

AN ORDINANCE OF THE CITY OF
HUNTINGTON BEACH INSTITUTING A
CROSS-CONNECTION CONTROL PROGRAM
TO PROTECT THE PUBLIC WATER SYSTEM

14.16.190

SECTION I - PURPOSE

The purpose of this ordinance is (1) to protect the public water supply against actual or potential cross-connection by isolating within the premise contamination that may occur because of some undiscovered or unauthorized cross-connection on the premises; (2) to eliminate existing connections between drinking water systems and other sources of water that are not approved as safe and potable for human consumption; (3) to eliminate cross-connections between drinking water systems and sources of contamination; (4) to prevent the making of cross-connections in the future.

These regulations are adopted pursuant to the State of California Administrative Code, Title 17 - Public Health entitled "Regulations Relating to Cross-Connections."

It is unlawful for any person, firm, or corporation at any time to make or maintain or cause to be made or maintained, temporarily or permanently, for any period of time whatsoever, any cross-connection between plumbing pipes or water fixtures being served with water by the City of Huntington Beach Water Division and any other source of water supply, or to maintain any sanitary fixture or other appurtenances or fixtures which by reason of their construction may cause or allow backflow of water or other substances into the water supply system of the City of Huntington Beach and/or the service of water pipes or fixtures of any consumer of the City.

SECTION II - DEFINITIONS

- A. Air-Gap Separation: The term "air-gap separation" means a physical break between a supply pipe and a receiving vessel. The air-gap shall be at least double the diameter of the supply pipe measured vertically above the top rim of the vessel, in no case less than one inch.

- B. Approved Backflow Prevention Device: The term "Approved backflow prevention device" shall mean devices which have passed laboratory and field evaluation tests performed by a recognized testing organization which has demonstrated their competency to perform such tests to the California Department of Health Services.
- C. Approved Water Supply: The term "approved water supply" means any water supply whose potability is regulated by a State or local health agency.
- D. Auxiliary Supply: The term "auxiliary supply" means any water supply on or available to the premises other than the approved water supply. This shall include used water; water which has passed through the water meter.
- E. AWWA Standard: The term "AWWA Standard" means an official standard developed and approved by the American Water Works Association (AWWA).
- F. Backflow: The term "backflow" shall mean a flow condition, caused by a differential in pressure, that causes the flow of water or other liquids, gases, mixtures or substances into the distributing pipes of a potable supply of water from any source or sources other than an approved water supply source. Backsiphonage is one cause of backflow. Back pressure is the other cause.
- G. Contamination: The term "contamination" means a degradation of the quality of the potable water by any foreign substance which creates a hazard to the public health or which may impair the usefulness or quality of the water.
- H. Cross-Connection: The term "cross-connection" as used in this Ordinance means any 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 a substance that is not or cannot be approved as safe, wholesome, and potable. By-pass arrangements, jumper connections, removable sections, swivel or changeover devices, or other devices through which backflow could occur, shall be considered to be cross-connections.
- I. Double Check Valve Assembly: The term "double check valve assembly" means 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 watertightness of each check valve.

- J. Health Agency: The term "health agency" means the California Department of Health Services, or the local health agency with respect to a small water system.
- K. Local Health Agency: The term "local health agency" means the county or city health authority.
- L. Person: The term "person" means an individual, corporation, company, association, partnership, municipality, public utility, or other public body or institution.
- M. Premise: The term "premise" means any and all areas on a customer's property which are served or have the potential to be served by the public water system.
- N. Public Water System: The term "public water system" means a system for the provision of piped water to the public for human consumption which has five or more service connections or regularly serves an average of 25 individuals daily at least 60 days out of the year.
- O. Reclaimed Water: The term "reclaimed water" means a wastewater which as a result of treatment is suitable for uses other than potable use.
- P. Reduced Pressure Principle Backflow Prevention Device: The term "reduced pressure principle backflow device" means a device incorporating two check valves and an automatically operating differential relief valve located between the two checks, a tightly closing shut-off valve on each side of the check valve assembly, and equipped with necessary test cocks for testing.
- Q. Service Connection: The term "service connection" refers to the point of connection of a user's piping to the water supplier's facilities.
- R. Water Supplier: The term "water supplier" means the person who owns or operates the approved water supply system.
- S. Water User: The Term "water user" means any person obtaining water from an approved water supply system.

SECTION III - CROSS-CONNECTION PROTECTION REQUIREMENTS

A. General Provisions

1. Unprotected cross-connections with the public water supply are prohibited.

2. Whenever backflow protection has been found necessary, the City of Huntington Beach will require the water user to install an approved backflow prevention device by and at his/her expense for continued services or before a new service will be granted.

3. At the discretion of the Water Superintendent, whenever backflow protection has been found necessary on a water supply line entering a consumer's premises, then any and all lines from the city's mains entering such premises, buildings or structures shall be protected by an approved backflow device regardless of the use of the additional supply lines.

B. Where Protection is Required

1. Each service connection from the City water system for supplying water to premises having an auxiliary water supply shall be protected against backflow of water from the premises into the public water system unless the auxiliary water supply is accepted as an additional source by the City of Huntington Beach, and is approved by the health agency having jurisdiction.

2. Each service connection from the City water system for supplying water to any premises on which any substance is handled in such fashion as may allow its entry into the water system shall be protected against backflow of the water from the premises into the public system. This shall include the handling of process waters and waters from the City water system which have been subjected to deterioration in sanitary quality.

3. Backflow prevention devices shall be installed on the service connection to any premises having (a) internal cross-connections that cannot be permanently corrected and controlled to the satisfaction of the state or local health department and the City, or (b) intricate plumbing and piping arrangements or where entry to all portions of the premises is not readily accessible for inspection purposes, making it impracticable or impossible to ascertain whether or not cross-connections exist.

4. Whenever the City Water Division determines that backflow protection within the user's premises is adequate to protect the public water supply from backflow contamination, the water supplier, at its discretion, may waive the requirement to provide backflow protection at the user's connection.

5. The City Water Division may require the water user to provide backflow protection at the users connection or within the users premises or both.

C. Type of Protection Required

1. The type of protection that shall be provided to prevent backflow into the approved water supply shall be commensurate with the degree of hazard that exists on the consumer's premises. The type of protective device that may be required (listing in an increasing level of protection) include: Double Check Valve Assembly (DC), Reduced Pressure Principle Backflow Prevention Device (RP), and an Air-gap separation (AG). The water user may choose a higher level of protection than required by the City. The minimum types of backflow protection required to protect the approved water supply, at the user's water connection to premises with varying degrees of hazard are given in Table 1. Situations which are not covered in Table 1 shall be evaluated on a case by case basis and the appropriate backflow protection shall be determined by the City or health agency.

Table 1
TYPE OF BACKFLOW PROTECTION REQUIRED

Degree of Hazard	Minimum Type of Backflow Prevention
a. Sewage and Hazardous Substances	
(1) Premises where the public water system is used to supplement the reclaimed water supply.	AG
(2) Premises where there are wastewater pumping and/or treatment plants and there is no interconnection with the potable water system. An RP may be provided in lieu of an AG if approved by the health agency and the City.	AG

(3) Premises where reclaimed water is used and there is no interconnection with the potable water system. An RP may be provided in lieu of an AG if approved by the health agency and the City AG

(4) Premises where hazardous substances are handled in any manner in which the substances may enter a potable water system. An RP may be provided in lieu of an AG if approved by the health agency and the City. AG

(5) Premises where there are irrigation systems into which fertilizers, herbicides, or pesticides are, or can be, injected. RP

b. Auxiliary Water Supplies

(1) Premises where there is an unapproved auxiliary water supply which is interconnected with the public water system. A RP or DC may be provided in lieu of an AG if approved by the health agency and the City. AG

(2) Premises where there is an unapproved auxiliary water supply and there are no interconnections with the public water system. A DC may be provided in lieu of a RP if approved by the health agency and City. RP

c. Fire Protection Systems

(1) Premises where the fire system is directly supplied from the public water system and there is an unapproved auxiliary water supply on or to the premises (not interconnected). DC

(2) Premises where the fire system is supplied from the public water system and interconnected with an unapproved auxiliary water supply. An RP may be provided in lieu of an AG if approved by the health agency and City. AG

(3) Premises where the fire system is supplied from the public water system and where either elevated storage tanks or fire pumps which take suction from the private reservoirs or tanks are used. DC

(4) Premises where the fire system is supplied from the public water system and where either an auxiliary pump or a fire department siamese connection is required. Alternative types of protection in lieu of a DC may be provided if approved by the health agency and City.

DC

d. Dockside Watering Points and Marine Facilities

(1) Pier hydrants for supplying water to vessels for any purpose.

RP

(2) Premises where there are marine facilities. RP

e. Premises where entry is restricted so that inspections for cross-connections cannot be made with sufficient frequency or at sufficiently short notice to assure that cross-connections do not exist.

RP

f. Premises where there is a repeated history of cross-connections being established or reestablished.

RP

g. Premises not yet constructed where the degree of hazard cannot be determined before construction. RP

2. Two or more services supplying water from different street mains to the same building, structure, or premises through which an interstreet main flow may occur, shall have at least a standard check valve on each water service to be located adjacent to and on the property side of the respective meters. Such check valve shall not be considered adequate if backflow protection is deemed necessary to protect the City's mains from pollution or contamination; in such cases the installation of approved backflow devices at such service connections shall be required.

SECTION IV - BACKFLOW PREVENTION DEVICES

A. Approved Backflow Prevention Devices

1. Only backflow prevention devices which have been approved by the City shall be acceptable for installation by a water user connected to the City's potable water system.
2. The City will provide, upon request, to any affected customer a list of approved backflow prevention devices.

B. Backflow Prevention Device Installation

1. Backflow prevention devices shall be installed in a manner prescribed in Section 7603, Title 17 of the California Administrative Code. Location of the devices shall be as close as practical to the user's connection. The normal location shall be immediately adjacent to the water meter, unless otherwise accepted by the Water Superintendent. The City shall have the final authority in determining the required location of a backflow prevention device.
 - a. Air-gap separation (AG) - The air-gap separation shall be located on the user's side of and as close to the service connection as is practical. All piping from the service connection to the receiving tank shall be above grade and be entirely visible. No water use shall be provided from any point between the service connection and the air-gap separation. The water inlet piping shall terminate a distance of at least two (2) pipe diameters of the supply inlet, but in no case less than one (1) inch above the overflow rim of the receiving tank.
 - b. Reduced pressure principle backflow prevention device (RP) - The approved reduced pressure principle backflow prevention device shall be installed on the user's side of and as close to the service connection as is practical. The device shall be installed a minimum of twelve inches (12") above grade and not more than eighteen inches (18") above grade measured from the bottom of the device and with a minimum of twelve inches (12") side clearance. The device shall be installed so that it is readily accessible for maintenance and testing. Water supplied from any point between the service connection and the RP device shall be protected in a manner approved by the City.
 - c. Double check valve assembly (DC) - The approved double check valve assembly shall be located as close as practical to the user's connection and shall be installed above grade, and in a manner where it is readily accessible for testing and maintenance.

- d. Double check - detector check (DCDC) - The approved double check-detector check assembly shall be located as close as practical to the user's connection and shall be installed above grade and in a manner where it is readily accessible for testing and maintenance. The meter element associated with the detector check assembly remains the responsibility of the water supplier, therefore, placement of the assembly in an easily accessible location to allow the meter to be read and maintained is required.

C. Backflow Prevention Device Testing and Maintenance

1. The owners of any premises on which, or on account of which backflow prevention devices are installed, shall have the devices tested by a person who has demonstrated their competency in testing of these devices to the City. Backflow prevention devices must be tested at least annually and immediately after installation, relocation or repair. The City may require a more frequent testing schedule if it is determined to be necessary. No device shall be placed back in service unless it is functioning as required. A report in a form acceptable to the City shall be filed with the City each time a device is tested, relocated, or repaired. These devices shall be serviced, overhauled, or replaced whenever they are found to be defective and all costs of testing, repair, and maintenance shall be borne by the water user.
2. The City will supply affected water users with a list of persons acceptable to the City to test backflow prevention devices. The City will notify affected customers by mail when annual testing of a device is needed and also supply users with the necessary forms which must be filled out each time a device is tested or repaired.
3. The City may enter the water users premises during normal business hours to perform periodic testing of the approved backflow devices installed therein.

D. Backflow Prevention Device Removal

1. Approval must be obtained from the City before a backflow prevention device is removed, relocated, or replaced.

- a. Removal: The use of a device may be discontinued and the device removed from service upon presentation of sufficient evidence to the City to verify that a hazard no longer exists or is not likely to be created in the future;
- b. Relocation: A device may be relocated following confirmation by the City that the relocation will continue to provide the required protection and satisfy installation requirements. A retest will be required following the relocation of the device;
- c. Repair: A device may be removed for repair, provided the water use is either discontinued until repair is completed and the device is returned to service, or the service connection is equipped with other backflow protection approved by the City. A retest will be required following the repair of the device; and a test will be required if a substitute device is installed.
- d. Replacement: A device may be removed and replaced provided the water use is discontinued until the replacement device is installed. All replacement devices must be approved by the City and must be commensurate with the degree of hazard involved.

SECTION V - USER SUPERVISOR

At each premises where it is necessary, in the opinion of the City, a user supervisor shall be designated by and at the expense of the water user. This user supervisor shall be responsible for the monitoring of the backflow prevention devices and for the avoidance of cross-connections. In the event of contamination or pollution of the drinking water system due to a cross-connection on the premises, the City shall be promptly notified by the user supervisor so that appropriate measures may be taken to overcome the contamination. The water user shall inform the City of the user supervisor's identity on an annual (minimum) basis, and whenever a change occurs.

SECTION VI - ADMINISTRATIVE PROCEDURES

A. Water System Survey

1. The City shall review all requests for new services to determine if backflow protection is needed. Plans and specifications must be submitted to the City Water Department upon request for review of possible cross-connection hazards as a condition of service for new service connections. If it is determined that a backflow prevention device is necessary to protect the public water system, the required device must be installed before service will be granted.
2. The City may require an on-premise inspection to evaluate cross-connection hazards. Any customer which cannot or will not allow an on-premise inspection of their piping system shall be required to install the backflow prevention device the City considers necessary.
3. The City may, at its discretion, require a reinspection for cross-connection hazards of any premise to which it serves water. Any customer which cannot or will not allow an on-premise inspection of their piping system shall be required to install the backflow prevention device the City considers necessary.

B. Customer Notification - Device Installation

1. The City will notify the water user of the survey findings, listing corrective action to be taken if required. A period of 60 days will be given to complete all corrective action required, including installation of backflow prevention devices.
2. A second notice will be sent to each water user which does not take the required corrective action, prescribed in the first notice, within the 60-day period allowed. The second notice will give the water user a two week period to take the required corrective action. If no action is taken within the two week period, the City may terminate water service to the affected water user until the required corrective actions are taken.

D. Customer Notification - Testing and Maintenance

1. The City will notify each affected water user when it is time for the backflow prevention device installed on their service connection to be tested. This written notice shall give the water user 30 days to have the device tested and supply the water user with the necessary form to be completed and resubmitted to the City.
2. A second notice shall be sent to each water user which does not have his/her backflow prevention device tested as prescribed in the first notice within the 30 day period allowed. The second notice will give the water user a two week period to have his/her backflow prevention device tested. If no action is taken within the two week period the City may terminate water service to the affected water user until the subject device is tested.

SECTION VII - WATER SERVICE TERMINATION

A. General

When the City encounters water uses that represent a clear and immediate hazard to the potable water supply that cannot be immediately abated, the City shall institute the procedure for discontinuing the City water service.

B. Basis for Termination

Conditions or water uses that create a basis for water service termination shall include, but are not limited to, the following items:

1. Refusal to install a required backflow prevention device,
2. Refusal to test a backflow prevention device,
3. Refusal to repair a faulty backflow prevention device,
4. Refusal to replace a faulty backflow prevention device,
5. Direct or indirect connection between the public water system and a sewer line,

6. Unprotected direct or indirect connection between the public water system and a system or equipment containing contaminants,
7. Unprotected direct or indirect connection between the public water system and an auxiliary water system,
8. A situation which presents an immediate health hazard to the public water system.

C. Water Service Termination Procedures

1. For conditions 1, 2, 3, or 4, the City will terminate service to a customer's premise after two written notices have been sent specifying the corrective action needed and the time period in which it must be done. If no action is taken within the allowed time period, water service may be terminated.
2. For conditions 4, 5, 6, 7, or 8, the City will take the following steps:
 - a. Make reasonable effort to advise water user of intent to terminate water service;
 - b. Terminate water supply and lock service valve. The water service will remain inactive until correction of violations has been approved by the City.

SECTION VIII - REQUIREMENTS FOR THE CERTIFICATION AS
A BACKFLOW PREVENTION DEVICE TESTER

Competency in all phases of backflow prevention device testing and repair must be demonstrated by means of education and/or experience in order to obtain certification.

The following are minimum requirements:

- a. Hold a valid certification from the American Water Works Association (AWWA) California-Nevada Section, from a County certification program, or have equivalent training in the opinion of the City and the Health Department.

- b. Each applicant for certification as a tester of backflow prevention devices shall furnish evidence to show that he has available the necessary tools and equipment to properly test such devices. He shall be responsible for the competency and accuracy of all tests and reports prepared by him.

The certificate issued to any tester is valid for a period of two years and may be revoked, suspended, or not renewed by the City for improper testing, repairs, and/or reporting.

SECTION IX - SEVERABILITY

If any section, subsection, subdivision, paragraph, sentence, clause, or phrase of this Ordinance, or any part thereof, is for any reason held to be invalid, such decision shall not affect the validity of the remaining portions of this Ordinance or any part thereof. The council hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, clause, or phrase thereof, irrespective of the fact that any one or more sections, subsections, subdivisions, paragraphs, sentences, clauses, or phrases be declared invalid.

SECTION X - EFFECTIVE DATE

This Ordinance shall take effect thirty (30) days from the date of its passage. Before the expiration of fifteen (15) days after its passage, this Ordinance shall be published in the _____, a newspaper of general circulation, printed and published in the City of _____.