RULES AND REGULATIONS WATER
Water (W)
Rule W-6
BACKFLOW PREVENTION AND CROSS CONNECTION CONTROL

W-6.01 GENERAL

This Rule provides backflow prevention and cross-connection requirements for water service. State and Federal regulations governing water supplies and piping systems stipulate that no connection shall be permitted between the public water supply system and any other water source not regulated by those regulations unless the public water system is protected by a backflow prevention assembly or physical separation approved by the Utility.

W-6.02 REFERENCE

NEW

A. New Mexico Environment Department, Title 20, Chapter 7, Part 10, NMAC (Revised October 28, 2010).

B. United States Environmental Agency, Cross Connection Control Manual (Revised 1989).

C. Cross Connection Control, Foundation for Cross Connection Control and Hydraulic Research, the University of Southern California (FCCCHR), latest edition.

D. Manual of Water Supply Practices M14, Backflow Prevention and Cross Connection Control, American Water Works Association Standards, latest edition.

E. Uniform Plumbing Code, Illustrated Training Manual (UPC), latest edition.

W-6.03 PURPOSE

The purpose of this rule is:

A. To protect the Utility water supply system and prevent the backflow of contaminants and pollutants into the Utility water supply system.

B. To provide a continuing Program of Cross Connection Control which will systematically and effectively prevent the contamination or pollution of the Utility water supply system.

W-6.04 DEFINITIONS [NEW REWRITE THIS SECTION]

Air Gap

A physical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel.

Approved Backflow Prevention Assembly (BFP)

An assembly that is manufactured in full conformance with the standards established by the American Water Works Association entitled AWWA/ANSI *C510-92, Standard for Double Check Valve Backflow Prevention Assemblies* and *AWWA/ANSI C511-92, Standard for Reduced Pressure Principle Backflow Prevention Assemblies or any successor standards*; is currently listed by the FCCCHR; accepted by the Utility and shall be limited to the following four types:

1. Reduced Pressure Principle Backflow Prevention Assembly (RP)
2. Double Check Valve Backflow Prevention Assembly (DC)

   New installations of DCs are prohibited. Existing installations may remain in place if they are currently approved by the FCCCHR and are properly installed and maintained in the configuration and orientation in which they were evaluated and approved by the FCCCHR. Existing Double Check Valve Assemblies that do not meet these requirements must be replaced with a properly installed approved reduced pressure assembly.
3. Pressure Vacuum Breaker Assembly (PVB)
4. Spill-Resistant Pressure Vacuum Breaker Assembly (SVB)

Backflow

The undesirable reversal of the flow of water or mixtures of water and other liquids, gases, or other substances into the distribution pipes of the potable supply of water from any source or sources.

Backsiphonage

A form of backflow due to a reduction in water supply pressure, which causes a sub-atmospheric pressure to exist in the water system.

Backpressure

A form of backflow due to an increase of system pressure that is greater than water supply pressure.

Backflow Prevention Assembly Enclosures

Backflow prevention assemblies shall be protected from freezing and vandalism by a method acceptable to the Utility. Protective enclosure design,

installation and maintenance shall comply with OSHA 29 CFR, Part 1910.146 — "Confined Spaces."

Backflow Assembly Field Test Gauge

The field test gauge, commonly called "test kit", must appear on the FCCCHR list of acceptable gauges. The test kit includes gauges (electronic or mechanical instruments), hoses, valves, and fittings as required to field test the operational performance of an approved backflow prevention assembly installed on lines for potable water.

A non-potable test kit is required for testing in non-potable, reclaimed or recycled water systems — Example: wastewater-treatment-plant effluent that has been treated. The field test gauge used to test assemblies on these systems shall have in addition to purple hoses and case a purple decal, affixed to the dial inside the lens cover, with "NON-POTABLE USE ONLY" printed in white lettering. The non-potable test kit shall not be used to test backflow prevention assemblies on lines for potable water.

NEW DETAIL

Certified Backflow Prevention Assembly Tester

A person who is, or is employed by an institution, holding a current Los Alamos County business license and is currently certified by the Utility to test backflow prevention assemblies.

Certified Backflow Prevention Assembly Repair Person

A person who is, or is employed by an institution, holding a current Los Alamos County business license and is currently certified by the Utility to test backflow prevention assemblies and is licensed by the appropriate mechanical classification in accordance with the New Mexico Construction Industries Licensing Act.

Cross Connection

Any actual or potential connection or structural arrangement between a public water system and a customer's water system and any other water source or system through which it is possible to introduce into any part of the potable water system any used water, industrial fluid, gas, or substance other than the intended potable water with which the system is supplied. Bypass arrangements, jumper connections, removable sections, swivel or change-over devices, and other temporary or permanent devices because of which backflow can or may occur are considered to be cross connections.

Cross Connection Control – Containment

The protection of the Utility water supply system by the installation of an

approved backflow prevention assembly properly installed at each service connection, or other agreed upon location, to a customer's water system as outlined and enforced by the Los Alamos County Department of Public Utilities. The size, type and location of any backflow prevention assembly installed shall be determined by the Utility. Containment cross connection control does not provide protection to the occupants of the premises but does provide protection of the Utility water supply system. This shall not negate the use of backflow prevention for protection of and within the customer's water system.

NEW DETAIL

Cross Connection Control – Isolation

The protection of the customer's water system by the installation of approved backflow prevention assembly(s) properly installed at each cross connection within the customer's water system as outlined and enforced by the State of New Mexico Environment Department and Construction Industries Division and the Los Alamos County Community Development Department. This shall not negate the use of backflow prevention at the customer's service connection when required by the Utility.

Customer

Any entity of any water utility user class (residential, commercial, industrial, government, etc.) connected to the Utility water supply system.

Customer's Water System

The customer's water system begins at the service connection and extends throughout the entire length of the water system within the premises.

Hazard (Contamination)

The introduction into a potable water system of any substance that may cause death, illness, injury, or the spread of disease.

Hazard (Pollution)

An impairment of the quality of the water to a degree which does not create a hazard to the public health but which does adversely and unreasonably affect the aesthetic qualities of such waters for domestic use.

Hazard (System)

An actual or potential threat of damage to the physical properties of the public or the customer's water system or of a pollution or contamination which would have a protracted effect on the quality of the potable water in either system.

Thermal Expansion Control

The resulting effect when water in a closed system, such as piping downstream of a backflow prevention assembly heats up, is thermal expansion. In effect the heat causes the water volume to expand; but since the system is closed the system pressure increases and this thermal expansion must be controlled to avoid potential adverse effects.

Utility Water Supply System (Utility)

Physically, the Utility Water Supply System (Utility) shall consist of the facilities of the Los Alamos County Department of Public Utilities public water system; including all the components of production, treatment, storage and the distribution system including the network of conduits used for the delivery of potable water up to the customer's service connection.

NEW DETAIL

Administratively, the Utility shall consist of the Board of Public Utilities (BPU), Utilities Manager (Manager) and utilities staff. The BPU, with County Council oversight approval, sets policy and is the final arbiter of disagreement between the Utility and a customer regarding this Rule. The Manager, or designated representative, implements and administers policy; including Water Rule W-6. Staff provides for the daily administration, operation and maintenance of the Utility Water Supply System; including the Backflow Prevention – Cross Connection Control (BFP-CCC) Program.

Service Connection

The service connection is the terminal end of the Utility water supply system, (i.e. where the Utility may lose jurisdiction or sanitary control of the water at its point of delivery to the customer's water system).

The service connection for metered services shall mean the outlet of the water meter. The service connection for non-metered services is located at the property boundary or the utility easement boundary.

W-6.05 RESPONSIBILITIES [NEW REWRITE THIS SECTION]

Utility

The Utility shall be responsible for the protection of the Utility water supply system from contamination or pollution due to the backflow of contaminants or pollutants through the water service connection. If, in the sole judgment of the Utility, an approved backflow prevention assembly is required at the customer's water service connection for the safety of the Utility water supply system the Manager, or designated representative, shall give notice to the customer to install an approved backflow prevention assembly(s) at a specific location(s) on the customer's premises.

The Utility, and its authorized representatives, shall not assume liability for any damage, or loss of revenue or income, that shall accrue to persons or property as a result of any act or by reason of any omission in the discharge of the duties and responsibilities afforded by this Rule.

This Rule shall not be construed to relieve or lessen the responsibility of any customer for any damages to persons or property caused by defects or cross connections nor shall the Utility, or their authorized representatives, be deemed to have assumed such liability by reason of the performance of the inspections or testing authorized by this Rule.

NEW DETAIL

The Utility shall annually notify every customer that requires a containment backflow prevention assembly at the service connection that an annual inspection and test report is required to be submitted to the Utility. This annual notification will include a reminder to the customer that any isolation backflow prevention assembly installed within the customer's water system should also be tested; however, the Utility will not implement enforcement for isolation backflow prevention assemblies within a customer's water system. The Utility will implement enforcement regarding containment backflow prevention assemblies.

The Utility may inspect the work in progress for any backflow prevention assembly installation. When the work is completed, the customer must notify the Utility by submitting the appropriate documentation and Utility test report form certifying the installation. The Utility may then complete a final installation containment inspection.

The Utility will not initiate water service to any new customer, whether new construction or tenant improvement, until the Utility, at its sole discretion, has determined full compliance with all requirements of this Rule. It is the responsibility of the Utility to enforce the provisions of this Rule to ensure the safety of the Utility Water Supply System.

Customer

All customers shall be responsible for the prevention of contaminants or pollutants originating on the customer's premises from entering the Utility water supply system (containment) as well as the customer's water system (isolation). The customer's responsibility begins at the service connection and extends throughout the entire length of the customer's water system. The customer is responsible for all expenses incurred for the proper installation, maintenance and testing of any backflow prevention assembly required by the Utility; including fees and work schedule costs.

NEW DETAIL

Customers must provide, maintain and test approved isolation backflow prevention assemblies as required by the latest adopted Plumbing Code at any usage point in the customer's water system when the potable water

supplied by the Utility may be subject to contamination, pollution or other deterioration in sanitary quality from conditions within the customer's water system.

Customers must provide, maintain and test approved containment backflow prevention assemblies as required by the Utility at the service connection when the Utility determines, at its sole discretion, that the Utility water supply system may be subject to contamination, pollution or other deterioration in sanitary quality from conditions within the customer's water system or because the type of activity or materials stored or used on the customer's premises poses an actual or potential hazard if introduced into the Utility water supply system. Testing must be annually; however, the Utility may, due to significant hazard potential, require more frequent testing.

If the Utility determines that a backflow prevention assembly more restrictive than that initially required by this Rule is needed to provide adequate protection of the Utility water supply system the Utility may, at its sole discretion, require the customer to install a more restrictive backflow prevention assembly; including any required modifications to the customer's water supply piping.

The customer shall be responsible for the cost of design, installation and maintenance of protective enclosures to prevent the backflow prevention assemblies from freezing and vandalism. The protective enclosure shall provide for adequate drainage from testing, flushing or relief valve discharging. Protective enclosures must be installed and maintained so that backflow prevention assemblies are safely and readily accessible for testing, maintenance, and repairs.

NEW DETAIL

In the event a customer disagrees with any decision of the Utility regarding the necessity of installing, maintaining or testing a backflow prevention assembly, or more restrictive backflow prevention assembly, the customer has the right to request a hearing with the Utility; first with the Utilities Manager and, if the issue is not resolved, secondly with the Board of Public Utilities. The Board of Public Utilities is the final arbiter for all customer disagreements of this Rule.

Certified Backflow Prevention Assembly Tester and/or Repairperson

The Certified Backflow Prevention Assembly Tester's and/or Repairperson's primary responsibility is to safeguard the Utility water supply system.

The Certified Backflow Prevention Assembly Testers and/or Repairperson shall become registered with the Utility prior to testing or repairing any backflow prevention assemblies. Each tester and/or repair person will be issued a unique identification number that must appear on all backflow prevention assembly test report forms and test tags.

The Certified Backflow Prevention Assembly Tester and/or Repairperson are permitted to inspect and test backflow prevention assemblies. They shall complete and provide accurate test reports immediately to the customer and to the Utility within seven calendar days of the test. Test results shall be submitted on the approved Utility test report form available upon request or on the Los Alamos County web site at the Government - Department of Public Utilities page. The "Backflow Prevention Assembly Test Report" form is located on the left side of the web page in a downloadable Adobe pdf format.

NEW DETAIL

The Certified Backflow Prevention Assembly Tester and/or Repairperson shall inform the customer and/or the Utility if an existing backflow prevention assembly is not installed commensurate with the degree of hazard and pressure conditions or if the assembly is not installed in its required orientation pursuant to FCCHR (usclist.com). It is the responsibility of the Utility to enforce the provisions of this Rule to bring the assembly into compliance. The Certified Backflow Prevention Assembly Tester and/or Repairperson does not have the authority to discontinue the customer's water service or to alter the design or operation of approved backflow prevention assemblies.

The Certified Backflow Prevention Assembly Repairperson shall use only original manufacturer's authorized replacement parts and include any repairs on test report forms. U.S.D.A. H-1 lubricants should only be used to assist with the reassembly of components.

It is the responsibility of each backflow prevention assembly testing company to forward to the Utility annually a valid calibration report for each test kit under their control. The annual test kit calibration report shall include satisfactory leakage test and accuracy verification in accordance with FCCCHR. The calibration report shall indicate decreasing readings of 12.0 psid, 8.0 psid, 5.0 psid, 2.0 psid, 1.0 psid, not to exceed an accuracy of +/- 0.2 psid. The report also shall indicate the field test gauge maintained a minimum pressure of 175 psi for ten minutes. Field test gauges shall only be calibrated or repaired by an organization authorized as a service center by the manufacturer of the field test gauge.

Backflow prevention assembly test reports shall be rejected if the field test gauge used is not within its current calibration period.

W-6.06 REQUIREMENTS [NEW REWRITE THIS SECTION]

Mandatory Cross Connection Control – Containment

All new and existing customers, determined at the sole discretion of the Utility to require a backflow prevention assembly, must have an approved backflow prevention assembly installed after each service connection in an accessible location approved by the Utility. Regardless of the location of the

containment backflow prevention assembly, the customer's responsibility begins at the service connection and extends throughout the entire length of the customer's water system within the premises. No tees, branches or possible connection fittings or openings are allowed between the service connection and the containment backflow prevention assembly.

NEW DETAIL

A. Premises where conditions or activities exist or occur, or on which individual fluids or other contaminants are handled in such a fashion as to create an actual or potential hazard to the Utility water supply system, are deemed to present a sufficient backflow contamination hazard that cross connection control for containment by installing an approved air gap or reduced pressure principle backflow prevention assembly (RP) is mandatory are listed in Appendix One of this Rule. The Appendix One list is not to negate the Utility from requiring containment cross connection control for any other condition or activity deemed by the Utility to constitute similar hazards to those listed.

B. All temporary service connections must have an approved containment RP installed at each temporary service connection to the site.

C. All non-residential irrigation water systems connected to the Utility water supply system must have an approved PVB, SVB or RP installed after the service connection as determined by the Utility. The master valves or control valves of an irrigation system must be located in the outlet piping of the irrigation system backflow prevention assembly.

D. All fire hydrants used for filling tanks and tank trucks and for temporary irrigation systems must have an approved air gap or RP installed at the hydrant. The RP must be tested upon installation. Air gap installations must be inspected by the Utility prior to receiving authorization to use the hydrant.

E. Fire protection systems are systems of pipes and equipment used exclusively to supply water for extinguishing fire. All potable water supplies to new fire protection systems, including but not limited to standpipes and automatic sprinkler systems, shall be protected with an approved RP. For fire protection systems served through an existing double check valve assembly (DC); the DC assembly may remain in service provided the existing DC meets the requirements of the "Double Check Valve Backflow Prevention Assembly" section of this Rule. After January 2019, if the DC is found to be not serviceable or repairable after the most recent annual test then the DC shall be replaced with a reduced pressure principle backflow prevention assembly (RP).

   Whenever a backflow prevention assembly is installed on the potable water system to a new or existing fire protection system the hydraulic design of the system shall account for the pressure drop through the assembly.

F. Backflow prevention assembly(s) shall not be removed without prior approval from the Utility.

G. Any customer having existing private wells or other auxiliary water supply and who desire to connect to the Utility water supply system shall have two options as follows:

1. Customers shall permanently abandon the use of private wells or auxiliary water supply by plugging the wells or abandoning the auxiliary supply as accepted by the Utility prior to connecting to the Utility water supply system; or

2. Customers who choose to maintain their private wells shall completely sever the private well from the premises' potable plumbing system and shall install an approved RP after the Utility water supply service connection.

Inspections

The customer's water system shall be open for inspection at all reasonable times to authorized representatives of the Utility or other jurisdictions to determine whether un-protected cross connections or other hazards, including violations of this Rule or any applicable local, state or federal law, exist. This will also include the right to test any installed backflow prevention assembly.

When a condition that is a potential hazard to the Utility water supply system (containment) becomes known, the Utility shall institute enforcement actions commensurate with the hazard until the customer has corrected the condition(s) in conformance with this Rule and all regulations and statutes relating to backflow prevention and cross connection control protection.

When a condition that is a potential hazard to the users within the customer's water system (isolation) becomes known, the responsible jurisdictional agency shall provide written notification to the customer requiring corrective action be initiated by the customer to correct the condition(s) in conformance with all regulations and statutes relating to plumbing and water supplies; but the Utility will not begin an enforcement action.

NEW DETAIL

The Utility shall complete a county wide sweep inspection of all premises with a Los Alamos County Business License and/or operating as a non-residential (commercial, industrial, government, etc.) entity every ten (10) years to field verify customer's compliance with this Rule.

New Water Service Connections

The Utility shall review all requests for new water service connections, or renewed water service connections to renovated existing premises, to determine if containment cross connection control is needed. If it is determined that a containment backflow prevention assembly is required the assembly must be installed, inspected and tested for proper operation, and all fees remitted to the Utility, before water service is granted.

Installation of Approved Backflow Prevention Assemblies

Contractors licensed by the appropriate mechanical classification in accordance with the New Mexico Construction Industries Licensing Act may install backflow prevention assemblies in accordance with the Uniform Plumbing Code (UPC) and this Rule. The contractor shall be responsible for obtaining all required approvals; such as approved plans, permits and inspections. The contractor shall not change the design, material or operational characteristics of a backflow prevention assembly. Backflow prevention assemblies must be properly installed and maintained in the configuration(s) and orientation(s) in which they were evaluated and approved by the FCCCHR (usclist.com).

Replacement of Backflow Prevention Assemblies

Backflow prevention assemblies that cannot be repaired must be replaced with prior approval from the Utility to ensure adequate protection. Permanent removal of a backflow prevention assembly without prior Utility approval may result in termination of water service and/or revocation of Certified Backflow Prevention Assembly Tester and/or Repairperson's certification.

Parallel Installations

Parallel installations of two or more backflow prevention assemblies of the same type is an effective means insuring that uninterrupted water service is maintained during testing or repair of assemblies and is acceptable when the customer desires such continuity. Each assembly shall operate normally. The decision opting for a parallel installation and its design rests solely with the customer. The customer shall submit a design and plan of implementation to the Utility for approval before the installation of the assemblies.

Thermal Expansion Control

Thermal expansion is caused by the installation of "non-return devices" such as BFPs, check valves, dual check valves, pressure reducing or regulating valves between the water service connection and the customer's domestic water heater preventing dissipation of the customer's water back into the Utility water supply system.

NEW DETAIL

An adequately sized thermal expansion tank must be installed in the water piping between the "non-return device" and no less than 18" of the cold water inlet to the water heater to protect against thermal expansion. The pressure in the tank must be adjusted to match the system pressure. A temperature and pressure relief valve is not considered a thermal expansion device. It is the responsibility of the customer to control thermal expansion created by the installation of any device that prevents pressure relief through the building supply.

Tests and Maintenance of Backflow Prevention Assemblies

Customers shall have their BFPs field tested for proper operation upon installation and on an annual test schedule thereafter, or more often as required by the Utility, by a certified backflow prevention assembly tester or repairperson. Test results shall be submitted on the approved Utility test report form available upon request or on the Los Alamos County web site at the Government - Department of Public Utilities page. The "Backflow Prevention Assembly Test Report" form is located on the left side of the web page in a downloadable Adobe pdf format.

BFPs that have not been tested within the past 12 months shall be deemed not functional by the Utility. BFPs that fail a test shall be repaired or replaced by a certified backflow prevention assembly repairperson, and immediately retested by a certified backflow prevention assembly tester or repairperson. Tests and repairs shall be at the expense of the customer.

NEW DETAIL

The certified backflow prevention assembly tester or repairperson shall use separate tools and gauges for testing backflow prevention assemblies on potable water systems, such tools and gauges are never to be used on non-potable water, including alternate water sources. They shall submit all test reports to the Utility and customer within seven (7) calendar days of the test or the test becomes void and retesting of assembly will be required.

Tests performed with a test gauge that do not have a current yearly calibration report are void. Accurate records of all inspections, tests, repairs, and replacement of backflow prevention assemblies shall be maintained by the customer for a period of two (2) years.

Upon the completion of a satisfactory test, the certified backflow prevention assembly tester or repairperson shall attach a durable tag to the backflow prevention assembly indicating the test results, date of test and the tester's Utility certification/identification number. The tag also shall contain the following information of the backflow prevention assembly: manufacturer, model, size, serial number, specific location of the assembly, type of service, and all testing requirement results for the specific backflow prevention assembly listed in this Rule.

Certification of Backflow Prevention Assembly Testers and Repairpersons

To be certified as a backflow prevention assembly tester, a person shall attend a training course that has been approved by the Utility and successfully complete the written and practical examinations administered as part of the approved training course and paid the Utility tester & repairperson registration fee.

A person who is licensed by the appropriate mechanical classification in accordance with the New Mexico Construction Industries Licensing Act and attends and successfully completes the approved training course may be eligible to be certified as a backflow prevention assembly repairperson.

Re-certification of Backflow Prevention Assembly Testers and Repairpersons.

NEW DETAIL

A certified tester or repairperson who wishes to remain active as a backflow assembly tester or repairperson with the Utility shall renew their certification every three (3) years. To re-certify prior to existing certification expiring, testers and repairpersons must complete an approved eight (8) hour training course and accrue 16 hours of approved continuing education credits and paid the Utility tester & repair person registration fee. Otherwise, the certified tester or repairperson must complete an approved 40-hour training course. Testers or repairpersons with non-expired certifications shall provide proof of training credits earned and training course(s) attended prior to re-certification.

Approved Training Courses

The Utility shall approve training courses. The approved course shall be conducted by an instructor who is a certified tester and repairperson; duration of the course shall be at least 40 hours; and the minimum material covered shall be based on the University of Southern California's Foundation for Cross Connection Control and Hydraulic Research training course.

The approved re-certification training course shall be conducted by an instructor who is a certified tester and repairperson; duration of the course shall be at least eight (8) hours, and the course shall include the Utility Water Rule W-6, other applicable rules and regulations, practical training and practical examinations.

The instructor conducting the certification and re-certification courses shall administer both written and practical examinations. A performance of over 70% on the written examination, and satisfactory completion of the practical examination, constitutes successful completion of the course.

Administrator of the approved training course or approved re-certification training course shall submit the course syllabus once every three (3) years, or upon any changes to the syllabus for approval by the Utility.

Reduced Pressure Principle Backflow Prevention Assembly (RP) [EXPANDED DETAIL]

A RP consists of two independently acting internally loaded check valves, a hydraulically operating, mechanically independently pressure differential relief valve located between the check valves and below the first check valve. The assembly shall be equipped with two properly located resilient seated test ports, and two resilient seated isolation valves at each end of the assembly.

Installation Requirements

1. The RP must be installed between 12" and 36" above grade from the lowest part of the assembly for outdoor containment installations, and between 12" and 60" above floor or grade from the lowest part of the assembly for indoor containment installations. The assembly shall not be subjected to flooding.
2. Drainage requirements for the RP must be hydraulically calculated to accommodate the maximum relief valve discharge rate. Most manufacturers' air-gap drains are designed to only handle occasional spitting from the relief valve and will not accommodate a full discharge. An approved air-gap separation at the relief valve is required.
3. RPs must be installed in locations where intermittent and continuous discharge from the relief valve will not be objectionable.
4. In cold climates, RPs must be protected from freezing. Whenever the RP is insulated, precautions must be taken to prevent blockage of the relief valve opening and access to components. The insulation must be easy to remove and restore in order to facilitate testing and repair.
5. RPs must be installed horizontal and plumb unless specifically noted in the "List of Approved Backflow Prevention Assemblies" published by the FCCCHR or usclist.com
6. Thermal expansion control measures must be used on domestic water services.
7. A resilient seated check valve installed in the inlet piping of the RP is recommended to maintain constant pressure of the zone during water supply pressure fluctuations.
8. Assemblies 2-1/2" and larger must be adequately supported.
9. Immediately after installation and before the assembly is tested or service is restored, the assembly must be thoroughly flushed.
10. The size of the RP shall not be less than the size of the customer's water supply piping.

11. The RP shall be installed in accordance with the assembly's operating pressure and temperature rating.
12. The RP shall be installed with adequate access and clearance for testing, maintenance and repairs and located outside any enclosure or hooded area containing fumes that are toxic, poisonous, or corrosive.
13. A permanent platform is necessary whenever the assembly is installed more than five feet above floor or grade. The platform must be within five feet of the lowest part of the assembly and must meet all applicable safety standards and codes.
14. The RP shall be installed in accordance with the manufacturer's flow rate specifications. The flow rates and pressure loss due to increasing or decreasing flow rates will vary from one manufacturer to another.

Testing Requirements

The following criteria must be used when testing the RP:

a. Determine the apparent static pressure drop across check valve No.1 in the direction of flow.
b. Test that the differential pressure relief valve operates to maintain the zone between the two check valves at least 2.0 psi less than supply pressure.
c. Determine that check valve No. 2 closes tight in reverse flow.
d. Determine that the confirmed static pressure drop across check valve No.1 is at least 3.0 psi greater than the relief valve opening point.
e. Determine that the static pressure drop across check valve No. 2 is a minimum of 1.0 psid.
f. Determine that the comparison of the two readings (steps a and d) of check valve No.1 is within1.0 psid.

Double Check Valve Backflow Prevention Assembly (DC) [EXPANDED DETAIL]

New installations of DCs are prohibited. Existing installations may remain in place if they are currently approved by the FCCCHR and are properly installed and maintained in the configuration and orientation in which they were evaluated and approved by the FCCCHR. Existing DCs that do not meet these requirements, or have been tested to be non-functional, must be replaced with a properly installed approved reduced pressure principle backflow prevention assembly.

A DC consists of two independently acting internally loaded check valves, four properly located resilient seated test ports, and two resilient seated isolation valves at each end of the assembly.

Installation Requirements

The installation requirements for the DC are the same as the requirements for the RP.

Testing Requirements

The following criteria shall be used when testing the DC:

a. Determine that the static pressure drop across check valve No. 1 is a minimum of 1.0 psid.

b. Determine that the static pressure drop across check valve No. 2 is a minimum of 1.0 psid.

Pressure Vacuum Breaker Assembly (PVB) [EXPANDED DETAIL]

A PVB consists of an independently operating internally loaded check valve, an independently operating loaded air inlet valve on the discharge side of the check valve. The assembly shall be equipped with two properly located resilient seated test ports and two resilient seated isolation valves at each end of the assembly.

Installation Requirements

1. The PVB shall be used only for lawn irrigation systems.
2. The PVB shall be installed at a minimum of 12" above the highest point of any of the assembly's outlet piping as well as between 12" and 60" above grade, floor, or platform.
3. There shall be adequate drainage provisions to accommodate water discharge from flushing and testing.
4. In cold climates, PVBs must be protected from freezing. Whenever the PVB is insulated, the insulation must be easy to remove and restore in order to facilitate testing and repair.
5. PVBs must be installed horizontal and plumb.
6. Immediately after installation and before the assembly is tested or service is restored, the assembly must be thoroughly flushed.
7. The size of the PVB shall not be less than the size of the customer's water supply piping.
8. The PVB shall be installed in accordance with the assembly's operating pressure and temperature rating.
9. The PVB shall be installed in accordance with the manufacturer's flow rate specifications.
10. The PVB shall be used only for lawn irrigation systems.

Testing Requirements

The following criteria shall be used when testing the PVB:

a. Determine that the pressure in the body when the air inlet valve opens is a minimum of 1.0 psi.

b. Determine that the static pressure drop across the check valve is a minimum of 1.0 psid.

Note: There is no relationship between the values of the check valve and air

Spill-Resistant Pressure Vacuum Breaker Assembly (SVB) [EXPANDED DETAIL]

A SVB consists of an independently operating internally loaded check valve, an independently operating loaded air inlet valve on the discharge side of the check valve. The assembly shall be equipped with one properly located resilient seated test port and vent valve and two resilient seated isolation valves at each end of the assembly.

Installation Requirements

The installation requirements for the SVB are the same as the requirements for the PVB.

Testing Requirements

The following criteria shall be used when testing the SVB:

a. Determine the pressure in the body when the air inlet valve opens. The air inlet valve shall open when the pressure in the body is a minimum of 1.0 psi.

b. Determine the differential pressure of the check valve in the direction of flow shall be at a minimum of 1.0 psid.

Note: For the SVB to operate correctly, the check valve must have a greater value than the air inlet valve.

Enforcement, Fees and Grounds for Termination of Water Service

Determination of the need for a backflow prevention assembly, the degree of risk or hazard and the level of enforcement for any requirement of Water Rule W-6 is at the sole discretion of the Utility.

NEW DETAIL

For any customer required to have an approved backflow prevention assembly for containment at the service connection and who is overdue in submitting an approvable annual test report or who has a known non-functional BFP or who has a BFP with an incorrect installation the enforcement action shall be a multi-step progressively stricter approach.

1. Step One – After the discovery of the deficiency the Utility shall send a written notification to the address of record (email or postal service) requesting the customer submit within 45 days proof the deficiency has been rectified through a valid test report submittal or through repair or replacement of the BFP with valid test report or through re-plumbing of

an approved BFP that meets required installation guidelines; including submittal of all required documentation. The initial notification shall state that if this 45 day deadline is not met then further action including an administrative fine will be forthcoming. Receipt of documentation that the backflow assembly is now in full compliance will end the issue.

2. Step Two – If no documentation is received or, in the sole opinion of the Utility, the deficiency has not been fully rectified by the end of the 45 day period then the Utility will send a second written notification (certified postal service) demanding the deficiency be fully rectified and any associated documentation submitted within 7 days; and declaring that an administrative late fee must be remitted to the Utility before this issue will be ended by the Utility. If an inspection by the Utility is necessary to ensure compliance then a follow-up containment inspection fee shall also be assessed. Payment of the late fee, and any potential inspection fee, and receipt of documentation that the backflow prevention assembly is in full compliance will end the issue.
3. Step Three – If no documentation is received by the end of the 7 day period and/or the administrative late fee, or potential inspection fee, has not been remitted to the Utility then the Utility shall deliver by hand or door hanger a 3 day notice of water service termination. If the issue is not resolved by the end of the 3 day waiting period then the Utility shall discontinue water service to the customer until such time as the issue is ended. All applicable water service shut off and turn on fees elaborated elsewhere in the Department of Public Utilities Rules and Regulations and Fee Schedule shall apply and must be paid in full before water service is restored to the customer.

NEW DETAIL

For any customer discovered to have willfully damaged, bypassed, impaired or rendered ineffective any required backflow prevention assembly or physical separation installed at the service connection to any premise or within a premise or any customer who is willful in the failure or refusal to install, maintain or test any required backflow prevention assembly(s), after notification by the Utility, the Utility shall implement the following enforcement action.

1. Step One – After discovery of the situation the Utility will send a written notification to the address of record (certified postal service) demanding the situation be fully rectified in accordance to this Rule within 7 days along with the submittal of any associated documentation; and declaring that an administrative late fee must be remitted to the Utility before this issue will be ended by the Utility. If an inspection by the Utility is necessary to ensure compliance then a follow-up containment inspection fee shall also be assessed. Payment of the late fee and any potential inspection fee and receipt of documentation that the backflow prevention assembly is in full compliance will end the issue.

NEW DETAIL

2. Step Two – If no documentation is received by the end of the 7 day period and/or the administrative late fee or potential inspection fee has not been remitted to the Utility then the Utility shall deliver by hand or door hanger a 3 day notice of water service termination. If the issue is not resolved by the end of the 3 day waiting period then the Utility shall discontinue water service to the customer until such time as the issue is ended. In addition, and prior to the Utility re-starting water service, the Utility shall require the customer to remit an administrative willful damage/bypass fee. All applicable water service shut off and turn on fees elaborated elsewhere in the Department of Public Utilities Rules and Regulations and Fee Schedule shall apply and must be paid in full before water service is restored to the customer.

Based upon the degree of potential hazard, if the Utility determines that the Utility water supply system is in immediate danger from an actual or potential pollution and/or contamination hazard then the Utility will immediately discontinue water service to that customer. A 3 day notice of water service termination is not required.

W-6.12 FEES

Fees are assessed in accordance with the Department of Public Utilities Fee Schedule and as outlined in Water Rule W-6 herein.

W-6.13 TRANSITION PERIOD

NEW DETAIL

In the May – August 2018 period, the backflow prevention & cross connection control (BFP-CCC) program for the Los Alamos County Department of Public Utilities was upgraded to conform to the current best practices of the water protection industry in the State of New Mexico and the United States. Water Rule W-6 (BFP-CCC) (this Rule) was revised. Computerized database administration was implemented. Progressive enforcement activities were defined and implemented. A county wide sweep of business licensees and commercial customers was completed to verify compliance or non-compliance with the upgraded BFP-CCC program requirements. It was determined appropriate that those Utility customers who fall under the requirements of the upgraded BFP-CCC program, and whose existing facilities do not meet the updated BFP-CCC program requirements, be provided a transition period to give those affected customers time to bring their premises to a condition that meets the requirements of the upgraded BFP-CCC program.

The annual Administrative Fee and all enforcement actions, including any other Administrative Fees, will be begin 1 July 2019. The Initial Installation Registration Fee for new construction and tenant improvements requiring BFP-CCC containment will begin 1 July 2019. The Tester and Repairperson Registration Fee, Containment Inspection Fee and Work Schedule costs will begin

immediately upon passage of the upgraded BFP-CCC Water Rule W-6.

The upgraded BFP-CCC program includes the registration of certified backflow prevention assembly testers and repairpersons. Registration for testers and repairpersons will begin immediately after the approval of the upgrades to the BFP-CCC program by the Board of Public Utilities and County Council.

Based on the results of the county wide sweep conducted during the May – August 2018 period, any customer not meeting the requirements of this Rule shall have until 1 July 2019 to become fully compliant with this Rule. In the event the customer does not become fully compliant, the Utility will begin enforcement action after 1 July 2019.

Based on the results of the county wide sweep conducted during the May – August 2018 period, all customers affected by this Rule will receive an initial notification regarding the status of their compliance with the BFP-CCC Program. These notifications will be scheduled for sending during the September – October 2018 period.

NEW DETAIL

Fire protection system double check valve backflow prevention assemblies (DC) existing in place as of 18 July 2018, or any new fire protection system DC for a premise currently undergoing the permitting process through the Los Alamos County Community Development department as of 18 July 2018, may remain in place if they are currently approved by the FCCCHR and are properly installed and maintained in the configuration and orientation in which they were evaluated and approved by the FCCCHR. After 1 January 2019, any DC found to be not serviceable or repairable by reason of the annual inspection must be replaced with a new reduced pressure principle backflow prevention assembly (RP).

Educational materials will be sent out to all local and regional contractors, plumbers and plumbing supply stores regarding the BFP-CCC program upgrade regarding the criteria for certification and registration and for approved backflow prevention assemblies, testing equipment and repair materials immediately after the approval of the Revised Water Rule W-6. Educational materials were hand delivered to customers during the May – August county wide inspection sweep to help them prepare for the revisions to the BFP-CCC program. Education materials regarding the upgraded BFP-CCC program for all customers will be developed and delivered through a Department of Public Utilities bill insert scheduled for the November – December 2018 period.

RULES AND REGULATIONS WATER

Water (W)

Ruled W-6

BACKFLOW PREVENTION AND CROSS CONNECTION CONTROL

APPENDIX A – MANDATORY BFP-CCC CONTAINMENT

[NEW DETAIL]

Premises where the following conditions or activities exist or occur, or on which individual fluids or other contaminants are handled in such a fashion as to create an actual or potential hazard to the Utility water supply system, are deemed to present a sufficient backflow contamination hazard such that cross connection control for containment by installing an approved air gap or reduced pressure principle backflow prevention assembly (RP) is mandatory:

Hospitals, Morgues, Mortuaries and Autopsy Facilities.

Medical and Dental Clinics.

Pharmacies.

Veterinary Offices and Clinics and Animal Grooming Facilities.

Kennels, Pet Stores, Stables and Zoos.

Taxidermy Shops.

Laboratories and Research Facilities.

Schools and Colleges with Laboratories.

Salons and Health Spas.

Restaurants and Breweries.

Food and Beverage Processing Plants.

Dairy Product Processing.

Hotels and Motels.

Golf Courses.

Swimming Pools.

Greenhouses.

Laundries, Dry Cleaners and Laundromats.

Car and Truck Wash Facilities.

Radiator Shops and Vehicle Battery Shops.

Warehouses.

Leased Space – Commercial & Industrial (shopping centers, warehouses).

Multistory Buildings in Excess of Thirty (30) feet. (Any Occupancy).

Fire Protection Systems and Fire Supply Lines.

Printing Shops and Screen Printing Shops.

Photographic Film Processing Facilities.

Jewelry Manufacturers and Garment Finishers.

Sewage Treatment and Non-Potable Plants and Pumping Stations.

Power Plants, Steam Generating Plants, Chemical Plants and Petroleum Refineries.

Radioactive Material Processing Plants.

Hydraulic Testing Facilities.

Concrete, Sand and Gravel Facilities.

Metal Plating and Electroplating Industries.

Electric and Electronic Component Manufacturers.

Metal Folding and Forming.

Plastic Injection.

Auxiliary Water Supply.

Construction Water Service Points.

Drawing Water from Public Hydrants for Filling Trucks.

Recreational Vehicle Dump Stations.

Premises Where Inspection is Restricted.

Premises using Extremely Toxic Substances.

Premises with Uncontrolled Cross Connections.

Premises with Complex Piping Systems.

Premises with private Wells or Other Auxiliary Water Sources.

Landscape Irrigation Systems Connected Directly to Utility Water Supply System.