MESA CITY CODE

TITLE 8

HEALTH, SANITATION AND ENVIRONMENT

CHAPTER 1

BACKFLOW PREVENTION AND CROSS-CONNECTION CONTROL

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8-1-1: DEFINITIONS

The following words, terms, and phrases, when used in this Chapter, shall have the meanings ascribed to them in this Section, unless otherwise expressly stated:

AIR GAP (AG): A physical separation between the free-flowing discharge end of a potable water supply line and an open or non-pressure receiving vessel. An air gap must be at least twice the diameter of the supply pipe measured vertically above the overflow rim of the receiving vessel, and in no event less than 1 inch (2.54 cm), to serve as backflow protection. This method is required for backflow protection of sewage or reclaimed water.

AUXILIARY WATER SUPPLY: Any source of water other than from the City public water system or the potable water system of a public utility regulated by the Arizona Corporation Commission, including but not limited to, water from a well, spring, river, stream, or canal.

BACKFLOW: The reversal of flow in the public water system such that water or mixtures of water and other liquids, gases, or other substances are introduced into the public water system from any source other than the public water system.

BACKFLOW PREVENTION ASSEMBLY: An assembly used to prevent backflow into a potable water system. The types of backflow prevention assemblies are:

Double Check Valve Backflow Prevention Assembly (DCVA)
Pressure Vacuum Breaker Backsiphonage Prevention Assembly (PVB)
Reduced Pressure Principle Backflow Prevention Assembly (RPA)
Spill-Resistant Pressure Vacuum Breaker Backsiphonage Prevention Assembly (SVB)

BACKFLOW PROTECTION: A backflow prevention assembly, air gap, or any combination thereof acting in concert.

BACKPRESSURE: Any elevation of pressure in a customer water system, above the supply pressure at the service connection/point of delivery, which might cause or contribute to backflow. Examples of conditions which may cause backflow include use of a pump, elevation of piping, steam pressure, or air pressure, etc.

BACKSIPHONAGE: Backflow, which causes a sub-atmospheric pressure condition in a water system.

CERTIFIED TESTER: A natural person with a current certification and approval to conduct testing on Backflow Prevention Assemblies by an entity engaged in the business of certifying backflow assembly testers and which is approved by the Water Resources Department.

CITY: The City of Mesa, an Arizona Municipal Corporation and political subdivision, of the State of Arizona.

COMPLIANCE DUE DATE: The seventh day after of installation of backflow protection or the seventh day after discovery of an installed backflow protection which has not been tested in conformance with this Chapter in the 12 months preceding such discovery. Thereafter, the 1-year anniversary of the most recent compliance due date.

CONTAMINATION: Any impairment in the quality of potable water, by sewage, industrial fluids, waste liquids, compounds or other solids, gases, or fluids.

CUSTOMER: The owner, tenant, trustee, mortgagee, receiver or occupier, whether person, corporation, firm, or municipality, of property which is connected to the public water system, including but not limited to, the person, persons or entity in whose name a City water service account is established and that is responsible for payment of the water rates, fees and charges.

CUSTOMER WATER SYSTEM: A privately-owned potable water system, or any portion thereof, lying between the service connection and the point of use. This system includes all pipes, conduits, tanks, receptacles, fixtures, equipment and appurtenances used to convey, store or utilize the potable water.

CROSS-CONNECTION: Any direct or indirect connection in a customer water system through which it is possible to introduce any substance other than the intended potable water with which the system is supplied, including but not limited to industrial fluids, gas, auxiliary water and wastewater. Bypass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent devices through or because of which backflow can occur are cross-connections. A direct cross-connection is a cross-connection which is subject to both backsiphonage and backpressure. An indirect cross-connection is a cross-connection which is subject to backsiphonage only.

DEGREE OF HAZARD: The level of actual or potential risk (either a non-health hazard or health hazard) derived from the assessment of the substances which may come into a customer water system through a cross-connection, as set forth in section 8-1-4.

DEPARTMENT: The City Water Resources Department, or any successor identified by the City which is responsible for enforcing the requirements of this Chapter.

DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY (DCVA): A backflow prevention assembly composed of two independently acting, approved check valves, including tightly closing resilient seated shutoff valves, attached at each end of the assembly and fitted with properly located resilient seated test cocks. This assembly is acceptable for use as protection against non-health hazards only.

DUAL CHECK DEVICE: Two independent check valves with a vent to the atmosphere. This device is acceptable for use on a non-health hazard or low hazard applications only. These non-testable devices can only be installed on ice makers and **non**-carbonated beverage dispensers.

FIRE SPRINKLER SYSTEM: An integrated system of water piping for fire prevention and suppression, designed in accordance with applicable City Code provisions and standards, and connected to the public water system.

HEALTH HAZARD: Contamination to a degree which creates an actual hazard to the public health that may cause illness or death if ingested.

NON-HEALTH HAZARD: Pollution to a degree that may affect the color or odor of water but will not cause illness or death if ingested.

NON-POTABLE WATER: Water that has not been treated for human consumption in compliance with federal, state and local requirements.

NOTICE: A written instrument served by the City, as follows, with time commencing from date of mailing, serving, filing or recording as applicable:

(1) By the use of ordinary mail to the last known address of the person to whom it is required to be given.

(2) By personal service upon the person or his lawful representative;

(3) By filing or recording with a clerk of the superior court or county recorder; or

(4) By any means authorized by the Arizona Rules of Civil Procedure.

PLUMBING HAZARD*:* An actual or potential plumbing cross-connection in a customer water system. A plumbing hazard may present either a Health or non-health hazard.

POINT OF USE: The point within a customer water system where potable water is used.

POINT OF USE PROTECTION: Any backflow prevention assembly or means designed to prevent backflow commensurate with the degree of hazard that is installed within a customer water system, typically located at the water supply line for equipment or appliances.

POLLUTION: The presence of any foreign substance (organic, inorganic or biological) in water which tends to degrade its quality or impair its usefulness to a degree which does not create an actual hazard to the public health, but which does adversely and unreasonably affect such water for domestic use.

POTABLE WATER: Water which meets the federal, state and local requirements for human consumption, including drinking, culinary, and other domestic purposes.

PRESSURE VACUUM BREAKER ASSEMBLY (PVB): An assembly containing an independently operating internally loaded check valve and an independently operating loaded air inlet valve, located on the discharge side of the check valve, with properly located resilient seated test cocks and tightly closing resilient seated shutoff valves at each end of the assembly. This assembly may only be used to protect against a non-health hazard, or a health hazard under a backsiphonage condition.

PUBLIC WATER SYSTEM: Means all plants, mains, laterals, pipes and other structures owned and/or maintained by the City, through which potable water is treated, supplied and distributed to the public, including wells and well structures, intakes, pumping stations, treatment plants, reservoirs, storage tanks and appurtenances.

RECLAIMED WATER: Wastewater treated to the federal, state and local standards for reuse, but which has not been treated to the federal, state and local standards for potable water and human consumption.

RECOGNIZED BACKFLOW PREVENTION ASSEMBLY TESTER: A certified tester meeting the requirements of the Department for the annual performance of backflow testing, as set forth in Section 8-1-12 of this Chapter.

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY (RPA): A backflow prevention assembly containing two independently acting approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve, located between the check valves and at the same time, below the first check valve. The unit shall include properly located resilient seated test cocks and tightly closing resilient seated shutoff valves at each end of the assembly.

SERVICE CONNECTION/POINT OF DELIVERY: The downstream end of the water meter, where the city-owned parts of the public water system ends, and a customer water system begins. For unmetered services such as fire lines, the point of delivery is immediately downstream of the valve separating the city-owned parts of the public water system from the unmetered service connection.

SERVICE PROTECTION The backflow protection at the service connection, which protects the public water system from the degree of hazard presented by a customer water system.

SINGLE CHECK VALVE: A mechanical device that is drip tight when the inlet pressure is at least one (1) psi (pounds per square inch) and the outlet pressure is zero. The closure element (clapper or poppet) must be internally spring loaded, to promote rapid and positive closure.

SPILL RESISTANT PRESSURE VACUUM BREAKER BACKSIPHONAGE PREVENTION ASSEMBLY (SVB): A backflow prevention assembly containing an independently operating internally loaded check valve and independently operating loaded air inlet valve located on the discharge side of the check valve. This assembly cannot be used for backpressure applications.

SYSTEM HAZARD: An actual or potential threat to the public water system, from pollution or contamination.

8-1-2: PUBLIC WATER SYSTEM PROTECTION

The purposes of this Chapter are to protect the public water supply of the City from the possibility of contamination or pollution by preventing the backflow of contaminants or pollutants into the public water system, to promote the elimination or control of existing cross-connections, actual or potential, within a customer water system and to provide for a continuing program of cross-connection control. All service connections to premises of the types specified in this Chapter in Section 8-1-8 must have backflow protection installed and maintained, to protect the public water system as required by this Chapter. In addition, certain uses within the customer water system must have point of use protection as required by Section 8-1-9 in this Chapter. This Chapter shall be construed and applied consistent with the requirements of A.A.C. R18-4-215 and other Arizona Department of Environmental Quality Regulations.

8-1-3: BACKFLOW PREVENTION REQUIRED

(A) A backflow prevention assembly is required at every service connection when there is an existing or potential health, non-health, or plumbing hazard to the public water system from a customer water system, as set forth in this Chapter.
(B) A backflow prevention assembly is required at every service connection when access to the property or customer water system is restricted, such that it is impractical for the Department to perform a cross-connection inspection to determine the degree of hazard.
(C) The backflow prevention assemblies at each service connection must protect against the degree of hazard to the public water system presented by a customer water system.
(D) In addition to service protection, the Department may require point of use protection within a customer water system, based on the degree of hazard at the point of use.
(E) All dedicated landscape water service connections must have service protection, regardless of classification as residential or commercial.
(F) All connections to fire hydrants, where available, must have an RPA installed by the Department immediately downstream of the hydrant meter.
(G) Any premises, facility, equipment, or plumbing connected appliance not listed in Section 8-1-8 or 8-1-9 that has, or may have, the potential for a cross connection must have service protection, as outlined in this Chapter, based on the degree of hazard.

(H) For service and point of use protection: Direct connections between potable water piping and sewer-connected wastes shall not be permitted to exist under any condition with or without backflow protection. Where potable water is discharged to the drainage system, it shall be by means of an approved air gap.

8-1-4: APPROVED BACKFLOW PREVENTION ASSEMBLIES; METHODS

In addition to the requirements of Section 8-1-8 and 8-1-9, the Department reserves the right to require backflow protection, based on the degree of hazard, to the public water system from a customer water system, regardless of the nature of the customer's end use. The following factors will determine the degree of hazard:

1. Health
2. Non-health
3. Plumbing hazard within the customer water system

(A) The Department requires the following backflow prevention assemblies, based on the degree of hazard. The following is a list of assemblies and the provided protection against hazards. See Section 8-1-8 and 8-1-9 for a list of required backflow protection for known hazards.:

Type of Assembly	Non-Health Hazzard (Pollution)		Health Hazard (Contamination)		Sewage/Reclaimed Water	
	Backsiphonage	Backpressure	Backsiphonage	Backpressure	Backsiphonage	Backpressure
Air Gap	X	X	X	X	X	X
RPA	X	X	X	X		
DCVA	X	X				
PVB	X		X			
SVB	X		X			

(B) The Department may also approve an alternative backflow prevention assembly if, at a minimum, it has been issued a Certificate of Approval by the Foundation for Cross-Connection Control & Hydraulic Research of the University of Southern California, or another certifying agency, organization, or entity, unrelated to the product manufacturer or vendor, and recognized in the industry as equivalent and acceptable to the Department.

(C) An air gap may be used for backflow protection within a customer water system provided that the air gap is not modified from its original installation requirements and complies with the definition set forth in Section 8-1-1.

8-1-5: BACKFLOW PREVENTION ASSEMBLY INSTALLATION REQUIREMENTS

(A) The customer must install backflow prevention assemblies as required by this Chapter, at the customer's expense, and in compliance with applicable standards and specifications contained in the Mesa Building Code, Mesa Plumbing Code and Mesa Fire Code.

(B) The customer must install an approved backflow prevention assembly for service protection at, or as close as possible to, the point of delivery, but in all cases before the first branch line splitting the customer water system.

(C) Installed backflow prevention assemblies must have a diameter at least equal to the cross-sectional diameter of the service connection, unless approved in advance in writing by the Department.

8-1-6: PLAN REVIEW REQUIREMENTS

(A) All backflow prevention assemblies required by this Chapter must be shown and specified on all required Building or Engineering Plans submitted to the City. Department approval of the intended installation is required prior to the issuance of any Building or Engineering Permit.

(B) All backflow prevention assemblies required by this Chapter must show the manufacturer, model identifier, and size of the assembly on the City approved plans. The approved plans shall also show that the backflow prevention assembly must be tested by a certified tester, recognized by the Department.

8-1-7: FACILITY INSPECTIONS

(A) The Department may conduct inspections to determine whether any cross-connections or other public water system hazards exist and to determine compliance with this Chapter. Customer premises shall be subject to site inspection by the Department, and a customer water system at each premise must be available at all times

necessary to protect the public water system. The Department shall make reasonable efforts to provide a customer with advance notice of an inspection.

(B) Upon the Department issuing notice of inspection results, the customer shall correct any deficiencies and comply with the standards set forth in this Chapter within sixty (60) calendar days. Based on the degree of hazard, water service may be suspended until cross connection requirements have been met.

(C) Adding or removing an appliance or other connection which may present a plumbing, health, or non-health hazard to a customer water system shall require a new inspection by the Department within 30 calendar days of such addition or removal. If the inspection determines a backflow prevention assembly is required, installation shall be completed in compliance with this Chapter by the customer within 60 calendar days of the Department issuing notice of the inspection results.

8-1-8: CUSTOMERS REQUIRING A BACKFLOW PREVENTION ASSEMBLY

When any of the following uses exist, facilities are present, or activities are conducted on the customer's side of the point of delivery at a property or premises served by the public water system, a potential hazard to the public water system exists and the customer must insure that the backflow protection specified below, is in place and operating as designed at each service connection.

Description of Cross Connection	**Acceptable Level of Protection**
Aircraft and missile manufacturing, repair, maintenance, modification and restoration plants and facilities	RPA
All service connections not located within the City limits, including but not limited to county islands and schools, but served by the City's public water system	RPA
Animal veterinary clinics	RPA
Automotive maintenance and repair with steam cleaners, acid cleaning equipment, or solvent facilities	RPA
Automotive manufacturing, and restoration plants and facilities	RPA
Auxiliary water supply capability	RPA
Bottling Plants, beverage or chemical	RPA
Breweries	RPA
Buildings greater than three stories or 34 feet in height from curb level	RPA
Buildings or properties used for commercial or industrial purposes, where one service connection supplies multiple tenants or occupants of the building	RPA
Buildings or properties with booster pumps and/or potable water storage tanks	RPA
Buildings or properties with fountains, water features, ponds or baptismal tanks	RPA
Buildings or properties with sewage ejectors	RPA
Buildings or properties with water service that provides both fire and domestic water*	RPA
Canneries, packing houses, and reduction plants	RPA
Car wash facilities	RPA
Chemical manufacturing plants	RPA
Commercial laundries	RPA
Connection to any premises with restricted or denied access.	RPA
Cooling towers, boilers, chillers, and other heating and cooling systems utilizing potable water	RPA
Customer Water Systems designed and constructed capable of inducing backpressure at the service connection	RPA
Customer Water Systems interconnected by more than one service connection	RPA
Customer Water Systems using non-potable water piping	RPA

Description of Cross Connection	Acceptable Level of Protection
Customer Water Systems utilizing fertilizer or pesticide injection, or aspirator systems	RPA
Customer Water Systems where a PVB cannot be at least 12" higher than all downstream plumbing	RPA
Dairies and cold storage facilities	RPA
Dual use meters: Water meters that serve both domestic and landscape needs must have the landscape connection isolated with a properly installed: RPA or PVB. This will be in addition to any backflow protection required at the service connection. Refer to section 8-1-3 (E), when applied to a single-family residence.	RPA or PVB
Film processing laboratories, facilities or equipment	RPA
Fire hydrant water meters	RPA
Fire Sprinkler System- direct connection to Public Potable water system with or without pumps. No additives or auxiliary supplies of any kind. *	DCVA
Fire Sprinkler Systems – direct connection to Public Potable water system and/or auxiliary water supply on site and/or additives are used. Or private hydrants are on site. Refer to Section 8-1-10. This also may require point of use protection*	RPA
Food processing plants	RPA
Government owned or operated facilities not open for inspection by the City	RPA
Holding tank disposal stations	RPA
Hospitals	RPA
Irrigation systems served by a dedicated landscape meter, except as described in Section 8-1-9	PVB
Laboratories, regardless of whether using toxic or nontoxic materials	RPA
Manufacturing, processing and fabricating plants	RPA
Master meter property* additional point of use protection may be required	RPA
Medical and dental buildings, behavioral health centers, assisted care facilities, rest and convalescent homes engaged in the diagnosis, care or treatment of human illness	RPA
Mobile home parks, RV parks, master planned communities, commercial plazas, apartment complexes, or any other property that is served by one or more master meters	RPA
Mortuaries	RPA
Multiple interconnected service connections or looped service connections	RPA
Oil and gas production or storage facilities	RPA
Paper and paper product production facilities	RPA
Plating facilities	RPA
Power plants	RPA
Premises or properties where a cross-connection is identified, or where a cross-connection previously occurred	RPA
Private fire lines with hydrants	RPA
Private fire lines without hydrants	DCVA
Properties or premises where non-potable water is used for irrigation	RPA
Public or semi-private swimming pools with self-levelers or automatic fillers: PVB at point of use, RPA at service connection	PVB or RPA
Radioactive material processing facilities	RPA
Reclaimed water is accessible onsite	RPA
Restaurants and convenience stores	RPA

Description of Cross Connection	Acceptable Level of Protection
Restricted, classified or other closed facilities	RPA
Sand and gravel plants	RPA
Schools, colleges, and universities	RPA
Sewage collection or treatment facilities	RPA
Shell buildings	RPA
Shopping centers served by master meters	RPA
Storm water drainage facilities	RPA
Water chemical treatment systems	RPA
Water trucks, water tanks pesticide or exterminator rigs, hydraulic sewer cleaning equipment; ALL vessels, reservoirs, and tanks: RPA or AG	RPA or AG
Waterfront facilities	RPA
When two or more uses, items, buildings, facilities, or activities identified in this section are present or conducted, on the same premises or property, and served by the same service connection, the customer shall install a Reduced Pressure Principle Backflow Prevention Assembly (RPA).	RPA

* additional point of use protection may be required consistent with this Chapter.

8-1-9: POINT OF USE PROTECTION

(A) All equipment or appliances connected to a customer water system will be subject to evaluation for cross-connection potential and the degree of hazard presented to the customer water system. The customer must install and maintain point of use backflow protection at each such connection, as required by this Section. The customer must have the backflow prevention assembly tested annually and ensure that reports are submitted to the Department.

(B) Backflow prevention assemblies must be installed no more than five (5) feet above finished floor level and be capable of being accessed for testing and maintenance, but may require the removal of an access panel, door or similar obstruction.

(C) Copper pipe must not be used downstream of a point of use Backflow Prevention Assembly where water is carbonated, deionized, distilled, or treated by reverse osmosis.

(D) Point of use reduced pressure assemblies must be installed with an air gapped drain line for the relief valve. This drain line must be as large, or larger than, the size of the RPA, and properly secured. The drain must be routed to a floor sink, mop sink, or other appropriate wastewater outlet. Flexible hose material is not permitted for use as a drain line.

(E) Point of use connections not on the list below may also be evaluated by the Department based on the degree of hazard, which will dictate the backflow protection required at the point of delivery. Multiple uses downstream of a point of use backflow protection are prohibited, unless approved by the Department. Where approved by the Department, a single point of use backflow prevention assembly may be used to isolate a group of similar pieces of equipment, such as pedicure stations. The following list identifies the point of use backflow protection required for specific equipment and appliances:

Description of Cross Connection	Acceptable Level of Protection
Aquariums	AG, PVB, RPA, SVB
Aspirators (medical)	AVB, PVB
Autoclaves	RPA
Automotive Hose Reels	PVB, RPA, SVB
Autopsy and Mortuary Equipment	AVB, PVB, RPA
Auxiliary Water Source	AG, RPA
Baptismal Fonts	AG, PVB, RPA, SVB
Bedpan Washers	AVB, PVB

Description of Cross Connection	Acceptable Level of Protection
Boiler Make Up Lines	RPA
Boilers with Chemical Additives or Closed Loops	RPA
Bottle Washer	RPA
Car Wash Equipment	RPA
Carbonated Beverage Dispensers	RPA
Chemical and Soap Dispensers	AG, PVB, SVB
Colonic Cleansing Equipment	AG, RPA
Connection to Industrial Fluid Systems	AG, RPA
Cooling Towers/Chillers	RPA, PVB
Cuspidors	AVB, PVB
Dental Chairs	RPA
Dental Vacuum Pumps	RPA
Dishwashers (Commercial)	AG, PVB, RPA, SVB, AVB
Drain Line to Waste	AG
Eyewash/Emergency Shower on Flexible Hose	AG, PVB, RPA, SVB
Ice Cream, Yogurt, Gelato Makers (see water cooled condensers)	DCVA, RPA
Ice Makers	DCVA, Dual Check
Irrigation Systems	PVB, RPA
Irrigation Systems with Chemical Addition	RPA
Kitchen Equipment	AG, AVB, PVB, SVB
Lab Equipment	AVB, PVB, RPA
Model Trimmers	AG, PVB, RPA, SVB
Non-Carbonated Beverage Dispenser	DCVA, Dual Check
Pedicure Station	AG, PVB, RPA, SVB
Pet grooming stations	AG, AVB, PVB, SVB
Photo Processors	PVB, RPA, SVB
Plating Tanks	RPA
Reverse Osmosis Treatment	RPA
Sewage Ejectors	AG
Sewage Pumps	AG
Sewer Pipe Connections	AG
Shampoo Basins	AVB, PVB, SVB
Specimen Tanks	AVB, PVB
Steam Generator	RPA
Sterilizers	RPA
Swimming Pool Fill Lines	PVB, SVB, RPA
Tanks, Vats, or Vessels	AG, PVB, RPA, SVB
Thermalizer	RP
Trap Primers	AG
Warming Tables	AG, PVB, RPA, SVB
Water Cooled Condensers, Equipment with	AG, RPA,

Description of Cross Connection	Acceptable Level of Protection
Water Feature Fill Lines	PVB, RPA, SVB
Water Vending Machines	RPA
Yard Hydrants	RPA

8-1-10: FIRE SPRINKLER SYSTEMS

(A) Fire sprinkler systems must have backflow protection in accordance with section 8-1-8 and the following.
1. DCVA: The fire sprinkler system must be connected to the domestic water distribution system only. Installation must be in compliance with Mesa standards and specifications. There must be no physical connections to auxiliary or supplementary water sources. There must be no fire suppressing chemical additives used in a customer system employing a DCVA. Drains must discharge to atmosphere by air gap. Piping materials, fittings and appurtenances must conform to National Fire Prevention Association requirements..
2. RPA: Fire sprinkler systems where any form of chemical additive is used such as antifreeze, corrosion inhibitors, and foaming agents, as well as systems connected to auxiliary water sources are health hazards and any such connections to the public water system must be protected with a reduced pressure assembly. This includes private fire lines with hydrants.
3. A water service that provides both fire and domestic water service connections to properties that have a combined water system used for domestic applications and for fire suppression must be protected using a reduced pressure assembly. Point of use protection could also be required for each connection to this line.

(B) A fire sprinkler system is exempt from the provisions of this section unless or until one of the following conditions occurs:
1. The existing detector or alarm check valve, which does not qualify as backflow protection, on the fire sprinkler system is unserviceable or requires replacement – upgrade to DCVA
2. The fire sprinkler system is modified in any way– upgrade to DCVA
3. The sprinkler density requirements increase - upgrade to DCVA
4. A change in occupancy results in a more hazardous classification as determined by the City under the Fire Code - upgrade to DCVA
5. Any form of chemical additive is used such as antifreeze, corrosion inhibitors, and foaming agents - upgrade to RPA

8-1-11: ASSEMBLY TESTING, MAINTINCE, REPAIR AND RECORDS

(A) The customer is the responsible party to ensure the backflow is in properly working order, tested by the compliance date and to ensure the department has received the test reports.
(B) The customer must maintain any backflow protection such that it functions as designed by the manufacturer.
(C) The customer must cause all backflow prevention assemblies to be tested and serviced at least once each year prior to the compliance due date.
(D) The testing and servicing of each backflow prevention assembly shall be performed at the expense of the customer.
(E) The testing of backflow prevention assemblies must be performed by a recognized backflow prevention assembly tester, in accordance with Section 8-1-12. The Department will maintain and make available, upon request, to all persons required to install or maintain backflow protection, a list of recognized backflow prevention assembly testers.
(F) The testing of backflow prevention assemblies must be performed using the procedures described in section 9 of the University of Southern California, Foundation for Cross Connection Control and Hydraulic Research, Manual of Cross-Connection Control, Tenth Edition, October 2009.
(G) If the annual testing conducted under this section reveals the backflow protection to be defective or not functioning as designed, repairs must be performed, including replacement of the backflow protection if necessary, by the compliance due date.
(H) If a customer discovers during the period between annual tests that a backflow protection is defective or is otherwise not functioning as designed, the customer must, within 15 calendar days of such discovery, perform any necessary repairs, including replacement of the assembly if it cannot be repaired.

(I) If any overhaul, repair, or replacement is performed on a backflow protection, a recognized backflow protection assembly tester must retest the backflow protection within 24 hours following such overhaul, repair or replacement.

(J) A record of each test conducted under this Section ("testing record") must be submitted to the Department within seven calendar days after completion of the testing activity for which the record is made or by the compliance due date, whichever is sooner. Failure to submit testing records according to the terms of this Section will result in assessment of the backflow compliance late fee and potentially subject the customer to civil sanction pursuant to Section 8-1-16.

8-1-12: RECOGNIZED BACKFLOW PREVENTION ASSEMBLY TESTERS

(A) Any person performing backflow maintenance and testing within the City must be a recognized backflow prevention assembly tester and meet all requirements of this Section. Recognized backflow prevention assembly tester applicants will be approved by the Department upon the applicant's submission and the Department's receipt of the following:

1. A completed Tester Application submitted on a form approved by the Department;
2. A signed City of Mesa Backflow Assembly Tester Agreement submitted on a form approved by the Department, in which the applicant agrees to follow all City Codes and Department procedures.
3. Proof that the applicant is a certified tester. This proof may take the form of a backflow prevention assembly tester certificate.
4. A current gauge accuracy or calibration report for any test equipment that may be used by the applicant to comply with the requirements of this Chapter.

(B) If the City determines that the preceding conditions have been satisfied, the Department will deem the applicant a recognized backflow prevention assembly tester.

(C) Recognized backflow prevention assembly testers must maintain their status as a current certified tester. Failure to maintain status as a certified tester will result in removal from the list of recognized backflow prevention assembly testers.

(D) Recognized backflow prevention assembly testers must conduct a calibration of all backflow prevention test equipment annually through an agency accepted by the Department. A backflow prevention test equipment accuracy report showing the recognized backflow prevention assembly tester's testing equipment to be functioning as designed by the manufacturer, must be submitted to the Department annually. An equipment accuracy report dated more than one year old will be considered expired. Recognized backflow prevention assembly testers without a current, unexpired equipment accuracy report on file with the Department will be removed from the list of recognized backflow prevention assembly testers.

(E) The Department may discipline recognized backflow prevention assembly testers that fail to comply with the City of Mesa Backflow Assembly Tester Agreement, requirements of this chapter or Department procedures, including but not limited to engaging in improper test protocol, submitting any late testing record (a testing record is considered late if it is submitted more than seven calendar days after the test has been performed), fraudulent reporting, or other practices determined by the Department to be improper pursuant to the provisions of this Chapter.

(F) Discipline for non-compliance will generally be set forth in the City of Mesa Backflow Assembly Tester Agreement and can range from a warning to permanent suspension from testing within the City, depending on the nature and severity of the violation.

(G) Any tester suspended or removed from the list of recognized testers may appeal by submitting a written request for a hearing to the Department's Water Resources Director within 15 days of receipt of the written notice of suspension or removal. A hearing shall be held with the Water Resources Director within 15 days after the filing of the request. The decision of the Water Resources Director shall be final and binding.

8-1-13: TERMINATION OF WATER SERVICE

(A) Service of water to any property or premises may be terminated by the Department if any of the following conditions are present:

a. Backflow protection is not installed as required by this Chapter, has been removed or bypassed, is not functioning as designed, has not been tested annually or any testing records have not been timely provided to the Department, or if unprotected cross connections exist on the property or premises.

(B) If any of the conditions described in subsection (A) presents an imminent hazard to the health or safety of the public water supply or the public, the Department may issue an Immediate Notice of Termination and take actions

to terminate service and may also take such other actions as are necessary to abate and correct any conditions, defects, or violations described in the Notice of Termination. Thereafter, services will not be restored until such conditions or defects are corrected and all penalties and other fees and charges are paid, or a hearing in accordance with Title 1, Chapter 27 results in a final finding of no violation.

8-1-14: DEPARTMENT MODIFICATION

In those instances where, upon the Department's reasonable professional judgment conditions warrant, the Department may modify the standard installation as provided in 8-1-8 and 8-1-9, to provide a degree of backflow protection sufficient to protect against the degree of hazard.

8-1-15: EXISTING CUSTOMERS

Customers that have water service prior to the effective date of this Chapter are subject to all requirements imposed by this Chapter.

8-1-16 LATE FEE, CIVIL SANCTIONS

(A) A Backflow Compliance Late Fee will be assessed against each service connection for which a customer fails to timely meet the requirements imposed by Section 8-1-11 (I). The Backflow Compliance Late Fee shall be set forth in the schedule of Utility Service Fees and shall be in addition to all other applicable rates, fees and charges.
(B) The Department Director and inspectors within the Department, or such other persons as the City Manager may designate, are authorized to commence a civil code violation action under this Chapter as provided in Title 1, Chapter 27 of this Mesa City Code, and may also request that the Mesa City Prosecutor issue a complaint for criminal prosecution for violations of this Chapter.
(C) Nothing in this Section shall preclude City employees from seeking voluntary compliance with the provisions of this Chapter or from enforcing this Chapter through notices of violation, warnings, or other informal devices designed to achieve compliance in the most efficient and effective manner under the circumstances.
(D) A civil action for violations of this Chapter may be commenced, by issuance of a complaint in the manner set forth in Section 1-27-2. The complaint shall direct the person to appear, at the time and place stated, before the Mesa City Court or a Hearing Officer appointed as provided in Section 1-27-8. The complaint shall be served and administered in accordance with Sections 1-27-3 and 1-27-7.
(E) All hearings before the Mesa City Court or a Civil Hearing Officer shall be in accordance with Section 1-27-7 and Title 1, Chapter 27 generally. Hearings shall be informal, except that testimony shall be given under oath or affirmation. The technical rules of evidence shall not apply, except for statutory provisions relating to privileged communications. The City shall have the burden of proving all violations charged by a preponderance of the evidence. No prehearing discovery shall be permitted except under extraordinary circumstances as determined by the Court or Civil Hearing Officer.
(F) Upon an admission of the allegations of the complaint or a finding of violation in favor of the City by the Mesa City Court or Civil Hearing Officer, the Court or Hearing Officer shall enter a finding of responsibility and judgment against the person for civil sanctions in an amount not less than one hundred dollars ($100.00) or more than one thousand dollars ($1,000.00) for each violation of this Chapter, and each day of violation continued, shall be a separate offense.
(G) An appeal from a final judgment of the Court or Civil Hearing Officer may be taken in accordance with Title 1, Chapter 27 of this Mesa City Code and pursuant to the rules of procedure for special actions of the Arizona Supreme Court.

8-1-17 HABITUAL OFFENDER

Any person who violates a provision in this Chapter after previously having been found responsible for committing three (3) or more civil violations, whether by admission, payment of a fine, default, or judgment after hearing, shall be guilty of a criminal misdemeanor. The Mesa City Prosecutor is authorized to file a criminal misdemeanor complaint, in the Mesa City Court, against habitual offenders who violate this Section.