chose to adopt standards for backflow protection and cross-connection control through the adoption of the CCCPH, which became effective July 1, 2024.

Aside from the mandates of AB 1671 related to the State Water Board's need and authority to develop and adopt an enforceable CCCPH, there are long-standing statutory mandates in California's SDWA concerning backflow protection and cross-connection control, some of which are summarized below.

- The State Water Board is required to adopt regulations for the control of cross-connections that it determines to be necessary for ensuring PWSs "distribute a reliable and adequate supply of pure, wholesome, potable, and healthy water". (CHSC section 116375, subd. (c).)
- Any person who owns a PWS is required to ensure that the distribution system will not be subject to backflow under normal operating conditions. (CHSC section 116555, subd. (a)(2).)

Prior to AB 1671 and the adoption of the CCCPH, California's regulations pertaining to cross-connection control were set forth in regulations in CCR Title 17, which were adopted in 1987 with minor revisions in 2000. Although still protective to public health, the CCR Title 17 cross-connection regulations required updating as both drinking water and cross-connection control industries had evolved. The CCCPH updates those regulations, which as previously noted are no longer operative following the adoption of the CCCPH.

1.4 Definitions

"Air-Gap Separation" shall mean a physical vertical separation between the free-flowing discharge end of a potable water supply pipeline and an open or non-pressurized 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, in no case less than one inch. **See Appendix D**

"Approved Backflow Prevention Assembly or ABPA" shall mean any assembly that has passed laboratory and field evaluation tests performed by a recognized testing organization which has demonstrated their competency to perform such tests to the California State Water Resource Control Board.

"Approved Water Supply" shall mean a water source that has been approved by the State Water Board for domestic use in a public water system and designated as such in a domestic water supply permit issues pursuant to section 116525 of the California Health and Safety Code (CHSC).

"Atmospheric Vacuum Breaker (AVB)" shall mean an air inlet valve, a check seat and an air inlet port(s). May only be used to prevent back-siphonage. Must be installed at least six inches above all downstream piping and outlets. Additionally, may not be subject to continuous pressure. It may only be in use for twelve out of any twenty-four-hour period and may have no shutoff valves or control valves downstream. AVB is a non-testable device.

"Auxiliary Water Supply" means any water supply on, or available to the premises other than the District's potable water supply. Auxiliary water supply may include water from another purveyor's potable water system, water held in storage tanks, or any natural source(s), e.g., a well, creek, river, harbor, recycled water, pipeline; grey water; or industrial fluids. These waters may be contaminated, polluted, and objectionable or constitute an unacceptable water source over which the PWS does not have sanitary control.

"AWWA standard" shall mean an official standard developed and approved by the American Water Works Association (AWWA).

"Backflow" shall mean an undesired or unintended reversal of flow of water and/or other liquids, gases, or other substances into a public water system's distribution system or approved water supply.

"Backflow prevention assembly" or "**BPA**" means a mechanical assembly designed and constructed to prevent backflow, as designed, can be field tested, inspected and evaluated.

"Backflow prevention assembly tester" means a person who is certified as a backflow prevention assembly tester with a current CA-NV AWWA certification, or a different State approved organization with equivalent certification requirements. By July 1, 2027, an American National Standards Institute (ANSI)-accredited certifying organization, accredited in accordance with subsection (b) of the CCCPH and ISO/IEC 17024, will be considered to be a State Water Board-recognized certifying organization. Beginning three years after the adopted date (July 1, 2024) of the CCCPH, only those testers with a valid certification from an ANSI-accredited certifying organization shall satisfy subsection (a) and certifications obtained by organizations in accordance with subsection (c) will be invalid per the CCCPH.

"Backpressure" means the form of backflow due to a reduction in system pressure in the downstream piping system (caused by pump, elevation of piping, steam and/or air pressure) is above the supply pressure at the point of consideration resulting in a reversal of the normal flow.

"Back-Siphonage" means the form of backflow due to a reduction in system pressure that causes a negative or sub atmospheric pressure to exist at a site in the District's potable water system.

"Contaminant" shall mean a degradation of the quality of the potable water by any foreign substance which creates a hazard to the public health, or which may impair the usefulness or quality of the water.

"Controlled Cross-Connection" means a connection between the District's potable water system and a non-potable water system with an approved backflow prevention assembly (BPA) properly installed and maintained so that it will continuously afford the protection commensurate with the degree of hazard.

"Cross-Connection" shall mean any actual or potential connection or structural arrangement between a potable water system, including a piping system connected to the public water system and located on the premises of a water user or available to the water user, and any source or distribution system containing liquid, gas, or other substances not from an approved water supply.

"Cross-Connection Control Specialist" shall be a Cross-Connection Control Program Specialist with a current CA-NV AWWA certification, or a different State approved organization with equivalent certification requirements. By July 1, 2027, an American National Standards Institute (ANSI)-accredited certifying organization, accredited in accordance with subsection (b) of the CCCPH and ISO/IEC 17024, will be considered to be a State Water Board-recognized certifying organization. Beginning three years after the effective date (July 1, 2024) of the CCCPH, only those specialists with a valid certification from an ANSI-accredited certifying organization shall satisfy subsection (a) and certifications obtained by organizations in accordance with subsection (c) will be invalid per the CCCPH.

"Degree of Hazard" shall be derived from the evaluation of conditions within a system which can be classified as either a pollutant (non-health) or a contaminant (health) hazard.

"Destructed Well" shall mean any well in which all pumping components including but not limited to pump, piping, and power supply (if equipped) shall be removed from the well casing. Additionally, documentation from the County of Humboldt Environmental Health Department stating that the well was officially destroyed per their standards.

"Distribution system" means all physical parts of the water system, including, but not limited to: pipes, valves, pumping stations, storage tanks, and user service lines, that are located between the water treatment plant, or the source if there is no treatment, and the consumer's service connection.

"Double Check Detector Backflow Prevention Assembly (DCDA)" means a specifically designed assembly composed of an approved double check valve assembly with a bypass containing a water meter and an approved double check valve assembly. The water meter shall register accurately for rates of flow up to 2 gpm (gallons per minute) and shall show a registration for all rates of flow. DCDA assemblies shall only be used to protect against a non-health hazard. The DCDA is primarily used on fire sprinkler systems. **See Diagram, Appendix E**

"Double Check Valve Assembly" or "**(DC)"** shall mean an assembly consisting of two independently-acting internally loaded check valves, with tightly closing shut-off valves located at each end of the assembly (upstream and downstream of the two check valves) and fitted with test cocks that enable accurate field testing of the assembly. This type of assembly may only be used to isolate low hazard cross-connections. **See Diagram, Appendix E**

"Hazard Assessment" means an evaluation of a user premises designed to evaluate the types and degrees of hazard at a user's premises.

"Hazardous Substances" means any hazardous waste or hazardous substance as defined in any Federal, State or local ordinance; and the Hazardous substances shall also include asbestos, or asbestos-containing materials, radon gas, and petroleum or petroleum fractions, whether or not defined as hazardous substance in any such statue, ordinance, rule or regulation.

"High Hazard cross-connection" means a cross-connection that poses a threat to the potability or safety of the public water supply. Materials entering the public water supply through a high hazard cross-connection are contaminates or health hazards.

"Low Hazard cross-connection" means a cross-connection that has been found to not pose a threat to the potability or safety of the public water supply but may adversely affect the aesthetic quality of the potable water supply. Materials entering the public water supply through a low hazard cross-connection are pollutants or non-health hazards.

"Manual of Cross-Connection Control" shall refer to the most current edition of the Manual of Cross-Connection Control as published by the University of Southern California's Foundation for Cross-Connection Control and Hydraulic Research.

"Objectionable Substance" means a substance introduced into the PWS that may not necessarily pose a threat to public health, but may adversely affect the taste, appearance or other aesthetic qualities of the potable water supply.

"Point of Service Connection" shall refer to the point of connection of a user's piping to the PWS.

"Pollution" shall mean an impairment of the quality of the water to a degree which does not create a hazard to the public health, but which does adversely and unreasonably affect the aesthetic qualities of such waters for domestic use.

"Premise" shall mean any and all areas on a Customer's property which are served or have the potential to be served by the public water system.

"Premises containment" means protection of a public water system's distribution system from backflow from a user's premises through the installation of one or more air gaps or BPA's, installed as close as practical to the user's water supply from the public water system's distribution system.

"Pressure vacuum breaker backsiphonage prevention assembly or **(PVB)"** means an assembly with an independently-acting internally-loaded check valve and an independently-acting loaded air inlet valve located on the discharge side of the check valve; with test cocks and tightly closing shutoff valves located at each end of the assembly that enable accurate field testing of the assembly. This type of assembly may only be used for protection from backsiphonage and is not to be used to protect from backpressure. **See Diagram, Appendix E**

"Public water system" or "PWS" has the same meaning as defined in section 116275(h) of the California Health and Safety Code (CHSC).

"Recycled Water" is wastewater which as a result of treatment is suitable for uses other than potable use.

"Reduced Pressure Principle Backflow Prevention Assembly" or **(RP)"** shall mean an assembly with two independently acting internally-loaded check valves, with a hydraulically operating mechanically independent differential-pressure relief valve located between the check valves and below the upstream check valve. The assembly shall have shut-off valves located upstream and downstream of the two check-valves, and test cocks to enable accurate field testing of the assembly. **See Diagram, Appendix E**

"Reduced Pressure Principle Detector Assembly (RPDA)" shall mean a specially designed assembly composed of a line-size approved reduced pressure principle backflow prevention assembly with a bypass containing a water meter and an approved reduced pressure principle assembly. The water meter shall register accurately for rates of flow up to 2 gpm (gallons per minute) and shall show a registration for all rates of flow. This assembly shall be used to protect against a non-health hazard (i.e., pollutant) or a health hazard (i.e., contaminant). The RPDA is primarily used on fire sprinkler systems. **See Diagram, Appendix E**

"Service Connection" means the PWS pipeline and appurtenances from the District's water main to the customer's water system; in particular, the point where jurisdiction for sanitary control over the water passes from the District to the customer. If a customer meter is installed at the end of the service connection, then "service connection" shall mean the downstream end of the meter. There shall be no unprotected connections from the service line upstream of any meter or backflow prevention assembly

located at the point of delivery to the customer's water system. The term "service connection" shall also include a water service connection from a fire hydrant and all other temporary or emergency water service connections from the District's potable water system.

"Spill-resistant pressure vacuum breaker backsiphonage prevention assembly" or **"SVB"** means an assembly with an independently-acting internally-loaded check valve and an independently-acting loaded air inlet valve located on the discharge side of the check valve; with shutoff valves at each end and a test cock and bleed/vent port, to enable accurate field testing of the assembly. This type of assembly may only be used for protection from backsiphonage and is not to be used to protect from backpressure. **See diagram, Appendix E**

"State Water Board", unless otherwise specified, means the State Water Resources Control Board or the local primacy agency having been delegated the authority to enforce the requirements of the CCCPH by the State Water Resources Control Board.

"Swivel-Ell" means a reduced pressure principle backflow prevention assembly combined with a changeover piping configuration (swivel-ell connection) designed and constructed pursuant to this Chapter. **See design and construction criteria, as well as Diagrams, Appendix F.**

"Thermal Expansion" means the resulting effect when water in a closed system, such as a piping system downstream of a backflow prevention assembly heats up, typically due to a water heater. In effect, the heat causes the water volume to expand, but since the system is closed, the pressure increases. The installation of an expansion tank, may be necessary in conjunction with installing a backflow prevention assembly to prevent a dangerous buildup of pressure. All associated costs for installing an expansion tank shall be borne by the Customer.

"Unapproved Auxiliary Water Supply" shall mean any water supply on or available to the premises other than the approved water supply. An Unapproved Auxiliary Water Supply includes, but is not limited to, a well, spring, creek, pond, storage tank or any other water source that is piped or captured in any fashion that would facilitate its use as an Unapproved Auxiliary Water Supply on the premises. An Unapproved Auxiliary Water Supply does not include a decorative or natural water feature that serves solely for aesthetic and/or recreational purposes and lacks piping and/or equipment that would facilitate its use as an Unapproved Auxiliary Water Supply on the premises.

"User premises" means the property under the ownership or control of a water user and is served, or is readily capable of being served, with water via a service connection with a public water system.

"User's service connection" means either the point where a water user's piping is connected to a water system or the point in a water system where the approved water supply can be protected from backflow using an air gap or backflow prevention assembly.

"Water supplier" means a person or entity who owns or operates a public water system.

"Water user" means a person or entity who is authorized by the PWS to receive water.

"Water User Supervisor" means a person designated by a water user to oversee a water use site and responsible for the avoidance of cross-connections.

2 Responsibility

Responsibility for protection of the public water system is shared by the District and the Customer.

2.1 District Responsibility

The CCCPH states that the water supplier has primary responsibility for protecting the public water system from contamination and/or pollution by implementing a Cross-Connection Control Program.

The District fulfills its responsibility by requiring point of service connection protection at all existing service connections that have been surveyed and found to have existing actual and/or potential hazards to the public water system. The District does not recognize internal cross-connection protection programs and/or internal backflow protection assemblies in lieu of point of service connection protection as described herein.

2.2 Compliance Enforcement

If District personnel determine that a backflow prevention assembly is required, the installation of such an assembly shall be a condition of continued water service. The Customer shall be notified in writing and given no more than 45 calendar days from the date of the initial notice to comply. If a Customer fails to comply, then the District shall proceed with enforcement up to and including discontinuation of water service to the parcel being served. In the event the District determines a Customer's water service poses an immediate health risk to the public water supply, the District reserves the right to immediately discontinue water service without prior notification and must do so to comply with the CCCPH.

2.3 Customer Responsibilities

The Customer will have the prime responsibility of preventing contaminants and/or pollutants from their water systems entering the public water system.

3 Cross-Connection Control Program Coordinator

Per the CCCPH, the PWS must designate at least one individual involved in the development of and be responsible for the reporting, tracking, and other administrative duties of the CCC program. For PWS with more than 3,000 service connections the CCC program coordinator must be a CCC specialist. The CCC specialist must be a permanent or contracted employee of the PWS. The CCC specialist, or the CCC specialist's designee, must be available to be contacted within one hour.

1. The following cross-connection related tasks to be performed by or under the direction of the PWS's certified CCC specialist:
   a. Preparation of and recommendations regarding changes to the CCC program;
   b. Performance of and/or review and approval of CCC hazard assessments;
   c. Provide recommendations of the type of BPAs to be installed;
   d. Provide recommendations on schedules for retrofitting of BPAs;

e. Conduct or assist with the enforcement of CCC non-compliance;
f. Conduct inspections of BPAs for proper application and installation;
g. Conduct review of BPA inspection and test reports (may also be performed by a certified BPA tester);
h. Provide recommendations and/or granting of exceptions to mandatory premises containment (protection at the service connection);
i. Conduct or assist PWS staff in the investigation of backflow incidents and other water quality problems;
j. Completion of Backflow Incident Reports; and
k. Completion or review and approval of CCC Annual Reports and other deliverables required by the State Water Board.

2. The PWS may delegate other CCC program activities to other personnel who are not certified CCC specialists. These personnel must be noted on the following page. These activities may include:
   a. Mailing, collecting, and initial screening of hazard assessments;
   b. Mailing of BPA testing and non-compliance notices;
   c. Receiving and screening of assembly testing reports;
   d. CCC program database administration and recordkeeping;
   e. Distribution of public education and outreach material; and
   f. Assisting with tasks associated with coordination with the local entities.
3. The following table identifies the current certified specialist employed or retained on contract by the PWS to manage the PWS's CCC program and/or act as the CCC technical resource for the PWS:

Name of Designated Certified CCC Specialist	Brian McNeill
Address	5055 Walnut Drive, Eureka CA 95503
Email	bmcneill@humboldtcsd.org
Phone Number	707-443-4559
Certifying Organization and Specialist Certification Number	AWWA Cross-Connection Control Program Specialist-Certification Number: 02373 Originally Issued 10/26/2012, Expires 10/31/2026

Name of CCC Coordinator	Brian McNeill
Email	bmcneill@humboldtcsd.org
Phone Number	707-443-4559

Name of the 24-hour CCC Contact (Can be the CCC Specialist or a designee)	Brian McNeill
Title (if not the CCC Specialist)	
Email	bmcneill@humboldtcsd.org
24-hour Phone Number	707-499-0155

Any other PWS personnel (staff or contracted) involved with implementing the CCC Program:

Name	Christopher Armstrong
CCC Role/Title	BPA tester
Email	carmstrong@humboldtcsd.org
Phone Number	707-443-4559
Any CCC Certification (Tester or Specialist) Number and Certifying Organization	Tester number: 20147/AWWA

4 Cross-Connection Hazard Assessments

The PWS must survey its service area and conduct hazard assessments per CCCPH Chapter 3, Article 2 that identifies actual or potential cross-connection hazards, degree of hazard, and any backflow protection needed.

4.1 Initial Cross-Connection Hazard Assessments

In accordance with the CCCPH Section 3.2.1, the PWS must conduct an initial hazard assessment of the user premises within its service area. The hazard assessment must consider the following criteria:

a. The existence of cross-connections
b. The type and use of materials handled and present, or likely to be, on the user's premises
c. The degree of piping system complexity and accessibility
d. Access to auxiliary water supplies, pumping systems, or pressure systems
e. Distribution system conditions that increase the likelihood of backflow
f. User premises accessibility
g. Any previous backflow incidents on the user premises
h. The requirements and information provided in the CCCPH.

The procedures for conducting the initial hazard assessments are as follows:

1. For **industrial service connections**, the PWS will utilize the following:
   - No industrial service connections currently exist within PWS service area. PWS will monitor requests for any new industrial service connections and may utilize the following hazard assessment procedure(s).
     - PWS staff will review any or records on file and/or building permit applications for hazard assessment.
     - PWS staff will conduct onsite assessment or site survey for hazard identification.
     - PWS staff may review GIS, and/or customer surveys for hazard assessment.
2. For **commercial service connections**, **agriculture service connections, landscape irrigation service connections, single-family residential service connections, multi-family residential service connections,** the PWS will utilize the following:
   - PWS staff will review any or records on file and/or building permit applications for hazard assessment.
   - PWS staff will conduct onsite assessment or site survey for hazard identification.
   - PWS staff may review GIS, and/or customer surveys for hazard assessment.

Initial Cross-Connection Hazard Assessments

Proposed date for the completion of the initial hazard assessment:	July 1, 2026
Name and certification of who reviewed or conducted the hazard assessment:	Brian McNeill, Cross-Connection Control Specialist
Did you comply with all recommendations from the hazard assessment?	Yes
Are all known hazards protected with appropriate backflow prevention within your service area?	Yes
Date of the next planned hazard assessment:	Currently, ongoing.
Did the hazard assessment find any auxiliary water supplies? If yes, what type?	Yes. Private wells, storage tanks, swimming pools, ponds and creeks (used for irrigation).

4.2 Cross-Connection Hazard Survey Schedule for Subsequent Hazard Re-Assessments

In accordance with CCCPH Section 3.2.1 (e), the PWS is required to perform a hazard re-assessment if one of the following criteria applies:

a. If a user premises changes account holder (excluding single family residences)
b. If a user premises is newly or re-connected to the PWS
c. If evidence exists of changes in the activities or materials on a user's premises

d. If backflow from a user's premises occurs
e. Periodically, at least one new assessment every 10 years
f. If the State Water Board requests a hazard assessment of a user's premises.
g. If the PWS concludes an existing hazard assessment may no longer accurately represent the degree of hazard.

For subsequent cross-connection hazard re-assessments, procedures for evaluating the backflow protection requirements shall follow the same procedures as the initial hazard assessment.

If an actual or potential hazard is determined to exist, a backflow prevention assembly shall be installed by the Customer in accordance with current District specifications within 45 days of notification, unless the hazard is deemed high enough to require a shorter timeline. All expenses associated with the installation shall be the Customer's responsibility. Existing premises not required to install backflow prevention assemblies as a result of a District Cross-Connection Hazard Assessment shall be subject to subsequent regular District Cross-Connection Hazard Assessments for the purpose of confirming continued compliance pursuant to this Program.

See Appendix I for high hazard cross-connection control premises.

See Appendix J hazard assessment form

4.3 Water User Supervisors

The PWS may require individual water users to designate a water user supervisor for premises with complex piping configurations (i.e. industrial water lines, wastewater treatment, recycled water lines, multiple service connections). The water user supervisor would be responsible for the avoidance of cross-connections on the site.

5 Backflow Prevention

The PWS must ensure that actual and potential cross-connections are eliminated when possible or controlled by the installation of approved BPAs or air gaps consistent with the requirements of the CCCPH Article 3.

The type of protection that shall be provided to prevent backflow into the District water supply system shall be a minimum of a Double Check valve backflow prevention assembly (DC) and Double Check Detector backflow prevention Assembly (DCDA) for all non-residential fire suppression system connections, upgrades, and new installations. Services to Premises that pose an actual or potential health hazard (contaminant) shall be protected with a Reduced Pressure Principle Backflow Prevention Assembly (RP) and Reduced Pressure Principle Detector backflow prevention Assembly (RPDA) for all non-residential fire suppression system connections unless the District determines based on the level of hazard that an air gap separation is required to protect the public water system.

5.1 Backflow Preventer Requirements

The following applies to PWS water users:

1. The PWS will require that water service to water users with identified hazards be protected at the service connection in a manner acceptable to the PWS. All service connections identified as high hazard shall be isolated with an RP or air gap as appropriate.

2. The PWS will require temporary meters (i.e. meters used for temporary service connections at fire hydrants for construction projects) be equipped with an RP.

5.2 Approved BPAs and Installation

The PWS is required to ensure that BPAs are approved and installed in accordance with standards noted in CCCPH Section 3.3.1 and 3.3.2.

All BPAs must be installed in:

a. The orientation for which they are approved;
b. A manner and location that facilitates their proper operation, maintenance, and testing or inspection;
c. A manner that will protect them from weather-related conditions such as flooding and freezing; and
d. Compliance with applicable safety regulations.
e. In accordance with the Uniform Plumbing Code and District's current Design and Construction Standards.

During installation and prior to covering trenches, the District shall visually inspect the connection and entire length of pipeline from the water meter or service connection to the downstream side of the Approved Backflow Prevention Assembly (ABPA) before District acceptance. Backflow prevention assemblies require initial and annual testing, which shall be performed by District approved backflow assembly testers. Any BPA that fails either an initial, or annual test, shall be repaired or replaced within 30 days of notification unless provided an extension in writing from the District cross-connection specialist or face possible discontinuation of water service.

Any repair or replacement of any external components including, but not limited to, assembly housing, shut-off valve, or relief valve housing shall be the responsibility of the Customer. Any replacement of irreparable assembly or installation of a new ABPA shall be performed by the Customer and subject to inspection by the District for compliance with District standards. The District shall not be responsible for any loss or damage directly or indirectly resulting from or caused by any improper or negligent installation, operation, use, repair, or maintenance of, or interference with, any backflow prevention assembly required by this Program, by any Customer or any other person.

The Customer shall own and bear all cost for the installation of all ABPA required in accordance with this Program. Upon notification by the District or a District approved backflow prevention assembly tester, the Customer shall repair or replace existing assemblies determined to be unapproved, defective, damaged or not providing the level of protection specified by this Program. All installations shall comply

with the Uniform Plumbing Code and the District's current Design and Construction Standards. The Customer shall contact the District to request necessary inspections prior to covering pipe and/or connections associated with the installation.

The Customer shall bear all costs that Customer determines are necessary in their sole discretion, for the installation of pumps or renovation of existing Customer piping, as a result of any decreases in line pressure or flow attributed to upgrading or installing an ABPA.

The Customer shall bear all costs that Customer determines are necessary in their sole discretion, for the installation of an expansion tank as a result of potential thermal expansion issues which arise out of creating a closed system by the installation of a backflow prevention assembly.

The Customer shall provide the District and its agents with unimpeded access to backflow prevention assemblies for routine testing and repairs. The District recognizes the potential of freeze damage to ABPAs and associated above ground piping. Commercially available insulated "soft" covers are authorized to be installed by the Customer for the purpose of freeze protection if such a cover provides access for required testing and maintenance.

5.3 Existing Service Connections

Existing unprotected connections are subject to District evaluation and onsite cross-connection control surveys. The District must be provided unimpeded access to perform internal inspections for the purpose of determining cross connection hazards. If District access is impeded for any reason, then the Customer will be required to install a minimum of a RP to protect the public water system.

5.4 Schedule for Installation of BPAs

The following table shows the schedule that the PWS will follow for installation of BPAs when required (based on the hazard assessment).

The PWS may consider granting an extension of time (30 days) for installation of BPA for an existing connection if requested by the premises owner and approved by PWS staff.

Type of Service	Schedule
New connections with identified hazards	Before water service is initiated
Existing connections with high hazards identified	Within 45 days after water user notification (may be shorter based on hazard)
Existing fire protection systems using chemicals or supplied by unapproved auxiliary water source	Within 45 days after water user notification (may be shorter based on hazard)

Existing fire protection systems not using chemicals and supplied by PWS water supply	Within 45 days after water user notification. Upgrade single detector check valve device to an DCDA or RPDA, needs to be completed by 7/1/2034

5.5 Air Gaps

Air gaps must be installed such that:

a. The receiving water container must be located on the water user's premises at the service connection unless an alternative location has been approved by the PWS;
b. All piping between the water user's service connection and the discharge location of the receiving water container must be above finished grade and be accessible for visual inspection unless an alternative piping configuration is approved by the PWS;
c. The PWS must ensure that the air gap meets requirements listed in **Appendix D**; and
d. Any new air gap installation at a water user's service connection must be reviewed and approved by the PWS prior to installation.

5.6 Enforcement

When the water user (customer) fails to install the required backflow protection within 7 days after the due date specified, the PWS will take the following enforcement action:

- The PWS will send a second notice giving the customer an additional 7 days to comply. The notice will also inform the customer that failure to satisfactorily respond to this notice will result in discontinuation of water service.
- If the customer has not complied within 3 days of the due date given in the second notice, the PWS will send a third notice by certified mail and by hand delivery. The notice will also inform the customer that failure to satisfactorily respond to this notice will result in the discontinuation of water service on the specific day noted in the third notice.
- The PWS will send copies of notices to the owner and occupants of the premises (if different from the owner).

5.7 Backflow Protection Levels

Protection levels shall be determined by the District. The following list of circumstances shall require backflow prevention and is not exclusive:

- Premises determined by the District to have unusually complex plumbing configurations that cannot be adequately evaluated
- Premises with limited access or that deny access to the District for internal inspections
- Each service connection that supplies water to Premises on which any substance is or may be handled in such a manner as to permit entry into the public water system, including water originating from the public water system which is or may be subjected to deterioration in sanitary quality

- Premises where there are irrigation systems into which fertilizers, herbicides, or pesticides are, or can be injected. Irrigation systems that have no other form of backflow protection
- Premises where a cross connection exists, or the potential for one that could result in the pollution or contamination of the public water system
- Premises with any Unapproved Auxiliary Water Supply, whether or not it is interconnected with the public water system, except those premises with a destructed well per County Environmental Health Department standards
- Premises with internal pressure boosting system
- All sewage/wastewater treatment facilities and sewage lift stations

5.7.1 Unapproved Auxiliary Water Supply

Any parcel served by District water service that is determined to have an Unapproved Auxiliary Water Supply, whether or not it is interconnected with the public water system, shall install an ABPA or deactivate the well as defined by this Program upon notification.

5.7.2 Private Wells

A private water well is classified as an Unapproved Auxiliary Water Supply whether or not it is interconnected with the public water system. The Customer may continue to use this Unapproved Auxiliary Water Supply as long as an ABPA has been installed at the point of service connection to District specifications.

New customers requesting District water service who also have a private water well on the parcel will be required to install an ABPA prior to initiation of water service or destroy the well as described in this Program. In circumstances where the private water well is serving an existing structure for domestic purposes and the Customer has notified the District that they intend to destroy the well upon receipt of District water service, a District Cross Connection Control Specialist must be present to observe physical disconnection of the well from its source prior to unlocking the installed District water service. Upon unlocking and initiation of water service, the Customer will be responsible for completing the destruction of the well as described by this Program no later than thirty days following initiation of District water service.

5.8 New Non-Residential Fire Suppression System Connections

All new non-residential fire suppression system connections shall be protected, at a minimum, by an approved DCDA installed according to District specifications.

5.8.1 Existing Residential and Non-Residential Single Detector Check Valve Fire Suppression System Connections

Existing residential and non-residential fire suppression systems currently protected with a minimum of a single detector check valve will be allowed to continue in service until July 1, 2034, at which point an appropriate DCDA or RPDA will need to have been installed by the Customer at the point of connection to District water system according to District specifications to remain in compliance with this Program. If a single detector check valve fire suppression system is modified, updated, improved, or hazard

classification is determined to require an DCDA or RPDA, then that upgrade requirement will supersede the July 1, 2034 deadline.

5.8.2 Residential Fire Suppression System Connections

A residential fire service is a connection which is used both for fire protection and to provide domestic water (to bathrooms, sinks, or other uses not related to fire protection). Backflow protection at the meter shall be dependent on the design of the fire sprinkler suppression system. If the fire sprinkler suppression system is connected to, at a minimum, two domestic plumbing fixtures located in separate rooms then no backflow device is required. If the fire sprinkler suppression system is not connected or only connected to one plumbing fixture, then backflow protection at the meter is required.

The following list of circumstances shall require backflow prevention and is not exclusive:

- Any fire system supplied by or that has the potential to be supplied by an Unapproved Auxiliary Water Supply
- Any fire system in which a chemical or additive has been introduced
- When a separate dedicated water service connection is used solely for a fire suppression system, backflow prevention shall be required for that connection.

If the District determines the existing fire suppression system connections have inadequate protection as described by this Program, upon notification the Customer shall install a backflow prevention assembly according to District specifications. The Customer shall be responsible for meeting local fire district's fire system flow requirements.

Nothing in this Program shall be construed as affecting Customer's responsibility for meeting the local fire district's fire system flow requirements. Nothing in a local fire district's fire system flow requirements shall be construed as affecting Customer's responsibility for meeting the requirements of this Program.

5.9 Temporary Meter Connection

Temporary meter connections to District hydrants, blow-offs, or other District infrastructure shall be protected with a minimum of a RP. The temporary meter and RP shall be installed by a District employee upon Customer submittal of appropriate request form and accompanying deposit to the District. The location of the installed temporary meter connection shall be determined by the District in its sole discretion following review of request form. Customer shall access water at approved location through District-installed gate valve located downstream of RP. Under no circumstances shall Customer operate hydrant, blow-off, or other District infrastructure.

5.9.1 Temporary Construction Connections

Temporary construction connections to District water mains used for the purpose of testing and flushing non-District water lines shall be protected with a minimum of a RP. The RP shall be installed in accordance with the District's current Design and Construction Standards and shall be inspected and certified by a District approved Backflow Prevention Assembly General Tester prior to use and annually

thereafter until completion of the project. Failure to obtain the initial, or annual certification shall result in discontinuation of connection to District water main. Each RP must also be retested by a District approved Backflow Prevention Assembly General Tester upon relocation. The District shall not make repairs to these assemblies.

6 Certified BPA Testers and Certified CCC Specialists

The PWS must ensure all BPA testers and CCC specialists used are certified per CCCPH Article 4

6.1 List of PWS Pre-Approved Certified BPA Testers and CCC Specialists

The PWS will maintain a list of certified BPA testers and CCC Specialists that have been pre-approved by the PWS.

6.2 Pre-approval Qualifications

Certified BPA testers and CCC Specialists who wish to be included on the PWS's pre-approved list and/or provide testing in the PWS's service area must apply to the PWS and furnish the following information:

- Evidence of current certification in good standing;
- Make and model of field-testing equipment (BPA testers only);
- Evidence of test equipment verification of accuracy and/or calibration within the past 12 months (BPA testers only)

6.3 Quality Assurance

The PWS CCC specialist, or designated staff will review BPA inspection/test report forms submitted by the certified BPA testers within 30 days of receipt.

The PWS CCC specialist, or designated staff will provide follow up on test reports that are deficient in any way.

The PWS CCC specialist, or designated staff will report incidences of fraud or gross incompetence on the part of a certified tester to the certifying organization.

7 BPA Testing

The PWS must develop and implement a procedure for ensuring all BPA's are field tested, inspected, and maintained and air gaps are inspected and maintained in accordance with CCCPH Section 3.3.3

7.1 Inspection and Testing of BPAs

All BPAs used for the PWS's CCC Program will be subject to inspection and, if applicable, testing by the PWS. The PWS must have access to the user premises and must ensure that the on-site protection meets the requirements of the CCCPH for installation, field testing, and inspections.

Backflow prevention assembly testers must notify the PWS as soon as possible within 24 hours if a backflow incident or an unprotected cross-connection is observed at the BPA or prior to the user premises during field testing. PWS must immediately conduct an investigation and discontinue service to the user premises if a backflow incident is confirmed, and water service must not be restored to that

user premises until the PWS receives a confirmation of a passing BPA field test from a backflow prevention assembly tester and the assembly is protecting the PWS.

Backflow prevention assembly testers must notate on the test sheet if a water user's BPA has been modified in any way.

Inspection and testing of BPAs will be as follows:

- The PWS's certified CCC specialist will inspect BPAs for proper application (i.e., to ensure that the BPA installed is commensurate with the degree of hazard).
- Either a certified CCC specialist or certified BPA tester will perform inspections of BPAs for correct installation.
- A certified BPA tester will test assemblies.

7.1.2 Frequency of Inspection and Testing

Inspection and testing of BPAs will be conducted:

- At the time of installation;
- Annually (approximately 12 months) or more frequently after installation;
- After a backflow incident; and
- After BPA repair, reinstallation, relocation, or re-plumbing

The PWS, State Water Board, or local health agency may require a BPA to be inspected and/or tested more frequently than once a year.

7.1.3 Responsibility for Inspection and Testing

To ensure that all BPAs are inspected and tested, the PWS will implement the following:

- PWS will require the customer to be responsible for inspection, maintenance, and testing of BPAs that are owned by the customer.

7.1.4 Approved Test Procedures

The PWS will require that all assemblies relied upon to protect the public water system be tested in accordance with test procedures as described in the University of Southern California (USC) Manual of Cross-Connection Control 10th Edition Backflow Test Procedures.

7.1.5 Notification of Routine (i.e. Annual) BPA Testing

The PWS will notify customers via mail delivery who own a BPAs used for public water system protection to have their BPA(s) inspected and/or tested each year. Notices will be sent out not less than 30 days before the due date of the inspection and/or test. The notice will also specify the date (up to 7 days after the due date of the inspection and/or test date) by which the test report must be received by the PWS.

7.1.6 Notification of Non-Routine BPA Testing

In situations when non-routine BPA inspection and/or testing is needed, the PWS will notify customers via mail delivery to have their BPA(s) inspected and/or tested. The notice will also specify the date (up to 7 days after the due date of the inspection and/or test date) by which the test report must be received by the PWS.

7.1.7 Enforcement

When the PWS has not received a test report within 7 days after the due date specified, the PWS will take the following enforcement action:

- The PWS will send a second notice giving the customer an additional 7 days to comply. The notice will also inform the customer that failure to satisfactorily respond to this notice will result in discontinuation of water service.
- If the customer has not complied within 3 days of the due date given in the second notice, the PWS will send a third notice by certified mail and by hand delivery. The notice will also inform the customer that failure to satisfactorily respond to this notice will result in the discontinuation of water service on the specific day noted in the third notice.
- The PWS will send copies of notices to the owner and occupants of the premises (if different from the owner).

8 Recordkeeping

The PWS must develop and implement a recordkeeping system in accordance with the CCCPH Section 3.5.1.

8.1 Types of Records and Data to be Maintained

Each PWS must maintain the following records, which must be available to the State Water Board upon request:

- Two most recent hazard assessments for each customer's premises;
- Information on each BPA used for public water supply protection, including the associated hazard or application, location, owner, type, manufacturer and model, size, installation date (if known), and serial number
- Information on air gaps used for public water supply protection at the service connection, including installation, associated hazard or application, location, owner, and as-built plans of the air gap
- Results of all BPA field testing, air gap inspections, and swivel-ell inspections and field tests for the previous three calendar years, including the BPA tester name and certification number, BPA test date, BPA repair date
- Information on repairs made to, or replacement or relocation of, BPAs for the previous three calendar years
- Information on the most current cross-connection tests performed

- Information on user supervisors if required for customers' premises, including current contact information, any applicable training and qualifications
- Descriptions and follow-up actions related to all backflow incidents
- Information on any contractors used to carry out any tasks involved with the CCC program, including contact information, service contract, etc.
- Public outreach or educational materials for the previous three calendar years.

8.2 Methods of how data is maintained and/or stored

Item	Method (Digital, hard copy, or both)
Hazard Assessments	**Both**
BPA Information	**Both**
Air Gap, Swivel-El Information	**Both**
BPA field test reports	**Both**
BPA Installation, Repair, Replacement	**Both**
Certification information of BPA testers and CCC Specialists	**Both**
Backflow Incident Documentation	**Both**
User Supervisors (if required)	**Both**
Public outreach, Education Materials	**Both**
CCC Program Contractor information (if contractor is used)	**Both**

9 Backflow Incident Response, Reporting, and Notification

The PWS must develop and implement procedures for investigating and responding to suspected or actual backflow incidents in accordance with the CCCPH Section 3.5.

9.1 Backflow Incident Response Plan

The PWS's CCC Specialist will participate in developing a backflow incident response plan. An example backflow incident response form shown in **Appendix G**. The incident response plan will include, but will not be limited to:

- Consideration of complaints or reports of changes in water quality as possible incidents of backflow;
- Water quality sampling and pressure recording;

- Notification of affected service area population;
- Notification and coordination with the other agencies, such as the State Water Board, and the local health jurisdiction;
- Identification of the source of backflow substance and the affected area(s);
- Mitigation measures to correct the problem;
- Application of corrective actions to prevent future backflow occurrences; and
- Documentation of the backflow incident investigation, response, and follow-up actions.

9.2 Backflow Incident Notification

The PWS must notify the State Water Board and local health agencies of any known or suspected incident of backflow within 24 hours of the determination.

State Water Board- Division of Drinking Water Contact Information:
District 01- Klamath
Office Phone: (530) 224-4800
Emergency Phone: (530) 224-4876

10 Public Outreach and Education

The PWS must implement a CCC public outreach and education program element that includes educating PWS staff, customers, and the community about backflow protection and CCC. The PWS may implement this requirement through a variety of methods which may include providing information on CCC and backflow protection.

The District will distribute CCC education materials using the following methods:

- Periodic Water Bill inserts
- Pamphlet distribution
- New customer documentation
- District website- https://humboldtcsd.org/

Examples of education information to be distributed by the PWS can include, but not limited to, the following:

- Cross-connection hazards in general;
- Irrigation system hazards and corrective actions;
- Point-of-use treatment (i.e. household softeners, reverse osmosis units) cross-connection hazards;
- Auxiliary water supply (i.e. privately-owned wells, greywater or other non-potable water use) cross-connection hazards;
- Importance of annual inspection and/or testing of backflow preventers; and

- Thermal expansion in hot water systems when backflow preventers are installed for premises isolation.

11 Local Entity Coordination

Per the CCCPH, the PWS must coordinate with applicable local entities that are involved in either CCC or public health protection to ensure hazard assessments can be performed, appropriate backflow protection is provided and provide assistance in the investigation of backflow incidents. Local entities may include but are not limited to plumbing, permitting, or health officials, law enforcement, fire departments, maintenance, and public and private entities.

11.1 Local Entity Outreach

Below are the local entities the District will coordinate with to promote CCC. This list is not all inclusive, other entities will be added over time as appropriate.

- Humboldt County Building and Planning Department
- Humboldt Bay Fire
- Humboldt County Environmental Health Department
- Public schools within the District's service area
- All District approved backflow testers

Appendix

Appendix A: HCSD Rules and Ordinances

Appendix B: Single Check Fire Protection Service Connections

Appendix C: Detail Drawings for Backflow Prevention Assembly Installation

Appendix D: Air Gap Specifications

Appendix E: Backflow Prevention Assembly Diagrams

Appendix F: Swivel-Ell

Appendix G: Incident Response Reporting Form

Appendix H: Laws regarding CCCPH authority

Appendix I: High Hazard Cross-Connection Premises

Appendix J: Hazard Assessment Form

Appendix K: Backflow Inventory

Appendix A

HCSD Rules and Ordinances

ORDINANCE NO. 2015-01

AN ORDINANCE OF THE HUMBOLDT COMMUNITY SERVICES DISTRICT AMENDING THE HUMBOLDT COMMUNITY SERVICES DISTRICT CODE RELATING TO WATER SERVICE CROSS-CONNECTION PROGRAM

WHEREAS, The Humboldt Community Services District provides water service to the residents of the District; and

WHEREAS, The Board of Directors of the Humboldt Community Services District has determined that a Cross-Connection Program is necessary to systematically and effectively prevent the contamination or pollution of the District's public potable water supply from cross-connections between a customer's potable and non-potable water system, plumbing fixtures and/or industrial piping systems; and

WHEREAS, The Board of Directors of the Humboldt Community Services District finds that District Code Article 4, Section 4.05.140 needs to be amended to include a reference to the District's Cross-Connection Control Program for the Program's elements to be enforceable; and

WHEREAS, The Board of Directors of the Humboldt Community Services District has considered this Ordinance at a duly noticed Public Hearing.

NOW THEREFORE, BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE HUMBOLDT COMMUNITY SERVICES DISTRICT, AS FOLLOWS:

Section 1: Amend District Code Section 4.05.140 to read as follows:

4.05.140 Cross-Connections.

a) The customer must comply with State and Federal laws governing the separation of dual water systems or installations of backflow protective devices to protect the public water supply from the danger of cross-connections. Backflow protective devices must be installed as near the service as possible and shall be open to test and inspection by the District. Plans for installation of backflow protective devices must be approved by the District prior to installation. All costs associated with the purchase, installation, testing and maintenance of a backflow device shall be the responsibility of the water customer.

b) The District has adopted a "Cross Connection Control Program" effective July 1, 2015. That document, as adopted or as may be amended in the future, shall be used to interpret and apply the sections of this Chapter applicable to cross-connections and provides additional District rules and procedures concerning cross-connections.

Section 2: **Separability**. If a section, subsection, sentence, clause, or phrase of this Ordinance is held to be unconstitutional, or contrary to the general or special laws of the United States or the State of California, the invalidity of such section, subsection, sentence, clause, or phrase shall not affect the remaining portions of this Ordinance.

Ord. 2015-01 Page 1 of 2

Section 3: **Further Action**. The Board of Directors of the District is hereby authorized and directed to take all action necessary or appropriate to effectuate the provisions of this Ordinance.

PASSED AND ADOPTED BY THE BOARD OF DIRECTORS OF THE HUMBOLDT COMMUNITY SERVICES DISTRICT ON THIS 28thth DAY OF April 2015 by the following roll call vote:

AYES: Bongio, Gardiner, Saunderson, Scolari, Tyson

NOES: None

ABSENT: None

Approved:

David L. Saunderson, Board President

ATTEST:

Brenda K. Franklin, Board Secretary

4.01.020 Water Superintendent. The position of Water Superintendent is hereby created. The Water Superintendent or a designated representative shall regularly inspect all physical facilities related to the District water system, to see that they are in good repair and proper working order, and to note violations of any water regulations. The Water Superintendent is responsible for determining whether or not a cross-connection hazard exists and what type of backflow protection is required. (Ord. 4, §51, revised by Ord. 88-1, §2, 1988)

4.05.140 Cross-Connections.

a) The customer must comply with State and Federal laws governing the separation of dual water systems or installations of backflow protective devices to protect the public water supply from the danger of cross-connections. Backflow protective devices must be installed as near the service as possible and shall be open to test and inspection by the District. Plans for installation of backflow protective devices must be approved by the District prior to installation. All costs associated with the purchase, installation, testing and maintenance of a backflow device shall be the responsibility of the water customer.

b) The District has adopted a "Cross Connection Control Program" effective July 1, 2015. That document, as adopted or as may be amended in the future, shall be used to interpret and apply the sections of this Chapter applicable to cross-connections and provides additional District rules and procedures concerning cross-connections. (Ord. 2015-1, §1, 2015)

4.05.150 Cross Connection - Special Cases. In special circumstances, when the customer is engaged in the handling of especially dangerous or corrosive liquids or industrial or process waters, the District may require the customer to eliminate certain plumbing or piping connections as an additional precaution and as a protection to the back flow preventive devices. (Ord. 4, §147, 1954)

4.05.160 Relief Valves. As a protection to the customer's plumbing system, a suitable pressure relief valve must be installed and maintained by him at his expense, HCSD CODE Page 16 of 110 when check valves or other protective devices are used. The relief valve shall be installed between the check valves and the water heater. (Ord. 4, §148, 1954)

4.05.180 Cross Connection - Inspection. The double check valve or other approved backflow protection devices must be inspected and tested at least annually or more often if inspections indicate any occasion of failure. Any costs associated with inspection, testing, repair or replacement of the device shall be the responsibility of the water customer. Inspections and tests must be made by a certified cross-connection specialist acceptable to the District or by the District's personnel. (Ord. 4, §150, amended by Ord. 88-1, §3, 1988)

4.05.190 Cross Connection – Discontinued Service. The service of water to any premises may be immediately discontinued by the District if any defect is found in the check valve installations or other protective devices, or if it is found that dangerous unprotected cross-connections exist. Service will not be restored until such defects are corrected. (Ord. 4, §151, 1954)

4.05.200 Interruptions in Service. The District shall not be liable for damage which may result from an interruption in service from a cause beyond the

control of the Water Department. (Ord. 4, §152, 1954)

4.05.210 Ingress and Egress. Representatives from the Water Department shall have the right of ingress and egress to the customers' premises at reasonable hours for any purpose reasonably connected with the furnishing of water service. (Ord.4, §153, 1954)

7.01.020 Monthly Water Service Rates. There will be a monthly rate for water service provided by the District which rate shall be the total of the following items:

A. Monthly Base Rate, as defined in Section 7.01.030,

B. Monthly Consumption Charge, as defined in Section 7.01.040, and

C. Monthly Fire Protection Charge if applicable, as defined in Section 7.01.050.

D. Monthly Backflow Prevention Device Charges if applicable, as defined in Section 7.01.055 (Ord. 2002-01, §2, 2002, 07/28/09)

7.01.055 Backflow Prevention Device Charges. Maintenance and testing of these devices is the responsibility of the customer. The District may choose to provide the required testing of the backflow prevention device per the adopted Cross-Connection Control Program and as per current adopted resolution setting backflow prevention device testing fees. (Ord. 2015-02, §1, 2015)

Appendix B

Single Check Fire Protection Service Connections

6253 Berry Lane

6433 Eggert Road

129 Higgins Street

500 Siler Lane

2641 Hall Avenue

2885 Harris Street

2211 Harrison Avenue

3225 Timber Falls Court

2675 Harris Street

2705 Harris Street

75 Greenwood Heights

2020 Campton Road

3969 Walnut Drive

5630 South Broadway Street

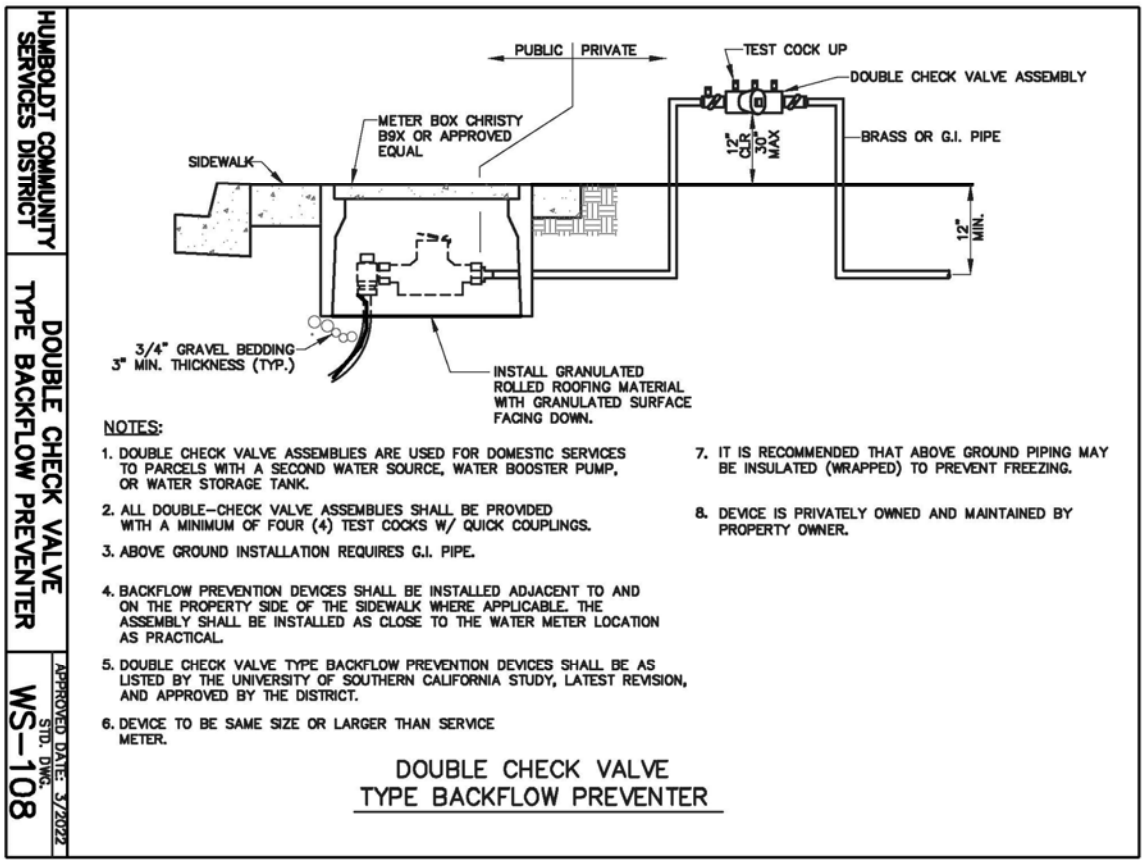
2475 Myrtle Avenue

2773 Harris Street

7020 Seaview Drive

Appendix C

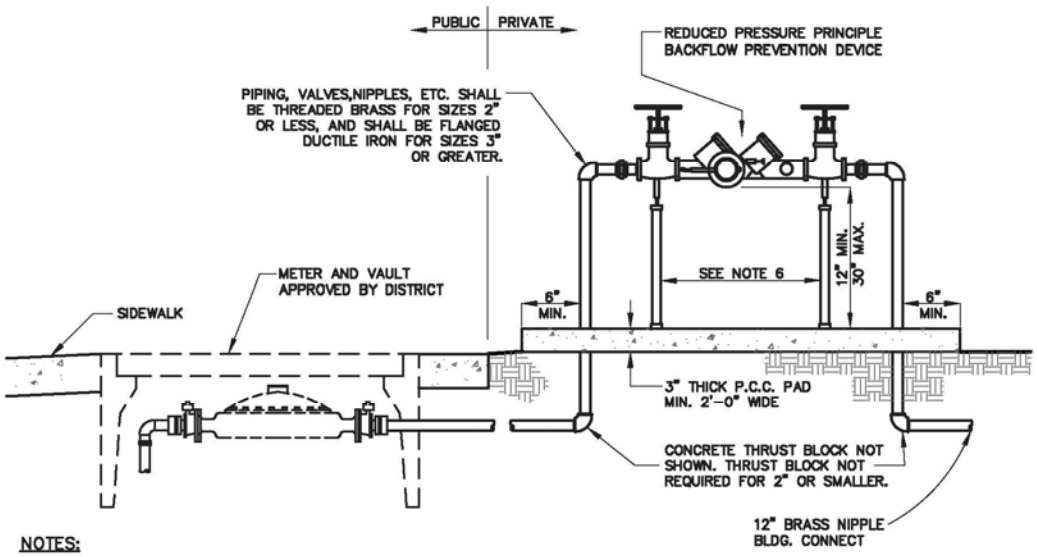
Detail Drawings for Backflow Prevention Assembly Installation



HUMBOLDT COMMUNITY SERVICES DISTRICT

REDUCED–PRESSURE BACKFLOW PREVENTER

APPROVED DATE: 3/2022
STD. DWG.
WS–109



NOTES:

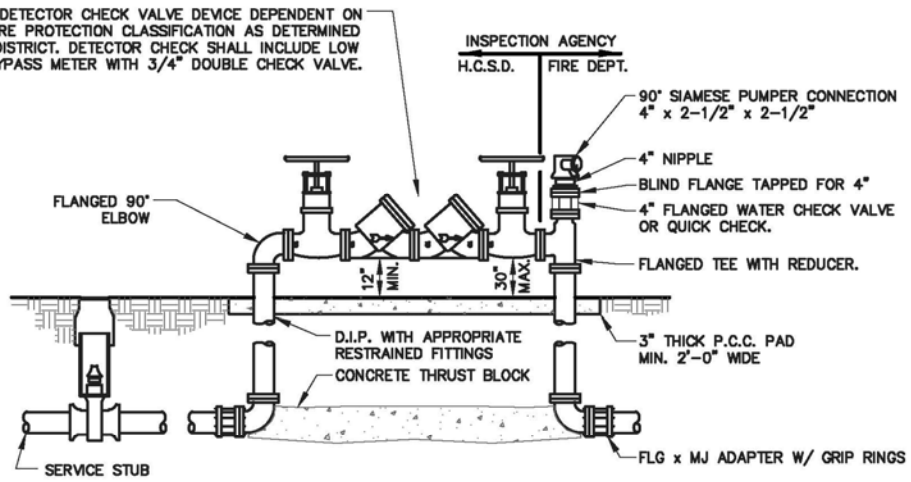
1. REDUCED–PRESSURE TYPE BACKFLOW PREVENTION DEVICES SHALL BE REQUIRED FOR ANY USE WHERE TOXIC MATERIALS ARE USED OR WHERE POSITIVE PROTECTION FOR THE PUBLIC WATER SUPPLY IS REQUIRED. TYPICAL APPLICATIONS INCLUDE; IRRIGATION SERVICES, COMMERCIAL SERVICES, INDUSTRIAL SERVICES, HOSPITALS, LABORATORIES, MORTUARIES, OR AS DETERMINED BY THE DISTRICT. (TITLE 17 CALIF. ADMINISTRATION CODE).
2. REDUCED–PRESSURE TYPE BACKFLOW PREVENTION DEVICES SHALL BE AS LISTED BY THE UNIVERSITY OF SOUTHERN CALIFORNIA STUDY, LATEST REVISION, AND APPROVED BY THE DISTRICT.
3. BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED ADJACENT TO AND ON THE PROPERTY SIDE OF SIDEWALK WHERE APPLICABLE. THE ASSEMBLY SHALL BE INSTALLED AS CLOSE TO THE WATER METER LOCATION AS PRACTICAL.
4. DEVICE TO BE SAME SIZE OR LARGER THAN SERVICE METER.
5. LANDSCAPING OR OTHER SCREENING AROUND THE BACKFLOW DEVICE SHALL BE AS SHOWN ON APPROVED PLANS.
6. 3" BACKFLOW PREVENTION DEVICE OR LARGER TO HAVE SUPPORTS.
7. IT IS RECOMMENDED THAT ABOVE GROUND PIPING MAY BE INSULATED (WRAPPED) TO PREVENT FREEZING.

REDUCED–PRESSURE PRINCIPLE BACKFLOW PREVENTER
PRIVATELY OWNED AND MAINTAINED

HUMBOLDT COMMUNITY SERVICES DISTRICT

DOUBLE DETECTOR CHECK VALVE SINGLE SERVICE

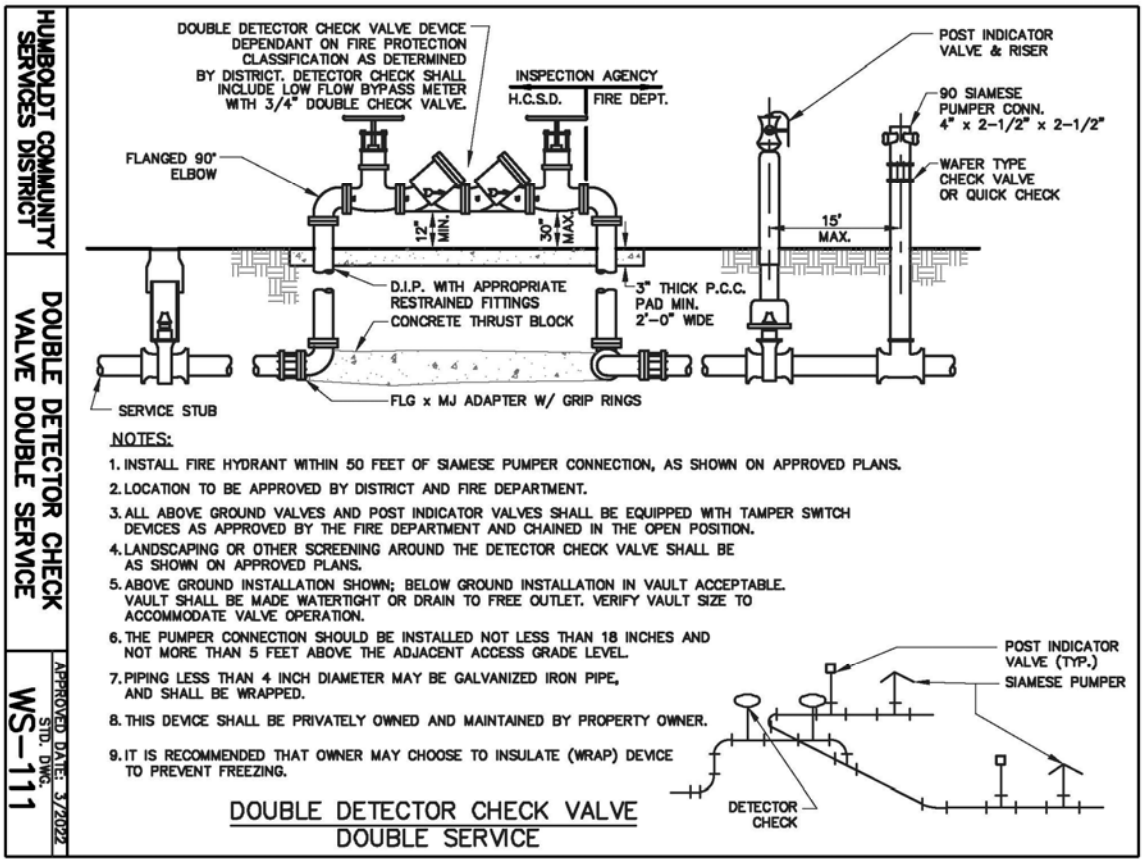
APPROVED DATE: 3/2022
STD. DWG.
WS-110



NOTES:

1. INSTALL FIRE HYDRANT WITHIN 50 FEET OF SIAMESE PUMPER CONNECTION, AS SHOWN ON APPROVED PLANS.
2. LOCATION TO BE APPROVED BY DISTRICT AND FIRE DEPARTMENT.
3. ALL ABOVE GROUND VALVES AND POST INDICATOR VALVES SHALL BE EQUIPPED WITH TAMPER SWITCH DEVICES AS APPROVED BY THE FIRE DEPARTMENT AND CHAINED IN THE OPEN POSITION.
4. LANDSCAPING OR OTHER SCREENING AROUND THE DETECTOR CHECK VALVE SHALL BE AS SHOWN ON APPROVED PLANS.
5. ABOVE GROUND INSTALLATION SHOWN; BELOW GROUND INSTALLATION IN VAULT ACCEPTABLE. VAULT SHALL BE MADE WATERTIGHT OR DRAIN TO FREE OUTLET. VERIFY VAULT SIZE TO ACCOMMODATE VALVE OPERATION.
6. THE PUMPER CONNECTION SHOULD BE INSTALLED NOT LESS THAN 18 INCHES AND NOT MORE THAN 5 FEET ABOVE THE ADJACENT ACCESS GRADE LEVEL.
7. PIPING LESS THAN 4 INCH DIAMETER MAY BE GALVANIZED IRON PIPE, AND SHALL BE WRAPPED.
8. THIS DEVICE SHALL BE PRIVATELY OWNED AND MAINTAINED BY PROPERTY OWNER.
9. IT IS RECOMMENDED THAT OWNER MAY CHOOSE TO INSULATE (WRAP) DEVICE TO PREVENT FREEZING.

DOUBLE DETECTOR CHECK VALVE
SINGLE SERVICE


HUMBOLDT COMMUNITY SERVICES DISTRICT
DOUBLE DETECTOR CHECK VALVE DOUBLE SERVICE
APPROVED DATE: 3/2022
STD. DWG.
WS-111
DOUBLE DETECTOR CHECK VALVE DEVICE DEPENDANT ON FIRE PROTECTION CLASSIFICATION AS DETERMINED BY DISTRICT. DETECTOR CHECK SHALL INCLUDE LOW FLOW BYPASS METER WITH 3/4" DOUBLE CHECK VALVE.
INSPECTION AGENCY
H.C.S.D.
FIRE DEPT.
POST INDICATOR VALVE & RISER
90 SIAMESE PUMPER CONN. 4" x 2-1/2" x 2-1/2"
WAFER TYPE CHECK VALVE OR QUICK CHECK
FLANGED 90° ELBOW
12" MIN.
30" MAX.
15' MAX.
D.I.P. WITH APPROPRIATE RESTRAINED FITTINGS
CONCRETE THRUST BLOCK
3" THICK P.C.C. PAD MIN. 2'-0" WIDE
SERVICE STUB
FLG x MJ ADAPTER W/ GRIP RINGS
NOTES:
1. INSTALL FIRE HYDRANT WITHIN 50 FEET OF SIAMESE PUMPER CONNECTION, AS SHOWN ON APPROVED PLANS.
2. LOCATION TO BE APPROVED BY DISTRICT AND FIRE DEPARTMENT.
3. ALL ABOVE GROUND VALVES AND POST INDICATOR VALVES SHALL BE EQUIPPED WITH TAMPER SWITCH DEVICES AS APPROVED BY THE FIRE DEPARTMENT AND CHAINED IN THE OPEN POSITION.
4. LANDSCAPING OR OTHER SCREENING AROUND THE DETECTOR CHECK VALVE SHALL BE AS SHOWN ON APPROVED PLANS.
5. ABOVE GROUND INSTALLATION SHOWN; BELOW GROUND INSTALLATION IN VAULT ACCEPTABLE. VAULT SHALL BE MADE WATERTIGHT OR DRAIN TO FREE OUTLET. VERIFY VAULT SIZE TO ACCOMMODATE VALVE OPERATION.
6. THE PUMPER CONNECTION SHOULD BE INSTALLED NOT LESS THAN 18 INCHES AND NOT MORE THAN 5 FEET ABOVE THE ADJACENT ACCESS GRADE LEVEL.
7. PIPING LESS THAN 4 INCH DIAMETER MAY BE GALVANIZED IRON PIPE, AND SHALL BE WRAPPED.
8. THIS DEVICE SHALL BE PRIVATELY OWNED AND MAINTAINED BY PROPERTY OWNER.
9. IT IS RECOMMENDED THAT OWNER MAY CHOOSE TO INSULATE (WRAP) DEVICE TO PREVENT FREEZING.
POST INDICATOR VALVE (TYP.)
SIAMESE PUMPER
DETECTOR CHECK
DOUBLE DETECTOR CHECK VALVE
DOUBLE SERVICE

Appendix D

Air Gap Specifications

ASME A112.1.2-2012(R2017) Table 1, Minimum Air Gaps for Generally used Plumbing Fixtures, [1] page 4

Table 1

Minimum Air Gaps for Generally used Plumbing Fixtures[4]

Fixtures	WHERE NOT AFFECTED BY SIDEWALLS[1] (inches)	WHERE AFFECTED BY SIDEWALLS[2] (inches)
Effective opening[3] not greater than ½ of an inch in diameter	1	1 ½
Effective openings[3] not greater than ¾ of an inch in diameter	1 ½	2 ¼
Effective openings[3] not greater than 1 inch in diameter	2	3
Effective openings[3] greater than 1 inch in diameter	Two times the diameter of effective opening	Three times the diameter of effective opening

For SI units: 1 inch = 25.4 mm

Notes:

[1] Sidewalls, ribs, or similar obstructions do not affect air gaps where spaced from the inside edge of the spout opening at a distance exceeding three times the diameter of the effective opening for a single wall, or at a distance exceeding four times the effective opening for two intersecting walls.
[2] Vertical walls, ribs, or similar obstructions extending from the water surface to or above the horizontal plane of the spout opening other than specified in Footnote 1 above. The effect of three or more such

vertical walls or ribs has not been determined. In such cases, the air gap shall be measured from the top of the wall.

[3] The effective opening shall be the minimum cross-sectional area at the seat of the control valve pr the supply pipe or tubing that feeds the device or outlet. Where two or more lines supply one outlet, the effective opening shall be the sum of the cross-sectional areas of the individual supply lines or the area of the single outlet, whichever is smaller.

[4] Air gaps less than 1 inch (25.4 mm) shall be approved as a permanent part of a listed assembly that has been tested under actual backflow conditions with vacuums of 0 to 25 inches of mercury (85 kPa).

Appendix E

Backflow Prevention Assembly Diagrams

Diagram 1
Double check detector backflow prevention assembly[1]

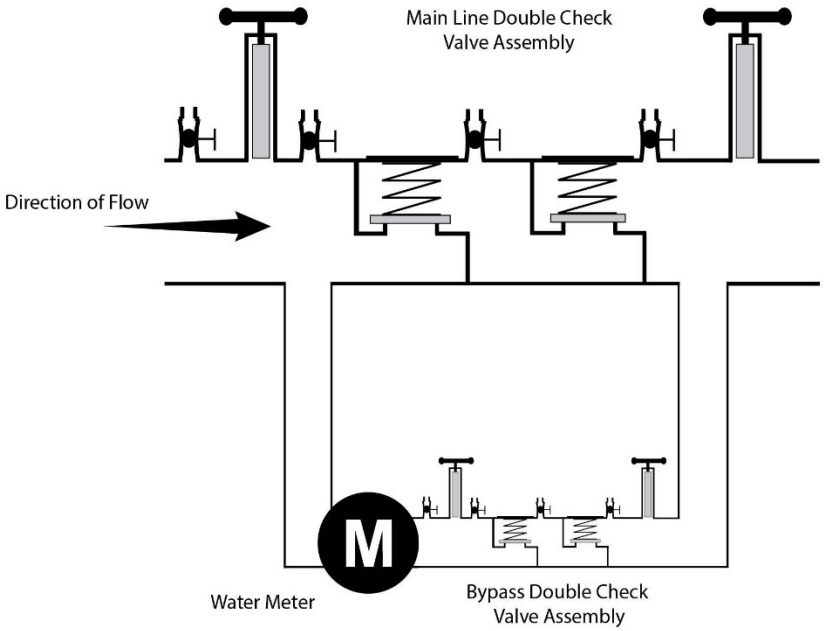


Diagram 2
Double check valve backflow prevention assembly[3]

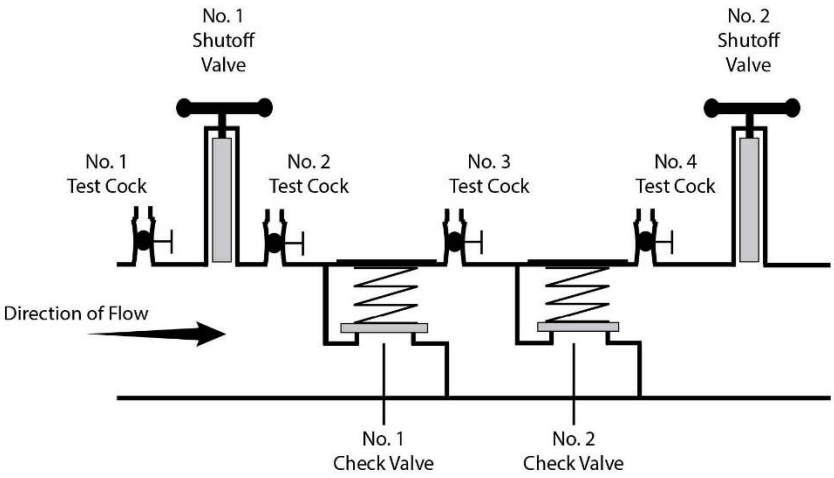


Diagram 3
Pressure vacuum breaker backsiphonage prevention assembly [4]

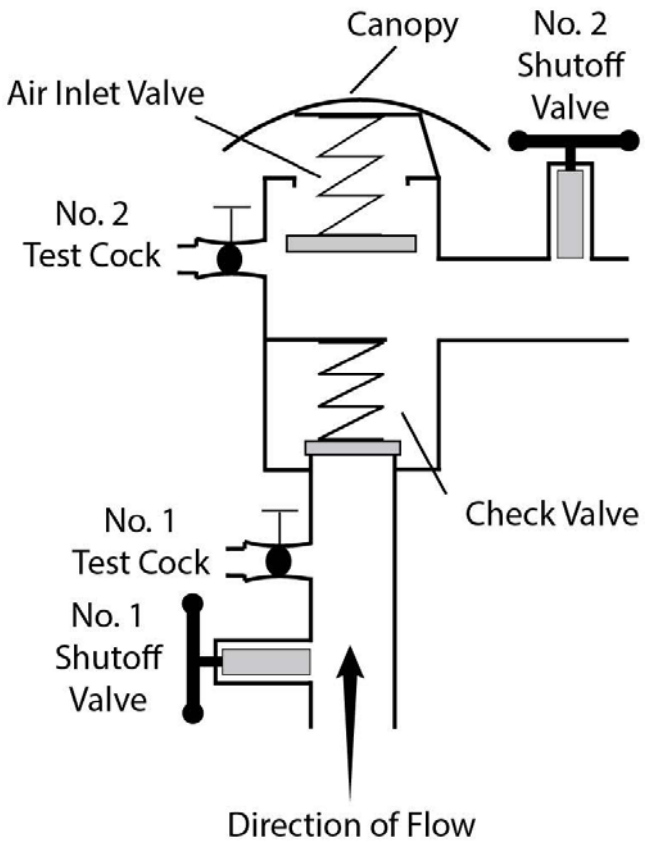


Diagram 4
Reduced pressure principle backflow prevention assembly [5]

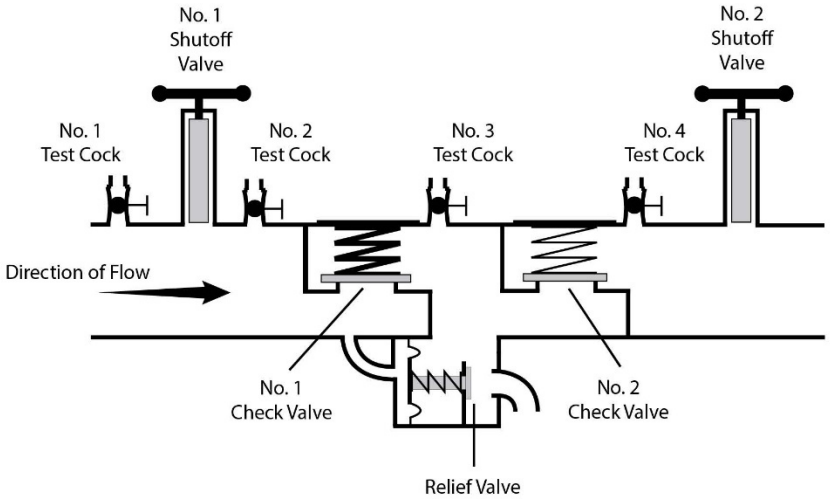


Diagram 5

Reduced pressure principle detector backflow prevention assembly [6]

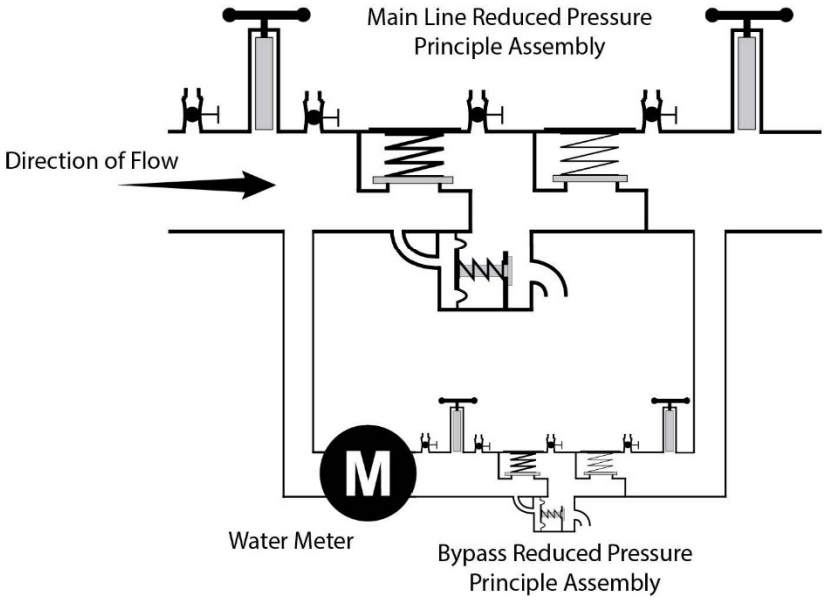
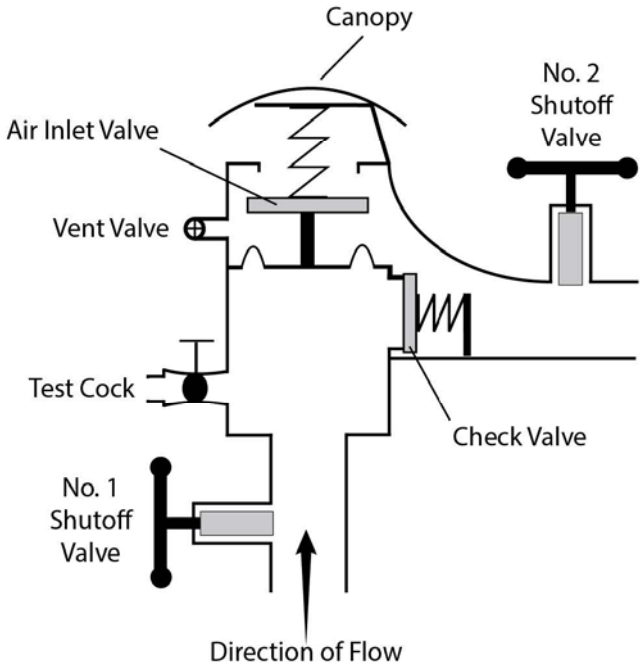


Diagram 6

Spill-resistant pressure vacuum breaker backsiphonage prevention assembly [8]



Appendix F

Swivel-Ell

Swivel-Ell Design and Construction Criteria

The criteria below, in conjunction with the swivel-ell diagrams that follow (Diagrams 7a and 7b), are **minimum** acceptable design and construction-related requirements for utilizing a swivel-ell. For restrictions and allowances for utilizing a swivel-ell, see CCCPH section 3.2.2.

A. Prior to operation of a swivel-ell, the PWS will receive approval for the design and construction plans of that swivel-ell from the State Water Board.

B. The drinking water supply must not, under any circumstances, be directly connected to the recycled water supply, nor be designed such that the recycled water use site could be supplied concurrently by a recycled water supply and a drinking water supply.

C. The drinking water supply line and the recycled water supply line must be offset (see Diagram 7b) in a manner that ensures a tee-connection, spool, or other prefabricated mechanical appurtenance(s) could not be readily utilized in lieu of the swivel-ell connection, nor result in the recycled water use site being supplied concurrently by recycled water and drinking water.

D. The recycled water supply line used in conjunction with the swivel-ell must be the only recycled water supply to the recycled water use area.

E. The swivel-ell must be located as close as practical to the public water system service connection, with the swivel-ell connection being located as close as practical to the RP upstream of the swivel-ell.

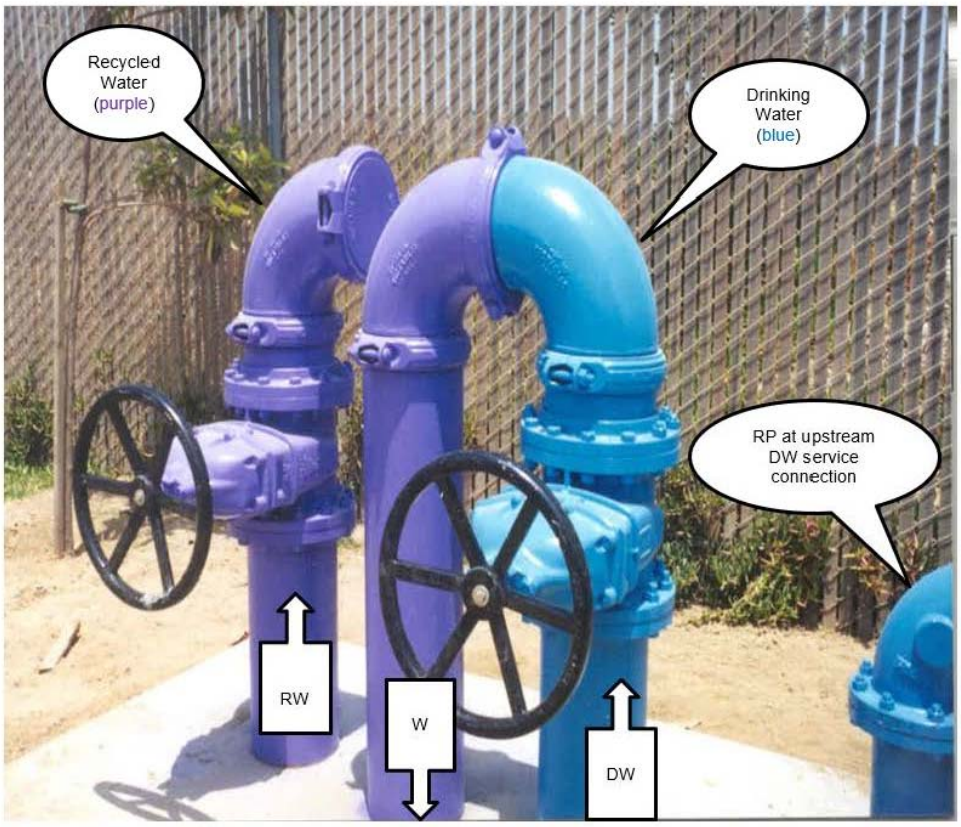
F. The swivel-ell must:

1. be located above ground;
2. be color-coded pursuant to section 116815 of the CHSC and its implementing regulations;
3. include appropriate signage, as required by regulation and the State Water Board;
4. be provided the security necessary to prevent interconnections, vandalism, unauthorized entry, etc.; and
5. be provided with meters on both the recycled water service and drinking water service connections.

Legend for Diagram 7a and 7b (also see next page)

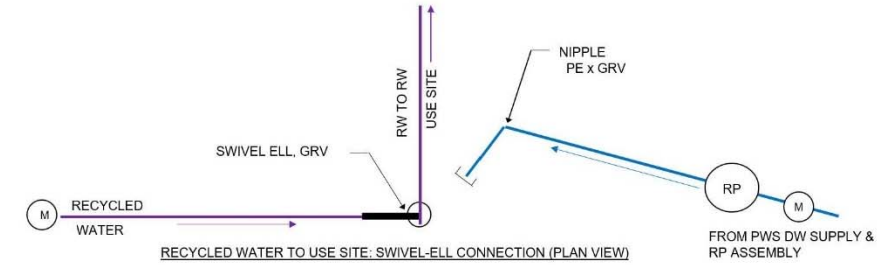
RP = Reduced pressure principle backflow prevention assembly
RW = Tertiary-treated recycled water originating from wastewater treatment facility
DW = Drinking water originating from a public water system
W = Water (tertiary recycled water **or** drinking water) to use site. As pictured, configured for supplemental drinking water to the use site.
M = Meter (*next page*)
PE = Plain End (*next page*)
GRV = Groove (*next page*)
PWS = Public Water System (*next page*)

Diagram 7a: Example Swivel-Ell Pictorial (also see Plan View Schematics)

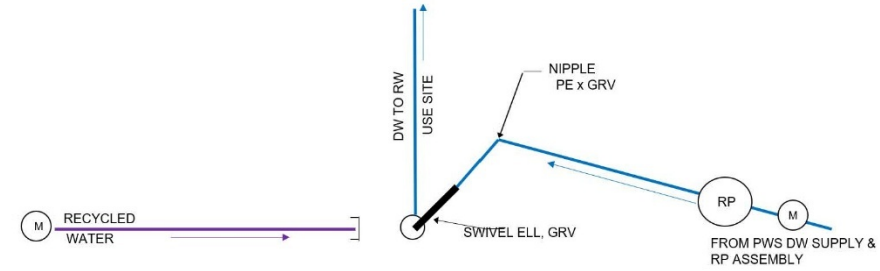


Note: The RP, a required component of an acceptable swivel-ell, is not shown in the picture.

Diagram 7b: Swivel-Ell Typical Plan View Schematics
(not intended to be an exact portrayal of the pictorial)



RECYCLED WATER TO USE SITE: SWIVEL-ELL CONNECTION (PLAN VIEW)



POTABLE WATER TO USE SITE: SWIVEL-ELL CONNECTION (PLAN VIEW)

Appendix G

Incident Response Reporting Form

BACKFLOW INCIDENT REPORT FORM

Water System: _____

Water System Number: _____

Incident Date: _____

Incident Time (if known):_____

Incident Location: _____

How was the incident discovered?

_____

Backflow Originated from:

Premise Location: _____

Address: _____

Premise Contact Person: _____ Title:_____

Phone: _____ Email: _____

Connection Type: (please check one)

Industrial___ Commercial___ Single-Family Residential___ Multi-Family Residential___

Irrigation___ Recycled Water___ Water System Facility___

Other: _____

Description and source of backflow substance (please be as descriptive as possible):

_____

If available, please attach an MSDS or other chemical description form

Was the backflow fluid contained within the user side? YES NO

Estimated Number of Affected Persons: _____

Number and description of consumer complaints received:

Did any consumers report illness? Please describe.

_____

If applicable, please describe the consumer notification:

_____

INVESTIGATION

Please describe the water system investigation including time frames:

_____

_____

_____

What was the area system pressure? _____

Is this within typical range: YES NO - typical pressure: _____

Was a sample of the water contaminated by the backflow incident collected and stored before flushing? YES NO

Please describe all sampling:

_____

DDW recommends laboratory or field sampling for the following parameters: total coliform, E. coli, free and total chlorine residual, pH, odor, turbidity, temperature, and color. Additional sampling should be collected at the PWS and regulatory agency's discretion.

CORRECTIVE ACTIONS

Please describe the corrective actions taken by the water system:

_____

_____

Was the chlorine residual increased after discovery of backflow incident? YES NO

Date of the last cross-connection control hazard assessment of the premise where the backflow incident occurred: _____

Did the premise have backflow prevention assemblies? YES NO

Date of most recent backflow prevention assembly test(s): _____

When was the Division of Drinking Water or Local County Health office notified?

Date: _____Time: _____ Contact Person: _____

Was the Division or Local County Health notified within 24 hours? YES NO

Other agencies or organizations contacted?

CERTIFICATION

Name: _____ Job Title: _____

Certification(s): _____

Please list all cross-connection control related certifications including number and expiration date

I certify that the forgoing information is true and correct to the best of my ability.

Signature: _____ Date: _____

Attach the following applicable documentation

1. Laboratory Test Results
2. Sketch of the cross-connection and modifications
3. MSDS or chemical information forms if chemical hazard is known
4. Applicable backflow assembly test reports including the most recent test before the incident
5. Other relevant supporting documentation

Appendix H

Laws regarding CCCPH authority

The following laws and regulations are considered related or tangential to the CCCPH, and are included in a descriptive format to provide additional, relevant background information

California Laws and Regulations

In addition to the California SDWA statutory requirements cited in CCCPH Chapter 1, section 1.3.1, California has statutes addressing certain authorities and requirements that may have influenced the CCCPH or may otherwise be of interest.

- Urban and community water systems must have a written policy on discontinuation of residential service for nonpayment and must not discontinue residential service for nonpayment if certain conditions are met. (CHSC sections 116900 – 116926)

- Senate Bill 1263 (2017) requires that before a person submits an application for a permit for a proposed new public water system, the person shall first submit a preliminary technical report which must include a cost comparison of a new public water system and consolidations with an existing system. (CHSC section 116527)

- Effective June 24, 2015, Senate Bill 88 (SB 88) (Statutes 2015, Chapter 27) added sections 116680-116684 to the CHSC, allowing the State Water Board to require certain water systems that consistently fail to provide safe drinking water to consolidate with, or receive an extension of service from, another public water system. The consolidation can be physical or managerial.

- Local health officers may maintain programs for the control of cross-connections by water users, within water users' premises, where public exposure to backflow may occur. Such programs may include water user premises inspections, collection of fees, certification of backflow prevention assembly[1] (BPA) testers, and other discretionary elements. Local health officer BPA tester certification standards must be consistent with the standards prescribed in the CCCPH. Water users are required to comply with all orders, instructions, regulations, and notices from the local health officer regarding installation, testing, and maintenance of a BPA. (CHSC sections 116800 - 116820).

- Pursuant to the California Building Standards Law (CHSC sections 18901 - 18949.31), the California Building Standards Commission (CBSC) must administer the processes related to the adoption, approval, and publication of regulations referred to as the California Building Standards Code (Title 24, California Code of Regulation). Title 24 serves as the basis for the minimum design and construction of buildings in California and includes the California Plumbing Code (Part 5 of Title 24), which contains requirements pertaining to cross-connection control

and backflow prevention.

- A BPA intended to convey or dispense water for human consumption via drinking or cooking must meet California's "lead free" requirements. (CHSC section 116875)

- Limits are established for the installation of backflow protection equipment where automatic fire sprinkler systems are utilized. (CHSC section 13114.7)[2]

- Cross-connection control must be addressed in engineering reports that are required (CCR Title 22, section 60323) for recycled water projects. (Wat. Code section 13552.8)

- If a public agency requires the use of recycled water for toilet and urinal flushing in a structure (except certain mental health facilities), the public health agency must prepare an engineering report that addresses cross-connection control. (Wat. Code section 13554)

- Prior to indoor use of recycled water in a condominium project, the entity delivering the recycled water must submit a report, for State Water Board[3] approval, and include the following related to cross-connection control (Wat. Code section13553(d)(1)):
    - The condominium project must be provided with a backflow prevention assembly approved by the State Water Board.
    - The backflow prevention assembly must be inspected and tested annually by a certified tester.
    - The condominium project must be tested by the recycled water agency or local agency at least once every four years for indications of possible cross-connections between the condominium's potable and non-potable systems.

- California's Department of Water Resources was required to convene a task force, known as the 2002 Recycled Water Task Force, to identify constraints, impediments, and opportunities for the increased use of recycled water and report to the Legislature by July 1, 2003. The task force was also asked to advise and make recommendations concerning cross-connection control, including the applicability of visual inspections instead of pressure tests for cross-connections between potable and non-potable water systems. (Wat. Code section 13578(b)(1). The final report[4] provided the following recommendations to the State Water Board– Division of Drinking Water (Division):
    - Prepare guidance on dual plumbed regulations (22 CCR sections 60313-60316) consistent with Appendix J of plumbing code (Chapter 15 of 2019 California Plumbing Code, formerly Chapter 16A).
    - Support thorough assessment of risk associated with cross-connections between disinfection tertiary recycled water and potable water.
    - Ensure uniform interpretation of cross-connection control requirement of Title 22 regulations (recycled water) and Title 17 (cross-connection control regulations)

- Recommend stakeholders to review draft Title 17 regulations.

- A person engaged in the salvage, purchase, or sale of scrap metal who knowingly possesses a backflow prevention assembly (or connections to the assembly or any part of the assembly), or who failed to report the possession of such items, which was previously owned by a utility or public agency, is guilty of a crime. (Pen. Code section 496e)

- Junk dealers or recyclers who possess a backflow prevention assembly (or connections to that assembly or any part of the assembly) without a written certification from the agency or utility owning or previously owning the assembly will be liable to the agency or utility for the wrongful possession. (Civ. Code section 3336.5 and, similarly, Bus. & Prof. Code section 21609.1)

Please note that a number of the codes, regulations, and statutes cited above are implemented under the authority of regulatory entities other than the State Water Board and would therefore be beyond the scope of this CCCPH. The intent of providing such citations is to increase general awareness with respect to other potential statutory requirements associated with cross-connection control. The list is not exhaustive and does not include other requirements that may exist, including those via regulations that may have been adopted by an appropriate regulatory entity.

Federal Laws and Regulations

All suppliers of domestic water to the public are subject to regulations adopted by the U.S. Environmental Protection Agency (EPA) under the U.S. Safe Drinking Water Act (SDWA) of 1974, as amended (42 U.S.C. section 300f et seq.), as well as by the State Board under the California SDWA (Health & Saf. Code, div. 104, pt. 12, ch. 4, section 116270 et seq.). Additionally, the State Water Board has been delegated primacy – the responsibility and authority to administer U.S. EPA's drinking water regulations within California – on the condition that California adopt enforceable requirements no less stringent than U.S. EPA's.

The U.S. EPA currently has no distinct cross-connection control requirements that apply broadly to public water systems (PWS); however, the importance of cross-connection control is evident by the issue papers and guidance documents developed by U.S. EPA and their recognition that cross-connections and backflow represent a significant public health risk (see discussion in Chapter 2). Although U.S. EPA currently has no distinct cross-connection control requirements, the subject of cross-connection or backflow prevention assemblies is included in the U.S. SDWA and the Code of Federal Regulations (C.F.R.) in relation to PWS, including the following:[5]

- If used exclusively for non-potable services, a backflow prevention assembly (BPA) is exempt from the federal lead prohibitions. (42, U.S.C. section 300g)

- Allows increasing disinfectant concentrations in a PWS distribution system in the event of a cross-connection (backflow) event. (40 C.F.R. section 141.130(d))

- Proper maintenance of the distribution system, including cross-connection control, is identified as a best available technology (BAT) for microbial contaminant control. (40 C.F.R. section 141.63(e))

- Under the federal Revised Total Coliform Rule, a PWS having a cross-connection control program is one of the enhancements necessary to reduce monitoring for a PWS that had been under an increased monitoring frequency. (40 C.F.R. section 141.854(h)(2))

- Under the federal Revised Total Coliform Rule, a PWS having a cross-connection control program is a criterion for a state to allow a reduced monitoring frequency (40 C.F.R. section 141.855(d)(1))

- If a state allows the monitoring frequency reductions previously mentioned under the federal Revised Total Coliform Rule, a state is required to include in its primacy package to U.S. EPA how a PWS will be required to demonstrate cross-connection control. (40 C.F.R. section 142.16(q))

[1] California statutes use a variety of terms when referencing a 'backflow prevention assembly' (e.g., backflow protective device, backflow protection equipment, backflow prevention device, backflow or back
siphonage protection device, backflow preventer, or backflow device). For consistency with industry terminology, 'backflow prevention assembly' is used in the CCCPH, unless directly quoted otherwise.
[2] CHSC section 13114.7 historically provided potential limits for backflow prevention assemblies on fire sprinklers. Even though current standards differ from the language stated in CHSC section 13114.7, it is still being provided as a historical reference as there may still be installations with the now outdated limits established in section 13114.7
[3] The California Department of Public Health's authority and responsibility pertaining to this reference was transferred to the State Water Board via Senate Bill 861 (2014, Chapter 35). As such, applicable statutory mandates that may refer to "California Department of Public Health" or "Department" may be referred to as "State Water Board" in this document.
[4] California Department of Water Resources. (2003). Water Recycling 2030: Recommendations of California's Recycled Water Task Force
[5] For requirements unrelated to cross-connection control, please consult California's laws and regulations specific to the topic of interest. California may have more stringent requirements (e.g., reduced monitoring allowed via federal regulations may be prohibited in California).

Appendix I

HIGH HAZARD CROSS-CONNECTION PREMISES

The list below identifies premises that require backflow protection provided by an air gap or a reduced pressure principle backflow prevention assembly, unless noted otherwise. The list below is not intended to be all-inclusive. A PWS, State Water Board, or local health agency may require an AG, RP, or both to protect a PWS from other hazards not listed below and identified in premises through the hazard assessment completed in CCCPH Chapter 3, section 3.2.1. A PWS may reduce or increase the minimum protection required for a previously hazard-assessed user premise following a hazard reassessment as described in CCCPH Chapter 3, section 3.2.1.

1. Sewage handling facilities
2. Wastewater lift stations and pumping stations
3. Wastewater treatment processes, handling, or pumping equipment that is interconnected to a piping system connected to a PWS (+)
4. Petroleum processing or storage plants
5. Radioactive material storage, processing plants or nuclear reactors
6. Mortuaries
7. Cemeteries
8. Sites with an auxiliary water supply interconnected with PWS (+)
9. Sites with an auxiliary water supply not interconnected with PWS
10. Premises with more than one connection to the PWS (++++)
11. Recycled water (++)(+++)
12. Recycled water interconnected to piping system that contains water received
13. from a PWS (+)
14. Graywater systems, as defined in California Water Code Section 14876, that are interconnected to a piping system that is connected to a PWS
15. Medical facilities
16. Kidney dialysis facilities
17. Dental office with water-connected equipment
18. Veterinarian facilities
19. Chemical plants
20. Laboratories
21. Biotech facilities
22. Electronics manufacture
23. Dry cleaner facilities
24. Industrial or commercial laundry facilities
25. Metal-plating facilities
26. Business Park with a single meter serving multiple businesses
27. Marine-port facilities

28. Car wash facilities
29. Mobile home park, RV park, or campgrounds with RV hookups
30. Hotels/motels
31. Gas stations
32. Fire stations
33. Solid waste disposal facilities
34. Pet groomers
35. Agricultural premises
36. Hazard assessment access denied or restricted
37. Railroad maintenance facilities
38. Incarceration facilities (e.g. prisons)
39. Temporary connections to fire hydrants for miscellaneous uses, including construction
40. Private water distribution mains
41. Drinking water storage tank overflow connected to a sump or storm drain (+)
42. Airports

(+) Premise isolated by air gap only except as allowed through CCCPH Section 3.2.2(c)

(++) Dual-plumbed use areas established per CCR Title 22, Section 60313 through 60316.

(+++) Residences using recycled water for landscape irrigation as part of an approved dual plumbed use area established pursuant to CCR Title 22, sections 60313 through 60316 shall use, at a minimum, a DC. If the water supplier is also the supplier of the recycled water, then the recycled water supplier may obtain approval of the local public water supplier or the State Water Board, to utilize an alternative backflow protection plan that includes an annual inspection of both the recycled water and potable water systems and an annual cross-connection test of the recycled water and potable water systems pursuant to subsection 60316(a) in lieu of any BPA.

(++++) All connections must receive at least the same level of protection excluding fire protection when connected to the PWS distribution system (e.g. if one connection requires an RP then all connections must have RPs installed).

Appendix J

Hazard Assessment Form

Hazard Assessment Matrix **Date**.....

HAZARD ASSESSMENT: **Initial: Yes or No** **Follow up**: Account Change/ New Connection / Change Activities or Materials/ Incident/ No Longer Accurate/Periodic/SWRCB Request

Site Address: .....

Site Contact: .....

APN: ..... Water Account Number: .....

Premise Type: Residential ..... Commercial..... Industrial.....

Water Service Type	Number of Services	Service size	Existing Backflow Protection	Existing protection approved Yes or No	Recommended corrective action if needed
Domestic					
Fire					
Irrigation					

(1) **The existence of cross-connections; Yes or No** Explain: .....

-**Current Backflow Protection (Circle One):** AG, RP, DC, Other, None

(2) **The type and use of materials handled and present, or likely to be, on the user premises**; Explain: .....

(3) **The degree of piping system complexity and accessibility**; (Check One)

Simple System..... Multi Piping System..... Low Complexity.....High Complexity.....

-is a "User Supervisor" required for this premise? **Yes or No** Do you recommend that one needs to be appointed? **Yes or No**

(4) **Access to auxiliary water supplies, pumping systems, or pressure systems**;

Auxiliary Water System: **Yes or No** Pumping System: **Yes or No** Pressure System: **Yes or No**

(5) **Distribution system conditions that increase the likelihood of a backflow event (e.g., hydraulic gradient differences impacted by main breaks and high-water demand situations, multiple service connections that may result in flow-through conditions, etc.);** Hydraulic Grade Line: **Yes or No** High-Water Demand: **Yes or No** Looped Systems: **Yes or No**

(6) **User premises accessibility;** Open Access: **Yes or No** Restricted: **Yes or No** Critical Water User: **Yes or No**

(7) **Any previous backflow incidents on the user premises; Yes or No**

If yes, explain: .....

(8) **Degree of Hazzard: High Hazard** (Contaminants or Health hazard. See Appendix D for a list): **Yes or No**

Low Hazard (Pollutants or Non-health Hazards): **Yes or No** **No Hazard: Yes or No**

Have all hazard been properly Identified Yes or No

I certify that all the information presented in this hazard assessment is true and accurate to the best of my knowledge and belief

Signed.....**Date**.....

Specialist Review Name: .....

Corresponding Backflow Protection (Circle One): AG RP DC Other None

Notes:

Appendix K Backflow Inventory - Redacted