PURPOSE

11.1.1 The purpose of the Cross-Connection Control Program is to protect the public water supply system from contamination due to potential and actual cross-connections. This shall be accomplished by the establishment of a cross-connection control program (CCCP) as required by State regulations.

11.2 AUTHORITY

11.2.1.1 This program is adopted pursuant to Title 17, Section 7583 – 7605, inclusive, of the California Code of Regulations, entitled "Regulations Relating to Cross-Connections."

11.3 DEFINITIONS

11.3.1 ***Air Gap*** – A physical separation between the free-flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel. An "approved air gap" shall be at least twice the diameter of the supply pipe measured vertically above the overflow rim of the receiving vessel; in no case less than 1 inch.

11.2.2 ***Approved Backflow Prevention Assembly*** – An assembly that has been investigated and approved by the administrative authority having jurisdiction. The approval of backflow prevention assemblies by the administrative authority shall be on the basis of a favorable laboratory and field evaluation report by an approved testing laboratory recommending such approval.

11.2.3 ***Approved Testing Laboratory*** – The Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California (USCFCCCHR) or other laboratory having equivalent capabilities for both the laboratory and field evaluation of backflow prevention assemblies.

11.2.4 ***Approved Water Supply*** – The public water system consisting of water produced, maintained and delivered to the rate payers by the Beaumont-Cherry Valley Water District, tested and approved by the California Department of Water Resources.

11.2.5 ***Atmospheric Vacuum Breaker Backsiphonage Prevention Assembly (AVB)*** – An assembly containing an air inlet valve, a check seat and an air inlet port(s). The flow of water into the body causes the air inlet valve to close the air inlet port(s). When the flow of water stops the air inlet valve falls and forms a check valve against backsiphonage. At the same time it opens the air inlet port(s) allowing air to enter and satisfy the vacuum. A shutoff valve immediately upstream may be an integral part of the assembly, but there shall be no shutoff valves or obstructions downstream. The assembly shall not be subjected to operating pressure for more than twelve (12) hours in any twenty-four (24) hour period. An AVB is designed to protect against a non-health hazard or a health hazard under a backsiphonage condition only.

11.2.6 ***Auxiliary Water Supply*** – Any water supply on or available to the premises other than the water provided by the Beaumont-Cherry Valley Water District's approved public potable water supply.

11.2.7 ***Backflow*** – The undesirable reversal of flow of water or mixtures of water and other liquids, gases or other substances into the distribution pipes of the potable supply of water from any source or sources.

11.2.8 ***Backflow Prevention Assembly*** – Any effective assembly used to prevent backflow into a potable water system. The type of assembly used shall be based on the existing or potential degree of hazard and backflow condition and/or as further identified in this CCCP under recommendation of the District Cross-Connection Control Specialist. The types of backflow prevention assemblies are:

11.2.8.1 Atmospheric Vacuum Breaker Backsiphonage Prevention Assembly (AVB)

11.2.8.2 Pressure Vacuum Breaker Backsiphonage Prevention Assembly Type I and II (PVB)

11.2.8.3 Spill-Resistant Pressure Vacuum Breaker Backsiphonage Prevention Assembly (SVB)

11.2.8.4 Double Check Valve Backflow Prevention Assembly (DC)

11.2.8.5 Double Check Detector Backflow Prevention Assembly Type I and II (DCDA)

11.2.8.6 Reduced Pressure Principle Backflow Prevention Assembly (RP)

11.2.8.7 Reduced Pressure Principle Detector Backflow Prevention Assembly Type I and II (RPDA)

11.2.9 ***Backpressure*** – Any elevation of pressure in the downstream piping system (by pump, elevation of piping, steam pressure, air pressure, etc…) above the supply pressure at the point of consideration, which would cause or rend to cause a reversal of the normal direction of flow.

11.2.10 ***Backsiphonage*** – A form of backflow due to a reduction in system pressure, which causes a sub-atmospheric pressure to exist in the water system.

11.2.11 ***Certified Backflow Prevention Assembly Tester*** – A person who has proven ability in field testing backflow prevention assemblies to the satisfaction of the administrative authority having jurisdiction (i.e. American Water Works Association or Riverside County Department of Environmental Health). Each person who is certified to perform field tests and prepare reports on backflow assemblies shall be conversant in applicable laws rules and regulations in the opinion of the administrative authority having jurisdiction.

11.2.12 ***Consumer (Customer)*** – The owner or operator of an on-site water system(s) having a service from the Beaumont-Cherry Valley Water District. Within this document, the terms Consumer and Customer are used interchangeably.

11.2.13 ***Contaminant*** – Any substance that shall impair the quality of water, in such a way as to create an actual hazard to the public health through poisoning, the spread of disease, etc.

11.2.14 ***Critical Service*** – A water service that can never be interrupted due to the critical nature of facility involved.

11.2.15 ***Cross-Connection*** – Any actual or potential connection or structural arrangement between a public or a consumer's potable water system and any other source or system through which it is possible to introduce into any part of the potable water any used water, industrial fluid, gas, or substance other than the intended potable water with which the system is supplied. Bypass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent devices through which or because of which backflow can occur are considered to be cross-connections.

11.2.15.1 *Direct Cross-Connection* – is a cross-connection which is subject to both backpressure and backsiphonage.

11.2.15.2 *Indirect Cross-Connection* – is a cross-connection which is subject to backsiphonage only.

11.2.16 ***Double Check Valve Backflow Prevention Assembly (DC)*** – An assembly composed of two independently acting, approved check valves, including tightly closing resilient seated shutoff valves attached at each end of the assembly and fitted with properly located resilient seated test cocks. This device shall only be used to protect against a non-health hazard.

11.2.17 ***Double Check Detector Backflow Prevention Assembly (DCDA)*** – A specially designed assembly composed of a line-size approved double check valve assembly with a bypass containing a specific water meter and an approved double check valve assembly. The meter shall register accurately for rates of flow up to 2 gallons per minute (gpm) and shall show a registration for all rates of flow. This assembly shall only be used to protect against a non-health hazard.

11.2.18 ***Health Hazard/Non-Health Hazard*** – *A Health Hazard or (Contaminant)* is any substance that shall impair the quality of water, in such a way as to create an actual hazard to the public health through poisoning, the spread of disease, etc. *A Non-Health Hazard or (Pollutant)* is 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.

11.2.19 ***Industrial Fluids*** – Any fluid or solution, which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration, which would constitute a hazard if introduced into an approved water supply.

11.2.20 ***Internal Protection*** – The appropriate type or method of backflow prevention within the consumer's potable water system at the point of use, commensurate with the degree of hazard.

11.2.21 ***Manifold Assembly*** – An assembly comprised of backflow prevention assemblies (DC or RP) of the same manufacturer, model and size. Manifold adaptor fittings on both the inlet and outlet of the manifold assembly are considered integral components. The size of the manifold assembly is determined by the inlet and outlet connections of the manifold adaptor fittings.

11.2.22 ***Plumbing Hazard*** – An internal or plumbing type cross-connection in a consumer's potable water system with either a pollutant or contaminant.

11.2.23 ***Pollution –*** 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.

11.2.24 ***Potable Water –*** Water from any source which has been investigated by the health agency having jurisdiction, and which has been approved for human consumption.

11.2.25 ***Pressure –*** A uniform force applied over a surface, measured as a force per unit area. Typically water is measured in pounds per square inch (psi).

11.2.26 ***Pressure Vacuum Breaker Backsiphonage Prevention Assembly (PVB) –*** An assembly containing an independently operating internally loaded check valve and an independently operating loaded air inlet valve located on the discharge side of the check valve. The assembly is to be equipped with properly located resilient seated test cocks and tightly closing resilient seated shutoff valves attached at each end of the assembly. This assembly is designed to protect against a non-health hazard under a backsiphonage condition only.

11.2.27 ***Public Potable Water System –*** Any publicly or privately-owned water system operated as a public utility under a valid health permit to supply water for domestic purposes. This system will include all sources, facilities and appurtenances between the source and the point of delivery such as valves, pumps, pipes, conduits, tanks, receptacles, fixtures, equipment and appurtenances used to produce, convey, treat or store potable water for public consumption or use.

11.2.28 ***Readily Accessible –*** Capable of being reached for testing and/or maintenance, without the need of removing any access panel, door, or similar obstruction.

11.2.29 ***Reclaimed Water –*** Water which, as a result of treatment of wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur. Reclaimed water is not safe for human consumption.

11.2.30 ***Reduced Pressure Principle Backflow Prevention Assembly (RP) –*** An assembly containing two independently acting approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. The unit shall include properly located resilient seated test

cocks and tightly closing resilient seated shutoff valves at each end of the assembly. This assembly is designed to protect against a non-health hazard or a health hazard.

11.2.30 ***Reduced Pressure Principle Detector Backflow Prevention Assembly (RPDA) –*** A specifically designed assembly composed of a line-size approved reduced pressure principle backflow prevention assembly with a specific bypass containing a specific water meter and an approved reduced pressure principle backflow prevention assembly. The meter shall register accurately for rates of flow up to 2 gallons per minute (gpm) and shall be used to protect against a non-health hazard or a health hazard.

11.2.31 ***Sanitary Sewer –*** The pipe that carries sewage.

11.2.32 ***Service Connection –*** The terminal end of a service connection from the public potable water system (i.e. where the water supplier may lose jurisdiction and sanitary control of the water at its point of delivery to the consumer's water system).

11.2.33 ***Service Protection –*** The appropriate type or method of backflow protection at the service connection, commensurate with the degree of hazard of the consumer's potable water system.

11.2.34 ***Spill-Resistant Pressure Vacuum Breaker Backsiphonage Prevention Assembly (SVB) –*** An assembly containing an independently operating internally loaded check valve and independently operating loaded air inlet valve located on the discharge side of the check valve. The assembly is to be equipped with a properly located resilient seated test cock, a properly located bleed/vent port, and tightly closing resilient seated shutoff valves attached at each end of the assembly. This assembly is designed to protect against a non-health hazard under a backsiphonage condition only.

11.2.35 ***System Hazard –*** An actual or potential threat of severe danger to the physical properties of the public or the consumer's potable water system or of a pollution or contamination, which would have a protracted effect on the quality of the potable water in the system.

11.2.36 ***Used Water*** – Any water supplied by a water purveyor from a public potable water system to a consumer's water system after it has passed through the service connection and is no longer under the control of the Beaumont-Cherry Valley Water District.

11.2.37 ***Site Supervisor*** – The consumer or a person on the premises appointed by the consumer charged with the responsibility of maintaining the consumer's water system(s) on the property free from unprotected cross-connections and other sanitary defects, as required by regulations and laws.

11.2.38 ***Water Supplier*** – The Beaumont-Cherry Valley Water District.

11.2.39 **11.5 ABBREVIATIONS**

AG	Air Gap Separation
ANSI	American National Standards Institute
AVB	Atmospheric Vacuum Breaker Backflow Prevention Assembly
AWWA	American Water Works Association
BAT	Backflow Assembly Tester(s)
BCVWD	Beaumont-Cherry Valley Water District (District)
BPA	Backflow Prevention Assembly
CA/NV AWWA	California Nevada Section of the American Water Works Association
CCCM	Cross-Connection Control Manual (University of Southern California Foundation for Cross-Connection Control and Hydraulic Research)
CCCP	Cross-Connection Control Program
CCCS	Cross-Connection Control Specialist
CCR	California Code of Regulations
DC	Double Check Valve Backflow Prevention Assembly
DCDA	Double Check Detector Backflow Prevention Assembly
DCDA-II	Double Check Detector Backflow Prevention Assembly Type-II
GPM	Gallons per Minute
IPC	International Plumbing Code
LAA	Local Administrative Authority
NFPA	National Fire Prevention Association
NFSA	National Fire Sprinkler Association
OEM	Original Equipment Manufacturer
PSI	Pounds per Square Inch
PSIA	Pounds per Square Inch Absolute
PSIG	Pounds per Square Inch Gauge
PVB	Pressure Vacuum Breaker Backflow Prevention Assembly
RP	Reduced Pressure Principle Backflow Prevention Assembly
RPDA	Reduced Pressure Principle Detector Backflow Prevention Assembly
RPDA-II	Reduced Pressure Principle Detector Backflow Prevention Assembly Type-II
RV	Relief Valve
SOV	Shut Off Valve
SVB	Spill Resistant Vacuum Breaker Backflow Prevention Assembly
SWRCB	State Water Resources Control Board
TC	Test Cock
UPC	Uniform Plumbing Code
USCFCCCHR	University of Southern California Foundation for Cross-Connection Control and Hydraulic Research

11.6 PROGRAM OBJECTIVES

The objective of the CCCP is to reasonably reduce the risk of contamination of the public water system by isolating within the consumer's internal distribution system(s) or the consumer's private water system(s) such contaminants or pollutants which could backflow into the public water system; and to promote the elimination or control of existing cross-connections, actual or potential, between the consumer's internal potable water system(s) and non-potable water system(s), plumbing fixtures and industrial piping systems; and, to provide for the maintenance of a continuing Cross-Connection Control Program which will systematically and effectively prevent the contamination or pollution of the potable water system.

11.4.1 General Provisions

11.4.1.1 No connections shall be installed, located, maintained or operated between the water system and any supply system which might cause contamination or pollution of water and physical parts of the water system.

11.4.1.1.1 The District may discontinue service to the premises where such a connection exists.

11.5 REQUIREMENTS AND SCHEDULES FOR CROSS-CONNECTION SURVEYS AND BACKFLOW PREVENTION DEVICES

11.5.1 The primary method for protecting the public water system shall be the installation of a backflow prevention device by the customer, at the customer's expense.

11.5.2 Service connections shall be protected from the hazards of cross-connection in accordance with the regulations of the Department of Health Services, State of California, and ordinances of the County of Riverside. Backflow preventative devices shall be installed in accordance with these Regulations unless a greater degree of hazard is present.

11.5.2.1 Should the District determine a greater degree of hazard for cross-connection exists, or is anticipated, the degree of protection shall be determined by the District's Cross-Connection Control Specialist.

11.5.3 The District shall terminate water service to customers who do not comply with the requirements set forth in this Cross-Connection Control Program and/or requirements contained in the California Code of Regulations, Title 17, Sections 7583-7605 "Regulations Relating to Cross-Connections"

11.5.4 The procedures for evaluating the backflow prevention requirements for new and existing customers are as follows:

11.5.4.1 For all ***new non-residential services***, the District shall require that the customer submit with the application for water service a "Preliminary Cross-Connection Control Hazard Assessment Form".

This form shall be used for preliminary assessment only. The District may require a more thorough assessment at a later date if the questionnaire indicates special plumbing, hazardous water use or the potential for hazardous water use on the premises. The customer shall permit the District's Cross-Connection Control Specialist (CCCS) to conduct a cross-connection survey to determine the potential backflow and the degree of hazard on the premises. The District CCCS shall have full access to all plumbing on and within said premises. For those facilities and activities listed under section 11.6 of the CCCP, the backflow prevention devices prescribed shall be the minimum level of backflow protection installed. The District may require a higher level of backflow protection if the CCCS identifies that the premises has the potential for a change in cross-connection conditions.

11.5.4.2 For all ***new residential services***, the District shall require that the customer submit with the application for water service a completed "Water Use Questionnaire". If the customer's questionnaire indicates special plumbing, including an irrigation sprinkler system without vacuum breakers, hazardous water use on the premises, or a fire sprinkler system without internal plumbing that allows for periodic circulation of water within the fire sprinkler system, the customer shall permit the District CCCS to conduct a cross-connection survey to determine if the customer's water system poses a hazard to the public water system. The District CCCS shall determine the appropriate backflow prevention device if required.

11.5.4.3 For all ***existing non-residential services***, when deemed necessary by the District CCCS, the customer shall permit the District CCCS to conduct a cross-connection survey to determine if the customer's water system poses a hazard to the public water system. For those facilities and activities listed under section 11.6 of the CCCP, the backflow prevention devices prescribed shall be the minimum level of backflow protection installed. The District may require a higher level of backflow protection if the CCCS identifies that the premises has the potential for a change in cross-connection conditions.

11.5.4.4 For all ***existing residential services***, when deemed necessary by the District CCCS, the customer shall permit the District CCCS to conduct a cross-connection survey to determine if the customer's water system poses a hazard to the public water system. The District CCCS shall determine the appropriate backflow prevention device if required.

11.5.4.5 The District CCCS may use discretion and require a cross-connection survey on the premises of any District customer, where the District CCCS reasonably identifies that a cross-connection may exist, and where the District CCCS identifies a water system that could pose a hazard to the public water system. The District CCCS shall have full access to all plumbing on and within said premises.

11.5.4.5 As an alternative to the above requirements for a cross-connection survey, the District CCCS may use discretion and specify that a backflow prevention device be installed as a condition of service.

11.6 BACKFLOW PREVENTION DEVICE REQUIREMENTS

11.6.1 The following policy shall apply to all new and existing customers:

11.6.1.1 When a backflow prevention assembly is required to protect public health, said backflow prevention device shall be purchased and installed by the customer (at the customer's expense) as close as practical to the discharge of the water meter or point-of-connection of the fire service, in accordance with BCVWD Standard Construction Specifications and Standard Detail Drawings; and maintained, tested, and inspected in accordance with BCVWD standards.

11.6.1.1 For new customers, BCVWD will not turn on water (except for testing purposes) at the meter until the customer complies with the above requirements for installation, testing and maintenance.

11.6.1.2 Failure of the customer to comply with BCVWD's installation standards, testing and maintenance requirements may result in termination of water service. Any charges associated with the disconnection of service will apply.

11.6.1.3 Minimum level of backflow protection for specific facilities and activities. The following list includes those facilities and activities requiring backflow protection with the minimum level indicated. This list may be subject to change based on the findings of the District's cross-connection survey of the premises. This is a non-exclusive list and any facility or activity not shown may be required to install backflow prevention devices as determined by the CCCS.

MINIMUM LEVEL OF BACKFLOW PROTECTION:

1. Automotive Repair and Service Facilities – RP
2. Autopsy Facilities – RP
3. Auxiliary Water Systems (residential and non-residential) – RP
4. Bars – RP
5. Beverage Bottling Plant – RP
6. Breweries – RP
7. Buildings
    - A. Any building with sewage pumps or ejectors – AG
    - B. Any building containing non-potable water reuse systems – RP
    - C. Any building containing mechanical equipment using chemicals with a potable water makeup line connected to the mechanical equipment – RP
    - D. Any building containing carbonator (soft drink dispenser) – RP
    - E. Any non-residential or non-single family residential with an ornamental fountain – RP
    - F. Any non-residential or non-single family residential multi-storied building – RP
    - G. Any commercial structure in which the specific business activity cannot be ascertained or is subject to change without a building permit – RP
8. Fire Protection Services
    - A. Serving Commercial Fire Sprinkler Systems and/or Private Fire Hydrants
        - I. Systems utilizing only BCVWD water supply through a combination service connection – DCDA
        - II. Systems utilizing BCVWD water supply which also contain chemical additives, on site water storage, auxiliary water supplies or fire booster pumps – RPDA
    - B. Serving Residential Fire Sprinkler Systems
        - I. Systems utilizing only BCVWD water supply through a combination service connection (domestic and fire), without internal plumbing that allows for periodic circulation of water within the fire sprinkler system – DC
        - II. Systems utilizing only BCVWD water supply through a separate service connection (fire only) – DC
        - III. Systems utilizing only BCVWD water supply through a combination service connection (domestic and fire) and that also contain chemical additives, on site water storage, auxiliary water supplies or fire boosters pumps – RP
        - IV. Systems utilizing only BCVWD water supply through a separate service connection (fire only) and that also contain chemical additives, on site water storage, auxiliary water supplies or fire boosters pumps – RP
        - V. Systems utilizing only BCVWD water supply that are constructed using a passive purge system where potable water flows completely through the piping (no dead ends) to prevent stagnant water – no backflow protection is required
9. Chemical Plants – Any premises, where the manufacturing, storing, compounding, or processing of chemicals occurs. Where chemicals are used as additives in the processing of products – RP
10. Commercial Kitchens of Food Preparation Facilities – RP
11. Convalescent Homes – RP

12. Dairy Processing Plant – RP
13. Dental Clinics – RP
14. Dry Cleaning Facilities – RP
15. Fuel Storage or Dispensing Facilities – RP
16. Film Processing Facilities – RP
17. Florists – RP
18. Grocery Stores – RP
19. Hazardous or potentially hazardous treatment processes with pumping equipment – RP
20. Hospitals – RP
21. Ice Manufacturing Plant – RP
22. Indoor Fitness facilities with or without Spa or Pool – RP
23. Irrigation systems with capabilities for injecting fertilizers, or hazardous chemicals – RP
24. Irrigation systems without pumps, injectors, fertilizers, or hazardous chemicals, subjected to backsiphonage only – PVB
25. Laboratories – including, but not limited to, teaching institutions, biological and analytical facilities – RP
26. Laundries (commercial) – RP
27. Lawn irrigation systems – Vacuum Breaker
28. Massage Therapy Clinics and Spas – RP
29. Medical Building and Clinics – RP
30. Metal manufacturing, Cleaning, Processing or Fabricating Plant – RP
31. Morgues – RP
32. Mortuaries – RP
33. Multiple Services: Including two or more interconnected services provided by one water supplier to a single owner and/or Operator – RP
34. Multi-residential or multi-family services (served by a single meter) – RP
35. Nursing Homes – RP
36. Oil/Gas Production, Storage or Transmission premises – RP
37. Paper and Paper Products Manufacturing Plants – RP
38. Pet Stores – RP
39. Plastic Manufacturing, Extruding and Injection Molding – RP
40. Plating Plants – RP
41. Public or Commercial Swimming Pools – RP
42. Portable Spray or Cleaning Equipment which can be connected to the BCVWD water system – RP
43. Radioactive Materials or Substances Processing or Storage – AG
44. Recycled Water – This includes premises where recycled water is used, or has the potential to be used, with no interconnection to the BCVWD water system – RP
45. Restaurant – RP
46. Restricted, Classified, or Other Closed Facilities – RP
47. Rubber Manufacturing Facilities – RP
48. Salon, Hair and/or Nails, and Barber Shops – RP
49. Sand and Gravel Plants – RP
50. Sanitariums – RP
51. Schools, Colleges and University – RP
52. Sewer Lift Stations – AG
53. Sewer Treatment Facilities – AG
54. Solar Heating
    A. Solar collection systems that contain any hazardous materials and have a direct connection to the BCVWD water system – RP

B. Solar system that is once through such as domestic hot water systems do not require protection.

55. Tank Trucks – AG
56. Vehicle Washing Facilities – RP
57. Veterinary Facilities, Kennels, Animal Boarding – RP

11.7 FACILITIES WITH SPECIAL CONSIDERATIONS

11.7.1 Although the air gap is a very effective means of preventing backflow; it is not practical in every case. Under special consideration and approval from the State Water Resources Control Board Division of Drinking Water and District CCCS, an RP or RPDA backflow prevention assembly may be used ONLY for limited on-site potable water and/or fire protection supply. Said water supply shall in no way be physically connected to any equipment, piping, valves, appurtenances, or wastewater treatment process, that are in anyway, in contact with raw sewage, treated wastewater, recycled water, used water, or treated industrial water.

11.7.1.1 Special consideration shall include, at a minimum:

11.7.1.1.1 Submission of facility/premises plot plan showing potable water service connection location or proposed potable water service connection location and any on-site non-potable plumbing that may be, or has potential to be, in close proximity to the potable water system.

11.7.1.1.2 Submission of plans prior to any change in plumbing on the premises (both potable and non-potable).

11.7.1.1.2.1 Said plan changes must be approved by the District CCCS prior to the commencement of work to assure physical separation from the public water system and/or on-site potable water system.

11.7.1.1.3 Testing of the RP or RPDA backflow prevention assembly every six (6) months by a District approved Backflow Assembly Tester (BAT).

11.7.1.1.4 Annual cross-connection survey of the facility/premises by the District CCCS. The District CCCS shall have full access to all plumbing on and within said facility/premises.

11.7.1.2 Additional on-site backflow protection may be required, in addition to, BCVWD meter protection, as identified during cross-connection surveys and upon District CCCS recommendation, when a significant risk, or potential risk, to public health is identified.

11.8 APPROVED BACKFLOW PREVENTION DEVICES INSTALLATION

11.8.1 BCVWD shall make every reasonable effort to ensure that approved backflow prevention devices protect the public water system from contamination. Any backflow prevention device required herein shall be of a type, make, model and size approved by University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USCFCCCHR). The term "Approved Backflow Prevention Device" shall mean a device that has been manufactured in full conformance with standards established by the American Water Works Association (AWWA) titled:

AWWA/ANSI C510 07 Standard for Double Check Valve Backflow Prevention Device; AWWA/ANSI C511 07 Standard for Reduced Pressure Principle Backflow Prevention Device; and, have met completely the laboratory and field performance specifications of USCFCCCHR established in the most current edition of the Manual of Cross-Connection Control (i.e. 10th edition)

11.8.2 Said AWWA and USCFCCCHR standards and specifications have been adopted by BCVWD. Final approval shall be evidenced by a "Certificate of Compliance" for the said AWWA standards and a "Certificate of Approval" for the said USCFCCCHR Specifications, issued by an approved testing laboratory.

11.8.3 The following testing laboratory has been qualified by the SWRCB to test and approve backflow prevention devices and said qualification is adopted by BCVWD:

Foundation for Cross-Connection Control and Hydraulic Research
University of Southern California Research Annex 219
3716 South Hope Street
Los Angeles, California 90089-7700

11.8.4 All backflow prevention devices shall be installed accordingly:

11.8.4.1 As close as practical to the discharge of the water meter or point-of-connection of the fire service.

11.8.4.1.1 In no case shall a cut, tee, or tap be made between the customer's point of connection to the public water system and the backflow prevention device.

11.8.4.1.2 Backflow prevention devices shall be installed 12 to 36 inches above finished grade and with at least 12 to 24 inches of horizontal side clearance.

11.8.4.1.3 The orientation for which they are approved; no post manufacture modifications to backflow prevention devices shall be accepted.

11.8.4.1.4 In a manner that protects them from flooding and freezing.

11.8.4.1.4.1 A backflow security freeze blanket (or comparable product), sized to properly fit, shall be installed over the backflow prevention device.

11.8.4.1.5 In accordance with the installation standards outlined in the most recently published edition of the USCFCCCHR *Manual of Cross-Connection Control* (i.e. 10th edition), unless the manufacturer's requirements are more stringent.

11.8.4.1.6 All backflow prevention device installations shall be inspected by BCVWD prior to backfill, to ensure compliance with these requirements.

11.8.4.1.7 All air gap separations shall be installed in conformance with the State adopted UPC.

11.8.4.1.8 Installations shall conform to the most current version of BCVWD Standards.

11.8.4.1.9 All presently installed backflow prevention devices which do not meet the requirements of this section but were approved devices for the purposes described herein at the time of installation shall be excluded from the requirements of these rules if approved by the District CCCS. However, when the existing device is moved from the present location, or when the BCVWD identifies that the device constitutes a hazard to health, the unit shall be replaced by an approved backflow prevention device meeting the current requirements of BCVWD.

11.8.4.1.10 Improper installations such as installations in a confined space or in an unapproved orientation shall be retrofitted with an approved method of backflow prevention installed in accordance with BCVWD installation requirements, at the expense of the customer, when repair of the device is required to pass a functional backflow test.

11.8.4.1.11 BCVWD has no regulatory responsibility or authority over the installation and operation of the customer's plumbing system. The customer is solely responsible for compliance with all applicable regulations and for prevention of contamination of the plumbing system from sources within their premises. Any action taken by BCVWD to survey plumbing, inspect or test backflow prevention devices, or to require premises isolation is solely for the purposes of reducing the risk of contamination of BCVWD's public water system.

11.9 SCHEDULE FOR INSTALLATION OF BACKFLOW PREVENTION DEVICES

11.9.1 The following table shows the schedule that BCVWD will follow for installation of backflow prevention devices when they are required (based on the cross-connection survey)

Type of Service	Schedule
New Connections with cross-connection hazards	Before service is initiated
Existing connections with CCR Title 17 Table 1-type hazards and other contaminant cross-connection hazards	Within 45 days after notification
Existing connections other than CCR Title 17 Table 1-type hazards or pollutant cross-connection hazards	Within 45 days after notification
Existing fire protections systems using chemicals or supplies by unapproved auxiliary water source	Within 30 days after notification
Existing fire protection systems not using chemicals and supplied by BCVWD's water	Within 90 days after notification

*BCVWD may consider granting an extension of time for installation of a backflow prevention device for an existing service connection if requested by the customer with a justification of their request. Failure to install a backflow prevention device by the notification deadline, without an extension, may result in a disconnection of service until the installation requirements are met.

11.10 PROGRAM ADMINISTRATION

11.10.1 The General Manger or designee (CCCS) shall be responsible for implementing and enforcing the cross-connection control program. An appropriate backflow prevention assembly shall be installed by and at the expense of the water user at each user connection where required to prevent backflow from the water user's premises to h domestic water system. It shall be the water user's responsibility to comply with the BCVWD's requirements.

11.10.2 The BCVWD CCCS shall implement the CCCP.

11.10.3 The following cross-connection related tasks shall be performed by or under the direction of the BCVWD CCCS:

11.10.3.1 Recommendations regarding changes to the CCCP;

11.10.3.2 Performance of cross-connection control surveys;

11.10.3.3 Determination on the type of backflow prevention device to be installed;

11.10.3.4 Inspections of backflow prevention device for proper application and installation;

11.10.3.5 Reviews of backflow prevention device inspection and test reports;

11.10.3.6 Recommendations and/or the granting of exceptions to mandatory requirement of backflow prevention device;

11.10.3.7 Investigations of backflow incidents or water quality problems related to cross-connection;

11.10.3.8 Completion of Backflow Incident Reports; and

11.10.3.9 Completion of the Cross-Connection Control Section of the Annual Report to the Drinking Water Program required by the State Water Resources Control Board.

11.10.4 The General Manager may delegate other CCCP activities to other personnel who are not certified CCCSs, including clerical support staff. These activities include, but are not limited to the following:

11.10.4.1 Administration of paperwork related to the CCCP;

11.10.4.2 Mailing, collecting, and initial screening of Preliminary Cross-Connection Control Hazard Assessments;

11.10.4.3 Mailing, collecting, and initial screening of Water Use Questionnaires;

11.10.4.4 Mailing of device testing notices;

11.10.4.5 Receiving and screening of device testing reports;

11.10.4.6 CCCP database administration and record keeping; and

11.10.4.7 Dissemination of Public education material.

11.10.5 The following table identifies the current CCCS employed by BCVWD

Current Cross-Connection Control Specialist Contact Information	
Names of CCCS	James Bean
Address	560 Magnolia Avenue
City, State, Zip	Beaumont, CA 92223
Telephone Number	(951) 845-9581 ext. 263
Email Address	backflow@bcvwd.org
AWWA CCCS Certification number	03017

11.11 BACKFLOW PREVENTION DEVICE INSPECTIONS AND TESTING

11.11.1 Inspection and Testing of Backflow Prevention Devices

11.11.1.1 All backflow prevention devices that BCVWD relies upon for protection of the public water system shall be subject to inspection and testing.

11.11.1.2 Inspection of the backflow prevention devices shall be as follows:

11.11.1.2.1 BCVWD's CCCS shall inspect backflow prevention devices for proper application (i.e. to ensure that the device installed is commensurate with the assessed degree of hazard).

11.11.1.2.2 The CCCS, CA/NV AWWA certified Backflow Assembly Tester (BAT), or Riverside County Department of Environmental Health certified Backflow Assembly Tester (BAT) pre-approved by BCVWD shall inspect backflow prevention devices for correct installation.

11.11.1.3 Customers with a backflow prevention device on their premise shall have the device inspected and tested at least annually by an approved BAT. Customers with a backflow prevention device approved with special considerations as identified in this CCCP may be required to have the backflow prevention device inspected and tested on a more frequent basis.

11.11.1.4 When backflow prevention devices are determined to be defective, they shall be repaired or replace by the customer within (14) calendar days or service will be discontinued.

11.11.2 Frequency of Inspection and Testing

11.11.2.1 Inspection and testing of backflow prevention devices shall be conducted:

11.11.2.1.1 At the Time of installation;

11.11.2.1.2 Annually after installation;

11.11.2.1.3 After a backflow incident; and

11.11.2.1.4 After repair, reinstallation, relocation, or re-plumbing; or

11.11.2.1.5 Any time the device is found to not be in good repair.

11.11.2.2 All air gap separations shall be inspected annually and after modifications to the installation.

11.11.2.3 BCVWD may require a backflow prevention device to be inspected and/or tested more frequently than once a year, when it protects against a high-health hazard or when it repeatedly fails test or inspections.

11.11.3 Responsibility for Inspection, Testing and Repairs

11.11.3.1 The customer shall be responsible for inspection, testing and repair of backflow prevention devices and air gaps owned by the customer. The customer shall employ, at the customer's expense, a CA/NV AWWA certified BAT or Riverside County Department of Environmental Health certified BAT, pre-approved by BCVWD to conduct the inspection and test within the time period specified in the testing notice sent by BCVWD. The original test report shall be completed and signed by the BAT, and returned to BCVWD, before the due date specified by BCVWD.

11.11.3.2 The customer may request an extension of the due date for returning a test report by submitting a written request to BCVWD. Failure to return a test report by the due date, without an extension, may result in a disconnection of service until a passing report is received.

11.11.4 Notification of Inspection and/or Testing

11.11.4.1 BCVWD will notify in writing all customers who own backflow prevention devices that are relied upon to protect the public water system to have their backflow prevention device(s) tested. Notices will also specify the date by which the test report must be received by BCVWD a minimum of 45 days from notification. If the District has not received a passed test report in the designated time frame, the enforcement policies in section 11.11.8 shall be applied.

11.11.5 Approved Test Procedures

11.11.5.1 BCVWD will require that all devices relied upon to protect the public water system be tested in accordance with CA/NV AWWA approved test procedures as specified by the USCFCCCHR established in "Field Test Procedures" in the most current edition (i.e. 10th edition) of the Manual of Cross Connection Control.

11.11.6 Backflow Prevention Device Test Reports

11.11.6.1 Test results shall be submitted within ten (10) calendar days of the test date. Test results may be submitted electronically in PDF format, by mail, or in person in original hard-copy format to:

Beaumont-Cherry Valley Water District
Attention: Cross-Connection Control Program
560 Magnolia Avenue
Beaumont, CA, 92223
backflow@bcvwd.org

11.11.7 Repairs

11.11.7.1 Any device that fails routine testing shall be repaired within fourteen (14) days of the initial test date.

11.11.7.2 The customer must notify BCVWD if repairs cannot be made within the specified period.

11.11.7.3 Only Original Equipment Manufacturer (OEM) parts shall be used to repair backflow prevention devices. If OEM replacement parts are not available, then an approved new backflow prevention device must be installed to replace the existing device.

11.11.7.4 “Pursuant to section 116875 of California Health and Safety Code, any failed device that is not “lead free”, that is not specifically exempted by section 116875, must be replaced with an approved “lead free” device rather than being repaired.”

11.11.8 Enforcement

11.11.8.1 To enforce the CCCP, it may become necessary to discontinue water service to a customer. Conditions that warrant discontinuance of service include but are not limited to the following:

11.11.8.1.1 When BCVWD identifies a customer’s water use that represents a clear and immediate hazard to the public water system that cannot be immediately abated.

11.11.8.1.2 Direct or indirect connection between the customer’s water system and a sewer line.

11.11.8.1.3 Unprotected direct or indirect connection between the public water system and an auxiliary water system.

11.11.8.1.4 Refusal to inspect an air gap separation

11.11.8.1.5 Refusal to install a required backflow prevention device.

11.11.8.1.6 Refusal to test a backflow prevention device.

11.11.8.1.7 Refusal to repair or replace a faulty backflow prevention device.

11.11.8.1.8 Refusal to upgrade a backflow prevention device to the necessary level of protection as identified by the District CCCS.

11.11.8.1.9 Any refusal to comply with the regulations set forth in this CCCP.

11.11.8.2 Prior to any discontinuance of water service, BCVWD shall notify the customer in writing, specifying the corrective action needed and the time period in which it must be done. If no action is taken within the allowed time periods, water service shall be discontinued and the customer's water system may be physically separated from the public water system. The water service shall remain inactive until correction of violation has been approved by the District's CCCS.

11.11.8.2.1 To protect the public water system, BCVWD reserves the right to immediately and without prior customer notification discontinue water service to a customer's premises by providing a physical break in the service line until the customer has corrected the condition(s) that warranted the discontinuance of service.

11.11.8.2.2 Any fees associated with the disconnection of water service are the responsibility of the customer.

11.11.8.3 When a customer fails to send in the test report by the due date specified, and BCVWD has not approved an extension to the due date, the District shall take the following enforcement action:

11.11.8.3.1 BCVWD will send a second notice by mail giving the customer an additional fourteen (14) days to send in the test report.

11.11.8.3.2 If the customer has not sent in the test report within 14 days of the due date given in the second notice, the District will send a third notice by mail and hang a third notice tag at the physical address (a 10-day shutoff notice) in a conspicuous location of the property where the backflow prevention device is located giving the customer an additional ten (10) days to send the report. The notice will also inform the customer that failure to satisfactorily respond to this notice will result in the discontinuance of water service.

11.11.8.3.3 If the owner and/or occupants have not responded satisfactorily to the District within 10 days of the due date specified in the third notice, the District shall implement water service shut-off procedures. If the customer's water service is discontinued due to any violation of the CCCP, the customer shall be subject to any shut-off fees for the discontinuance of water service. Upon seeking renewed service from the District, the backflow prevention device

being returned to service must be tested and the resulting test report submitted to the District.

11.11.8.4 In addition to the grounds for water service termination set forth in this section, BCVWD may terminate water service to any premises if a required backflow prevention device or air gap is removed by the customer, or if BCVWD finds evidence that an installed backflow prevention device or air gap has been bypassed or rendered ineffective.

11.11.8.5 If BCVWD decides that termination of water service is either too difficult or may pose a health issue, BCVWD may use BCVWD work forces, or use a contractor, to make the necessary repairs, replacements, or installations required to protect the public water system. The cost for such services shall be passed on to the customer. The customer will be notified in writing specifying the corrective action(s) taken and the time period in which it will be done prior to the commencement of work. If no action is taken by the customer then work shall begin. If the customer fails to pay the cost within 30 days of notification, BCVWD may cause a lien to be placed against the property in accordance with the procedures set forth in Title 14 of the California Civil Code.

11.11.9 Fees and Charges

11.11.9.1 Administration of this program requires the collection of fees as appropriate that can be assigned to the customer and services performed that are not considered an appropriate charge under BCVWD's Water Rates. Fees for the Backflow Testing Program Annual Backflow Testing shall be governed by BCVWD Rules and Regulations Governing Water Service Part 5-3 Backflow Administrative Charge as may be amended or superseded.

11.11.10 General Requirements of Approved Backflow Testers

11.11.10.1 Certified Backflow Prevention Assembly Testers shall be responsible for ensuring that all backflow prevention devices at the customer's service connection are identified and tested.

11.11.10.2 If a BAT finds a device that has been modified or incorrectly installed, they must immediately report the situation to BCVWD and ***not test the device.*** To report the situation, call the BCVWD administration office at (951) 845-9581 and/or email the CCCS at backflow@bcvwd.org. All devices must be on the "Approved Backflow Prevention Assemblies" list developed by the USCFCCCHR. Any modification of a device, such as relocation of valves, bypass arrangements, and jumper connections, whether temporary or permanent, invalidates the USDFCCCHR approval and is not permitted. Likewise, a device that has been installed in an

orientation for which it was not designed or approved is also not permitted.

11.11.10.3 If a BAT finds a cross-connection hazard that is unprotected, that is, with no backflow prevention device or the wrong type of device, the tester must inform the customer of the hazard and potential health risk associated with it. The tester must also report the situation to BCVWD immediately by calling BCVWD administration office at (951) 845-9581 and/or emailing the CCCS at backflow @bcvwd.org. A device that is the wrong type for the hazard should not be tested.

11.11.10.4 If a BAT finds an existing backflow prevention device that is not tagged or is out of compliance with its test date, the tester must inform the customer of the need to test the device and must report the device to BCVWD immediately.

11.11.11 List of Approved Backflow Assembly Testers (BATs)

11.11.11.1 BCVWD shall maintain a list of local, CA/NV AWWA certified BATs and Riverside County Department of Environmental Health certified BATs that are approved by BCVWD to perform the following activities;

11.11.11.1.1 Backflow preventer inspection for proper installation; and

11.11.11.1.2 Backflow device testing.

11.11.11.2 The list will be revised annually or more frequently if necessary.

11.11.12 BAT Approval Qualifications

11.11.12.1 BATs who wish to be included on the BCVWD approved list and/or provide testing in the BCVWD service area must apply to the District and furnish the following information:

11.11.12.1.1 Evidence of current CA,NV AWWA certification or Riverside County Department of Environmental Health certification in good standing;

11.11.12.1.2 Make, model, and serial number of testing equipment;

11.11.12.1.3 Evidence of test equipment verification of accuracy and/or calibration within the past 12 months.

11.11.13 Denial, Suspension or Revocation of Tester from BCVWD Approved List

11.11.13.1 Tester Approval by BCVWD may be denied, suspended or revoked upon any of the following grounds:

11.11.13.1.1 A BAT is no longer in possession of a current and valid certificate as a Backflow Prevention Assembly Tester

Certification by either CA/NV AWWA or the Riverside County Department of Environmental Health.

11.11.13.1.2 A BAT is no longer in possession of a current and valid test kit calibration certificate.

11.11.13.1.3 BCVWD determines that a material misrepresentation was included or omitted by the BAT on the initial or renewal application for BAT approval by BCVWD.

11.11.13.1.4 BCVWD determines that the BAT, in the performance of a test or repair required by the BCVWD, commits an act that may pose a threat to public health and safety.

11.11.13.1.5 A BAT fails to submit backflow assembly test report forms within ten (10) days of performing a backflow device test required by BCVWD.

11.11.13.1.6 A BAT repeatedly submits incomplete or incorrect test reports to BCVWD.

11.11.13.1.7 A BAT fails to report a device that has been modified or incorrectly installed.

11.11.13.1.8 A BAT performs a backflow prevention device repair with parts other than OEM parts.

11.11.13.1.9 A BAT performs a backflow assembly test using testing procedures other that those accepted by BCVWD.

11.11.13.1.10 A BAT fails to report a cross-connection hazard that is unprotected (i.e. with no backflow prevention device or with the wrong type of device).

11.11.13.1.11 A BAT fails to report the removal or replacement of a backflow prevention device on a Backflow Prevention Assembly Test Report.

11.11.13.1.12 A BAT performs a repair upon a backflow prevention device which has been required to be replaced by BCVWD.

11.11.13.1.13 If a BAT has unresolved customer complaints or complaints from multiple customers.

11.11.13.1.14 Fraud or gross negligence in performing of their duties.

11.11.13.1.15 Written notice of denial, suspension or revocation of a BCVWD approved BAT shall be served to the BAT by certified mail with a description of the violation and supporting facts.

11.11.13.1.15.1 The notice shall contain a statement of the right to request as appeal hearing before the BCVWD General Manager, or their designee.

11.11.13.1.15.2 The notice shall contain a statement of the time period of denial, suspension or revocation.

11.11.14 BAT Appeals

11.11.14.1 The decision of the BCVWD CCCS is appealable to the BCVWD General Manager

11.11.14.1.1 An appeal must be in writing, and be hand-delivered or mailed to the BCVWD General Manager.

11.11.14.1.2 The filing of a timely appeal will stay in suspension or revocation pending a decision on the appeal by the BCVWD General Manager or their designee.

11.11.14.1.3 A hearing shall be scheduled within thirty (30) days unless an extension is authorized by the appellant.

11.11.14.1.4 No reapplication will be accepted within two (2) years after a BCVWD BAT certification is revoked.

11.11.14.2 The decision of the BCVWD General Manager or their designee shall be a final administrative order, with no further administrative right of appeal.

11.11.15 Quality Assurance Backflow Incident Response Plan

11.11.15.1 BCVWD's CCCS will review within thirty (30) days of receipt the backflow preventer test report forms submitted by pre-approved BATs.

11.11.15.2 BCVWD's CCCS shall provide follow up on backflow devices and /or test reports that are deficient in any way.

11.11.15.3 BCVWD's CCCS may conduct follow up tests on backflow devices tested by a BAT at the discretion of the District.

11.11.16 Record Keeping

11.11.16.1 Types of Records and Data to be maintained

11.11.16.1.1 BCVWD will maintain records of the following types on information required by CCR Title 17 Section 7605:

11.11.16.1.1.1 Service connections/customer premises information including:

11.11.16.1.1.1.1 Assessed degree of hazard; and

11.11.16.1.1.1.2 Required backflow preventer to protect the public water system.

11.11.16.1.1.2 Backflow preventer inventory and information including:

11.11.16.1.1.2.1 Air Gap (AG) location, installation and inspection dates, inspection results and person conducting inspection;

11.11.16.1.1.2.2 Backflow device location, device description (type, manufacturer, make, model, size, and serial number, meter number if applicable), installation, inspection and test dates, test results and data, and person performing test.

11.11.16.1.1.3 BCVWD will maintain records on all devices that protect the public water system from contamination. At a minimum, BCVWD will maintain test reports on all backflow prevention devices required to protect the public water system for a minimum of five (5) years.

11.11.17 Recycled/Reclaimed Water

11.11.17.1 Recycled water shall be distributed and used in a manner that meets all State, County, and District requirements and shall achieve the following:

11.11.17.1.1 Prevent direct human contact of recycled water through adherence to all applicable rules and regulations and laws.

11.11.17.1.2 Prevent cross-connection between recycled and potable water systems which include the strict policies set forth in this CCCP. For all dual plumbed locations (where potable and recycled water exist on the premises), the following requirements shall be in enforced:

11.11.17.1.2.1 An approved backflow prevention device shall be installed on both the potable and recycled water lines commensurate with the degree of hazard (i.e. RP).

11.11.17.1.2.2 Backflow preventer devices shall be installed in accordance with Section 11.8 of the CCCP.

11.11.17.1.2.3 BCVWD's CCCS shall conduct cross-connection control inspections of all dual plumbed premises at least annually.

11.11.18 Prohibition of Return of Used Water

11.11.18.1 BCVWD must prohibit the intentional return of used water to the distribution system per CCR, Title 17 Sections 7583-7605.

11.11.18.2 Used Water is defined as water that has left the control of BCVWD. This includes all water after it has passed through the meter and water that may flow back into the distribution system from customers with multiple connections.

11.11.18.3 It is the policy of the BCVWD water system to:

11.11.18.3.1 Prohibit the intentional return of used water to the distribution system by any customer served by the public water system; and

11.11.18.3.2 Require that all customers with multiple connections, where the hydraulics permit the potential return of used water, to install a backflow preventer (RP) at each point of connection.

11.11.19 Unapproved Auxiliary Supplies

11.11.19.1 All water supplies other than those owned by BCVWD are considered unapproved auxiliary supplies as defined in CCR Title 17 Section 7583. BCVWD shall require backflow protection for customers with auxiliary supplies on their premises as follows:

11.11.19.1.1 Per Table 1 of CCR Title 17, BCVWD shall require the installation of an RP for premises isolation at the service connection to any customer having an unapproved auxiliary supply on the premises where a water service from BCVWD's public water system exists, whether or not there is a physical connection between the unapproved auxiliary supply and BCVWD's public water system.

11.11.20 Tanker Trucks

11.11.20.1 BCVWD may allow tanker trucks to obtain water from BCVWD's system under the following conditions:

11.11.20.1.1 The tanker truck is equipped with an approved AG

11.11.20.1.2 The tanker truck will obtain water from BCVWD designated watering points only. These watering points are equipped with an RP backflow preventer. Said RP backflow preventer shall be provided and tested at the customers expense with a passing test submitted to BCVWD prior to receiving water service.

11.11.21 Temporary Water Connections

11.11.21.1 BCVWD shall not supply water through temporary connections, such as those used for construction projects or main disinfection, except through an approved, tested RP backflow preventer supplied at the customer's expense.