

## City of Hillsboro Cross Connection Program Standards

As a water supplier the City of Hillsboro is responsible for protecting the potable water supply. The following program standards are adopted to enhance the consistency of the City's cross connection control program and apply to all service connections served by the City of Hillsboro, including outside of city limits.

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**Application** Under OAR 333-061-0070 the City has authority to direct property owners and other persons responsible for potable water facilities to install an appropriate type and size of backflow preventer as required by the rules of these Cross Connection Program Standards (hereafter, the Standard). The intent of these standards is to safeguard the quality of water in the Public Water System from any degradation caused by the undesirable backflow of water, pollutants, contaminants or other substances from another water system. Premises with private water systems that have been determined to present a hazard to the public water supply shall have an approved backflow preventer installed. The backflow preventer required by this Standard must be located on the owner's premises, at the point of delivery, immediately downstream of the meter near the property line. The location for a backflow preventer required for an un-metered fire service connection is at the property line. Backflow preventers installed at these locations provide a barrier that protects the public water supply from the danger of backflow from any cross-connections occurring within the premises.

### A. General Rules

1. Preserving the quality of the public water supply is vital. A person may not intentionally or negligently create a cross-connection that may cause any wastewater, liquids, mixtures, substances, or auxiliary water from any alternate water source to enter the public water system. Whenever the Hillsboro Water Department (Department or HWD) identifies a cross-connection at a premise, the owner must immediately remove the cross-connection and if directed by the Department, eliminate it by installing an approved backflow preventer. Failure by the owner to remove or eliminate a cross-connection as directed by the Department will result in service termination.
2. If a backflow incident occurs, the water customer must notify the Department immediately so that it may initiate isolation procedures and testing. The department has the authority to shut off any service connections it deems necessary to contain or eliminate the hazard to the potable water supply.
3. If the Department approves an alternate location for installation of the backflow preventer, the owner must ensure that no connection exists, or occurs, on the piping between the meter and the backflow prevention assembly. Prohibited connections include any appurtenance used to facilitate a future connection such as a tee with a valve or similar fitting arrangement.
4. Under OAR 333-061-0070, the owner must notify the Department if at any time the premises water supply is chemically treated in any way, examples include corrosion inhibitors, antifreeze, fertilizer, etc. The department can then determine if current protection is adequate.

### B. Backflow protection requirements for sites within the Department service area are as follows:

1. Premises isolation is mandatory on all new and existing service connections at sites that pose a health hazard to the public water supply. The type of backflow protection necessary is a Reduced Pressure Principle Backflow Prevention Assembly (RP) or an Air Gap.
2. Premises isolation requirements for new connections to the system will be determined during the plan review process. Plans must include a detail of the approved backflow preventer from the City of Hillsboro Design and Construction Standards.
3. Sites with existing services that undergo work that requires a building permit or an on-site utilities permit will be evaluated by the Department during the plan review process to determine if the site contains a hazard that warrants premises isolation. Plans must include details from the City of Hillsboro Design and Construction Standards specific to the type of assembly required by the Department.
4. Evaluation of all other existing service connections will be accomplished through an ongoing survey program under OAR 333-061-0070(9). The survey program is essential to identify and control existing or newly created cross-connections and to determine if a hazard exists that necessitates the installation of a backflow preventer for premises isolation. A priority system is used when scheduling site-specific hazard analysis surveys, with higher priority assigned to sites that receive higher hazard level ratings. Hazard level ratings are assigned to sites according to industry-recognized hazards for similar sites and activities.
5. Whenever the Department determines that a site requires a premises isolation backflow preventer, the type of device required will be appropriate for the highest hazard identified within the premises.
6. Temporary activities, bulk water users, and mobile operations must have approved backflow protection commensurate with the degree of hazard as determined by the Department. The rules for testing and inspection of assemblies and devices required for these activities are as follows:
  - a. Temporary construction meters are required to have a passing backflow test report before the service is turned on. At the time of the test city staff will be on site to unlock the meter for the backflow test. If a passing test is received the service will be left active, if the test fails the service will be relocked until proper repairs/replacement can be made.
  - b. Backflow protection in the form of an air gap is required on tankers prior to issuance of a Bulk Water Permit. The air gap shall be inspected by the Department staff at the time of receiving the permit. Inspection or testing is required once a year for long-term use.

**Access and Survey Notification** An owner must grant access to Department personnel to perform site-specific hazard analysis surveys to identify cross-connections and potential cross connections, and to determine hazard levels. Surveys are imperative to ascertain potential hazards to the public water supply. Owners must respond to requests for a site survey within 15 working days of notification. If the owner denies the Department full access to the premises to perform the survey, the Department will require the owner to install an approved Reduced Pressure Principle Backflow Prevention Assembly (RP) at the service connection. Installation of backflow assemblies must be completed within the time specified.

**Specific Requirements for Existing Service** OAR 333-061-0025 requires identification and control of all cross-connections. The risk to public health through contamination of the water supply requires the same backflow protection rules for both existing and new service connections.

- A. Backflow preventer requirements for various conditions on existing services shall be as follows:
  1. Backflow preventers for premises isolation that were approved at the time of installation but do not meet current requirements, are allowed to remain in place if all of the following conditions are met:
    - a. City records show that it has been tested and maintained annually.
    - b. The assembly remains in the location of its original installation.
    - c. The protection level of the assembly is commensurate with the degree of hazard at the premises.
    - d. No connections to the water system exist between the meter and the existing assembly.
  2. The owner of a premises that undergoes redevelopment, change in use, expansion, change of occupancy, modification of equipment or procedures, or relocates a backflow preventer must meet the requirements of this Standard.



3. When a premises requires backflow protection the owner must install the required backflow protection and test it within the following timeframes:
  - a. Installation of a premises isolation backflow preventer required in conjunction with a building permit or on-site utilities permit for either health hazard or non-health hazard applications must be completed prior to granting occupancy, or, in the case of an on-site permit, prior to providing water service to the site.
  - b. Owners whose premises require backflow protection for a health hazard must install the required backflow protection within 90 days of the written notification, or in accordance with an alternate schedule approved by the Department.
  - c. Owners whose premises requires backflow protection for a non-health hazard must install the required backflow protection within a time approved by the Department, but not to exceed 120 days from the written notification.
4. If the required backflow protection is not installed and tested within the time specified by the Department, water service to the premises may be terminated.
5. The Department may approve deviations from the times specified in 3(b) and 3(c) above.

**Standards and Methods for Installation** Only a backflow preventer listed in the current *Approved Backflow Prevention Assembly List* provided by the Oregon Health Authority meets the requirements of this Standard. The installation standards for a backflow preventer required by this Standard are contained in OAR 333-061-0071, City of Hillsboro Design and Construction Standards, and the Oregon Plumbing Specialty Code (OPSC). Installing or replacing a backflow preventer at the point of delivery for an existing site must meet the same requirements as those for new construction.

- A. A Backflow assembly required at the point of delivery for premises isolation must be installed in an approved vault, valve box or enclosure located downstream of the water meter at or near the property line. The type and size of the vault or valve box must comply with the City of Hillsboro Design and Construction Standards. When installing an Air Gap for premises isolation; the installation must comply with the OPSC and construction drawings as approved by the Department.
- B. An OPSC-approved provision for thermal expansion is required in all buildings and residences that have a backflow assembly installed for premises isolation.

**Responsibility for Testing Assemblies** The premise owner is responsible for the testing of the backflow prevention assemblies.

- A. A Backflow prevention assembly test must comply with the procedures listed in the current Cross-Connection Control Manual published by The Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California, or other method as approved by the Oregon Health Authority.
- B. All testing must be completed by the due date set by the Department. Owners must ensure that each backflow prevention assembly is tested at the time of installation, after it is repaired or relocated, after a backflow incident, and at least annually. More frequent testing may be required because of frequent failures, if an extreme health hazard is identified, or as deemed necessary by the Department. When an owner is notified by the Department of a test due date, the owner must have the test completed by that date.
- C. When employed by the owner, a certified tester is responsible for the proper testing of the owner's backflow prevention assemblies. The tester is responsible for the competency of all tests, the accuracy and completeness of reports, and providing a copy of the test report to the Department within 10 working days of conducting the test. Test reports must be completed in full and be legible, in a manner and form acceptable to the department. Test reports for backflow assemblies with detector meters shall include the

meter reading at the time the test is performed. The Department will return incomplete or illegible test reports and the test will not be posted as complete until the Department receives a corrected test report.

- D. Failure to test an assembly when required to do so will result in the following actions:
1. A 10-day notice of shut off for non-compliance will be mailed to the property address/property owner.
  2. The day before the scheduled shut off for non-compliance a door hanger will be placed on the residence/business to notify the customer of service termination the following day.
  3. At the time of the service termination, Department personnel will attempt to make contact with the property owner/water customer before terminating service. The water service will then be shut off until a passing test has been received by the Department.
  4. Once a test has been scheduled, the testing company must contact the Department's Cross Connection Control program administrator with the date and time of the test. Department personnel will meet the tester on site to restore the water service and witness the test.
  5. Upon completion of a passing test, the water will be restored. If the assembly fails the test, a cross connection specialist will survey the potential hazard. If the hazard is deemed a risk to the potable water supply the service will be shut off until the hazard is properly protected.
  6. All fees associated with the termination of water service, as established by the Utilities Commission by Resolution, will be the sole responsibility of the property owner/tenant.

**Maintenance of Assemblies and Devices** An owner must ensure that backflow preventers are maintained in a condition that assures proper operation and provides accessibility for testing, inspection, and repairs. An owner must notify the Department of any removal, relocation or replacement of devices or assemblies. Notice to the Department does not relieve the owner of responsibility to obtain any necessary permits for these activities.

**Financial Responsibility** The owner is financially responsible for planning, installing, maintaining, testing, replacing or removing backflow prevention assemblies, air gaps, and thermal expansion protection required by this Standard. The owner is also responsible for any fees related to service termination.

**Special Applications** The following rules apply to sites not specifically listed as a health hazard in OAR 333-061-0070, but which may require premises isolation when evaluated by the Department on a case-by-case basis.

- A. Premises isolation rules covering various cases for premises with wells are as follows:
1. Premises isolation is required for water services at premises that have an existing service connection and a new well is installed.
  2. Premises isolation is required when an existing well remains and a new water service connection is provided.
  3. Premises with both an existing well and a water service connection existing prior to the effective date of this Resolution will be evaluated for premises isolation requirements on a case-by-case basis. Premises isolation is required when such premises has indications of Reverse Flow Events as evidenced through the AMR Meter.
- B. Water services to buildings that are three stories or greater must have premises isolation protection commensurate with the degree of hazard within the premises.
- C. Water service connections outside of the City boundaries must have premises isolation based on the degree of hazard as determined by a site-specific hazard analysis survey.
- D. Premises isolation based on the potential hazard level is required for the following premises unless the Department determines that no actual or potential hazard exists:



1. Salons with water-supplied pedicure chairs or similar equipment
  2. Mobile Home Parks
  3. Premises with fire sprinkler systems (except those exempt by the OPSC)
  4. Shopping Centers
  5. Retail, commercial, and industrial buildings with provisions for tenant spaces
  6. Premises with an unprotected irrigation system
- E. Water services for retail, commercial, and industrial premises served by a single meter with provision for future multiple tenants must have a Double Check Valve Backflow Prevention Assembly (DC) installed for premises isolation. If a portion of the space becomes occupied by an activity that requires protection for a health hazard occupies a tenant space, the existing backflow protection must be upgraded accordingly. The owner may choose instead to initially install a Reduced Pressure Principle Backflow Prevention Assembly (RP) based on the probability of a future tenant with activities that present a health hazard to the public water supply.
- F. All other retail, commercial, and industrial premises will be evaluated by the Department to determine the need of premises isolation based on the hazard level.

**Automated Meter Reading (AMR) Reverse Flow Report Procedures** Reports based on meter readings will be analyzed to determine if reverse flow events indicates an actual “backflow incident” that requires corrective action. The Department will determine corrective actions specific to the incident based on volume and the number of reverse flow incidents identified at the premises.

- A. Upon written notice from the Department, the owner/tenant is required to allow the Department access to the entire premises and participate in a survey of the plumbing system to determine the cause of the reverse flow.
- B. Failure by the owner/tenant to allow the Department access to the entire premises within two weeks of written request may result in termination of water service.
- C. Failure of the owner to comply with the corrective action as directed by the Department may result in termination of water service.

**Tester Requirements** Backflow tester standards have been developed to enhance the consistency and accuracy of our cross connection control program. It is the responsibility of the water purveyor to protect the potable water supply from potential or actual cross connections.

- A. Each calendar year, a tester who wishes to provide testing services in the Hillsboro water service area must read and sign the Hillsboro Backflow Assembly Tester Standards.
- B. Backflow test reports must be submitted in the form outlined by the Department.
- C. HWD will randomly verify the test results recorded on any submitted test report form. This verification may be cause for rejecting the submitted test results and/or grounds for enforcement action.
- D. HWD may require a tester’s gauge to be calibrated more often than yearly if past gauge calibrations show damaged/inaccurate gauges.
- E. The tester has neither the responsibility nor the authority to enforce the cross connection control program of HWD. Enforcement lies solely with HWD. However, it is the responsibility of the tester to report questionable practices to the HWD so that enforcement may be initiated.

- F. All testers and their office staff processing backflow assembly test reports must annually read and agree to the City of Hillsboro's Backflow Assembly Tester Standards by signing and submitting the signature page along with the required information prior to HWD's acceptance of backflow assembly test reports within HWD's water service area.
- G. Individual or customized backflow assembly test report forms must be submitted to the HWD's Cross Connection Control Program for approval prior to testing within the service area.
- H. In addition to the tester requirement procedures above, a tester must also comply with the latest edition of Oregon Administrative Rule (OAR) 333-061-0070 through 333-061-0072, and the HWD's Cross Connection Control Program requirements.
- I. Evaluation and implementation of the OARs is subject to interpretation by the Director of HWD but in no case shall HWD's requirements be less stringent than the requirements of the OARs.

### Enforcement

- A. A tester who does not comply with the above standards may be subject to:
  - 1. Rejection of the tester's test reports;
  - 2. Reporting to Oregon Health Authority (OHA), CCB, LCB and Consumer Protection Division of the Department of Justice; and
  - 3. Disciplinary action(s) listed below.
- B. Minor offenses include:
  - 1. Submitting an incomplete test report.
  - 2. Failing to submit annually the proof of backflow assembly tester certification, gauge calibration and licensing requirements.
  - 3. Failing to note the assembly identification information when an assembly has been replaced.
  - 4. Submitting an illegible test report.
- C. Major offenses:
  - 1. Submitting a report without following approved test procedures.
  - 2. Failing to note improperly installed backflow assemblies.
  - 3. Failing to report unprotected cross connections.
  - 4. Submitting a test report using the certification number of another tester, or permitting another person to use the tester's certification number when submitting a test report.
  - 5. Falsifying a test report in any way.
  - 6. Performing repairs on an assembly without proper credentials.
  - 7. Three minor offenses within a 12 month period.
  - 8. Failing to schedule a test with HWD when required to do so under Enforcement Section E (Probationary Status) below.
- D. Disciplinary action process:
  - 1. All major offenses will be reported to the applicable agency (Landscape Contractor Board, Construction Contractors Board, Oregon Health Authority, etc.);
  - 2. One major offense (including 3 minor offenses) in any 12 month period will result in one or more of the following actions as determined by HWD:

- a) The tester and/or company may be placed on probationary status.
- b) The tester and/or company may lose testing privileges in the City's water service area for a minimum of one year.

E. Probationary Status

1. A tester who has been formally suspended by HWD or whose tester certification has been revoked by the Certifying agency will be on a probationary status for a minimum of one year. During the probationary period the tester must comply with the following:
  - a) HWD will not accept test reports until the tester has met with HWD's Cross Connection Control staff, demonstrated proper testing techniques, read and signed these Backflow Assembly Tester Standards; and
  - b) The testing company or tester must schedule in advance all backflow assembly testing within the City's water service area with HWD backflow program staff. Any test reports received from the tester or company for tests that were not scheduled and witnessed by a representative of HWD will be considered invalid and returned. This action will also be considered a major offense of these standards.
2. Should a tester/company commit a major offense while on a probationary status the tester/company will then lose all testing privileges within the HWD service area.

F. Appeals process:

- a. A tester or testing company that receives a written disciplinary action, may file a written appeal within 10 business days to the Director of HWD. The appeal shall describe in detail the reasons the tester or testing company believe they should not be subject to disciplinary action, or should be subject to a lesser disciplinary action, including any mitigating circumstances.
- b. The HWD Director shall issue a written decision within 14 days of the date the appeal is filed. The Director may uphold the disciplinary action, modify the action to account for mitigating circumstances, or rescind the action.
- c. The Director's written decision granting or rejecting the appeal shall cite the regulatory standard that was violated, describe the evidence the Director relied on in reaching a decision and any mitigating circumstances, and include a brief explanation why the evidence demonstrates the tester complied with or failed to comply with the applicable standard.
- d. The Director's decision may be appealed to Washington County Circuit Court in the manner provided in ORS 34.010 to 34.102 and not otherwise. The City shall be entitled to an award of its attorney fees and costs if the City is the prevailing party in an action filed under this section.







***This form must be complete and on file with HWD prior to accepting your Backflow Assembly Test Reports. All backflow assembly testers and office staff processing test reports must sign below:***

Company Name: \_\_\_\_\_  
Company address: \_\_\_\_\_  
\_\_\_\_\_  
Telephone Number: \_\_\_\_\_ Email: \_\_\_\_\_

***Certified Tester:***

Tester Name: \_\_\_\_\_ Cert No: \_\_\_\_\_  
Gauge Number: \_\_\_\_\_ Calibration Date: \_\_\_\_\_  
Telephone Number: \_\_\_\_\_ Email: \_\_\_\_\_

***Office Staff:***

Name: \_\_\_\_\_ Title: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Telephone Number: \_\_\_\_\_ Email: \_\_\_\_\_

I hereby certify the above information is complete and accurate:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Submit to: City of Hillsboro Water  
Attn: Backflow Dept.  
150 E. Main St.  
Hillsboro, OR 97123

or by email to: [Backflow@hillsboro-oregon.gov](mailto:Backflow@hillsboro-oregon.gov)  
Please include "Tester Standard"  
in the subject line.

