

Appendix L

CROSS-CONNECTION CONTROL ORDINANCE



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CROSS-CONNECTION CONTROL PROGRAM

CITY OF GOLD BAR

2012

PURPOSE

To establish minimum program elements for the implementation of a cross-connection control program in the City of Gold Bar water service area and to protect the health and safety of water consumers and the potability of the public water system.

INTRODUCTION

In accordance with the requirements set forth by the City of Gold Bar, the City has officially adopted the State of Washington cross-connection control rules to protect the public water supply system.

A cross-connection is any actual or potential physical connection between a potable water line and any pipe, vessel, or machine containing a non-potable fluid or has the possibility of containing a non-potable fluid, solid or gas, such that it is possible for the non-potable fluid, solid or gas to enter the water system by backflow. A cross-connection could be any physical arrangement whereby a potable water supply is connected, directly or indirectly, with any non-potable or unapproved water supply system, sewer, drain, conduit, pool, storage reservoir, plumbing fixture, or any other device which contains, or may contain, contaminated water, liquid, gases, sewage, or other waste, of unknown or unsafe quality which may be capable of imparting contamination to the potable water supply as a result of backflow. Bypass arrangements, jumper connections, removable sections, swivel or change-over devices, and other temporary, permanent or potential connections through which, or because of which, backflow could occur, are considered to be cross-connections.

POLICY

It is the policy of the City to meet the intent of the Washington Administrative Code (WAC) sections covering cross-connection control.

The City will first protect premises from the water distribution system that are listed on Table 9 of WAC 246-290-490. The City shall also control each potential cross-connection as close to its source as practical. The City shall ensure the protection of the public water supply and will require premise isolation when City staff ascertains such protection is necessary. When possible, the City will conduct on-property / in-building cross-connection inspections. The City has a limited amount of resources and reserves the right to require premise isolation with no on-property / in-building inspection.

REGULATIONS AND MANUALS

The City shall ensure that good engineering and public health protection practices are used in the development and implementation of cross-connection control by adopting the most recently published editions or references:

- a) WAC 246-290-490 (Cross-Connection Control)
- b) Manual of Cross-Connection Control published by the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California (USC Manual);
- c) Cross-Connection Control Manual, Accepted Procedure and Practice published by the Pacific Northwest Section of the American water Works Association (PNWS-AWWA Manual).
- d.) Chapter 51-56 WAC (Uniform Plumbing Code as amended for Washington)

Note: **WAC 246-290-490** text references WAC 246-290-490. The City program elements are *italicized*.

Element 1:

The purveyor shall adopt a local ordinance, resolution, code , bylaw, or other written legal instrument that:

- (i) Establishes the purveyor’s legal authority to implement a cross-connection control program;**
- (ii) Describes the operating policies and technical provisions of the purveyor’s cross-connection control program; and**
- (iii) Describes the corrective actions used to ensure that consumers comply with the purveyor’s cross-connection control requirements.**

The City of Gold Bar’s Cross-connection Control Regulations are based on the initial Resolution No.12-02 adopted by the city council on April 3, 2012. It is the city council’s intention to include the Cross-control Program within the 2012 City Water System Plan Update, and each update thereafter.

Element 2:

The purveyor shall develop and implement procedures and schedules for evaluating new and existing service connections to assess the degree of hazard posed by the consumer’s premises to the purveyor’s distribution system and notifying the consumer within a reasonable timeframe of the hazard evaluation results. At a minimum, the program shall meet the following:

- (i) For new connections made on or after the effective date of these regulations, procedures shall ensure that an initial evaluation is conducted before service is provided;**

The City Cross-connection Specialist (CCS) will review all permit pre-applications, new construction plans water service applications, home occupation applications, and all other requests which may indicate that a requirement for cross-connection control exists. In order to minimize retrofits and revisions the city CCS will provide consultation with applicants prior to water service installation.

- (ii) For existing connections made prior to the effective date of these regulations, procedures shall ensure that an initial evaluation is conducted in accordance with a schedule acceptable to the City; and**

The City CCS will inspect the premise to determine whether the requirement for cross-connection control exists. These inspections will take place in accordance with the degree of hazard with sites presenting the potential highest hazard surveyed first. These surveys will take place as staff time permits. To reiterate, the cross-connection policy, as stated above, reserves the right to require premise isolation without a site survey when the City CCS determines that the degree of hazard merits such backflow assembly installation.

Premises not found in Table 9 WAC 246-290-490 will be evaluated for appropriate premise or in-premise protection upon potential or actual cross-connection(s) found.

- (iii) For all service connections, once an initial evaluation has been conducted, procedures shall ensure that periodic re-evaluation are conducted in accordance with a schedule acceptable to the City and whenever there is a change in the use of the premises.**

The City's CCS shall be responsible for making the initial cross-connection evaluation(s) and re-evaluation(s) to ensure the proper backflow assembly is installed for the potential degree of hazard to the City water system.

The schedule for re-evaluation and re-inspections shall be in accordance with the following general outline and order:

- (i) Facilities found in Table 9 WAC 246-290-490 must have an Air Gap or a Reduced Pressure Backflow Assembly.*
- (ii) Facilities with fire-services, and complex piping must comply with the principles found in WAC 246-290-490 Subsection (4)(d)(e)*

(iii) *Facilities not identified above are evaluated and re-evaluated in accordance with the following manuals:*

1. *Manual of Cross-Connection Control published by the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California (USC Manual);*
2. *Cross-Connection Control Manual, Accepted Procedure and Practice published by the Pacific Northwest Section of the American water Works Association (PNWS-AWWA Manual).*

In general, emphasis will be placed on making evaluations initially of all new businesses and residential dwellings. Backflow assemblies (BFA) will be tested upon installation, annually thereafter, and after moving or repairing.

Element 3:

The purveyor shall develop and implement procedures and schedules for ensuring that:

- (i) Cross-connections are eliminated whenever possible;**
- (ii) When cross-connections cannot be eliminated, they are controlled by installation of approved backflow preventers commensurate with the degree of hazard; and**

The selection of the type of backflow assembly for a cross-connection is found in Table 8 of WAC 246-290-490.

All vehicles connecting to the City fire hydrants shall have A/Gs and be inspected prior to The connection.

- (iii) Approved backflow preventers will be selected and installed in accordance with the following requirements.**

1. *WAC 246-290-490 (Cross-Connection Control)*
2. *Manual of Cross-Connection Control published by the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California (USC Manual);*
3. *Cross-Connection Control Manual, Accepted Procedure and Practice published by the Pacific Northwest Section of the American water Works Association(PNWS-AWWA Manual).*
4. *Chapter 51-56 WAC (Uniform Plumbing Code as amended for Washington)*

Element 4:

The purveyor shall ensure that personnel, including at least one person certified as a CCS, are provided to develop and implement the cross-connection control program.

The City has one full time CCS. This employee is required to process all existing and future potential cross-connections. In addition, the City has support personnel and inspectors to aid in the implementation and ongoing duties of a cross-connection program.

Element 5:

The purveyor shall develop and implement procedures to ensure that approved backflow preventers are inspected and / or tested (as applicable) in accordance with subsection (7) of this section.

WAC 246-290-490 Subsection(7) is used for the basis of ensuring that all A/Gs and BFAs are inspected or tested accordingly.

The City customers are responsible for testing of their own BFAs and must hire a private backflow assembly tester (BAT). The City cross-connection specialist mails test notices after initial installation of the backflow prevention device and annually thereafter to remind customers of their responsibility to test and maintain their own BFAs.

Element 6:

The purveyor shall develop and implement a backflow prevention assembly testing quality assurance program including, but not limited to, documentation of tester certification and test kit calibration, test report contents, and timeframes for submitting completed test reports.

WAC 246-290-490 Subsection (7) is used for the basis of ensuring performance of all tests done.

All backflow assembly testers must submit, to the City, a copy of their certification cards before being allowed to conduct testing of cross-control assemblies located in the City. The City CCS ensures that all test reports contain the required information, such as, test kit calibration dates, line pressure readings and the presence of a pressure-regulating valve upstream (if it exists) of the backflow preventer.

Element 7:

The purveyor shall develop and implement (when appropriate) procedures for responding to backflow incidents.

The following procedures shall be followed upon the discovery of a backflow incident:

- 1. The City Water System Manager and CCS shall organize an on-site inspection to determine the degree and extent of the incident.*
- 2. Water service may be discontinued or stopped to isolate the backflow cause.*
- 3. The Snohomish County health Department will be notified of the incident at the earliest possible time.*
- 4. The backflow will be eliminated to protect the potability of the water system.*
- 5. Corrections or repairs shall be made to protect the City water system from the backflow incident.*
- 6. Water service shall not be restored until the system has been thoroughly flushed and a sample shall be tested to confirm a negative presence for coliform bacteria.*
- 7. If required, notification of the backflow event will be distributed by City staff.*

Element 8:

The purveyor shall include information on cross-connection control in the purveyor's existing program for educating consumers about water system operation. Such a program may include periodic bill inserts, public service announcements, pamphlet distribution, and notification of new consumers and consumer confidence reports.

The City distributes consumer confidence reports to its customers on a yearly basis. A section in regards to backflow prevention shall be included within the report.

Cross-connection control announcements may be attached to the monthly water bills to notify consumers about the water system operation.

Element 9:

The purveyor shall develop and maintain cross-connection control records including, but not limited to, the following:

- (i) A master list of service connections and / or consumer's premises where the**

purveyor relies upon approved backflow preventers to protect the public water system from contamination, the assessed hazard level of each, and the required backflow preventer (s);

The City has on file a list of all properties requiring cross-connection assemblies. The degree of hazard, type of assembly, installation date, testing data, location, and any change of use to the premises are included within the master list of backflow prevention.

Such records are kept as long as the premises pose a cross-connection hazard to the purveyor's system. The City is striving toward a more complete accounting of assemblies found or installed within its water service boundary area.

(ii) Inventory information on:

(A) Approved air gaps installed in lieu of approved assemblies including exact air gap location, assessed degree of hazard, installation date, history of inspections, inspection results, and person conducting inspections;

No air gaps or premise isolation are installed within the City water distribution system at this time. If in the future it is determined that a premise requires an air gap, all information will be recorded and filed within the City cross-connection files.

(B) Approved backflow assemblies including exact assembly location, assembly description (type, manufacturer, model, size, and serial number), assessed degree of hazard, installation date, history of inspections, tests and repairs, test results, and person performing inspection(s);

All required information as listed above is kept on file within the City cross-connection Control files.

(C) Approved Atmospheric Vacuum Breakers (AVBs) used for irrigation system applications including location, description (manufacturer, model, and size), installation date, history of inspection(s), and person performing Inspection(s); and

The City staff will strive to locate all AVBs used for irrigation system applications and record all required information within the cross-connection control file system.

(iii) Cross-connection program summary reports and backflow incident reports required under subsection (8) of this section.

The City staff will notify the Department of Health, local administrative authority, and local health jurisdiction as soon as possible, but no later than the end of the next business day, when a backflow incident is known to have contaminated the public

water system.

The City staff will document all backflow incidents on a form acceptable to the Department of Health, such as the backflow incident report form included in the most recent edition of the PNWA-APWA Manual, unless otherwise requested by the DOH.

Element 10:

Cities who distribute and / or have facilities that receive reclaimed water within their water service area shall meet any additional cross-connection control requirements imposed by the department under a permit issued in accordance with chapter 90.46 RCW.

As of this time no facilities located within the City water system utilizes reclaimed water. If in the future such need arises, the subject facility will have an A / G or RPBA assembly installed to protect the City water system from backflow or potential cross-connection.

DEFINITIONS

Approved Backflow Prevention Assemblies: Specifically, Reduced Pressure Backflow Assemblies (RPBA), Double Check Valve Assemblies (DCVA), Pressure Vacuum Breaker Assemblies (PVBA), Reduced Pressure Detector Backflow Assemblies (RPDBA), and Double Check Detector Backflow Assemblies (DCDBA). This applies to assemblies that, at time of original installation, were approved by the State, appeared on their published approval list current at that time, and were approved for use in the City service area.

Backflow: The flow of any foreign liquids, gases or other substances from any source, back into the potable water supply within a facility and / or public water supply. Backflow may occur due to either backsiphonage or backpressure.

Backpressure: Backflow caused by positive pressure (above the supply pressure) in the piping system downstream of the supply piping connection to its service line.

Backsiphonage: Backflow caused by a negative pressure (vacuum) or reduced pressure in the supply piping.

Contamination: Any impairment of the quality of the water from any substance that may adversely affect the health of the consumer.

Controlled Cross-connection: A connection between the City water system and any non-potable water system with an approved air gap separation or an approved backflow prevention assembly properly installed and maintained so that it will continuously afford the protection commensurate with the degree of hazard.

Cross-connection: Any physical arrangement whereby a public water supply is connected, or has the potential for being connected, directly or indirectly, with anything that does not exclusively contain or convey potable water from a Washington State Department of Health-approved source.

Cross-connection Screen Inspection: An inspection of a direct service customer's premises, performed by the City, expressly for the purposes of evaluating and locating cross-connection potential inherent in supplying that customer's water system.

Cross-connection Compliance Inspection: A follow-up inspection of a direct service customer's premises, performed by the City to monitor the customer's activities toward achieving compliance subsequent to the cross-connection screen inspection and any orders of recommendation concerning compliance.

Cross-control Update Inspection: An inspection of a City water system customer's premises performed by the City for the continued evaluation and locating cross-control potential.
Degree of Hazard: The degree of hazard is derived from an evaluation of the potential risk to public health and the adverse effect of the hazard upon the City potable water system.
Hazards may include:

Health Hazard: Any condition, device, or practice in the water supply system and its operation which would create, or in the judgment of the City, may create, a danger to the health and well-being of the water customer.

System Hazard: An actual or potential threat to the physical properties of, or to the potability of water in the City water system or the customer's potable water system, which would constitute a nuisance or be aesthetically objectionable or could cause damage to the system or its appurtenances, but would not be dangerous to health.

Direct Service Water Customer: Those customers receiving water through a connection installed by the City for end uses directly from the City water distribution system and classed as direct service or retail for billing purposed.

Maximum Contaminant Level (MCL): The maximum amount of a contaminant allowed in a sample of water according to federal and state regulations. The importance of this to Cross-connection control is that the presence of a higher level than at the source may signify the occurrence of a cross-connection incident.

Pollution: Any impairment of the quality of the water that may adversely affect the aesthetic characteristics of the water.

Potable Water Supply: Any water supply system intended or used for human consumption or other domestic uses and which must meet Washington State Department of Health Public Water System Rules and Regulations.

State: Washington State Department of Health, Water Supply Section.

Temporary Usage Connections: Any vehicle to which a tank, or container is affixed for containing water and / or chemicals or materials, or any temporary use of water for construction, cooling, testing, or other non-domestic purposes, which are capable of imparting contamination or pollution to the City water supply through a cross-connection between such points of usage and the water supply via a fire hydrant or other temporary connection.

Water Service Connection: The terminal end of a service connection from the City water system where the City loses jurisdiction and sanitary control over the water at its point of delivery to the customer's water system. Service connection shall also include water service connections from a fire hydrant and all other temporary or emergency water service connection from the public potable water system.

Water System: For the purpose of this policy and procedure, the City water system is considered to be made up of two parts: the City system and the customer's system. The City system consists of the source facilities and the distribution system; and shall include all those facilities of the water system under the complete control of the City to the point where the customer's system begins, at the discharge of the water meter. The customer's system shall include those parts of the facilities beyond the termination of the City distribution system which are utilized in conveying City delivered water to points of use.

**CITY OF GOLD BAR, WASHINGTON
RESOLUTION NO. 12-02**

A RESOLUTION TO IMPLEMENT A CROSS-CONNECTION CONTROL PROGRAM

WHEREAS, the City of Gold Bar provides a public Water Utility for local residents; and

WHEREAS a cross-connection control program to prevent the connection and back-flow of non-potable fluids, solids, and gasses into the potable water system is necessary to protect the health and safety of water customers and the potability of the public water system; and

WHEREAS, the City of Gold Bar is required by WAC 246-290-490(2) to implement such a cross-connection control program; and

WHEREAS, the "Cross-Connection Control Program City of Gold Bar 2012" has been written to meet the requirements of WAC 246-290-490(3).

NOW THEREFORE, BE IT RESOLVED by the City Council of the City of Gold Bar, Washington as follows:

1. The above referenced program (which follows) is adopted by the City.

RESOLVED this 3rd day of April, 2012.

ATTEST/AUTHENTICATED:

APPROVED:



Laura Kelly, City Clerk/Treasurer



Joe Beavers, Mayor

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