

Mountain Shadows PWS 4080100

Cross Connection Control Policy

SECTION 1. CROSS-CONNECTION CONTROL – GENERAL POLICY

1.1. **Purpose.** The purpose of this Policy (the term “Policy”, herein used, shall mean the “**MOUNTAIN SHADOWS** Subdivision Cross Connection Control Policy”) is:

1.1.1. To protect the public potable water supply of **MOUNTAIN SHADOWS** from the possibility of contamination or pollution by isolating at the source such contaminants or pollutants which could backflow into the public water system; and,

1.1.2. To promote the elimination or control of existing cross connections, actual or potential, and,

1.1.3. To provide for the maintenance of a continuing program of cross connection control, which will systematically and effectively prevent the contamination or pollution of all potable water systems.

1.2. **Responsibility.** **MOUNTAIN SHADOWS** shall be responsible for the protection of its public potable water distribution system from contamination or pollution due to the backflow of contaminants or pollutants. **MOUNTAIN SHADOWS** residents will install approved backflow-prevention devices or assemblies wherever deemed appropriate in order to be in compliance with IDAPA 58.01.08.552.6 and UPC 603.

SECTION 2. DEFINITIONS

2.1. **Approved.** 1) The term "approved" as herein used in reference to a water supply shall mean a public water supply that has been approved by the Idaho Department of Environmental Quality or the Southwest District Health Department. 2) The term "approved" as herein used in reference to an air gap, a double check valve assembly, a reduced pressure principle backflow prevention assembly or other backflow prevention assemblies or methods shall mean approved per Uniform Plumbing Code 603.

2.2. **Auxiliary Water Supply.** Any water supply on or available to the premises other than **MOUNTAIN SHADOWS's** approved public water supply. These auxiliary waters may include water from a purveyor other than **MOUNTAIN SHADOWS**, private well sources, or any natural source(s) such as a spring, river, stream, used waters, or industrial fluids. These waters may be contaminated or polluted, or they may be objectionable and constitute an unacceptable water source over which **MOUNTAIN SHADOWS** does not have sanitary control.

2.3. **Backflow.** The undesirable reversal of 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.

2.4. **Backpressure.** Any elevation of pressure in the downstream piping system above the supply pressure at the point of consideration, which would cause reversal of the normal direction of flow. This could be caused by pumps, elevation, steam pressure, air pressure, etc.

- 2.5. **Backsiphonage.** Backflow caused by negative or reduced pressure in the supply piping.
- 2.6. **Backflow Prevention Assembly.** A mechanical device designed to prevent backflow that can be tested in line. Each assembly should contain two resilient seated shut off valves, test cocks for testing purposes, and a backflow prevention unit. Types of assembly will be determined by degree of hazard and backflow condition.
- 2.7. **Contamination.** An impairment of a potable water supply by the introduction or admission of any foreign substance that degrades the quality and creates a health hazard.
- 2.8. **Cross Connection.** A connection or potential connection between any part of a potable water system and any other environment containing other substances in a manner that has the potential to allow such substances to enter the potable water system. Other substances may be gases, liquids or solids, such as chemicals, waste products, steam, water from other sources (potable or nonpotable), or any matter that may change the color or add odor to the water.
- 2.9. **Cross Connections Controlled.** A connection between a potable water system and a non potable water system with an approved backflow prevention assembly properly installed and maintained so that it will continuously afford the protection commensurate with the degree of hazard.
- 2.10. **Cross Connection Control by Containment.** The installation of an approved backflow-prevention assembly at the water service connection to any customer's premises, where it is physically and economically unfeasible to find and permanently eliminate or control all actual or potential cross-connections within the customer's water system; or it shall mean the installation of an approved backflow-prevention assembly on the service line leading to and supplying a portion of a customer's water system where there are actual or potential cross-connections that cannot be effectively eliminated or controlled at the point of the cross-connection.
- 2.11. **Cross Connection Control by Internal Protection.** Fixture isolation and/or isolation of an area or zone. Protection at the fixture means installing an approved backflow preventer at the source of the potential hazard within a specific area.
- 2.12. **Hazard, Degree of.** The term is derived from an evaluation of the potential risk to public health and the adverse effect of the hazard upon the potable water system.
- 2.12.1. **Hazard: Health.** A cross connection or potential cross connection involving any substance that could, if introduced into the potable water supply, cause death or illness, spread disease, or have a high probability of causing such effects.
- 2.12.2. **Hazard: Plumbing.** A plumbing- type cross connection in a consumer's potable water system that has not been properly protected by an approved air gap or an approved backflow-prevention assembly.
- 2.12.3. **Hazard: Pollution.** A cross-connection or potential cross-connection involving any substance that generally would not be a health hazard but would constitute a nuisance or be aesthetically objectionable, if introduced into the potable water supply.
- 2.12.4. **Hazard: System.** A an actual or potential threat of severe danger to the physical properties of the public water system or the consumer's potable water system or of a pollution or

contamination that would have a protracted effect on the quality of the potable water in the system.

2.13. **Industrial-Fluids System.** Any system containing a fluid or solution that may be chemically, biologically or otherwise contaminated or polluted in a form or concentration that would constitute a health, system, pollution or plumbing hazard if introduced into an approved water supply. This may include, but is not be limited to, polluted or contaminated waters; all types of process waters and used waters originating from the public potable water system that may have deteriorated in sanitary quality; chemicals in fluid form; plating acids and alkalis; circulating cooling waters connected to an open cooling tower; and/or cooling waters that are chemically or biologically treated or stabilized with toxic substances; contaminated natural waters such as from wells, springs, streams, rivers, bays, harbors, seas, irrigation canals or systems, and so forth; oils, gases, glycerin, paraffins, caustic and acid solutions and other liquid and gaseous fluids used in industrial or other purposes for fire fighting purposes.

2.14. **Pollution.** The presence of any foreign substance in water that tends to degrade its quality but does not necessary pose a risk to human health if consumed.

2.15. **Water, Potable.** Water that is deemed safe for human consumption, as determined by the standards set forth by the Environmental Protection Agency.

2.16. **Water, Non potable.** Water that is not safe for human consumption or that is of questionable quality.

2.17. **Water, Used.** Any water supplied by the **MOUNTAIN SHADOWS** water system to a consumer's water system after it has passed through the point of delivery and is no longer under the sanitary control of **MOUNTAIN SHADOWS**.

SECTION 3. REQUIREMENTS

3.1. Water System

3.1.1. **MOUNTAIN SHADOWS's** drinking water system consists of the source facilities and the distribution system and shall include all those facilities of the water system under the complete control of **MOUNTAIN SHADOWS**.

3.1.2. The source shall include all components of the facilities utilized in the production, treatment, storage and delivery of water to the distribution system.

3.1.3. The distribution system shall include the network of conduits used for the delivery of water from the source to consumers or users.

3.2. Policy

3.2.1. Conditions for Service - No water service connection shall be installed or maintained by **MOUNTAIN SHADOWS** unless the following conditions have been met:

3.2.1.1. Any occupant or tenant has been made aware of **MOUNTAIN SHADOWS's** Cross Connection Control Policy and understands his or her responsibility to not create or maintain any cross-connections, and;

3.2.1.2. **MOUNTAIN SHADOWS** has completed a cross-connection control survey of the facility, and;

3.2.1.3. The water supply is protected as required by this Policy and IDAPA 58.01.08.552.6 and UPC 603.

3.2.2. Right of Inspection – All premises served by **MOUNTAIN SHADOWS**'s water system are under the ownership or control of **MOUNTAIN SHADOWS** and are therefore open for inspection at all reasonable times by authorized representatives of the water purveyor for the purpose of determining whether unprotected cross connections or other structural or sanitary hazards, including violations of these regulations, exist. When such a condition becomes known, **MOUNTAIN SHADOWS** shall immediately eliminate the cross-connection by providing for a physical break in the service line or correcting the condition(s) in conformance with this Policy, local and state regulations relating to plumbing and water supplies and the regulations adopted pursuant thereto. **MOUNTAIN SHADOWS** shall inspect all new construction water connections to ensure they are in compliance. **MOUNTAIN SHADOWS** shall also perform an annual inspection of all existing connections to ensure compliance.

3.2.3. Premises or Facilities Requiring Protection - An approved backflow prevention device or assembly shall be installed according to local plumbing regulations and prior to any branch line wherever the following conditions exist:

3.2.3.1. In the case of an auxiliary water supply which is not or may not be of safe bacteriological or chemical quality and which is not acceptable as an additional water source by the Idaho Department of Environmental Quality, **MOUNTAIN SHADOWS** shall be protected against backflow by installing in the service line an approved backflow prevention assembly commensurate with the degree of hazard, and in conformance with the most current edition of the American Water Works Associations manual, M-14, "Recommended Practice for Backflow Prevention and Cross-Connection Control" or local plumbing regulations, whichever affords the higher protection.

3.2.3.2. In the case of any industrial fluids or any other objectionable substance that is handled in such a fashion as to create an actual or potential hazard to the potable water system, the potable water system shall be protected against backflow by installing an approved backflow prevention assembly in the service line, commensurate with the degree of hazard. This shall include the handling of process waters and waters originating from **MOUNTAIN SHADOWS**'s water system which have been subject to deterioration in quality.

3.2.3.3. In the case of (1) internal cross connections that cannot be permanently corrected or protected against, or (2) intricate plumbing, and piping arrangements or where entry to all portions of the premises is not readily accessible for inspection purposes, making it impracticable or impossible to ascertain whether or not dangerous cross connections exist, **MOUNTAIN SHADOWS** shall be protected against backflow by installing an approved backflow prevention assembly in the service line.

3.2.4. Type of Protection Required - The type of protective assembly required under subsections 3.2.3.1, 3.2.3.2, and 3.2.3.3 above shall depend upon the degree of hazard which exists as follows:

3.2.4.1. In the case of an auxiliary water supply as stated in subsection 3.2.3.1 of this section that is not subject to any of the following rules, the **MOUNTAIN SHADOWS** water system shall be protected by an approved air gap or an approved reduced pressure principle backflow prevention assembly.

3.2.4.2. In the case of water or a substance that would be objectionable but not hazardous to health, if introduced into the public water system, the **MOUNTAIN SHADOWS** water system will be protected by, at minimum, an approved double check valve backflow prevention assembly.

3.2.4.3. In the case of any material dangerous to health that is handled in such a fashion as to create an actual or potential hazard to the public water system, the **MOUNTAIN SHADOWS** water system shall be protected by an approved air gap or an approved reduced pressure principle backflow prevention assembly.

3.2.4.4. In the case of “uncontrolled” cross connections, either actual or potential, the **MOUNTAIN SHADOWS** water system shall be protected by an approved air gap or an approved reduced pressure principle backflow prevention assembly.

3.2.4.5. In accordance with Idaho State Rules for Public Water Systems, and **MOUNTAIN SHADOWS** customers that have sprinkler or irrigation systems at their property are required to have an approved backflow assembly installed and inspected annually.

3.2.5. Assembly Standards and Specifications - Any backflow prevention device or assembly required herein shall be of a make, model and size approved by the **MOUNTAIN SHADOWS**. The term "Approved Backflow Prevention Assembly" shall mean an assembly that has been manufactured in full conformance with the standards established by the American Water Works Association titled:

AWWA/ANSI C510 07 Standard for Double Check Valve Backflow Prevention Assembly;
AWWA/ANSI C511 07 Standard for Reduced Pressure Principle Backflow Prevention Assembly; and, have met completely the laboratory and field performance specifications of the Foundation for Cross Connection Control and Hydraulic Research (FCCHR) of the University of Southern California established by: “Specifications of Backflow Prevention Assemblies” Section 10 of the most current edition of the Manual of Cross Connection Control.

Said AWWA and USC FCCCHR standards and specifications have been adopted by the water purveyor. Final approval shall be evidenced by a "Certificate of Compliance" for the said AWWA standards or a "Certificate of Approval" for the said USC FCCCHR Specifications, issued by an approved testing laboratory.

The following testing laboratory has been qualified by the AWWA to test and approve backflow prevention assemblies and said qualification is adopted by the water purveyor:

Foundation for Cross Connection Control and Hydraulic Research
University of Southern California
KAP 200 University Park MC 2531
Los Angeles, California 90089 2531

Testing laboratories other than the laboratory listed above will be added to an approved list as they are qualified by the AWWA.

Backflow preventers that may be subjected to backpressure or back-siphonage that have been fully tested and have been granted a Certificate of Approval by said qualified laboratory, and are listed on the laboratory's current list of approved backflow prevention assemblies, may be used without further testing or qualification.

3.2.6. Testing and Maintenance Requirements - It shall be the duty of **MOUNTAIN SHADOWS** to require certified field tests are made upon required backflow assemblies upon installation and at least once per year thereafter. Non-testable backflow devices that cannot be field tested with test gauges shall be inspected and assessed or verified by a plumber or certified tester. In instances **MOUNTAIN SHADOWS** deems the hazard to be great enough, inspections or certified field tests at more frequent intervals may be performed.

A field test report shall be created for all backflow preventer inspections or field tests. Backflow prevention devices and assemblies shall be repaired, overhauled or replaced whenever said devices or assemblies are found to be defective. **MOUNTAIN SHADOWS** shall retain records of field tests, inspections or repairs of backflow devices and assemblies as specified in this policy.

Backflow assembly field test reports will provide, at a minimum, the customer's name and street address; type of assembly and location of the assembly on the property; manufacturer, model and serial number of the assembly; detailed results of the test and clear indication of whether the assembly passed or failed; name and certification number of the tester and the date and time of the test. Inspection reports for non-testable devices may omit field test result specifications pertaining to testable assemblies but shall otherwise present all relevant inspection information.

3.2.7. Enforcement – Service of water to any customer of **MOUNTAIN SHADOWS** may be discontinued if an occupant, tenant or consumer interferes with or fails to comply with the provisions and implementation of this Policy. If it is found that a backflow prevention assembly has been removed, bypassed, or if the property owner fails to meet the annual testing requirement specified in section 3.2.9.1 below, water service to the customer's property may be discontinued immediately. If an unprotected cross connection exists on a tenant or consumer's premises, service shall be discontinued. Service to a facility, tenant or consumer may be discontinued immediately and without written notice if, in the opinion of the **MOUNTAIN SHADOWS** Water Department, such action is necessary to protect public health or the public water supply. Service will not be restored until all circumstances, conditions or defects causing discontinuance of service are fully corrected. Assemblies that cannot pass annual tests or those found to be defective shall be repaired, replaced, or isolated within ten (10) business days. If the failed assembly cannot be repaired, replaced, or isolated within ten (10) business days, water service to the failed assembly shall be discontinued.

3.2.8. New Construction Review – **MOUNTAIN SHADOWS** shall not provide water service to a newly constructed facility without first performing a cross connection control hazard assessment of the facility and ensuring that the **MOUNTAIN SHADOWS's** water system is protected according to this Policy. In lieu of such a hazard assessment by **MOUNTAIN SHADOWS**, receipt of a documented cross connection control hazard assessment by a State Certified Backflow Assembly Tester may be utilized. The conditions for service established by this Policy must also be satisfied (see section 3.2.1).

3.2.9. Surveying and Retrofitting Existing Facilities – **MOUNTAIN SHADOWS** shall survey and retrofit all existing service connections and facilities and bring such into compliance with this Policy as soon as possible but no later than 6 months after adoption of this Policy. The initiative to survey and retrofit existing facilities will continue until all facilities served by **MOUNTAIN SHADOWS** have received a cross connection control survey, each potential cross connection has been inventoried, and each service connection or facility has installed a backflow prevention device or assembly appropriate for the degree of hazard.

Facilities or service connections having existing fire-protection systems will have the hydraulics of any existing fire-protection system(s) checked by a registered professional engineer or certified fire-protection contractor to ensure that any installed backflow prevention assembly is compatible with the proper performance of the fire-protection system.

MOUNTAIN SHADOWS will contact a plumber as necessary in order to undertake routine testing of temperature and pressure valves on water heaters or boilers in order to account for thermal expansion that may result from installation of any backflow preventers.

3.2.9.1. Recurring Surveys and Inspections - All existing service connections and facilities shall, upon completion of an initial survey and retrofit, be required to have all backflow assemblies tested annually by a Backflow Assembly Tester that has been certified in the State of Idaho. It will be the responsibility of the customer or property owner to submit proof of annual testing to **MOUNTAIN SHADOWS** by the date specified by their Administrative staff. It will be the responsibility of **MOUNTAIN SHADOWS** to enforce any protection measures against backflow that may occur if annual testing is not performed, as specified in section 3.2.7 above.

3.2.10. Training – **MOUNTAIN SHADOWS** shall ensure that persons directly responsible for implementation of this Policy have had, at a minimum, training in basic cross connection concepts and cross connection control practices. The Idaho Rural Water Association (IRWA) is an example of a facility that may be utilized for this type of training.

3.2.11. Public Education – **MOUNTAIN SHADOWS** shall provide customers and tenants with educational information concerning cross connection control and this Policy. New tenants shall be provided with written educational information upon initial connection to the water supply. Existing tenants and consumers shall receive educational information at least once every year. At a minimum, the following information will be included in public education initiatives:

- The nature of the public health risk posed by actual or potential cross-connection hazards.
- **MOUNTAIN SHADOWS's** responsibility for protecting the public health and safety by preventing drinking water contamination and its policies relating to cross connection control.
- The customer's responsibility to protect **MOUNTAIN SHADOWS's** water supply by preventing cross connections and potential backflow scenarios on their property.
- Information should be provided to the customer or tenant regarding the requirements of this Policy and how they can be met. This should include a required date(s) for annual testing and list of Backflow Prevention Assembly Testers in the area.
- The fact that customers need to be aware that the installation of a backflow prevention device or assembly on their premise causes their plumbing system to be a closed system and closed systems are at greater risk for damage or harm due to thermal expansion that may be caused by water heaters or boilers.

3.2.12. Backflow Incident Reports – **MOUNTAIN SHADOWS** shall investigate backflow incidents specifically and shall maintain investigatory and corrective action records in a file separate from customer complaint investigations or other investigations determined to not be related to a backflow incident.

3.2.13. Backflow Incident Response Plan – **MOUNTAIN SHADOWS**, upon becoming aware of an actual or suspected backflow incident, shall perform the following actions:

- Locate the source of the contamination.
- Isolate that source to protect the water distribution system from further contamination.
- Determine the extent of the spread of contamination through the distribution system and provide timely, appropriate notification to the public and to regulatory agencies.
- Take corrective action to clean the contamination from the distribution system.
- Restore service to the customers.

A list of emergency response numbers should be kept on file with the **MOUNTAIN SHADOWS** Water Department in case of backflow incidents. The Department of Environmental Quality should not be ignored as a source of assistance during such incidents.

3.2.14. Record Keeping – Cross connection control related records shall be retained for a minimum of ten years and shall be available for review by regulatory agencies when requested. At a minimum, the following records shall be maintained:

- Cross Connection Survey Reports and Customer Questionnaires – Cross-connection survey reports or hazard assessments shall be created and maintained on approved forms. Such forms shall make clear the type and degree of hazard present upon the premises, and the minimum type of backflow assembly required.
- Inventory – **MOUNTAIN SHADOWS** shall maintain, in a spreadsheet format, inventory of all required backflow prevention assemblies present in the water system. Such information will include a description of the hazard isolated at each applicable premise, the location of each backflow assembly or air gap, the type of backflow prevention assembly and, if not an air gap, information describing the size, make, model and serial number of installed backflow assemblies. The most recent inspection or test date or cross connection control survey or received questionnaire (if applicable) of each required assembly will be noted.
- Test Reports and Certified Testers – Backflow device inspection and assembly test, maintenance and repair reports shall be retained. Documentation supporting the credentials of certified testers will be retained.
- Other Documentation – Copies of all other cross connection program documentation will be retained, including service contracts, notifications to customers, enforcement actions, backflow incident reports and other related activity.

3.2.15. Budgeting – **MOUNTAIN SHADOWS** shall ensure that all the actions necessary to implement this Policy are budgeted and that monies to implement this Policy are available as necessary.

3.2.16. Authority – **MOUNTAIN SHADOWS** is authorized to make all necessary and reasonable rules and policies with respect to the enforcement of this Policy. All such rules and policies shall be consistent with the provisions of this Policy and shall be effective upon adoption.