

# DOCKTON WATER ASSOCIATION CROSS-CONNECTION CONTROL PROGRAM

## A. Requirement for Program

**Dockton Water Association** (#19550) hereinafter referred to as the “Purveyor”, has the responsibility to protect the public water system from contamination due to cross-connections. A cross-connection may be defined as *“any actual or potential physical connection between a potable water line and any pipe, vessel, or machine that contains or has a probability of containing a non-potable gas or liquid, such that it is possible for a non-potable gas or liquid to enter the potable water system by backflow.”*

All public water systems are required to develop and implement cross-connection control (CCC) programs. The CCC requirements are contained in Washington Administrative Code (WAC) 246-290-490 of the Group A Drinking Water Regulations. The minimum required elements of a CCC program are:

1. Establishment of legal authority and program policies;
2. Evaluation of premises for cross-connection hazards;
3. Elimination and/or control of cross connections;
4. Provision of qualified personnel;
5. Inspection and testing of backflow assemblies;
6. Quality control of testing process;
7. Response to backflow incidents;
8. Public education for consumers;
9. Record keeping for CCC program; and
10. Special requirements for reclaimed water use.

Other CCC program requirements include:

1. Coordination with the Authority Having Jurisdiction (AHJ), i.e., the local building or plumbing official, regarding CCC activities;
2. Prohibition of the return of used water into the public water system (PWS) distribution system; and
3. Inclusion of a written CCC program in a Water System Plan (WSP) or Small Water System Management Program (SWSMP).

## B. Program Objectives

The objectives of the CCC program are to:

1. Reasonably reduce the risk of contamination of the public water distribution system; and
2. Reasonably reduce the Purveyor's exposure to legal liability arising from the backflow of any contaminant originating from the customer's plumbing system and then supplied to other customers.

### C. Summary of Program Decisions

The following table summarizes the major policy and program decisions adopted for the **Dockton Water Association**. The items in the table represent CCC Program areas that have more than one acceptable approach or option.

**CCC Program Decision Summary Table for the  
Water System Name**

Decision Item	Decision
<b>1. Type of Program [General, WAC 246-290-490(2)(e)]</b>	
a. Premises isolation only	
b. Premises isolation and in-premises protection (combination program)	<b>X</b>
<b>2. Extent of Coordination with AHJ [WAC 246-290-490(2)(d)]</b>	
a. Information exchange	<b>X</b>
b. Interaction	
c. Joint program	
<b>3. Relationship with Customer [Element 1]</b>	
a. Signed service agreement or contract	<b>X</b>
b. Ordinance/resolution; implied service agreement	<b>X</b>
<b>4. Enforcement of Corrective Action [Element 1]</b>	
a. Rely upon shut-off of water service	<b>X</b>
b. Rely upon purveyor-installed premises isolation	<b>X</b>
<b>5. Assessment and Re-assessment of Hazard [Element 2]</b>	
a. By purveyor's staff or equivalent	
b. By cross-connection control specialist (CCS) employed by customer or purveyor; report reviewed by purveyor's CCS	<b>X</b>
<b>6. Location and Ownership of Premises Isolation Assembly [Element 3]</b>	
a. On purveyor's service line	<b>X</b>
b. On customer's service line	<b>X</b>
<b>7. CCS Option – Purveyor's Program Management [Element 4]</b>	
a. Purveyor's staff member certified	<b>X</b>
b. Inter-agency agreement or use other agency's CCS	
c. Contract with consultant CCS	<b>X</b>
<b>8. Testing of Assemblies [Element 5]</b>	
a. By purveyor's staff or purveyor-employed backflow assembly tester (BAT)	<b>X</b>
b. By customer-employed/contracted BAT	<b>X</b>
<b>9. Cost Recovery [WAC 246-290-100(4)(h) and -105(4)(p)]</b>	
a. Borne by all customers (general water rates)	<b>X</b>
b. Assessed to specific class (commercial meters)	
c. Each customer directly bears cost	<b>X</b>

## D. Required Elements of Program

The **Washington State Department of Health (DOH)** drinking water regulations for Group A public water systems, WAC 246-290, require CCC programs to include certain minimum elements. The elements are listed in WAC 246-290-490(3). This section describes how the water system intends to comply with each of the required program elements. Elements are numbered the same as they appear in the WAC.

***Element 1:*** *Adoption of a written legal instrument authorizing the establishment and implementation of a CCC program.*

**Dockton Water Association, Dave Stoltz**, has adopted a cross-connection control policy, which authorizes the Purveyor to implement a CCC program. The policy also authorizes the system to take corrective action when customers do not comply with the CCC program requirements. The primary method for protection of the distribution system will be the installation of a backflow assembly by the customer, at the customer's expense OR installation of a backflow assembly by the Dockton Water Association, at the customer's expense.

<i>Legal Instrument Status</i>	<i>Schedule</i>
<i>Preparation of proposed legal instrument</i>	
<i>Adoption of legal instrument</i>	
<i>Legal instrument becomes effective</i>	

***Element 2:*** *Development and implementation of procedures and schedules for evaluating new and existing service connections to assess the degree of hazard.*

### Initial Cross-Connection Hazard Surveys

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

1. For all ***new services***, the Purveyor will require that the customer either submit an on-site CCC Hazard Field Survey report completed by a customer employed, DOH-certified CCS; or allow access of the Purveyor employed/contracted DOH-certified CCS to complete an on-site CCC Hazard Field Survey of the possible hazard(s) posed by the proposed plumbing system(s). Cost of the survey to be borne by the customer.
2. For all ***existing services***, the Purveyor will require the customer to submit to the Purveyor, within 30 days of notification, either an on-site CCC Hazard Field Survey report completed by a customer employed, DOH-certified CCS; or submit a customer-completed and signed CCC Hazard Survey Questionnaire.
3. For all existing services, should the customer fail to supply the required information for a hazard assessment, the Purveyor may have the assessment made by a CCS employed by the Purveyor, require the installation of an RPBA for premises isolation, or take other such actions consistent with the previously stated policies and bill the customer for the associated costs.

## Cross-Connection Hazard Survey Schedule for Initial Hazard Assessments

The schedule for initial hazard assessment is outlined in the following table. The schedule starts from the date the CCC program is established.

Initial Assessment Task	Schedule
Assessment of all new connections	Within 30 days of issue
Identification and assessment of high-hazard premises which are listed on Table 9 of Washington Administrative Code (WAC) 246-290-490	Within 6 months
Identification and assessment of hazardous premises supplemental to Table 9 of WAC 246-290-490	Within 9 months
Identification of residential connections with special plumbing facilities and/or water use on the premises	Within 12 months

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

For subsequent cross-connection hazard surveys, procedures for evaluating the backflow prevention requirements are:

1. For **Single Family/Duplex Residential & Non-residential Recreational** (*private campsites/RV sites*) **Connections**, the Purveyor will require the customer to submit to the Purveyor, within 30 days of purveyor notification, a completed “CCC Hazard Survey form”. The procedure used for evaluating the hazard re-assessment and the potential change in the required backflow prevention will be the same as used for the initial hazard assessment. The frequency of hazard re-assessments will be every 3 years.
2. For all **Other Non-residential Connections** (*commercial, business, schools, daycares, churches, institutional, agricultural, medical, industrial, food service/processing, etc.*), the Purveyor will require the customer to submit to the Purveyor, within 30 days of purveyor notification, an on-site CCC Hazard Field Survey conducted by a customer employed DOH-certified CCS. The frequency of the hazard re-assessments will be every 2 years.

*With an accumulation of data and an aggressive customer education program the time interval for re-surveys may be lengthened or shortened as deemed necessary and acceptable to the Purveyor, CCS, and DOH.*

The Purveyor will inform the customer that the Purveyor's survey of a customer's premises (whether by a representative of the Purveyor or through the evaluation of a questionnaire completed by the customer) is for the sole purpose of establishing the Purveyor's minimum requirements for the protection of the public water supply system, and that the required backflow protection will be commensurate with the Purveyor's assessment of the degree of hazard.

The Purveyor will also inform the customer or any regulatory agencies that the Purveyor's survey, requirements for the installation of backflow prevention assemblies, lack of requirements for the installation of backflow prevention assemblies, or other actions by the purveyor's personnel or agent do not constitute an approval of the customer's plumbing system or an assurance to the customer or any regulatory agency of the absence of cross connections.

**Element 3:**    *Development and implementation of procedures and schedules for elimination and/or control of cross-connections.*

### **Backflow Assembly Requirements**

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

1. The Purveyor will require that water service to all **non-residential customers** (except non-residential recreational connections) be isolated at the meter, or connection point, by a DOH-approved DCVA or RPBA, commensurate with assessed degree of hazard and acceptable to the Purveyor. All high-hazard connections of the type described in Table 9 of WAC 246-290-490 shall be isolated with an RPBA, RPDA, or Air Gap, commensurate with assessed degree of hazard in accordance with current regulation requirements.
2. The Purveyor will require all **residential and non-residential, recreational customers** with facilities of the type described in Table 9 of WAC 246-290-490 to be isolated with an RPBA, RPDA, or Air Gap, commensurate with assessed degree of hazard in accordance with current regulation requirements. All other residential customers with special plumbing or water use on the premises will be protected with a DCVA or RPBA, commensurate with assessed degree of hazard installed for either premise or fixture isolation. “Special plumbing” includes, but is not limited to, the following:
  - a. A lawn irrigation system;
  - b. A solar heating system;
  - c. An auxiliary source of supply, e.g., a well or creek;
  - d. Piping for livestock watering, hobby farming, etc.;
  - e. Residential fire sprinkler system, other than flow through; and
  - f. Property containing a small boat moorage.
3. For all customers that have a written service contract with the Purveyor, any required backflow preventer shall be:
  - Purchased and installed by the customer (at the customer's expense) downstream of the meter or connection point in accordance with the Purveyor's standards described hereinafter; and
  - Maintained, tested, and inspected in accordance with the Purveyor's standards described hereinafter.

For new customers, the Purveyor will not turn on water (except for testing purposes) at the connection until the customer complies with the above requirements.

The failure of the customer to comply with the Purveyor’s installation and maintenance requirements shall constitute a breach of contract by the customer. The Purveyor may then proceed with corrective action provisions stipulated in the contract.

4. Customers without written contracts are considered to have an implied contract that requires the customer to bear all reasonable costs of service. The Purveyor will install the required DCVA or RPBA on the service, upstream of the meter or elsewhere within the utility held easement, and charge the customer for the cost of the initial installation and testing, and all future maintenance, testing, and repair, as set forth in the Purveyor's schedule of rates and charges. The failure of the customer to pay these costs shall constitute a breach of contract by the customer, and the Purveyor will proceed with the

established delinquency of payment procedures. As an alternative, the customer may sign a service contract and install the required backflow preventer downstream of the meter in accordance with the Purveyor’s installation standards described hereinafter.

5. All backflow prevention assemblies relied upon by the Purveyor to protect the public water system shall meet the definition of “approved backflow prevention assembly” as contained in WAC 246-290-010. The Purveyor’s CCS will obtain and maintain a current list of backflow prevention assemblies approved for installation in Washington State from the DOH Office of Drinking Water.

All backflow assemblies will be installed:

- In the orientation for which they are approved;
- In a manner and location that facilitates their proper operation, maintenance, and testing or inspection;
- In a manner that will protect them from weather-related conditions such as flooding and freezing; and
- In compliance with applicable safety regulations.

Installation standards contained in the most recently published edition of the Pacific Northwest Section, American Water Works Association (PNWS-AWWA) *CCC Manual* or the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USCFCCCHR) *CCC Manual* shall be followed.

***The Purveyor 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 his/her plumbing system from sources within his/her premises. Any action taken by the Purveyor to survey plumbing, inspect or test backflow prevention assemblies, or to require premises isolation (installation of DCVA or RPBA on service) is solely for the purposes of reducing the risk of contamination of the Purveyor's distribution system.***

Except for easements containing the Purveyor's distribution system, the Purveyor will not undertake work on the customer's premises unless the customer has provided written request and signed authorization.

6. The following table shows the schedule that the Purveyor will follow for installation of backflow assemblies when they are required (based on the hazard evaluation).

Type of Service	Schedule
New connections with cross-connection hazards	Before service is initiated
Existing connections with Table 9-type hazards and other high cross-connection hazards	Within 30 days after notification
Existing connections with other than Table 9 of WAC 246-290-490 or high cross-connection hazards	Within 90 days after notification
Existing fire protection systems using chemicals or supplied by unapproved auxiliary water source	Within 30 days after notification
Existing fire protection systems not using chemicals and	Within 90 days after

supplied by purveyor's water	notification
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**Element 4:** *Provision of qualified personnel, including at least one person certified as a CCS, to develop and implement the CCC program.*

1. **Program Administration:** The responsibility for administration of the CCC Program rests with the Purveyor. General policy direction and risk management decisions are established by **the Purveyor's DOH-certified CCS.**
2. The Purveyor will employ, or otherwise have on staff, at least one DOH-certified CCS to develop and implement the CCC program. As an alternative, or when no staff or employees are properly qualified, the Purveyor may retain a DOH-certified CCS on contract to provide the necessary expertise and services.
3. The following cross-connection related tasks will be performed by or under the direction of the Purveyor's certified CCS (on staff or under contract):
  - Preparation of and recommendations regarding changes to the CCC program;
  - Performance of and/or reviews of CCC hazard evaluations;
  - Recommendations on the type of backflow assembly to be installed;
  - Inspections of backflow assemblies for proper application and installation;
  - Reviews of backflow assembly inspection and test reports;
  - Recommendations and/or the granting of exceptions to mandatory premises isolation;
  - Participation in or cooperation with other water utility staff in the investigation of backflow incidents and other water quality problems;
  - Completion of Backflow Incident Reports; and
  - Completion of CCC Activity and Program Summary Reports.

The following table identifies the current CCS employed or retained on contract by the Purveyor to manage the Purveyor's CCC program and/or act as the CCC technical resource for the Purveyor:

Name of CCS	Dave Stoltz, Dockton Water Association
Address	9710 SW Windmill Street
City, State, Zip	Vashon, Washington 98070
Telephone Number	(206) 463-5600
CCS Certification Number	13842

Name of CCS	
Address	
City, State, Zip	
Telephone Number	
CCS Certification Number	

**Element 5:** *Development and implementation of procedures to ensure that approved backflow prevention assemblies are inspected and/or tested (as applicable).*

### **1. Inspection and Testing of Backflow Assemblies**

All backflow prevention assemblies that the Purveyor relies upon for protection of the water system will be subject to inspection and, if applicable, testing. Inspection and testing of backflow prevention assemblies will be as follows:

- The Purveyor's DOH-certified CCS will inspect backflow prevention assemblies for proper application (i.e., to ensure that backflow prevention assemblies installed are commensurate with the assessed degree of hazard).
- Either a DOH-certified CCS or backflow assembly tester (BAT) will perform inspections of backflow prevention assemblies for correct installation.
- A DOH-certified backflow assembly tester (BAT) will test all backflow prevention assemblies the Purveyor relies upon to protect the public water system.

### **2. Frequency of Inspection and Testing**

Inspection and testing of backflow prevention assemblies will be conducted:

- At the time of installation;
- Annually after installation;
- After a backflow incident; and
- After repair, reinstallation, relocation, or re-plumbing.

The Purveyor may require a backflow prevention assembly 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 tests or inspections.

### **3. Responsibility for Inspection and Testing**

The Purveyor will be responsible for inspection and testing of all purveyor-owned backflow prevention assemblies.

The Purveyor will require the customer to be responsible for inspection and testing of backflow prevention assemblies owned by the customer. The customer shall employ, at customer expense, a DOH-certified BAT to conduct the inspections and tests within the time period specified in the testing notice sent by the Purveyor. The test report shall be completed and signed by the BAT and returned to the Purveyor's CCS, by the due date specified by the Purveyor. The customer may request an extension of the due date for returning a test report by submitting a written request to the Purveyor.

### **4. Approved Test Procedures**

The Purveyor will require that all backflow prevention assemblies relied upon to protect the public water system be tested in accordance with DOH-approved test procedures as specified in WAC 246-290-490(7)(d). Any proposal to use alternate test procedures must be approved by the Purveyor's CCS.

### **5. Notification of Inspection and/or Testing**

The Purveyor will notify in writing all customers who own backflow prevention assemblies

that are relied upon to protect the public water system to have their backflow prevention assembly (ies) inspected and/or tested. 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 by which the inspection/test report must be received by the Purveyor.

## **6. Enforcement**

When a customer fails to send in the inspection/test report within 45 days after the notification date, and the Purveyor has not approved an extension to the due date, the Purveyor will take the following action:

- The Purveyor will send a second notice giving the customer an additional 15 days to send in the report. The notice will also inform the customer that failure to satisfactorily respond to the request will result in Enforcement &/or Corrective actions as provided by the CCC Policy and/or Service Agreements.
- The Purveyor will send copies of the second notice to the owner and occupants of the premises (if different).
- If the owner and/or occupants have not responded satisfactorily to the Purveyor within 15 days of the due date specified in the second notice, the Purveyor will implement the Enforcement &/or Corrective actions as provided by the CCC Policy and/or Service Agreements.

**Element 6:**     *Development and implementation of a backflow prevention assembly testing quality assurance/quality control program.*

The Purveyor will maintain a list of local, DOH-certified BATs that are pre-approved by the Purveyor to perform the following activities:

- *Backflow assembly inspection for proper installation; and*
- *Backflow assembly testing.*

The list will be compiled of individual testers who have requested to work in the system's area, who have previously submitted properly completed test reports, or are listed on the DOH list of certified testers.

### **Quality Assurance**

The Purveyor's CCS will review within 30 days of receipt the backflow assembly inspection/test report forms submitted by the customer.

The Purveyor's CCS will provide follow-up on test reports that are deficient in any way.

The Purveyor's CCS will report incidences of fraud or gross incompetence on the part of any BAT or CCS to DOH Operator Certification program staff.

**Element 7:**     *Development and implementation (when appropriate) of procedures for responding to backflow incidents.*

## 1. Backflow Incident Response Plan

The Purveyor's CCS will participate in developing a backflow incident response plan that will be part of the water system's emergency response program as required by WAC 246-290-415(2). The incident response plan will include, but will not be limited to:

- Notification of affected population;
- Notification and coordination with other agencies, such as DOH, the AHJ, and other local health jurisdictions;
- Identification of the source of contamination;
- Isolation of the source of contamination and the affected area(s);
- Cleaning, flushing, and other measures to mitigate and correct the problem; and
- Apply corrective action to prevent future backflow occurrences.

## 2. Technical Resources

The Purveyor will use the most recently published edition of the manual, *Backflow Incident Investigation Procedures*, published by the PNWS-AWWA as a supplement to the Backflow Incident Response Plan for the Dockton Water Association.

**Element 8:** *Development and implementation of a cross-connection control public education program.*

### 1. Customer Education

The Purveyor will distribute at regular intervals (at least annually), public education materials to system customers. For residential customers, such materials will describe the cross-connection hazards in homes and the recommended backflow prevention assemblies or devices that should be installed by the homeowner to reduce the hazard to the public water system. The education program will emphasize the responsibility of the customer in preventing the contamination of the public water supply. The Purveyor's staff will produce the public education materials or the Purveyor will obtain brochures from national backflow associations, such as PNWS-AWWA, Spokane Regional Cross-Connection Control Committee (SRC4), Western Washington Cross-Connection Prevention Professionals Group (The Group), USC FCCCHR, the American Backflow Prevention Association (ABPA), and/or Other water utilities.

The information distributed by the Purveyor will include, but not be limited to, the following subjects:

- Cross-connection hazards in general;
- Irrigation system hazards and corrective actions;
- Fire sprinkler cross-connection hazards;
- Importance of annual inspection and/or testing of backflow assemblies; and
- Thermal expansion in hot water systems when backflow assemblies are installed for premises isolation.

**Element 9:** *Development and maintenance of cross-connection control records.*

### 1. Types of Records and Data to be Maintained

The Purveyor will maintain records of the following types of information required by WAC 246-290-490:

- Service connections/customer premises information including:
  - Assessed degree of hazard; and
  - Required backflow prevention assembly to protect the public water system.
- Backflow prevention assembly inventory and information including:
  - Air gap (AG) location, installation and inspection dates, inspection results and person conducting inspection;
  - Backflow prevention assembly location, assembly description (type, manufacturer, make, model, size, and serial number), installation, inspection and test dates, test results and data, and person performing test; and
  - Information on atmospheric vacuum breakers (AVB) used in limited situations for lawn irrigation system applications.

The Purveyor will maintain records on all backflow prevention assemblies that protect the public water system from contamination. At a minimum, the Purveyor will maintain records on all premises isolation backflow prevention assemblies required to protect the public water system.

## 2. Reports to be Prepared and Submitted to DOH

The Purveyor or CCS will prepare the following reports required by WAC 246-290-490 including:

- Cross-connection control program activities report for the calendar year, to be sent to DOH when requested;
- Cross-connection control program summary information, when required, or when there are significant policy changes;
- Backflow incident reports to DOH and the AHJ; and
- Documentation when exceptions to mandatory premises isolation are granted.

**At a minimum, the Purveyor's CCS will prepare and sign the Exceptions reports.**

***Element 10:*** *Additional cross-connection control requirements for reclaimed water.*

At this time the **Dockton Water Association** does not receive or distribute reclaimed water. In the event that reclaimed water use is proposed within the PWS's service area, the Purveyor will make all cross-connection control requirements mandated by the Permitting Authority in accordance with Chapter 90.46 RCW part of the written CCC program plan and comply with such additional requirements.

## E. Other Provisions

**Coordination With the Authority Having Jurisdiction:** Both WAC 246-290-490 and the Uniform Plumbing Code (as amended for Washington) require coordination between purveyors and the Authority Having Jurisdiction in all matters concerning cross-connection

control.

- a. Identification of the Authority Having Jurisdiction (AHJ) - the AHJ that enforces the plumbing code for the premises served by the Purveyor is **King County Health Department, Plumbing Inspection Program, Attn: Steven Hart 401 Fifth Avenue, Suite 1100, Seattle, WA 98104, (206) 263-9566.**
- b. Coordination with the Authority Having Jurisdiction - A letter indicating that this cross-connection control program has been implemented has been provided on \_\_\_\_\_.
- c. Description of Coordination with the AHJ - The Purveyor coordinates with the AHJ as follows: **Coordination consists of information sharing only.** However, the Purveyor requests the opportunity to review any plumbing plans for new or existing connections to the water system when permits are applied for. The Purveyor further agrees to inform the AHJ whenever a backflow incident or a shut-off occurs.
- d. Delineation of Responsibilities - The Purveyor and the AHJ are responsible for the following CCC activities in the **Dockton Water Association.** AHJ reviews new construction drawings; the Purveyor is responsible for all other Cross-Connection Control evaluations, tests, inspections, and record keeping.
- e. Notification of the Authority Having Jurisdiction - The Purveyor will inform the AHJ
  - Change in plumbing that requires a plumbing permit;
  - Change in the use of any part of the premises that alters the cross-connection hazard level; or
  - Backflow incident.

## **F. Relationship to Other Planning and Operations Program Requirements**

The Purveyor will consider the requirements and consequences of the CCC program on the utility's planning and operations requirements. Such considerations include, but are not limited to ensuring:

- And promoting adequate communication between CCC program personnel and other water utility staff;
- That adequate training is provided to all staff to recognize potential cross-connection control problems;
- That cross-connection issues be considered in water quality investigations;
- That the design of the water distribution system makes adequate provisions for expected head losses incurred through the installation of experienced by backflow assemblies;
- That CCC program personnel be consulted in the design of water and wastewater treatment facilities and when proposals are made to receive or distribute reclaimed water;
- That operations under normal and abnormal conditions do not result in excessive pressure losses; and
- That adequate financial and administrative resources are available to carry out the CCC program.