

MESA CITY CODE:

CHAPTER 1

BACK FLOW PROTECTION

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8-1-1: PUBLIC WATER SUPPLY PROTECTION:

The City Utilities Department, hereinafter called the "Department," is responsible for protecting the quality of the public water supply. No water service connection to premises of a type specified in Section 8-1-6 shall be installed or maintained unless the public water supply is protected as required by this Chapter. (1823,2491)

8-1-2: APPROVAL:

- (A) Each back flow preventive device required hereunder shall be approved by the Department prior to installation and shall be installed by and at the expense of the customer. (1823)
- (B) The Department shall approve back flow preventive devices when such devices have received approval by the Foundation for Cross Connection Control Research of the University of Southern California and the manufacturer has a local parts and service center. (1823)

8-1-3: INSTALLATION:

- (A) Devices shall be installed at the service connection in an accessible location approved by the Department. A reduced-pressure principle back flow preventive device shall be installed above ground. Double-check valve devices may be installed below the ground in a vault if approved in writing by the Department. Approval is on a case-by-case basis. Approval shall be obtained prior to issuance of a building/engineering permit. (1823)
- (B) Back flow preventive devices shall have at least the same cross sectional area as the water meter. In those instances where it is determined that a continuous water supply is necessary, two (2) sets of back flow preventive devices shall be installed in parallel. Where parallel devices are required, the sum of the cross sectional areas of the devices shall be at least equivalent to the cross sectional area of the meter. (1823)
- (C) No bypass shall be installed around back flow preventive devices. (1823)

8-1-4: MAINTENANCE, TESTING, AND RECORDS:

- (A) The customer shall test and service such devices at least once each year, shall maintain them in satisfactory operating condition, and shall overhaul or replace such devices if they are found to be defective. (1823)

- (B) Records of such tests, service, repairs, and overhauls shall be kept by the customer on forms approved by the Department. A copy of such records shall be sent to the Department. (1823)
- (C) Tests shall be conducted and reported in a manner prescribed by, and/or by persons certified or approved by, the Department or any other agency designated by the Department to prescribe test methods or to certify or approve persons to conduct such tests. (1823)
- (D) Water meters on approved devices shall be owned, maintained, and read by the Department. (1823)

8-1-5: APPROVED BACK FLOW PREVENTIVE DEVICES:

As designated in Section 8-1-6, the standard installation at each service connection to premises or systems requiring an approved back flow preventive device shall be one of the following types: (1823)

- (A) Approved "Reduced Pressure Principle" back flow device (hereinafter "RP"), which shall mean a device containing two (2) independently acting approved check valves together with a hydraulically operating, mechanically independent pressure relief valve located between the check valves and at the same time below the first check valve. The unit shall include properly located test cocks and tightly closing shutoff valves at each end of the assembly. (1823)
- (B) Approved "Double Check Valve" assembly back flow preventive device (hereinafter "DC"), which shall mean an assembly composed of two (2) single, independently acting, approved check valves, including tightly closing shutoff valves located at each end of the assembly and fitted with properly located test cocks. (1823)
- (C) Approved "Double Check Detector" assembly, which shall mean a mainline double check valve assembly as defined in Section 8-1-5(B) with a bypass consisting of an approved double check valve assembly, City-approved meter, and shutoff valves. This assembly is used on fire systems to protect against back flow and detect unauthorized water consumption. (1823)
- (D) In certain cases an "Air-Gap Separation" may be used in lieu of an RP. Air-gap separation shall mean a physical separation between the free flowing discharge of a potable water supply and an open or nonpressure-receiving vessel. The separation shall be at least double the diameter of the supply pipe measured directly above the rim of the vessel. Requests for an air-gap separation will be considered on a case-by-case basis, and approval by the Department shall be in writing. (1823)
- (E) Approved "Detector Check Assembly," which shall mean a M.A.G.-approved check valve and Department-approved bypass meter. All requirements of Section 8-1-4 shall pertain to this assembly. (1823)

8-1-6: PREMISES REQUIRING APPROVED BACK FLOW PREVENTIVE DEVICES:

An approved back flow preventive device of the type specified in this Subsection shall be the standard installation of each service connection (whether from a fire hydrant or temporary, regular, or other water service connection) to the following type of premises or systems: (1823)

- (A) Aircraft and missile plants - RP. (1823)
- (B) Automotive plants - RP. (1823)
- (C) Auxiliary water systems (interconnected) - RP (does not include Maricopa County Health Department approved-municipal and private water systems). (1823)
- (D) Auxiliary water systems (not interconnected) - DC (does not include Maricopa County Health Department-approved municipal and private water systems). (1823)
- (E) Beverage bottling plants - DC. (1823)
- (F) Breweries - RP. (1823)

- (G) Buildings greater than three (3) stories or greater than thirty-four feet (34') in height from curb level - DC. (1823)
- (H) Buildings with house pumps and/or potable water storage tank - DC. (1823)
- (I) Buildings with sewage ejectors (inadequate on-site protection) - RP. (1823)
- (J) Buildings with sewage ejectors (adequate on-site protection) - DC. (1823)
- (K) Canneries, packing houses, and reduction plants - RP. (1823)
- (L) Car wash with water reclamation system - RP. (1823)
- (M) Centralized heating and air conditioning plants - RP. (1823)
- (N) Chemical plants - RP. (1823)
- (O) Chemically treated potable (or nonpotable) water systems - RP. (1823)
- (P) Civil works - RP. (1823)
- (Q) Commercial laundries - DC. (1823)
- (R) Dairies and cold storage plants - DC. (1823)
- (S) Dye works - RP. (1823)
- (T) Film processing laboratories - RP. (1823)
- (U) Food processing plants - DC. (1823)
- (V) High schools and colleges - DC. (1823)
- (W) Holding tank disposal stations - RP. (1823)
- (X) Hospitals (major complexes) and mortuaries - RP. (1823)
- (Y) Medical and dental buildings, sanitariums, and rest and convalescent homes - DC. (1823)
- (Z) Irrigations systems (premises having separate systems - such as parks, playgrounds, cemeteries, golf courses, schools, estates, ranches, etc.) - RP. (1823)
- (AA) Laboratories using toxic materials - RP. (1823)
- (BB) Manufacturing, processing, and fabricating plants using toxic materials - RP. (1823)
- (CC) Manufacturing, processing, and fabricating plants using nontoxic materials - RP. (1823)
- (DD) Motion picture studios - RP. (1823)
- (EE) Oil and gas production facilities - RP. (1823)
- (FF) Paper and paper production plants - RP. (1823)
- (GG) Plating plants - RP. (1823)

- (HH) Radioactive materials processing facilities - RP. (1823)
- (II) Restricted, classified, or other closed facilities - RP. (1823)
- (JJ) Rubber plants - RP. (1823)
- (KK) Sand and gravel plants - RP. (1823)
- (LL) Sewage and storm drainage facilities - RP. (1823)
- (MM) Any premises where a cross connection is maintained - RP. (1823)
- (NN) Water trucks, hydraulic sewer cleaning equipment - RP or Air-Gap. (1823)
- (OO) Any premises where water supplied by the City is subject to deterioration in sanitary quality and its entry into the public water system is permitted. (1823)

8-1-7: FIRE SYSTEMS:

Fire systems shall have the following devices: (1823)

- (A) Fire Systems - DC. If the potential for unauthorized water usage exists, a double check detector assembly will be installed in place of a DC. (1823)
- (B) Fire systems with pump and/or storage tank - RP. (1823)
- (C) Fire Systems With Auxiliary Supply-RP. When the potential for unauthorized water usage exists in the systems require an RP. If the potential for unauthorized water usage exists in the systems require a double check detector assembly in addition to an RP (M.A.G **THIS PAGE INTENTIONALLY LEFT BLANK**)

8-1-8: DISCONTINUANCE OF WATER SERVICE:

Service of water to any premises may be discontinued by the Department if it is found that a back flow preventive device has been removed or bypassed or if unprotected cross connections exist on the premises; services will not be restored until such conditions or defects are corrected. (1823)

8-1-9: DEPARTMENT MODIFICATION:

In those instances where conditions warrant, the Department may modify the standard installation herein indicated as appropriate to provide a degree of protection commensurate with the degree of hazard. (1823)

8-1-10: INFORMATION REQUESTS:

Upon request, the Department will provide interested parties with copies of rules and regulations for the testing and maintenance of devices and such other advice, information, illustrative sketches, drawings, and data as may be necessary to familiarize the customers, engineers, architects, and others with Department requirements. (1823)

8-1-11: STANDARDS TO BE MET:

If the Department determines that a customer's back flow preventive device does not meet current standards, the customer shall upgrade his device so that it will meet current standards. (1823)

8-1-12: EXISTING CUSTOMERS:

Customers that have water service prior to the effective date of this Chapter are subject to all requirements imposed by this Chapter if the Department determines the degree of hazard requires a device be installed. (1823)