Woodinville Water District
Cross-Connection Control Program

I. Introduction

A. Mission

The purpose of Woodinville Water District's (WWD) cross-connection control program (CCCP) is to protect the public water system from contamination via cross-connections.

B. Purpose

Resolution 3320 gives WWD the authority to operate the CCCP, which meets the requirements of the State of Washington regulation WAC 246-290-490.

C. Scope

WWD will ensure that cross-connections between the distribution system and a customer's premises are eliminated or controlled by the installation of a State of Washington approved backflow preventer that commensurate with the degree of hazard. WWD will operate a combination program whereby commercial connections require premise isolation backflow protection with a Reduced Pressure Backflow Assembly (RPBA), unless II, C applies. Residential connections may be allowed to have in-premise backflow protection (unless a WWD approved Double Check Valve Assembly (DCVA) meter is installed). The customer is responsible for the expense to protect the public water system from backflow contamination by installing, maintaining and testing backflow assemblies in accordance with the WWD's Cross-Connection Program (section III). Failure of the customer to cooperate in the installation, maintenance, repair, inspection or testing of backflow prevention assemblies required by WWD shall be grounds for termination of water service to the premise.

D. Responsibilities

WWD will not be responsible for any loss or damage caused by any negligence or wrongful act of a customer or his authorized representative in installing, maintaining, operating or using and or all appliances, facilities, or equipment for which water service is supplied. The customer will be held responsible for damage to WWD's facilities and other property resulting from the use and operation of appliances and facilities on the customer's premises, including damage caused by steam, hot water, chemical, etc. WWD does not allow facilities to receive reclaimed water.

E. Organization

WWD has nearly 12,000 residential service connections, 900 commercial connections and 200 irrigation connections. There are 8 reservoirs with a storage capacity of 14.9 million gallons of water. There are more than 75 facilities classified as high health hazard facilities (HHHF) by WWD and/or the Department of Health (DOH) table 9. WWD will coordinate with the local administrative authorities, (LAA) the City of Woodinville and/or King County on issues concerning cross-connections within the customer's property lines. WWD will refer to the Pacific Northwest Section AWWA Cross-Connection Control Manual Accepted Procedure and Practice Sixth Edition (current addition) and the current Manual of Cross Connection Control (USC Manual) on issues concerning cross connection control. WWD will ensure that at least one person certified as a Cross-Connection Specialist (CCS) is provided to develop and implement the cross-connection control program. Responsibility include:

1. Administer Cross-Connection Control Program (CCCP).
2. Evaluate service connection for backflow hazards.
3. Reporting on the annual progress of the CCCP.
4. Public Education.
5. Investigate water quality concerns where backflow is suspected.
6. Keep current records of all backflow preventer testing, air gaps installed in lieu of approved backflow preventer, test kit calibration, tester certification.
7. Responsible to eliminate or control cross-connections between the distribution system and the customer's premise.
8. Ensure quality control for backflow testing.

II. Service Connections

WWD shall ensure that the customer installs a State of Washington approved backflow preventer that commensurate with the degree of hazard. The backflow protection required for commercial connections are:

- A commercial water service connection to WWD's public water system requires an Air Gap or RPBA (to be determined by the CCS), unless section C applies.

- A irrigation water service connection to WWD's public water system requires a minimum of a Reduced Pressure Backflow Assembly (RPBA), Double Check Valve Assembly (DCVA), Pressure Vacuum Breaker Assembly (PVBA), and Atmospheric Vacuum Breaker (AVB), WWD does not allow systems with chemicals (unless approved by WWD's CCS, then backflow protection must commensurate to the degree of hazard).

- Fire system connections require a minimum DCVA or Double Check Detector Assembly (DCDA), WWD does not allow fire systems with chemicals (unless approved by WWD's CCS, then backflow protection must be commensurate to the degree of hazard).

WWD shall ensure that the customer installs approved backflow preventer that commensurate with the degree of hazard in accordance with the following time frame:

- For a cross-connection that poses an <u>immediate</u> high health hazard WWD will terminate water service immediately and will not restore service until the cross-connection is protected to the CCS's satisfaction.
- High health cross-connections hazards within 90 days of WWD notifying the customer of the high health cross-connection hazard, or to CCS discretion.
- Low health cross-connection hazards within 90 days of WWD notifying the customer of the cross-connection hazard, or to the discretion of the purveyor.

Connections classification:

- Commercial connections: are all connections billed at non-residential rate. Not to include irrigation connections and fire connections.
- Residential connections: are connections billed at single-family residential rate.
- WWD reserves the right to reclassify a connection.

A. New Commercial Connections

New commercial connections to WWD's public water system are required to have premise isolation backflow protection with a State of Washington approved RPBA directly behind WWD's water meter installed by the customer at the customer's expense. The RPBA shall be installed to WWD specifications and the customer is responsible to have the RPBA tested in accordance with WWD cross-connection control test schedule (section III).

1. Installation Procedures for New Commercial Connections:

    a. Customer purchases WWD water meter.
    b. WWD sets water meter, and locks it off.
    c. Customer purchases and installs a State of Washington approved backflow preventer that commensurate to the degree of hazard to WWD specifications. Customer's plumbing must be connected to water meter before backflow testing.
    d. Customer calls WWD's Cross-Connection Department for installation inspection and backflow assembly test. WWD will perform the first backflow test on new installations (WWD will not clean or repair device). Assemblies that fail will be required to have the second backflow test performed at customer's expense.
    e. Meter will be left unlocked and ready for service once an installation inspection and a passing test report have been performed to WWD's satisfaction.
    f. WWD keeps records of test reports and will notify customer when backflow tests are needed.
    g. Customer agrees to follow WWD cross-connection program that includes backflow assembly testing at least annually by a State of Washington certified tester.

2. Schedule for evaluation and continued reevaluation:

    a. Facilities that pose an immediate high health hazard cross-connection have priority.
    b. Facilities with sever or high hazard cross-connections.
    c. Facilities with high hazard equipment (see high hazard equipment list) will be evaluated before facilities with no high hazard equipment.
    d. Annually when backflow assembly testing is due.
    e. When there is a history of backflow incidents.
    f. When there is a history of failed backflow test reports.
    g. When there is a change in the use of the premise.
    h. When a plumbing permit is issued.
    i. When there is a backflow incident.
    j. Known sites with high or sever hazards will have a routine evaluation once every three years as time and resources allow.

B. New and Existing Commercial Irrigation Connections

Commercial irrigation connections to WWD public water system are required to have premise isolation backflow protection with a State of Washington approved DCVA directly behind the WWD's water meter installed by the customer at the customer's expense. WWD does not allow irrigation systems with chemicals added (unless approved by WWD's CCS, then backflow protection must be commensurate to the degree of hazard). The DCVA shall be installed to WWD specifications and the customer is responsible to have the DCVA tested in accordance with WWD's cross-connection program test schedule (section III).

1. Installation Procedures for New Commercial Connections

    a. Customer purchases WWD water meter.
    b. WWD sets water meter and locks it off.
    c. Customer purchases and installs a State of Washington approved backflow preventer that commensurate to the degree of hazard to WWD specifications. Customer's plumbing must be connected to water meter before backflow testing.
    d. Customer calls WWD's Cross-Connection Department for installation inspection and backflow assembly test. WWD will perform the first backflow test on new installations (will not clean or repair device). Assemblies that fail will be required to have the second backflow test performed at customer's expense.
    e. Meter will be left unlocked and ready for service once an installation inspection and a passing test report have been performed to WWDs satisfaction.
    f. WWD keeps records of test reports and will notify customer when backflow tests are needed.

g. Customer agrees to follow WWD cross-connection program that includes backflow assembly testing at least annually by a State of Washington certified tester.

2. Schedule for evaluation and continued reevaluation

a. Facilities that pose an immediate high health hazard cross-connection have priority.
b. Facilities with sever or high hazard cross-connections.
c. Facilities with high hazard equipment (see high hazard equipment list) will be evaluated before facilities with no high hazard equipment.
d. Annually when backflow assembly testing is due.
e. When there is a history of backflow incidents.
f. When there is a history of failed backflow test reports.
g. When there is a change in the use of the premise.
h. When a plumbing permit is issued.
i. When there is a backflow incident.
j. Known sites with high or sever hazards will have a routine evaluation as once every three years as time and resources allow.

C. Existing Commercial Connections

Existing commercial connections to WWD's public water system are required to have or convert to premise isolation backflow protection with a State of Washington approved RPBA directly behind WWD's meter installed by the customer at the customer's expense. WWD may allow backflow protection in-premise (inside the customer's property line) with an RPBA installed by the customer at the customer's expense creating premise isolation. If the customer enters into an agreement allowing WWD access to the backflow preventer and agreeing not to have any connections between WWD's water meter and the first backflow preventer. WW D may allow a State of Washington approved DCVA for premise isolation, if the DCVA is **already** installed correctly and there are **no** potential high health hazard cross-connections (section VIII) at the facility (determined by a field evaluation and requires continued reevaluations). The assembly shall be installed to WWD's specifications and all permits obtained.

The primary enforcement action will be to discontinue water service. The secondary action shall be for WWD to install a State of Washington approved air gap or RPBA (to be determined by the CCS) behind WWD's water meter at the customer's expense. Restricted access would require an Air Gap or RPBA (to be determined by the CCS) behind WWD's water meter. No facility is exempt from compiling with current standards. The customer is responsible to have the assembly tested in accordance with WWD cross-connection program (section III).

1. Conversion Procedures for Existing Commercial Connections

    a. Commercial connections shall be converted to premise isolation. On the month the annual backflow assembly testing is due, the customer will be sent a letter notifying them that they are required to convert to premise isolation backflow protection with an RPBA (unless they meet DCVA requirements) within 60 days or other schedule acceptable to WWD. If no action within 60 days a second letter will be sent allowing an additional 30 days to comply and notifying them there water service may be terminated if they do not comply. If no response a door hanger will be handed out notifying the customer that the water service will be terminated on the date noted.
    b. After the backflow assembly has been installed, WWD's Cross-Connections Department (425-483-9104 ext. 325) shall be notified for an inspection and testing of the assembly.
    c. WWD will record the assembly into its data base and keep records of all testing information

2. Schedule for evaluation and continued reevaluation for Commercial Connections:

    a. Facilities that pose an <u>immediate</u> high health hazard cross-connection have priority.
    b. Facilities with sever or high hazard cross-connections.
    c. Facilities with high hazard equipment (see high hazard equipment list) will be evaluated before facilities with no high hazard equipment.
    d. Annually when backflow assembly testing is due.
    e. When there is a history of backflow incidents.
    f. When there is a history of failed backflow test reports
    g. When there is a change in the use of the premise.
    h. When a plumbing permit is issued.
    i. When there is a backflow incident.
    j. Known sites with high or sever hazards will have a routine evaluation as once every three years as time and resources allow.

D. New Commercial Fire Systems

New commercial fire system connections to WWD's public water system are required to have premise isolation backflow protection with a State of Washington approved DCVA or DCDA installed at the property line by the customer at the customer's expense. WWD does not allow fire systems chemicals added (unless approved by WWD's CCS, then backflow protection must be commensurate to the degree of hazard). The assembly shall be installed to WWD specifications and the customer is responsible to have the assembly tested in accordance with WWD cross-connection program (section III).

1. New Commercial Fire Systems Installation Procedures

    a. Customer applies for certificate of water availability.
    b. WWD approves or denies application.
    c. Customer responsible for connection to public water system and the installation of backflow protection to WWD specification. WWD specifications require backflow protection to be at the property line in a vault.
    d. Inspection of installation and a backflow assembly test must be performed to WWD satisfaction before service provided (valve turned on).
    e. WWD maintains records of test reports and will notify customer when backflow tests are needed.
    f. If denied access WWD will require backflow protection at the property line.
    g. Customer agrees to follow WWD's Cross-Connection Control Program. That includes backflow assembly testing at least annually by a State certified tester.

E. Existing Commercial Fire Systems

Existing commercial fire system connections to WWD's public water system are required to have or convert to premise isolation backflow protection with a State of Washington approved DCVA or DCDA at the property line installed by the customer at the customer's expense. The customer is required to upgrade the fire system when changes are made to the fire system or when required by the WWD's CCS. WWD does not allow fire systems with chemicals added (unless approved by WWD's CCS, then backflow protection must be commensurate to the degree of hazard). WWD may allow the assembly to be in-premise if the customer enters into an agreement allowing WWD access to the assembly and agrees to have no connections between the first assembly and WWD's public system. The assembly shall be installed to WWD's specifications and the

customer is responsible to have the assembly tested in accordance with WWD's cross-connection program (section III).

1. Factors WWD may consider when establishing backflow protection retrofitting schedules for commercial fire protection systems:

    a. Impacts of assembly installation on sprinkler performance.
    b. Cost of retrofitting.
    c. Difficulty of assembly installation.

2. Facilities are required to upgrade to current standards when:

    a. When a plumbing permit for the fire system is issued.
    b. When the facility is being remolded.
    c. When the customer has time to budget for the upgrade.
    d. When CCS requires the upgrade.

3. The minimum protection required is as follows:

    a. An RPBA or RPDA for fire protection systems with an unapproved auxiliary water supply.
    b. A DCVA or DCDC for all other fire protection systems.

F. Residential Fire Systems

Residential fire systems connections to WWD's public water system are required to have premise isolation backflow protection with a State of Washington approved DCVA directly behind WWD's fire meter installed by the customer at the customer's expense. WWD does not allow fire systems with chemicals added (unless approved by WWD's CCS, then backflow protection must commensurate to the degree of hazard). The customer shall have the assembly tested in accordance with WWD's cross connection control program (section III).

Backflow protection is not required for residential flow-through or combination fire protection systems constructed of potable water piping and materials. For service connections with fire protection systems other than flow-through or combination systems, WWD shall ensure that backflow protection consistent with WAC 246-290-490 section 4, D. The minimum protection required is as follows:

- An RPBA or RPDA for fire protection systems with an unapproved auxiliary water supply.
- A DCVA or DCDC for all other fire protection systems.

1. Installation Procedures for Residential Fire Systems:

    a. Customer purchases WWD fire meter.
    b. WWD sets water meter, and locks it off.
    c. Customer purchases and installs a State of Washington approved backflow preventer that commensurate to the degree of hazard to WWD's specifications. Assembly must be connected to water meter and customers plumbing before testing.
    d. Customer calls WWD's Cross-Connection Department for installation inspection and backflow assembly test. WWD will perform the first backflow assembly test on new installations (will not clean or repair device). Assemblies that fail will be required to have the second backflow assembly test performed at customer's expense.
    e. Meter will be left unlocked and ready for service once an installation inspection and a passing test report have been performed to WWD satisfaction.
    f. WWD keeps records of test reports and will notify property customer when backflow tests are needed.
    g. Customer agrees to follow WWD's cross-connection program that includes backflow assembly testing at least annually by a State of Washington certified tester.

2. Schedule for evaluation and continued reevaluation for all fire systems:

    a. Annually when backflow assembly testing is due.
    b. When there is a history of failed backflow test reports.
    c. When there is a backflow incident.
    d. When a plumbing permit is issued.
    e. When there is a change in the use of the premise.

G. Existing and New Residential Connections

Single-family residential service connections shall comply with the HHHF list (II, H) and WAC 246-290-490, table 9 requirements. If these requirements do not apply and the requirements for in-premise protection are met, WWD shall rely on backflow protection provided at the point of hazard in accordance with WAC 246-290-490 and WWD policy for backflow protection on hazards such as a irrigation systems, swimming pools, spas, ponds and boilers or at the property line if a WWD approved DCVA meter is installed

The customer is responsible for installation and shall have the assembly(s) tested in accordance with WWD's cross connection control program (section III). Backflow assemblies shall be installed to WWD specifications and the customer is responsible to get all necessary permits. The customer will provide WWD with the test report results.

1. Schedule for evaluation and continued reevaluation:
    a. Facility with sever or high hazards.
    b. Facilities that pose an immediate high health hazard cross-connection have priority.
    c. When there is a plumbing change.
    d. When there is a change of use of the facility.
    e. When there is a history of backflow incidences.
    f. When there is a history of failed backflow assembly test.
    g. When there is a backflow incident.
    h. Annually when backflow assembly testing is due.
    i. When CCS is made aware of a hazard not protected.
    j. Known sites with high or sever hazards will have a routine evaluation as once every three years as time and resources allow.

2. Backflow Hazard Assesment:

APPROPRIATE METHODS OF
BACKFLOW PROTECTION FOR IN-PREMISE PROTECTION

Degree of Hazard	Application Conditions	Appropriate Approved Backflow Preventer
High health cross-connection hazard	Backsiphonage or backpressure backflow	AG, RPBA, or RPDA
Low health cross-connection hazard	Backsiphonage or backpressure backflow	AG, RPBA, RPDA, DCVA, or DCDA

H. High Health Hazard Facilities list (HHHF)

For premises listed on the HHHF (or WAC 246-290-490, table 9) or unknown degree of hazard, the WWD shall ensure that an approved air gap or RPBA is installed for premise isolation. Facilities requiring premise isolation by the WWD and the State are as follows: (these facilities will be converted to premise isolation when their annual backflow assembly testing is due.)

- Agricultural (farms and dairies)
- Beverage battling plants
- Car washes
- Chemical plants
- Commercial laundries and dry cleaners
- Facilities where both reclaimed water and potable water are provided
- Film processing facilities Food processing plants
- Hospitals, medical centers, nursing homes, veterinary, medical and dental clinics, blood plasma centers
- Premises with separate irrigation systems using the purveyor water supply and with chemical additions (examples, parks, playgrounds, golf courses, cemeteries, estates, etc.)
- Laboratories
- Metal plating industries
- Mortuaries Petroleum processing or storage plants
- Piers and docks
- Radioactive material processing plants or nuclear reactors
- Survey access denied or restricted
- Wastewater treatment plants (accept RPBA's for these premises or systems only when used in combination with an in-plant approved air gap; otherwise, the purveyor shall require an approved air gap at the service connection)
- Premises with an unapproved auxiliary water supply interconnected with the potable water supply
- Other facilities that the WWD assess as a high health hazard facility

I. Procedures for Field Evaluation (Surveying)

The customer's water system shall be open for a "Field Evaluation" at a reasonable time to the WWD to determine whether cross connections or other structural or sanitary hazard including violations of these regulations exist.

The initial inspection shall proceed according to the following steps:

1. Contact (form letter, or phone call) each commercially metered customer explaining the need for a water system inspection, and requesting a convenient date and time for the inspection. Request that someone familiar with the plumbing system be on hand to answer questions, if possible.

2. On the appointed date, the CCS (and if possible an assistant) will meet with the customer/manager (and/or an individual from the facility that is knowledgeable with the plumbing system). The Cross-Connection Specialist will inspect any blueprints or drawings of the "in plant" system that are available, discuss any questions or other problems that arise, and conduct the inspection. The Cross-Connection Specialist will make a complete physical survey of all exposed piping, the underground system is to be checked as accurately as possible. All lines will be sketched on a field drawing except where intricate plumbing arrangements make it impractical. In this case, an "as-built" drawing will be requested. Each line shall be followed to its end and a survey made to determine whether there are any actual or potential cross-connections or any conditions that might tend to pollute the potable water system.

3. Immediately upon completion of the survey, the inspection team will orally brief the customer/manager (or representative) or the findings, if desired.

4. The Cross Connection Specialist will prepare a written report that will include, but is not limited to, the following:

    a. A list of all cross-connections found their location, and any optional methods of control.
    b. Any applicable drawings, sketches, blueprints, etc.
    c. A summary of the findings, and the recommendations or requirements for corrective actions, and a time (normally 90 days) in which the corrective action must be completed.

5. The Cross-Connection Specialist shall mail one copy of the completed report and a copy of WWD's installation specification requirements to the customer. The completed report shall include the recommendations and requirements for corrective actions and a corrective action completion date. One copy of the completed report shall reside in the CCS's permanent cross-connection control file for the facility.

6. On the corrective action completion date, the CCS shall contact the customer and ask if the corrective actions have been completed. If the corrective actions have been completed, the CCS shall make a re-inspection of the facility. If the corrective actions have not been completed, a new completion date will be set.

7. When all required actions have been completed, the file copy of the completed actions shall be placed in the cross-connection control file for the facility, together with any completed backflow assembly test report forms.

8. Re-inspection of each premise found to be subject to this procedure shall be accomplished annually or more often if the degree of hazard so indicates.

III. Backflow Preventers

A. Monitoring Backflow Preventers

1. WWD will only monitor backflow assemblies that protect the public water system. These assemblies are required to have a backflow assembly test performed at least annually and WWD's CCS may require backflow assembly testing more frequently in cases such as:

    a. Failed backflow assembly tests.
    b. Backflow contamination incident.
    c. High hazards.
    d. Required by CCS.

2. WWD requires backflow preventers protecting the public water systems to be on the current State of Washington approved list (unless 3 applies).

3. WWD may rely on testable backflow prevention assemblies that are not currently approved by the State of Washington, if the assemblies:

    a. Were included on the department and/or USC list of approved backflow prevention assemblies at the time of installation.
    b. Have been properly maintained.
    c. Are commensurate with WWD's assessed degree of hazard.
    d. Have been inspected and tested at least annually and have successfully passed the annual tests.

4. WWD requires that when an unlisted backflow assembly is replaced, by an approved assembly commensurate with the degree of hazard, when the unlisted assembly:

    a. Does not meet the conditions of (B, 4) of this section.
    b. Is moved.
    c. Cannot be repaired using spare parts from the original manufacturer.

B. Installation of Backflow Preventers

1. Backflow preventers shall be installed to WWD specifications and in compliance with the local administrating authority. WWD requires that when a backflow assembly or AVB that protects the public water system is improperly installed, defective, an unapproved assembly, or does not commensurate with the degree of hazard, it shall be properly reinstalled, repaired, overhauled, or replaced.

2. WWD requires that when bypass piping is installed around an approved backflow preventer that protects the public water system it is equipped with an approved backflow preventer that affords the same level of protection and complies with all applicable requirements.

3. WWD requires that when an approved air gap that protects the public water system, whenever found to be altered, or improperly installed is properly replumbed or, if commensurate with the degree of hazard, is replaced by a State of Washington approved RPBA.

4. WWD requires a Cross-Connection Specialist (CCS) to inspect new installations of Reduce Pressure Backflow Assemblies (RPBAs), Reduced Pressure Detector Assemblies (RPDAs), Double Check Valve Assemblies (DCVAs), Double Check Detector Checks (DCDCs), and Pressure Vacuum Breaker Assemblies (PVBAs) that protect the public water system to ensure that protection is commensurate with the degree of hazard. These assemblies are required to be tested:

    a. At the time of installation.
    b. Annually after installation, or more frequently, if required by the WWD for facilities that pose a high health cross-connection hazard or for assemblies that repeatedly fail.
    c. After a backflow incident.
    d. After an assembly is repaired, reinstalled, or relocated.

C. Inspection of Backflow Preventers

1. WWD shall ensure that inspections of Atmospheric Vacuum Breakers (AVB's) that protect the public water system installed on irrigation systems are conducted:

    a. At the time of installation;
    b. After a backflow incident; and
    c. After repair, reinstallation, or relocation.

2. The Backflow Assembly Tester (BAT) or a Cross-Connection Specialist (CCS) inspects:

    a. Air gaps installed in lieu of approved backflow prevention assemblies for compliance with the approved air gap definition.
    b. Backflow prevention assemblies for proper operation.

3. WWD shall ensure that inspections and/or tests of approved air gaps and approved backflow assemblies are conducted:

    a. At the time of installation, WWD will perform the first test free of charge, to inspect installation of assembly, verify the assembly commensurate with the degree of hazard, and to record for records keeping.
    b. Annually after installation, or more frequently, if required by WWD for facilities that pose a high health cross-connection hazard, or for assemblies that repeatedly fail;
    c. After a backflow incident, after an assembly is repaired, reinstalled, or relocated or an air gap is replumbed. We will notify customers annually on their due date informing them backflow preventer are due to be tested.
    d. After an assembly is repaired, reinstalled, or relocated or an air gap is replumbed;

D. Backflow Hazard Assessment

APPROPRIATE METHODS OF
BACKFLOW PROTECTION FOR PREMISES ISOLATION

Degree of Hazard	**Application Conditions**	**Appropriate Approved Backflow Preventer**
High health cross-connection hazard	Backsiphinage or backpressure backflow	AG, RPBA, or RPDA
Low health cross-connection hazard	Backsiphonage or backpressure backflow	AG, RPBA, RPDA, DCVA, or DCDA

IV. Backflow Assembly Testing Quality Control Assurance

WWD is required to develop and implement a backflow assembly testing quality control assurance. To meet the WAC requirements WWD requires the following:

1. All backflow assemblies that protect the public water system require a backflow assembly test by a State of Washington certified tester in accordance with WWD Cross-Connection Program (section V) and provide those test reports to WWD.
2. WWD will only accept backflow assembly test reports from current State of Washington certified Backflow Assembly Testers (BAT's).
3. Each test kit current calibration with model and serial number must be on file with WWD.
4. Each tester is required to have current BAT certification and test kit calibration on file with WWD.
5. It is the customer's responsibility to ensure that the backflow test reports are submitted to WWD, test reports submitted 30 days after the test has been performed may not be accepted (unless the approved by WWD).
6. All test report forms must be filled out with:

    a. Customer's name.
    b. Address.
    c. Location of the device.
    d. Phone number.
    e. Device manufacturer.
    f. Model.
    g. Size.
    h. Serial number.
    i. Test kit calibration date
    j. BAT certification number and signature.
    k. Method of test
    l. Date of test.
    m. Line pressure.
    n. Pressure that the check valves held at.
    o. RPBA's opening pressure of the relief valve and check of the minimum air gap.
    p. Results of the test, did the assembly pass or fail.

7. WWD will only except tests that have been performed using most recent State approved (U.S.C.) test procedures. When circumstances preclude the use of State approved test procedures WWD may allow, on case by case basis, the use of alternate test procedures acceptable to WWD.

V. Backflow Incident Response Procedures

When a water quality problem occurs where backflow is the suspected cause WWD will ensure that:

1. Cross-Connection Specialist will investigate the water quality problem.

2. WWD shall notify the local authority (City of Woodinville or King County) as possible, but no later than the end of the next business day when a backflow incident is known by WWD to have contaminated the public water system or occurred within the premises of a consumer served by WWD.

3. WWD will document details of backflow incidents on a DOH approved form (such as the most recent edition of the PNWS-AWWA Manual, see appendix).

4. Include all backflow incident report(s) in the annual cross-connection program summary report.

5. Isolate contamination and flush.

6. Refer to the District's Emergency Response Plan for more information.

VI. Cross-Connection Education

WWD shall implement an education program for the district customer. The education program will consist of but not limited to:

1. Sharing knowledge and training with engineers, architects, plumbing contractors, suppliers and inspectors, irrigation contractors and suppliers, fire protection contractors, wastewater personnel and the customer.

2. Public speaking at schools, homeowner association meetings, supermarkets, chamber of commerce meetings, and other public events.

3. Educating the staff of WWD is important. Utilize locators, meter readers, utility workers and engineering staff to assist in identifying cross connections.

4. Public education using newspapers, newsletters, and brochures.

5. WWD will refer to the Public Eductation Program, Methods Used for Public Education Target Group, by Denny Lopp (see appendix).

6. Have education information available for community events.

VII. Records and Reports

WWD shall develop and maintain cross-connection control records that include:

A. Service Connection Master List

A master list of service connections where WWD relies upon approved backflow preventers to protect the public water system from contamination by premises isolation and/or in-premises protection, the assessed hazard level of each. The required backflow preventer(s) records shall be kept as long as the premises pose a cross-connection hazard to WWD's distribution system.

1. The Cross-Connection Department shall establish a separate jacket file, for each individual customer that requires the installation of a backflow prevention assembly. Jacket files shall be filed in alphabetical sequence by customer's name (last name first). The following information shall be maintained in each individual jacket file:

    a. Copies of all correspondence with customer relative to cross-connection control.
    b. Copies of inspection reports complete with field drawings.
    c. Copy of application and completed installation order.
    d. Copies of maintenance inspection reports on all assemblies.

2. All backflow assembly test report forms shall be entered into a computer program that tracks backflow testing and dates of tests. A database using Access from Microsoft will track the items DOH requires for the annual summary report.

B. Inventory Information

Records regarding inventory information shall be kept for five years or life of the approved backflow preventer whichever is shorter. Inventory information will be kept on:

1. Approved air gaps installed in lieu of approved assemblies

    a. Exact air gap location.
    b. Assessed degree of hazard.
    c. Installation date.
    d. History of inspections.
    e. Inspection results.
    f. Person conducting inspection.

2. Approved backflow assemblies including:

    a. Exact assembly location.
    b. Type of assembly.
    c. Manufacturer.
    d. Model.
    e. Size.
    f. Serial number.
    g. Assessed degree of hazard.
    h. Installation date.
    i. History of inspections, tests, and repairs.
    j. Test results.
    k. Person performing test.

3. Approved AVB's used for irrigation systems including:

    a. Location.
    b. Manufacturer.
    c. Model.
    d. Size.
    e. Installation date.
    f. History of inspection(s).
    g. Person performing inspection.

C. Annual Summary Report

WWD will complete an annual summary report and all records will be kept on file for at least five years. Records will include:

1. Types of connections:

    a. Residential
    b. Commercial
    c. Industrial
    d. Agricultural

2. High health hazard facilities that the water system serves:

    a. Number of facilities served.
    b. The number currently protected by an AG or RPBA installed for premise isolation.
    c. The number exempted from premise isolation. (WWD shall document reasons for not applying premise isolation for facilities that are considered high hazard facilities on table 9).

3. AG and AVB's used for irrigation systems that are:

    a. Installed in the system (total).
    b. New installations for reporting year.
    c. Inspected.
    d. Failing initial inspection, including incorrect installations
    e. Re-plumbed or reinstalled correctly.
    f. Replaced by assembly.
    g. Replaced by new AVB.
    h. Re-inspected.

4. All assemblies (RPBA, RPDA, DCVA, PVBA, SVBA):

    a. Installed in system.
    b. New installations during year.
    c. Inspected and tested.
    d. Installed incorrectly.
    e. Failing initial test.
    f. Repaired.
    g. Replaced.
    h. Replaced with different assembly type.
    i. Re-tested.

5. WWD will record test report information that includes:

    a. Customer's name.
    b. Address.
    c. Location of the device.
    d. Phone number.
    e. Device manufacturer.
    f. Model.
    g. Size.
    h. Serial number.
    i. Test kit calibration date
    j. BAT certification number and signature.
    k. Date of test.
    l. Line pressure.
    m. Pressure that the check valves held at.
    n. RPBA's opening relief valve pressure and check of the minimum air gap.
    o. Results of the test, did the assembly pass or fail.

VIII. High Health Hazard Equipment

- Air conditioning systems
- Air washers
- Aquarium make-up water
- Aspirator, medical/lab
- Aspirator, weedicide, herbicide, and pesticide
- Aspirator, vault drain
- Autoclave
- Autopsy table
- Baptismal fountain bathtub, below rim filler
- Bedpan washer
- Post-mix beverage dispenser using CO2
- Boiler feed lines
- Bottle washing equipment
- Box hydrant (irrigation)
- Can washing equipment
- Chemical feed tank for industrial process
- Chemical feeder for commercial cleaners
- Chlorinators
- Computer cooling lines
- Cooling towers
- Decorative ponds
- Degreasing equipment
- Dental equipment/cuspidors
- Dialysis equipment
- Dye vats and tanks
- Etching tanks
- Fermenting tanks
- Fertilize injection
- Film processors
- Fire sprinkler system with chemical addition
- Floor drains
- Flushing floor drains
- Fume hoods (lab)
- Garbage can washer
- Heat exchangers other than double wall with leak path
- Heat pumps
- Hot tubs
- Commercial hot water heating boilers
- Hydrotherapy baths
- Ice makers
- Industrial fluid systems
- Irrigation system with chemical addition
- Laboratory equipment
- Laundry machines, commercial
- Livestock drinking tanks
- Make-up tanks
- Mobile carpet cleaners
- Pesticide applicator
- Photo developing sink/tanks
- Private fire hydrants
- Pump prime lines
- Radiator flush equipment
- Recreation vehicle dump station
- Sewer connected equipment
- Sewer flushing
- Spas
- Steam generating equipment
- Sterilizers
- Stills
- Sumps
- Swimming pools
- Trap primers
- Used or gray water systems
- X-ray equipment
- Other equipment assessed high hazard by WWD's CCS

IX. Notification Procedures for Backflow Assembly Testing & Installation

1. Customers that are required to have a backflow assembly that protects the public water system will be required to have these assemblies tested or installed in accordance with WWD Cross-Connection Program (section III) at the owner's expense.

2. A first letter will be sent to the customer annually.

3. If there is no response from the first letter, a second letter will be sent notifying the customer that WWD may shut their water off.

4. If there is no response from the second letter, a door hanger will be hung at the property (and property owner will be notified of rental property) notifying them that the water may be shut off. WWD may elect to use other methods of enforcement, such as:

    a. Requiring "premise isolation" at the customer's water meter.
    b. WWD may install a backflow assembly at the meter and charge the property owner for the installation.

X. Tanker Truck and Trailer Requirements

1. Tanker trucks and trailers require a cross-connection inspection in accordance with WWD's Cross-Connection Program (section III).

2. Tanker trucks and trailers will be assessed the same risk as an unapproved auxiliary supply, a high health hazard.

3. Air Gap or Reduced Pressure Backflow Assembly is the required protection for all tanker trucks and trailers (unless approved by WWD).

4. WWD will record inspection information for the annual summary report which includes:

    a. Name of company
    b. Drivers name
    c. License plate number
    d. Billing address
    e. Location of backflow protection on the vehicle
    f. Date of inspection

WOODINVILLE WATER DISTRICT
KING COUNTY, WASHINGTON
RESOLUTION NO. 3320

ORIGINAL

A RESOLUTION of the Board of Commissioners establishing a cross connection control program; repealing Resolution No. 3312 and Chapter 4.40 of the Woodinville Water District Codes; and codifying the District's cross connection control program in a new Chapter 4.40 of the Woodinville Water District Codes.

Whereas, the Woodinville Water District (the "District") provides water supply to residents and property located within its boundaries; and

Whereas, the District must comply with state and federal law and regulations, including regulations governing cross connections with the District's public water supply; and

Whereas, the State of Washington recently adopted revised regulations governing cross connection control; now, therefore,

BE IT RESOLVED by the Board of Commissioners of the Woodinville Water District:

1. Cross Connection Control Policy. The District is required to protect the public water supply with premise isolation cross connection control protection and by installation of approved air gaps or approved backflow prevention assemblies at the property line provided in this resolution or by entering into an agreement with the property owner to have the devices tested at a minimum, annually in premise at the owners expense.

2. Cross Control Specialist. The District shall employ a Cross Connection Control Specialist who shall be certified as a CCS in compliance with State regulations and who shall be responsible for administering the District's cross connection control policy under the direction of the District Manager and in compliance with Department of Health regulation.

i. The CCS shall eliminate cross connections by appropriate enforcement action as provided herein; but

ii. Whenever a cross connection cannot be eliminated, the CCS shall require, at the expense of the user, in-premises cross connection control, or premise isolation all at the expense of the consumer.

3. Cross Connection Control Policy. The CCS shall oversee installation of cross connection control devices and the maintenance and testing thereof as follows:

a. New Commercial Services and Fire Systems. After the effective date of this Resolution, all new commercial services shall be isolated from the public system at the meter and at the property line for fire systems by an approved backflow device and tested, at minimum, annually at the owner's expense. The owner will provide the CCS reports required by the District's cross connection control program.

b. Existing High Hazard. Those premises and services identified by WAC 246-290-490 (4) (b) as high hazards shall be converted to premises isolation at the meter under the direction of the CCS or the property owner shall enter into an agreement with the District to guarantee no connections between the meter and first backflow device. In addition the agreement will allow the CCS access to the property and the owner of the property shall have the devices tested at a minimum, annually at the owner's expense. The owner will provide the annual CCS reports required by the District's cross connection control program.

c. Existing Commercial. Commercial premises shall be required to convert to premise isolation at the meter under the direction of the CCS or the property owner shall enter into an agreement with the District to allow the CCS access to the property and the owner of the property shall have the devices tested at a minimum, annually at the owners expense. The owner will provide the annual CCS report required by the District's cross connection control program.

d. Existing and New Residential Connections

Connections with a known backflow hazard will be required to install cross connection protective devices appropriate to the risk and the property owner shall have the devices tested at a minimum, annually at their expense in accordance with the District's cross connection control program. The owner will provide the annual CCS reports required by the District's cross connection control program.

3. Cross Connection Control Enforcement. The CCS is responsible for cross control enforcement.

a. Failure to Comply. The CCS shall take appropriate enforcement action against consumers who fail to control cross connections as required by the District, or who fail to install, maintain, repair or test backflow devices as required by the District.

b. Enforcement Action. The CCS may discontinue service until compliance is achieved, with appropriate notice to the local administrative agency, or cause an appropriate backflow device to be installed at the expense of the consumer.

c. CCS -- Duties. The District's CCS shall administer the District's cross connection control program and, in addition to duties heretofore set forth, the CCS shall be responsible for:

d. Program. The CCS shall develop the District's cross connection control program incorporating good engineering and public health practices and policies stressing practical economics and finances, including the use of private contractors. The CCS may refer to the current *Manual of Cross Connection Control* (USC Manual) or the current *Cross-Connection Control Manual, Accepted Procedure and Practice* (PNWS-AWWA Manual), or such other current reference approved by the Department of Health when developing the cross connection control program.

e. Records. The CCS shall develop and maintain the records required by WAC 246-290-490 (3) (j) & (8).

f. Testing and Inspection. The CCS shall develop and include in the Program procedures for initial evaluations of new and existing services, a schedule for re-evaluations of services, procedures for notification to the consumer and the local administrative agency.

g. Coordination and Reports. The CCS shall coordinate with the local administrative agency by providing notice of (1) all premises that have been isolated from the public system in accordance with this Resolution, (2) any internal cross connections about which the CCS learns, (3) Shut-off for failure to comply with requirements of this Resolution or the WAC, and (4) the CCS shall report to the ratepayers through the District's newsletter about the cross connection control program, its purpose and rationale.

h. Approved Backflow Devices. The CCS shall develop and include in the Manual practices and procedures for installing and testing backflow devices in accordance with WAC 246-290-490 (5) (6) & (7).

5. Repealer: Resolution 3312 and Chapter 4.40 of the Woodinville Water District Codes are repealed. This Resolution shall be codified as a new Chapter 4.40 when the existing code is revised.

ADOPTED by the Board of Commissioners of the Woodinville Water District, King County, Washington, at a regular meeting thereof this 5th day of October 1999.

President/Commissioner

Vice President/Commissioner

Commissioner

Secretary/Commissioner

Commissioner

Approved to form by General Counsel

Woodinville Water District
King County, Washington

Schedule of Miscellaneous Fees & Charges
Effective: October 6, 1999

Adopted by the Board of Commissioners pursuant to Resolution No. 3203.

A) System Development Charges

Water (Currently Established by Resolution No. 3014)

Meter Size	SDC
¾"	$2,260
1"	$3,842
1½"	$7,684
2"	$12,204
3"	$24,182
4"	$37,624
6"	$75,281
8"	$120,415

Sewer (Currently Established by Resolution No. 3008)

SDC calculated at $726 per Residential Customer Equivalent (RCE)
Minimum SDC is $726 (1 RCE)

B) Water Meter Installation Charges

Residential

Meter Size	Drop-In Fee	Full Set Fee
¾"	$175	$2,000 Deposit*
1"	$250	$2,000 Deposit*
1½" & larger	$2,000 Deposit*	$2,000 Deposit*

Non-Residential

Meter Size	Drop-In Fee	Full Set Fee
¾"	$175	$2,000 Deposit*
1"	$250	$2,000 Deposit*
1½" & larger	$2,000 Deposit*	$2,000 Deposit*

** These meter installations are charged on an actual time and materials basis. The District will collect a $2,000 deposit toward the installation of these services. If actual time and materials cost is less than the deposit, the District will refund the remaining balance to the applicant. If the actual time and materials cost is greater than the deposit, the District will collect the balance, due prior to providing service.*

All Non-Residential customers are required to install a backflow prevention device at their own expense.

C) Side Sewer Permits (Currently Established by Resolution No. 3026)

Domestic Side Sewer $50*

Commercial Side Sewer $75*

** Plus $0.30 per lineal foot (or portion thereof) of side sewer in excess of 100 feet.*

D) Project Administration Deposits

Developer Extensions $2,000

Fire Hydrant Extensions $2,000

ULID Administration $1,500

Annexation Administration $5,000

E) Certificate of Water Availability

Processing Fee $25

Fire Flow Analysis ..... *

Hydraulic Analysis ..... *

** These services and those of a similar nature are charged on an actual time and materials basis.*

F) Certificate of Sewer Availability

Processing Fee $25

G) Fixed Fee Connection Charge for Conversion of ESAs

Fixed Fee Connection Charge $2,260*

** Fixed Fee Connection Charges for conversion of Extended Service Agreements to permanent service has been established by the Board. If actual project costs are less than the fixed fee, the Board may approve a lesser amount on a project-by-project basis.*

H) Utility Billing Charges

Service Orders $20

Administrative Charges $50*

Door Hangers $10

**Administrative Charges for shut-off preparation.*

I) Miscellaneous Fees

Returned Checks (NSFs) $20

Maps (each, including tax) $1.50

Photocopies
- First page $1.00
- Each additional page $0.15

Electronic Transfer Fee (NSFs) $20

Conference Room Rental $25

J) Equipment Charges

Dump Truck (per hour)	$25
Backhoe (per hour)	$25
Service Truck (per hour)	$10
Vactor Truck (per hour)	$75

K) Hydrant Meters

Meter Rental Fee (per week)	$10
Consumption Charge (per ccf)	$2.90

L) OTHER CHARGES IMPOSED BY RESOLUTION

Each customer shall pay all other charges imposed by Resolution No. 3203 or other District Resolutions.

M) EFFECTIVE DATE

This schedule of miscellaneous rates and fees shall take effect on October 6, 1999.

WOODINVILLE WATER DISTRICT
KING COUNTY, WASHINGTON
RESOLUTION NO. 3841

A RESOLUTION of the Board of Commissioners establishing a cross connection control program; repealing Resolution No. 3320 and Chapter 4.40 of the Woodinville Water District Codes; and codifying the District's cross connection control program in a new Chapter 4.40 of the Woodinville Water District Codes.

WHEREAS, the Woodinville Water District (the "District") provides water supply to residents and property located within its boundaries; and

WHEREAS, the District must comply with state and federal law and regulations, including regulations governing cross connections with the District's public water supply; and

WHEREAS, the State of Washington recently adopted revised regulations as set forth in WAC 246-290-490 governing cross connection control; now, therefore,

BE IT RESOLVED by the Board of Commissioners of the Woodinville Water District:

1. Cross Connection Control Policy: The District is required to protect the public water supply from possible contamination from backflow into the public drinking water system. To control backflow hazards the District requires premise isolation or in-premise isolation cross connection control protection and by installing an approved air gap or approved backflow prevention assemblies at or near the property line, easement or alternate location approved by the District's Cross Connection Control Specialist (CCS). The approved backflow prevention assembly shall be commensurate with the degree of hazard identified in WAC 246-290-490 (4) (a) (table 8) and must be approved by the CCS.

    a. Backflow Testing Requirements: The property owner is required to have the backflow prevention assemblies that protect the public water system tested upon installation, annually thereafter or when requested by the CCS, after repair and after relocation at the owner's expense. A passing test is required. If the test fails the customer is responsible to have the assembly repaired and successfully re-tested. All testing shall be done by a State certified backflow assembly tester (BAT) and the results of the test shall be reported within 30 days to the District on a form approved by the District.

    b. District Access: For cross connection control, customers agree to allow access for the District's employees and agents to all parts of the premise connected to the District water system during reasonable working hours and at all times during emergencies at no cost to the District.

    c. Customers Plumbing System: The customer is responsible to install cross connection control assemblies and all additional plumbing upgrades that may be needed.

2. Cross Connection Control Specialist: The District shall employ a Cross Connection Control Specialist (CCS) who shall be certified as a CCS in compliance with State regulations and who shall be responsible for administering the District's cross connection control policy under the direction of the District Manager and in compliance with Department of Health regulations.

a. The CCS shall eliminate cross connections by appropriate enforcement action as provided herein.

b. Whenever a cross connection cannot be eliminated, the CCS shall require premise isolation or in-premise cross connection control protection with the installation of an approved backflow prevention assembly at the owner's expense.

3. Service Connections: All cross connection control service connections that are not single family residential shall be considered commercial connections. The CCS shall oversee installation of cross connection control backflow prevention assemblies and their maintenance in accordance to the District's Cross-Connection Control Manual and Specifications.

a. New Commercial Services: New commercial service connections shall be premise isolated from the public water system by an approved backflow prevention assembly installed directly behind the water meter at or near the property line, easement or alternate location approved by the CCS. Testing shall be done in accordance with District policy.

b. New Commercial Fire Systems: New fire system connections shall be premise isolated from the public water system by an approved backflow prevention assembly installed at or near the property line, easement or alternate location approved by the CCS. Testing shall be done in accordance with District policy.

c. Existing Commercial Services: Existing commercial water connections shall convert to premise isolation backflow protection with the installation of an approved backflow prevention assembly. The assembly installation shall be installed directly behind the water meter or near the property line, easement or alternate location approved by the CCS. The conversion will be required when a plumbing change is made or when required by the CCS. Test shall be done in accordance with District policy.

d. Existing Commercial Fire System: Existing commercial fire connections shall be isolated from the public water system by an approved backflow prevention assembly installed at or near the property line, easement or alternate location approved by the CCS. Fire system backflow protection shall be upgraded to current standards when a change in the fire system occurs or when required by the CCS. Testing shall be done in accordance with District policy.

e. Existing High Hazard Facilities: Premises and services identified by WAC 246-290-490 (4) (b) (table 9) as high hazard facilities shall be converted to premises isolation backflow protection immediately with the installation of an approved backflow prevention assembly installed directly behind the meter or alternate location approved

by the CCS. Connections between the meter and the first backflow prevention assembly are prohibited. Testing shall be done in accordance with District policy.

f. Existing and New Residential Connections: An approved backflow prevention assembly shall be installed where there is a connection with a known backflow hazard that is commensurate to the degree of hazard and approved by the CCS. The installation will be behind the water meter at or near the property line, easement or alternate location approved by the CCS. Testing shall be done in accordance with District policy.

4. Cross Connection Control Enforcement. The CCS is responsible for cross control enforcement.

a. Failure to Comply. The CCS shall take appropriate enforcement action against customers who fail to control cross connections as required by the District, or who fail to install, maintain, repair or test backflow devices as required by the District.

b. Enforcement Action. The CCS may discontinue water service to a premise until compliance is achieved, with appropriate notice to the local administrative agency, or cause an appropriate backflow device to be installed at the expense of the customer.

5. CCS - Duties: The CCS shall administer the District's cross connection control program and, in addition to duties heretofore set forth, the CCS shall be responsible for:

a. Program: The CCS shall develop the District's cross connection control program incorporating good engineering and public health practices and policies stressing practical economics and finances, including the use of private contractors. The CCS may refer to the current *Manual of Cross Connection Control* (USC Manual) or the current *Cross-Connection Control Manual, Accepted Procedure and Practice* (PNWS-AWWA Manual), or such other current reference approved by the Department of Health when developing the cross connection control program.

b. Records. The CCS shall develop and maintain the records required by WAC 246-290-490 (3) (j) & (8).

c. Service Evaluation: The CCS shall develop and include in the Program procedures for initial evaluations of new and existing services. A schedule for re-evaluating services and backflow protection may be undertaken during testing and when changes have been made to existing services.

d. Coordination and Reports. The CCS shall coordinate with the local administrative agency by providing notice of:

(1) All premises that have been isolated from the public system in accordance with this Resolution.
(2) Any internal cross connections about which the CCS learns.
(3) Shut-off for failure to comply with requirements of this Resolution or the WAC.
(4) The CCS shall report to the ratepayers through the District's newsletter about the cross connection control program, its purpose and rationale.

e. Approved Backflow Prevention Assemblies: The CCS shall develop and include in the Manual practices and procedures for installing and testing backflow devices in accordance with WAC 246-290-490 (5) (6) & (7).

6. Repealer: Resolution 3320 and Chapter 4.40 of the Woodinville Water District Code are repealed. This Resolution shall be codified as a new Chapter 4.40 when the existing code is revised.

7. Effective Date: The provisions of this Resolution shall be effective the date set forth below.

ADOPTED by the Board of Commissioners of the Woodinville Water District, King County, Washington, at a regular meeting thereof this 5th day of April, 2016.

Paj Hwang - President

Ed Cebron - Vice President

Pamela J. Maloney - Secretary

Dale Knapinski - Commissioner

Karen Steeb - Commissioner

ATTEST:

Pamela J. Maloney - Secretary

Cross-Connection Agreement between the Woodinville Water District and the City of Woodinville

1.0 Purpose

1.1 To establish a policy and procedures for responsibility of cross-connection control between the Woodinville Water District and the City of Woodinville.

2.0 Organizations Affected

2.1 Woodinville Water District (WWD)
2.2 City of Woodinville (City)
2.3 All permanent or temporary (e.g. hydrant users) direct water service customers of WWD that require backflow protection.
2.4 Washington State Department of Health (DOH)

3.0 References

3.1 WAC 246-290-490, Washington State Department of Health Drinking Water Regulation Relating to Cross-Connection.
3.2 Latest edition of the PNWS/AWWA Accepted Procedure and Practice in Cross-Connection Control Manual.
3.3 Latest edition of the USC Manual.
3.4 Latest edition of the Uniform Plumbing Code as adopted under RCW 19.27.031(4) and Chapter 51-46 WAC, as amended.
3.5 Latest edition of the American Society of Sanitary Engineering (ASSE).

4.0 Policy

4.1 WWD's backflow protection policy for commercial connections is to implement a premise isolation cross-connection control program that protects the public water system and the City will establish backflow protection requirements for inside the customer's premises.
4.2 The WWD shall monitor backflow preventers that protect the public water system. When a connection has been converted to premise isolation the WWD will then only monitor the assembly that isolates the public water system from the consumer's water system.
4.3 For residential connections the WWD shall rely on backflow protection at the point of hazard in accordance with WAC 246-290-490 section 4, C or at the property line if a WWD approved DCVA meter is installed.
4.4 For service connections with fire protection systems other than flow-through or combination systems the WWD shall ensure that backflow protection is consistent with WAC 246-290-490. The WWD does not allow fire systems with chemicals.

5.0 Definitions

5.1 Approved backflow preventers- An assembly that has been approved by DOH and/or WWD for use in Washington State.

5.2 Backflow- The undesirable reversal of flow of water or other substances through a cross-connection into the public water system or any consumer's potable water system.

5.3 Backflow Assembly Tester- A person who is certified through DOH to test approved Backflow preventers.

5.4 Consumer's water system- Any potable and/or in industrial water system that begins at the backside of the WWD's water meter and is located on the consumer's premise. The consumer's water system includes all auxiliary sources of supply, storage, treatment, and distribution facilities, piping, plumbing, and fixtures under the control of the consumer.

5.5 Cross-connection- Any actual or potential physical connection between a public water system or the consumer's water system and any source of nonpotable liquid, solid, or gas that could contaminate the potable water supply by backflow.

5.6 Cross-connection control specialist- A person holding a valid and current Washington State cross-connection control specialist certificate issued in accordance with WAC 246-292-001.

5.7 Double check valve assembly- DCVA

5.8 High health hazard- A substance that could pose an immediate health concern because of the risk of death, spread of disease or illness, or injury to the customer if it were introduced into the potable water supply.

5.9 In-premise protection- A method of protecting the health of consumers served by the consumer's potable water system, located within the property lines of the consumer's premises by the installation of an approved air gap or backflow prevention assembly at the point of hazard which is generally a plumbing fixture.

5.10 Low health hazard- A substance that would not impose an immediate health concern, but could result in the water in the purveyor's system failing to meet minimum drinking water standards, or that could interfere with the monitoring of water quality.

5.11 Premise isolation- The practice of protecting the public potable water supply by installing backflow prevention assemblies at or near the meter and there is no connection between the first backflow assembly and the WWD's water meter.

5.12 Severe health hazard- A cross-connection at a wastewater treatment plant, radioactive material processing plant or a nuclear reactor.

6.0 Responsibilities

6.1 WWD's responsibility for cross-connection control includes all public water storage facilities, the distribution system and ends at the backside of the WWD's water meter.

6.2 The Cities responsibility for cross-connection control lies within the consumer's water system*, by means of requiring cross-connection devise(s) on all new systems at the point of hazard.*

6.3 WWD and the City will work together to convert all connections to premise isolation.

6.4 The WWD will investigate water quality concerns in-premise when invited in by the consumer and will notify the City when a cross-connection is the suspected cause of the problem.

7.0 Procedure

7.1 New construction – WWD's responsibility:

7.1.1 For new commercial services, WWD requires the consumer to install a State of Washington approved Reduced Pressure Backflow Assembly to WWD specification directly behind the water meter or location acceptable to the WWD.

7.1.2 For new residential services, WWD shall rely on the WAC 246-290-490 section 4, C for backflow protection for hazards such as irrigation systems, swimming pools or spas, ponds and boilers or at the property line if a WWD approved DCVA meter is installed. The WWD shall monitor backflow testing on assemblies protecting the public water system.

7.1.3 The WWD will inspect the installation and perform the initial backflow assembly test on the assembly used for premise isolation. Upon acceptable completion of both installation inspection and a passing backflow assembly test the meter will be unlocked and ready for service.

7.1.4 The WWD will insure that the consumer has the backflow preventer, used for premise isolation, tested at least annually by a State of Washington certified tester. The WWD will keep files of all test records.

7.2 New construction- The Cities responsibility:

7.2.1 For new commercial construction the City is responsible for backflow *device(s) installation* inside the property lines of the consumer's premise.

7.3 WWD's responsibility at existing sites:

7.3.1 WWD will monitor all backflow preventers that protect the public water system. When a connection has been converted to premise isolation the WWD will then only monitor the assembly that isolates the pubic water system from the consumer's water system.

7.3.2 The WWD will notify the City when a connection has been required to convert to premise isolation backflow protection.

7.3.3 The WWD and the City will share information on in-premise protection if there is no premise isolation.

7.4 The Cities responsibility at existing sites:

7.4.1 The City will notify the WWD when a plumbing permit is issued.

7.4.2 The City is responsible for *installation of new* backflow *device(s) in-premise* once a connection has been converted to premise isolation.

7.5 Single-family residential, WWD responsibility:

7.5.1 Single-family residential service connections shall comply with WAC 246-290-490 table 9 requirements. If the requirements of table 9 does not apply and the requirements for in-premise protection WAC 246-290-490 subsection 2, h are met, the WWD shall rely on backflow protection provided at the point of hazard in accordance with WAC 246-290-490 section 4, C for hazards such as irrigation systems, swimming pools, spas, ponds and boiler or at the property line if a WWD approved DCVA meter is installed.

7.5.2 The WWD will monitor backflow assemblies when requirements of 7.5.1 are met.

7.5.3 The WWD shall notify the City when a residence is required to convert to premise isolation

7.6 Single-family residential, the Cities responsibility:

7.6.1 For residential service connections, the City is responsible for *new* backflow *device(s) installation at the point of hazard* inside the property lines of the consumer's premise. The City shall notify the WWD of backflow hazards such as irrigation systems, swimming pools, spas, ponds and boilers when there is no premise isolation.

7.6.2 The City shall notify the WWD when a plumbing permit is issued for a residence.

7.6.3 The City shall notify the WWD when they are aware of an unprotected cross-connection.

7.7 Fire system backflow protection, WWD's responsibilities:

7.7.1 For service connections with fire protection systems other than flow-through or combination systems, the WWD shall ensure protection is consistent with WAC 246-290-490 section 4, D.

7.7.2 The WWD shall monitor backflow preventers that protect the public water system.

7.7.3 The WWD's requirement for fire systems are a minimum of a DCVA or DCDA, systems with chemical are not allowed.

7.7.4 The WWD may require a facility to upgrade the backflow preventer in accordance with the WWD retrofitting schedule. When a fire system is upgraded the backflow preventer shall be installed at the property line in a vault.

7.8 Fire system backflow protection, the Cities responsibilities:

7.8.1 The City is responsible for *new* fire system backflow *device(s) installation* inside the property lines when the system has been converted to premise isolation at the property line.

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