

## **Carmichael Water District Cross-Connection Control Program**

### **1. Purpose**

The purpose of this document is to describe the Cross-Connection Control Program (**CCCP**) implemented by Carmichael Water District (**CWD**) to protect the public water supply against actual or potential contamination through cross-connection and backflow. In compliance with Public law 93-523, the Safe Water Drinking Act of 1974 and California Code of Regulation, Title 17, Public Health sections 7583 through 7622; it is the intent of Carmichael Water District to adopt standards that encompass the surveying of premises for potential cross-connection hazards, design, construction installation and maintenance of backflow prevention assemblies.

### **2. Definitions**

The following definitions describe those terms and phrases that are relevant to the range of elements of a cross-connection control program.

**2.1 Air Gap Separation:** A physical separation between the free-flowing discharge end of a potable water supply pipeline and an open or non-pressurized receiving vessel. An approved air gap separation" will be at least double the inside diameter of the supply pipe measured vertically above the top rim of the vessel but in no case will be less than 1".

**2.2 Approved Backflow Prevention Assembly:** Any assembly tested and approved by the Department of Health services or other persons or entity approved by Carmichael Water District.

**2.3 Approved Water Supply:** A water supply whose portability is regulated by a State or local health agency.

**2.4 Auxiliary water Supply:** Any supply on or available to the premises other than that supplied by Carmichael Water District.

**2.5 AWWA Standard:** An official standard developed and approved by the American Water Works Association (AWWA)

**2.6 Backflow:** A flow condition, caused by a differential in pressure, that causes the flow of water or other liquid, gases, mixtures or substances into the distributing pipes of Carmichael Water District. Back pressure is one cause of backflow. Back siphonage is the other.

**2.7 Cross-Connection:** An unprotected actual or potential connection between a potable water system used to supply water for drinking purposes and any source or system containing unapproved water or substance that is not or cannot be approved as safe, wholesome, and potable. By-pass arrangements, jumper connections, removable sections, swivel or change over devices, or other devices through which backflow could occur, shall be considered cross-connections.

**2.8 Double Check Valve (DC):** An assembly of at least two independently acting check valves including tightly closing shut-off valves on each side of the check valve assembly and test cocks available for testing the water tightness of each valve.

**2.9 Health Agency:** The California Department of Health Services or the local health officer with respect to small water systems.

**2.10 Premises:** Any and all areas on a water user's property which are served or have the potential to be served by the public water system.

**2.11 Reclaimed Water:** Waste water which as a result of treatment is suitable for uses other than potable use.

**2.12 Reduced Pressure Principle Backflow Prevention Device (RP):** A backflow preventer incorporating not less than two check valves, an automatically operated relief valve located between the two check valves, a tightly closing shut-off valve on each side of the check valve assembly, and equipped with necessary test cocks for testing.

**2.13 Service Connection:** The point of connection of a user's piping to Carmichael Water District's facilities.

**2.14 Thermal Expansion:** Change in dimension of a material resulting from a change in temperature.

**2.15 Water Supplier or Purveyor:** Carmichael Water District

**2.16 Water User, consumer or customer:** Any person or entity obtaining water from Carmichael Water District.

### **3. Responsibility**

Under Title 17 – relating to cross-connection, the water supplier shall have the primary responsibility to prevent water from unapproved sources or any other substances, from entering the public water system. Carmichael Water District will insure adequate backflow and backsiphonage protection is maintained on users water systems directly connected to the District's system.

The consumer will have the prime responsibility of preventing contaminants and pollutants from their water systems from entering the District's water system as required by this program and the Health Agency.

Carmichael Water District will 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 interfering with, any approved backflow prevention assembly, required by this program, by any consumer or any other person.

The consumer must be aware that the installation of a backflow assembly may result in a potential closed plumbing system within the premises. As such, provisions may have to be made by the consumer to provide for thermal expansion within their system, i.e., the installation of thermal expansion devices and/or pressure relief valves.

The consumer will bear all cost for the installation of pumps or renovation of existing consumer piping, as a result of any decreases in line pressure attributed to the upgrading of existing backflow prevention assemblies or the installation of approved backflow prevention assemblies.

The customer shall bear all cost for the installation of all approved air gap separation or approved backflow protection assemblies required in accordance with this program. All air gap separation and approved backflow prevention assemblies shall be kept in good working order and in safe condition. Upon notification by Carmichael Water District, the customer shall repair or replace existing assemblies determined to be unapproved, defective or not providing the level of protection specified by the District. The customer shall assure the necessary plumbing permits are obtained.

#### **4. Surveys & Level of Protection**

The type of protection that will be provided to prevent backflow into the Districts water system shall be equal with the degree of hazard that exist on the consumers premises. The degree of hazard shall be determined by a cross-connection survey of the consumer's premises conducted by the Districts Backflow Technician. Whenever possible, a request will be made in writing and a date and time be agreed upon. Should the request to survey be denied or inadequate access prevent the inspection of the plumbing system, letters shall be sent directing the installation of the appropriate backflow prevention assembly based on the knowledge of the specific property.

All factors found and recorded during a survey shall be considered in the determination of backflow prevention requirements.

Each consumer requiring a backflow prevention assembly shall be notified by letter. The consumer shall be notified of their responsibility to provide backflow protection and the type of assembly required. As a minimum a customer requiring protection shall install a Reduced Pressure Principle Backflow Prevention Assembly.

Should it be determined that the consumer does not require a backflow prevention assembly, they shall be notified by letter. Carmichael Water District will reserve the right to re-inspect the property to ensure that the plumbing or water use has not changed.

## **5. New Construction**

On new installation, the District will provide on site evaluation and/or inspection of plans during plan check and review in order to determine the type of prevention, if any, which will be required. As a minimum, when required, all new construction will install an approved **RP**.

## **6. Installation**

All installations of backflow prevention assemblies shall be done in accordance with Carmichael Water District Construction improvement standards Adopted on January 21,2003 Resolution 01 212003-2. All backflow prevention assembly installation shall be inspected by the Backflow Technician or other qualified employee from Carmichael Water District.

## **7. Existing Backflow Prevention Assemblies**

Existing backflow prevention assemblies shall be allowed by the District to continue in service unless the degree of hazard is such as to supercede the effectiveness of the present assembly, the assembly continues to fail annual test or the device is found to be unapproved.

## **8. Fire Sprinkler Systems**

### **8.1 Commercial Fire Protection**

Commercial fire sprinkler systems currently protected with a minimum of a single Detector Check valve will be allowed to continue in service until such system is modified, updated or the valve is found to be defective. Any new commercial fire sprinkler system or unprotected system shall as a minimum be protected by a Reduced Pressure Principle – Detector Backflow Prevention Assembly.

### **8.2 Residential Fire Protection**

Residential fire sprinkler systems currently protected with a minimum of a double check valve will be allowed to continue in service until such system is modified, updated or the valve is found to be defective. Any new residential fire sprinkler system or unprotected system shall as a minimum be protected by an **RP**.

## **9. Testing**

All approved backflow prevention assemblies shall be tested immediately after they are installed and annually thereafter to assure proper operation. In instances where a hazard is deemed great enough, testing may be required at more frequent intervals. Test procedures shall be those currently recommended by the University of Southern California Foundation for Cross-Connection Control or the AWWA.

Annual testing shall be performed by Carmichael Water District's Backflow Technician or other certified testers employed by the District. The testing will be done at the owner's expense.

Testing shall be conducted during the Districts regular business hours. Exceptions to this will be considered on a case by case basis.

Any backflow prevention assembly that fails during the annual test will be required to be repaired or replaced by the owner's contractor at the owner's expense. Once replaced or repairs have been made the District will provide one re-test at no additional charge to the owner. If the device fails the retest the customer will be charged for any additional testing.

High hazard situations will not be allowed to continue unprotected if the backflow preventer fails the test and cannot be repaired immediately. Service will be terminated until repairs are made and re-test has been performed by Carmichael Water District (customer will be responsible for scheduling test with Carmichael Water District's Backflow Technician).

## **10. Compliance and Termination**

When it is determined that a consumer is required to install an approved backflow protection assembly the owner shall be given 60 calendar days to comply (extensions will be considered on a case by case basis and will be measured on the degree of hazard).

When it is determined that a backflow protection assembly has failed the annual test the owner will be given 30 days to repair or replace the assembly. The District may require the immediate repair or replacement of an assembly dependant upon the degree of hazard. No extensions will be given.

If the compliance date has passed the district will deliver a 48 hour notice of termination to the property. The service will remain terminated until corrective action has been taken once proper backflow prevention assembly has been installed the customer must contact Carmichael Water District's Backflow Technician to schedule a re-test.

## **11. Maintenance of Records**

Records of assembly type, size, manufacturer, installation date, location, test results, and repairs will be kept both electronically and in hard copy form. Assembly records shall be kept for the life of the assembly. Test results shall be kept for the mandatory 3 years as per Title 17.