



Cross-Connection Control

and

Backflow Prevention Program

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1-3 Reference

The following references are adopted and made a part of the Program.

- (1) The pertinent sections of the The Texas Water Company Tariff for water service which prohibit a direct connection between The Texas Water Company, and a customer service line which includes a potential cross-connection, and which may, therefore, result in a source of contamination of the The Texas Water Company water supply. The Texas Water Company shall require appropriate backflow prevention arrangements for those facilities as provided for in the The Texas Water Company Criteria where a potential health hazard exists.
The Texas Water Company shall immediately discontinue service to any property where any unapproved connection or cross-connection exists, and service shall not be re-established until The Texas Water Company determines that the unsatisfactory condition has been corrected.
- (2) Those pertinent sections of the The Texas Water Company Criteria for water supply and distribution within its Certificated area or jurisdiction, which stipulate the type of backflow prevention assembly and the condition under which such a device shall be installed. These assemblies are outlined in section 4 of this Program.
- (3) The pertinent sections of the The Texas Water Company Standard Specification and Standard Details
- (4) The 2006 edition (or latest revision) of the Uniform Plumbing Code of the International Association of Plumbing and Mechanical Officials, as amended hereinafter, is adopted as the Plumbing Code of the Canyon Lake Water Service Company. The Uniform Plumbing Code 2006 chapter 6, section 602.3, Cross-Connection Control states: "No person shall make a connection or allow one to exist between pipes or conduits carrying domestic water supplied by a public or private water service system, and any pipes, conduits, or fixtures containing or carrying water which has been used for any other purpose whatsoever, unless there is provided a backflow prevention device approved for the potential hazard."
Section 303.0 Cross-connection control shall be provided in accordance with the provision of this chapter. "No person shall install any water treating chemical or substance, if it is found that such equipment, mechanism chemical or substance may cause pollution or contamination of the domestic water supply. Such equipment or mechanisms may be permitted only when equipped with an approved backflow prevention device or assembly."
- (5) Occupational Safety & Health Administration – Federal Register, number 202 Part 2 Page 2234 sub-parts J General Environmental Control 1910.41.1 Sanitation which states the "(b) Water Supply-(2) Non-potable Water (ii) there²

2-13 Backsiphonage

Backsiphonage occurs when the pressure in the public water system becomes less than that of the customer's system due to main line breaks, use of fire hydrants or other variables which cause a vacuum or partial vacuum in the public system.

2-14 Certification Classification-Licensing Classification

Certification or licensing classification is divided into the following categories and the testers are not considered to be employees, agents, or representatives of The Texas Water Company.

- a) Licensed Tester means qualified to test any type or make of backflow prevention device. Tester must be a licensed Backflow Prevention Assembly Tester (BPAT).
- b) Limited Licensed Tester means qualified to test all types of backflow prevention devices at the premises owned or controlled by an individual or company.
- c) Licensed Irrigator Tester is approved to test assemblies located on all irrigation systems.
- d) Licensed Fire Line Tester is approved to test assemblies on all fire lines. Must be registered by State Fire Marshall's office.
- e) Customer Service Inspector must be licensed by TCEQ as a Customer Service Inspector (CSI) or by The Texas State Board of Plumbing Examiners (TSBPE) as a Water Supply Protection Specialist (WSPS) or Plumbing Inspector.

2-15 County

Counties serviced are: Bandera, Blanco, Comal, Hays, Kendall, Medina, & Travis.

2-16 Contamination

Contamination is the presence of any foreign substance (organic, inorganic, radiological, or biological) in water which tends to degrade its quality so as to constitute a hazard or impair the usefulness of the water.

2-17 Cross-Connection

Cross-connection is an unprotected, actual or potential connection, mechanical or hydraulic union between a potable water system and any source or system containing potable or non-potable water or other substance that could cause contamination of the potable water supply.

3 Responsibilities

3-1 General

The implementation of a program for the effective control of cross-connections and backflow prevention requires the full cooperation of all concerned: the state and local health agencies, the water purveyor, the Licensed Backflow Prevention Assembly Tester and the customer.

3-2 Health Agencies

Chapter 341, Subchapter C, of the Texas Health and Safety Code, prescribes some of the duties of the TCEQ. In order to properly discharge these duties, the TCEQ is authorized to develop rules and regulations governing the design of system facilities, as well as minimum acceptable operating practices necessary to protect the public health.

The “Rules and Regulations for Public Water Systems” of the TCEQ governs the design, construction, operation and maintenance of Public Water Supplies.

290.44 (h) (1) Backflow, Siphonage “No water connection from any public drinking water supply system shall be allowed to any residence or establishment where an actual or potential contamination hazard exists unless the public water facilities are protected from contamination”.

The containment air gap is sometimes impractical and instead, reliance must be placed on individual “internal” air gaps or mechanical backflow prevention devices. Under these conditions, additional protection shall be (in accordance with AWWA standards C510 and C511, and AWWA manual M14) on those establishments handling substances deleterious or hazardous to the public health. The water purveyor need not require backflow protection at the water service entrance if an adequate cross-connection control program is in effect that includes an annual inspection.

290.44 (h) (2) “No water connection from any public drinking water supply system shall be made to any condensing, cooling or industrial process or any other system of non-potable usage over which the public water supply system officials do not have sanitary control, unless said connection is made in accordance with the requirements of paragraph (1) of this subsection. Water from such systems cannot be returned to the potable water supply”.

290.44 (h) (4) “All backflow prevention assemblies that are required according to this section and associated table located in 290.47(i) of this title shall be tested upon installation by a recognized backflow prevention assembly tester and certified to be operating within specifications. Backflow prevention assemblies which are installed to provide protection against health hazards must also be tested and certified to be operating within specifications at least annually by a recognized backflow assembly tester”.

4-3 Backflow Prevention Testing

In order to assure that backflow prevention assemblies continue to operate satisfactorily, it will be necessary that tests be conducted in accordance with desired performance standards. It will be the responsibility of the customer to initiate the testing and any necessary maintenance. All tests and repairs shall be performed by a Licensed Tester.

4-3.1 Records

The original T&M Report, along with written maintenance results, will be completed by the Licensed Tester and submitted to The Texas Water Company within 10 business days for recordation.

4-3.2 Time Schedule

All backflow prevention assemblies must be tested at the time of installation, at the time of any repair or relocation and at the completion of each year of service.

4-3.3 Testing by TWC

TWC personnel may perform or have performed periodic tests on backflow prevention assemblies at random locations, as authorized in the latest edition of the Uniform Plumbing Code, so as to ensure that acceptable tests are being followed by the Licensed Tester. Additionally, assemblies will be randomly selected and tagged in a manner that will determine if the assembly has been tested as required

4-4 Type of Protection Required

4-4.1 Principle

It is recognized that cross-connections vary widely in degree of hazard. The degree of protection and the type of protection deemed necessary to prevent backflow and possible contamination of TWC's distribution system varies as well. The protection afforded by an assembly depends upon its type, specific application, installation, testing and maintenance.

4-4.2 Air Gap Separation

An air gap installation separating TWC's potable water supply from the customer's internal water system is acceptable in all situations listed in these procedures so long as it is properly maintained. Initial installations of this type that were originally made in accordance with this Program may be changed subsequently. Since these separations are easily eliminated or by-passed, it shall be the prerogative of The Texas Water Company to perform field surveys and to explicitly specify the additional protection of a mechanical assembly. This would result, for example, in the case of a repeated violation of air gap separation standards. The air gap separation must be located as close as practical to the water meter and normally all piping between the meter and the receiving tank shall be entirely visible. In the instance in which underground piping is capped to create an air gap, the

end of the capped lines must be set in a valve or meter box. Air gaps are required by The Texas Water Company to be accessible to a Cross-Connection Control Representative for inspection on an annual basis in accordance with TCEQ recommendations.

4-4.3 Single Check Valve

The single check valve is not considered an approved backflow prevention assembly and may be used in limited instances such as directional control.

4-4.4 Criteria

The selection of an appropriate backflow prevention assembly depends upon the degree of hazard involved and will be based on the following general criteria:

- a) whether or not the assembly could be subject to backpressure due to the customer's internal pumping pressures or elevation differentials
- b) the nature of the contaminating material under the most critical circumstances
- c) the extent to which additions may be made to the plumbing systems at a later date which could affect the initial selection of the assembly
- d) the frequency with which the water supply could be exposed to a hazardous condition
- e) the degree of required protection of the water supply as provided by the local plumbing code, TCEQ, or other regulatory agency

The Texas Water Company shall retain the final decision in individual cases, and may obtain advice and recommendations of the TCEQ, consultants, or other qualified cross-connection control and backflow prevention specialists. It is essential that all types of establishments listed below provide for the containment of contamination within their premises either by air gap separation, between the meter and the first tap, or by having each of the internal plumbing facilities properly air gapped.

If the containment air gap is impractical and reliance is instead placed on the individual internal air gap or vacuum breaker, The Texas Water Company has the prerogative of requiring additional protection in the form of either a reduced pressure principle assembly on establishments handling substances deleterious to public health, or a double check valve assembly backflow prevention assembly on those handling substances which, if backflow occurred would cause the potable water to be aesthetically objectionable.

In limited instances provisions for total containment backflow protection shall be reviewed to allow the backflow prevention assembly to be installed on an internal branch line. An example of internal containment backflow protection would be a single combination fire and domestic water service from the public water main. Domestic backflow protection would be installed immediately after the fire line tee for containment

Internal Protection: Description of Cross-Connection	Assessment of Hazard	Required Assembly
Aspirators	Non-health [†]	AVB
Aspirator (medical)	Health	AVB or PVB
Autoclaves	Health	RP
Autopsy and mortuary equipment	Health	AVB or PVB
Bedpan washers	Health	AVB or PVB
Connection to industrial fluid systems	Health	RP
Connection to plating tanks	Health	RP
Connection to salt-water cooling system	Health	RP
Connection to sewer pipe	Health	AG
Cooling towers with chemical additives	Health	AG
Cuspidors	Health	AVB or PVB
Degreasing equipment	Non-health [†]	DCVA
Domestic space-heating boiler	Non-health [†]	RP
Dye vats or machines	Health	RP
Fire-fighting system (toxic liquid foam)	Health	RP
Flexible shower heads	Non-health [†]	AVB or PVB
Heating element commercial	Non-health [†]	RP
Heating element domestic	Non-health [†]	DCVA
Hose bib	Non-health [†]	AVB
Irrigation Systems w/chemical additives	Health	RP
Irrigation System w/o chemical additives	Non-health [†]	DCVA or PVB
Kitchen equipment commercial	Non-health [†]	AVB
Lab bench equipment	Non-health [†] or Health	AVB or PVB
Ornamental fountains	Health	AVB or PVB
Swimming pools private	Non-health [†]	PVB or AG
Swimming pools public	Non-health [†]	RP or AG
Sewage pump	Health	AG
Sewage ejectors	Health	AG
Shampoo basins	Non-health [†]	AVB
Specimen tanks	Health	AVB or PVB
Steam generators	Non-health [†]	RP
Steam tables	Non-health [†]	AVB
Sterilizers	Health	RP
Tank vats or other vessels containing toxic substances	Health	RP
Trap primers	Health	AG
Vending machines	Non-health [†]	RP or PVB
Watering troughs	Health	AG or PVB

[†]Where a greater hazard exists (due to toxicity or other potential health impact) additional area protection with RP is required.

4-5 Installation

The backflow prevention assemblies and air gap separation shall be installed in accordance with The Texas Water Company Standard Specification and Standard Details.

4-5.1 Authorized Installer

Backflow Preventions Assemblies can be installed by:

- a) A licensed plumber working under a master plumber's license, if the assembly is not on a fire-suppression system.
- b) A licensed irrigator, if the assembly is on an irrigation system.
- c) A water operator, if the assembly is on the water-distribution system and not on an irrigation system.
- d) A licensed plumber working for a fire line contracting company insured and regulated by Texas State Board of Insurance, if the assembly is on a fire line.
- e) Employed as maintenance personnel for the property, if the assembly is a replacement and not part of the fire-suppression system.
- f) A licensed water treatment specialist, if the assembly is on equipment for water treatment.
- g) A homeowner, if the assembly is on their homestead.

4-5.2 Size of Device

This Program does not regulate the size of backflow prevention assemblies. However, the containment backflow prevention assemblies required will generally be the same size as the meter requirement stipulated by TWC's Engineering Department. Backflow Prevention Assemblies must be sized in accordance with local plumbing code requirements, the only exception being assemblies on irrigation systems.

4-5.3 By-pass Policy

At a location which continuous water service is a necessity, provisions should be made for a by-pass around the mainline backflow preventer since it is necessary to turn the water off as part of the testing process. A by-pass installed around an approved backflow prevention assembly must also include a backflow preventer of the same type as the main service line backflow preventer. The backflow prevention assembly on the by-pass must also be tested upon installation and on an annual basis thereafter. Though it need not be of the same size, it must be installed in a similar fashion to the service line assembly.

4-6 Non-Compliance

In any case of non-compliance or violation of this Program, The Texas Water Company shall have the right to disconnect or discontinue service to a non-complying customer subject to proper notice to the customer. Customers are subject to basic meter fees and being sent to collections for non-payment even when service is disconnect for non-compliance.

4-6.1 Rectifying Non-Compliance

TWC shall restore or continue service to a non-complying customer once the violation has been correct in accordance with this Program.

4-7 Costs

All costs entailed in this Program are to be borne by the customer. This includes but is not limited to the Customer Service Inspection, initial purchase of the backflow preventer, its proper installation, testing and maintenance. Advisory assistance may be requested at any time from The Texas Water Company.

5 Procedures

5-1 General

The procedures outlined in this section of the Program are intended to support the procedures as specified in section 4 of this Program. This section does not negate any procedures provided in any other section of this program, but rather elaborate The Texas Water Company procedures and processes to ensure adequate protection of potential or actual cross-connections.

5-2 Private Water Supply

No cross-connection between the public drinking water supply and a private water system is permitted. These potential threats to the public drinking water supply shall be eliminated at the service connection by the installation of an approved air gap or a reduced pressure principle assembly. Upon installation and testing of the approved backflow prevention assembly or air gap arrangement, a record of the installation will be made by The Texas Water Company.

5-2.1 Procedures for New Service with Existing Private Well

Since private wells are not constructed with the degree of sanitary protection required for public water supplies and most private wells are not routinely tested for coliform bacteria and lack continuous chlorination; any customer with a private well must use one of the backflow prevention methods described herein to adequately protect the potable water system.

5-2.1.1 *Customer Service Department*

The customer's application for water service is submitted requesting a meter installation and indicates that there is an existing home on the premises. The requirement for installation of backflow prevention assemblies by a new customer of The Texas Water Company shall be issued in conjunction with their request for water service from the Customer Service department. The application shall indicate what type of backflow prevention will be used and the Customer Service Inspection Agreement must be completed indicating that the Customer Service Inspection will be performed within 30 days of the meter being set.

5-2.1.2 *Private Water Supply Backflow Prevention*

- a) Approved air gap separation provided by an unobstructed vertical, physical separation between any pipes distributing The Texas Water Company water and any pipes distributing water from the private water supply.
- b) Reduced Pressure Principle backflow prevention assembly installed at the meter.

5-2.1.3 Customer Responsibility

The customer shall provide one of the approved methods for backflow protection described below as a condition for service. Should a customer fail to have backflow prevention in place prior to the installation of a water meter; The Texas Water Company shall refuse service, until the customer complies with the requirements of this Program.

- a) Customers electing to install a reduced pressure principle backflow assembly at the meter will be required to have the assembly installed and tested by a licensed backflow prevention assembly tester and submit the T&M Report prior to the meter being set. In addition to having the Customer Service Inspection performed within 30 days of installation of the meter.
- b) Customers electing to install an air gap separation must coordinate to have their CSI Inspection performed at the same time the meter is set and have the air gap separation inspected and approved by a Customer Service Inspector.

5-3 Fire Lines

Fire flow meter installation will be looked at upon individual review in the interest of protecting the public's potable water supply from possible contamination, effective January 1, 2009. In 2009 The Texas Water Company began requiring backflow protection on all new fire line installations. As in other situations encountered in cross-connection control, the degree of backflow protection necessary for a particular fire protection system will depend on specific conditions present. Pressure losses across backflow prevention assemblies must be incorporated in the design or redesign of the fire protection system. The head loss factor is particularly important when redesigning existing fire protection systems.

All backflow prevention assemblies shall be Underwriters/University of Southern California's Foundation for Cross-Connection Control and Hydraulic Research Laboratory listed. Backflow prevention assemblies detailed herein shall be constructed in accordance with The Texas Water Company.

Stagnant Water Rule: In the interest of protecting public health any water service that remains in a static condition from the property line to an ending point that exceeds 100 linear feet shall have the appropriate backflow prevention device installed within 10 feet of the water meter.

5-3.1 Fire Line Backflow Prevention

TYPE OF FIRELINE	REQUIRED PROTECTION
A. Fire line with no chemical additive and no additional water supply less than 100 total linear feet of fire system pipe footage to the most remote head	DCVA or RP
B. Fire line with on chemical additive and no additional water supply greater than 100 total linear feet of fire system pipe footage to the most remote head*	DCVA or RP
C. Fire line with fire hydrant, no chemical additive and no additional water supply greater than 100 total linear feet of fire system pipe footage to the most remote head*	DCVA or RP
D. Fire line with fire hydrant, no chemical additive and no additional water supply less than 100 total linear feet of fire system pipe footage to the most remote head	DCVA or RP
E. Fire protection system utilizing chemical additives**	Air Gap or RP
F. Fire protection system with access to an auxiliary water supply**	Air Gap or RP
G. Fire Department Connection	DCVA or RP

**Systems under 50% or more renovations and those systems installing booster pumps shall include provisions to protect the potable water supply from stagnant water with approved backflow protection.*

***Systems with chemical loops and/or foam injection shall require a reduced pressure principle backflow prevention assembly at the loop or foam injection point however, an expansion chamber or relief valve will have to be installed to compensate for thermal expansion in accordance with fire codes. The installation of reduced pressure assemblies for containment backflow protection on fire lines should be avoided and installed only in situations where chemical injection occurs prior to any taps or tees.*

****Existing chemical loops and systems with access to an auxiliary water supply shall be retrofitted with approved backflow protection.*

Note: A project that reflects ingress/egress will be looked at as right of way when determining the 100' stagnant water rule on fire line placement. Line demarcation will be determined upon individual review.

5-3.2 Tri-water System or Circulated Closed-Loop System

“Tri-water” or Circulated closed-loop system will not be permitted, i.e., combination fire line, heating or cooling.

5-3.3 Fire Line Flow Testing and Assembly Tear-down

The Texas Water Company requires backflow prevention assemblies installed on fire lines to be completely disassembled a minimum of every five years if full flow testing cannot be accomplished. The assembly shall be cleaned and rubber parts replaced when deemed necessary by the backflow prevention tester and or manufacturer. Assemblies should be tagged by the tester to indicate the last tear down date. A Cross-Connection Control Representative shall track individual assemblies over a five year period to ensure provisions are met as established above.

Exception: If within a five year period, the assembly has been completely disassembled and cleaned (repair parts replaced as necessary), the five year tear down period will begin at that time. In the annual testing process a backflow prevention assembly found to be malfunctioning shall be completely torn down and either repaired, rebuilt, or replaced.

5-3.4 Fire Line Backflow Prevention Assembly Testing

The T&M Report used by fire line testers shall include statements which indicate the system has been placed back in operation upon completion of the test. Additionally, the T&M Report shall have a statement for the tester to check off which indicates a flow test was performed within the past twelve (12) months.

The tester will attach full flow documentation to the T&M Report when submitted to The Texas Water Company.

5-3.5 Fire Line Backflow Prevention Approval

Backflow preventer approval shall be obtained from the The Texas Water Company Engineering Department as part of the plan review process, such approval must be obtained prior to installation. The installation shall conform to this Program and The Texas Water Company Standard Specification and Standard Details for backflow preventer installation.

5-4 Fire Hydrant Meter

Meters to be connected temporarily to a fire hydrant or other appurtenance belonging to The Texas Water Company during construction or other instances must be inspected prior to installation for backflow prevention requirements by a Cross-Connection Control Representative.

5-4.1 Procedures for Fire Hydrant Meters

All water hauling equipment and or potable water mixing tanks using water from fire hydrants or any other type outlet must use one of the backflow prevention methods described herein to adequately protect the potable water system.

5-4.1.1 *Customer Service Department*

A Bulk Meter Application will be submitted to the Customer Service Department requesting a fire hydrant meter. The application shall indicate what type of equipment they will be using to haul water and what type of backflow prevention will be used.

5-4.1.2 *Fire Hydrant Meter Backflow Prevention*

- a) Approved air gap separation provided by a metallic pipe permanently installed on the water transporting vehicle which will serve as a fill line and also include a hose connection to the potable water outlet
- b) Approved air gap separation installed on the outlet side of the fire hydrant meter
- c) Reduced Pressure Principle backflow prevention assembly installed at the fire hydrant meter
- d) Reduced Pressure Principle backflow prevention assembly permanently installed on the water transporting vehicle

5-4.1.3 *Customer Responsibility*

The customer shall provide one of the approved methods for backflow protection described below as a condition for service. Should a customer fail to have backflow prevention in place prior to the installation of a fire hydrant meter; The Texas Water Company shall refuse service, until the customer complies with the requirements of this Program.

- a) Customers electing to permanently install an air gap separation on water transporting vehicles must have the air gap separation inspected and approved by a Cross-Connection Control Representative prior to meter installation.
- b) Customers electing to install an air gap separation on the outlet side of the fire hydrant meter must have the air gap separation inspected and approved by a Cross-Connection Control Representative at the time the meter is set.

- c) Customers electing to install a reduced pressure principle backflow assembly at the fire hydrant meter will be required to have the assembly tested by a licensed backflow prevention assembly tester at the time the meter is set.
- d) Customers electing to use a reduced pressure principle backflow assembly permanently installed on the water transporting vehicle will be required to have the assembly tested by a licensed backflow prevention assembly tested annually and T&M Report submitted to The Texas Water Company prior to meter installation.

5-5 Procedures on New Facilities

The requirement for installation of backflow prevention assemblies by a new customer of The Texas Water Company shall be issued in conjunction with their request for water service from the Customer Service department. Customer Service Inspection of the premises and some discussion with the owner or their representative may be necessary to determine actual or potential hazards and the resulting backflow assembly requirement.

5-5.1 Water Service Application

The customer's application for water service shall include a mechanical layout or general provisions as outlined in this Program. If the size and type of assembly is not shown The Texas Water Company may so specify. Upon installation and testing of the approved backflow prevention assembly or air gap arrangement, a record of the installation will be made by The Texas Water Company.

5-5.2 Customer Service Inspections

In accordance with the TCEQ's rules which became effective January 1, 1997, a Customer Service Inspection Certificate shall be completed prior to providing continuous water service to new construction, on any existing service when the water purveyor has reason to believe that cross-connections or other unacceptable plumbing practices exists, or after a material improvement, correction or addition to the private plumbing facilities. The Texas Water Company will require a Customer Service Inspection Certificate to be completed by a qualified licensed Customer Service Inspector prior to The Texas Water Company providing continuous water service. The inspection certificate shall include all backflow prevention assemblies installed on the various cross-connection hazards and submitted to The Texas Water Company within 10 business days for recordation.

5-6 Procedures on Existing Facilities

In the case of an existing service, the following general procedures will be utilized.

5-6.1 Inspection Procedure-Field Survey

After complete premises inspection by a Cross-Connection Control Representative, a notice advising the customer of backflow prevention assembly requirements will be issued.

5-6.2 Customer Service Department

Any customer request for a change on a commercial service or on a residential service where the change is due to an irrigation system, well or other potential cross-connection will be handled by the Customer Service Department. Each request will be routed by the Customer Service Department to a Cross-Connection Control Representative to ensure compliance with this Program.

5-7 Reclaimed Water System

5-7.1 Procedures for Reclaimed Water System

Reclaimed water is treated sewage effluent (wastewater) that undergoes further treatment to improve its quality. Reclaimed water may be utilized in landscape irrigation systems, but requires safeguards to be put in place and maintained at all times to ensure public health and safety. In some areas of the The Texas Water Company system, reclaimed water is available to customers for landscape irrigation purposes only. Although reclaimed water systems are a tremendous conservation resource, they do pose risks if they are improperly installed and/or maintained.

5-7.1.1 Reclaimed Water System Backflow Prevention

Reclaimed water is non-potable, so a reclaimed water system must be protected by an RP installed at the domestic meter. The installation shall conform to this Program and The Texas Water Company Standard Specification and Standard Details for backflow preventer installation.

5-7.1.2 Customer Responsibility

- a) Customers must install a reduced pressure principle backflow assembly at the domestic meter and have tested by a licensed backflow prevention assembly tester and submit the T&M Report prior to the reclaim meter being set. In addition to having the Customer Service Inspection performed upon completion of construction.
- b) Customers are required to post signs specifying the use of reclaimed water. Signs must be a minimum of an eight inch by eight inch, in English and Spanish, prominently posted on/in the area that is being irrigated, that reads: "RECLAIMED WATER—DO NOT DRINK" and "AGUA DE RECUPERACIÓN—NO BEBER."
- c) There should be no locations on the site where ponding could occur or where reclaimed water overspray could contact any human, food or drinking areas. The irrigation system should not spray water across property lines that do not belong to the irrigation system's owner. Standard hose bibs should not be used on the reclaim water system. All reclaimed water piping, valve, meters, control and equipment should be installed using purple components and clearly labeled. Reclaimed water lines should be separated from potable

water lines, following the same requirements for the separation of potable water lines from sewage lines.

5-8 Irrigation System with On-Site Sewage Facility

5-8.1 On-Site Sewage Facility (OSSF)

An On-Site Sewage Facility is a treatment facility which is used only for the disposal of sewage produced on the site which the system is located. Aerobic Septic Systems and Conventional Septic Systems are classified as On-Site Sewage Facilities and are typically located at business and residential facilities where public sewage is not available.

5-8.2 Irrigation System with On-Site Sewage Facility Backflow Prevention

Any property that is serviced by an On-Site Sewage Facility and has a landscape irrigation system or sprinkler system is considered a health hazard, and must be protected by a reduced pressure principle assembly.

- a) §344.50(c) Backflow prevention devices used in applications designated as health hazards must be tested upon installation and annually thereafter.
- b) §344.50(d)(2) "If an irrigation system is designed or installed on a property that is served by an on-site sewage facility," "any connections using a private or public potable water source must be connected to the water source through a reduced pressure principle backflow prevention assembly".
- c) §344.52(c) the backflow prevention device must be "tested prior to being placed in service and the test results provided to the local water purveyor and the irrigation system's owner or owner's representative within ten business days of testing of the backflow prevention device".

5-8.3 Irrigation System with OSSF Grandfather Clause

Before 2009, a Double-Check Valve Assembly was allowed on irrigation systems installed on sites that also had an OSSF. As a result, there are currently installed irrigation systems that do not have the correct backflow prevention assembly. Systems that were installed before 2009 are essentially grandfathered until they can no longer be repaired in line and must be replaced; it must be upgraded to the required RP. Since 2009, those installing irrigation systems on sites that also have an OSSF must be aware of the change in the required backflow prevention and install the RP. (TCEQ RG-478)

- a) §344.52(c) "If an irrigation system is connected to a potable water supply and requires major maintenance, alteration, repair, or service, the system must be connected to the potable water supply through an approved, properly installed backflow prevention method as defined in this title before any major maintenance, alteration, repair, or service is performed."

Appendices

Appendix I Customer Service Inspection Agreement

Customer Service Inspection Agreement

I) **PURPOSE.** The Texas Water Company is responsible for protecting the drinking water supply from contamination or pollution which could result from improper private water distribution system construction or configuration. The purpose of this Customer Service Inspection Agreement is to notify each customer of the restrictions which are in place to provide this protection. The utility enforces these restrictions to ensure the public health and welfare. Each customer must sign this agreement before The Texas Water Co will begin service.

II) **SERVICE AGREEMENT.** The following are the terms of the Customer Service Inspection Agreement between

The Texas Water Company and _____ (the Customer).

A. The Texas Water Co will maintain a copy of this agreement as long as the Customer and/or the premises are connected to the Water System.

B. The Customer shall allow his property to be inspected for possible cross-connections and other potential contamination hazards. These inspections shall be conducted by he Texas Water Co or its designated agent prior to initiating new water service; when there is reason to believe that cross-connections or other potential contamination hazards exist; or after any major changes to the private water distribution facilities. The inspections shall be conducted during he Texas Water Co's normal business hours.

C. The Customer shall, at his expense, have a Customer Service Inspection (CSI) performed upon completion of new construction, major renovation or expansion of facilities or upon he Texas Water Co's request at an existing service where contaminant hazards are suspected. The original inspection certificate shall be provided to The Texas Water Co within 10 business days of the CSI.

D. The Texas Water Co shall notify the Customer in writing of any cross-connection or other potential contamination hazard which has been identified during the initial CSI or the periodic re-inspection.

E. The Customer shall immediately remove or adequately isolate any potential cross-connections or other potential contamination hazards on his premises.

F. The Customer shall, at his expense, properly install, test, and maintain any backflow prevention device required by The Texas Water Co and the Texas Commission on Environmental Quality. The original report of all test and maintenance records shall be provided to The Texas Water Co within 10 business days of the test.

III. **ENFORCEMENT.** If the Customer fails to comply with the terms of the Customer Service Inspection Agreement, The Texas Water Co shall, at its option, terminate service. Any expenses associated with the enforcement of this agreement shall be billed to the Customer.

Service Address: _____

CSI DUE DATE: _____

If the due date is not indicated CSI will be due 30 days from the date of this agreement.

CUSTOMER'S SIGNATURE: _____ DATE: _____



P.O. 1742 Canyon Lake, Texas 78133
(830) 964-2166 / Fax (830) 964-2779

Appendix II Customer Service Inspection Agreement-Commercial

Customer Service Inspection Agreement-Commercial

I. PURPOSE. The Texas Water Company is responsible for protecting the drinking water supply from contamination or pollution which could result from improper private water distribution system construction or configuration. The purpose of this Customer Service Inspection Agreement is to notify each customer of the restrictions which are in place to provide this protection. The utility enforces these restrictions to ensure the public health and welfare. Each customer must sign this agreement before The Texas Water Company will begin service.

II. SERVICE AGREEMENT. The following are the terms of the Customer Service Inspection Agreement between The Texas Water Company and _____ (the Customer).

- A. The Texas Water Company will maintain a copy of this agreement as long as the Customer and/or the premises are connected to the Water System.
- B. The Customer shall allow his property to be inspected for possible cross-connections and other potential contamination hazards. These inspections shall be conducted by The Texas Water Company or its designated agent prior to initiating new water service; when there is reason to believe that cross-connections or other potential contamination hazards exist; or after any major changes to the private water distribution facilities. The inspections shall be conducted during The Texas Water Company's normal business hours.
- C. The Customer shall, at his expense, have a Customer Service Inspection (CSI) performed upon completion of new construction, major renovation or expansion of facilities or upon The Texas Water Company request at an existing service where contaminant hazards are suspected. The original inspection certificate shall be provided to The Texas Water Company within 10 business days of the CSI.
- D. The Texas Water Company shall notify the Customer in writing of any cross-connection or other potential contamination hazard which has been identified during the initial CSI or the periodic re-inspection.
- E. The Customer shall immediately remove or adequately isolate any potential cross-connections or other potential contamination hazards on his premises.
- F. The Customer shall, at his expense, properly install, test, and maintain any backflow prevention device required by The Texas Water Company and the Texas Commission on Environmental Quality. The original report of all test and maintenance records shall be provided to The Texas Water Company within 10 business days of the test.

III. ENFORCEMENT. If the Customer fails to comply with the terms of the Customer Service Inspection Agreement, The Texas Water Company shall, at its option, terminate service. Any expenses associated with the enforcement of this agreement shall be billed to the Customer.

IV. BACKFLOW PREVENTION. In accordance with the The Texas Water Company Cross-Connection Control and Backflow Prevention Program, Potential Cross-Connection and Backflow Prevention Assembly:

- Fire Line with RPZ Fire Line with DCVA Fire Line Bypass with _____
- Well with RPZ Well with Air Gap
- Irrigation with RPZ (OSSF) Irrigation with DCVA (No OSSF)
- Other _____ with: RPZ DCVA PVB RPZ-Detector DCVA-Detector
- Other _____ with: RPZ DCVA PVB RPZ-Detector DCVA-Detector

Service Address: _____

CSI DUE DATE: _____

If the due date is not indicated CSI will be due 30 days from the date of this agreement.

CUSTOMER'S SIGNATURE: _____ DATE: _____



Texas Commission on Environmental Quality

Customer Service Inspection Certificate

Form TCEQ-20699 - Instructions

General Instructions:

The purpose of form TCEQ-20699 is to certify the identification and prevention of cross connections, potential contaminant hazards, and illegal lead materials as per ***Title 30 of the Texas Administrative Code(30 TAC) 290.46(j)(4)***. The form can be completed one of two ways:

1. The form can be printed and completed manually, or;
2. The form can be completed electronically through an electronic medium (tablet, laptop computer, etc.). The yellow areas on the form can be completed electronically.

NOTE: The form is intended to be completed on-site while the inspection is occurring. If the form is completed electronically, the electronic device must also be on-site for proper use of this form.

The form must be printed and signed by the Inspector that performed the work. The hardcopy original or a copy must be provided to the Public Water System (PWS) for record keeping purposes as specified in ***30 TAC §290.46(f)(3)(E)(iv)***.

Specific Instructions:

Please follow these instructions when completing Form TCEQ-20699:

1. Check boxes: If completing the form electronically, all check boxes are highlighted in yellow and can be selected to make the desired indication. Selecting a box will insert an "X" in the box.
2. Remarks: The "Remarks" section of the form is expandable, which means your final report can be more than one page. Make sure to include all pages when submitting to the local water purveyor.
3. Due to there being three (3) different licensed individuals that can fill out this form: TCEQ Licensed Customer Service Inspector, Licensed Plumbing Inspector or Licensed plumber with Water Supply Protection Specialist endorsement. Please provide your title.

Texas Commission on Environmental Quality
Customer Service Inspection Certificate

Name of PWS:	
PWS ID #:	
Location of Service:	

Reason for Inspection:	
New construction	<input type="checkbox"/>
Existing service where contaminant hazards are suspected	<input type="checkbox"/>
Material improvement, correction or expansion of distribution facilities	<input type="checkbox"/>

I _____, upon inspection of the private water distribution facilities connected to the aforementioned public water supply do hereby certify that, to the best of my knowledge

Compliance	Non-Compliance	
<input type="checkbox"/>	<input type="checkbox"/>	(1) No direct or indirect connection between the public drinking water supply and a potential source of contamination exists. Potential sources of contamination are isolated from the public water system by an air gap or an appropriate backflow prevention assembly in accordance with Commission regulations.
<input type="checkbox"/>	<input type="checkbox"/>	(2) No cross-connection between the public drinking water supply and a private water system exists. Where an actual air gap is not maintained between the public water supply and a private water supply, an approved reduced pressure principle backflow prevention assembly is properly installed.
<input type="checkbox"/>	<input type="checkbox"/>	(3) No connection exists which would allow the return of water used for condensing, cooling or industrial processes back to the public water supply.
<input type="checkbox"/>	<input type="checkbox"/>	(4) No pipe or pipe fitting which contains more than 8.0% lead exists in private water distribution facilities installed on or after July 1, 1988 and prior to January 4, 2014.
<input type="checkbox"/>	<input type="checkbox"/>	(5) Plumbing installed on or after January 4, 2014 bears the expected labeling indicating $\leq 0.25\%$ lead content. If not properly labeled, please provide written comment.
<input type="checkbox"/>	<input type="checkbox"/>	(6) No solder or flux which contains more than 0.2% lead exists in private water distribution facilities installed on or after July 1, 1988.

I further certify that the following materials were used in the installation of the private water distribution facilities:

Service lines:	Lead <input type="checkbox"/>	Copper <input type="checkbox"/>	PVC <input type="checkbox"/>	Other <input type="checkbox"/>
Solder:	Lead <input type="checkbox"/>	Lead Free <input type="checkbox"/>	Solvent Weld <input type="checkbox"/>	Other <input type="checkbox"/>

Remarks:	

I recognize that this document shall be retained by the aforementioned Public Water System for a minimum of ten years and that I am legally responsible for the validity of the information I have provided.

Signature of Inspector:		License Type:	
Inspector Name(Print/Type):		License Number:	
Title of Inspector:		Date / Time of Insp.:	/

A Customer Service Inspection Certificate should be on file for each connection in a public water system to document compliance with 30 TAC § 290.44(h)/290.46(j).