CHAPTER 5

MESA PLUMBING CODE

(2119,2185,2466,2506,3072,3766,4579,4638,4790,5055)

4-5-1: INTERNATIONAL PLUMBING CODE ADOPTED (4246, 4638, 4790, 5055)
4-5-2: POTABLE WATER USE RESTRICTIONS (4246,4638)
4-5-3: PENALTY CLAUSE (4246,4638)

4-5-1: INTERNATIONAL PLUMBING CODE ADOPTED: (4246, 4638, 5055)

That certain document known as the International Plumbing Code, which has been published as a Code in book form by the International Code Council and entitled International Plumbing Code, 2006 Edition, together with the following appendices thereto: (4246,4638)

Appendix E - Sizing of Water Piping System; (4246)

Appendix F - Structural Safety; (4246)

are hereby referred to, adopted, and made a part hereof as if fully set forth in this Section, with the following changes and amendments to said Code: (4246,4638)

(A) Section 101.1 is amended to read as follows: (4246)

101.1 Title. These regulations shall be known as the "Mesa Plumbing Code," may be cited as such, and will be referred to herein as "this Chapter." For administration of this Chapter, refer to Title 4, Chapter 1, Mesa Administrative Code. (4246)

(B) Omitted. (4246,4790)

(C) Sections 101.3 through 109.7 inclusive are deleted in their entirety. (4246)

(D) Section 202, General Definitions is amended by adding a new definition as follows:

Service Sink: a general purpose sink intended to be used for facilitating the cleaning of a building and used exclusively for janitorial purposes (not a kitchen sink or lavatory). (4638)

(E) At the end of Section 305 Protection of Pipes and Plumbing System Components add a new subsection 305.10 to read as follows: (4579,4638)

305.10 Detectible Underground Locator Device. Underground nonmetallic water and irrigation system piping larger than two (2) inches in diameter shall be installed with insulated copper tracer wire or other approved conductor located adjacent to the piping. Access shall be provided to the tracer wire or the tracer wire shall terminate above ground at each end of the nonmetallic piping. The tracer wire size shall be not less than 18 AWG and the insulation type shall be suitable for direct burial. (4579)
(F)  Section 313 Equipment Efficiencies is hereby adopted in its entirety. (4246, 4638, 5055)

(G)  Modify Table 403.1 minimum number of required plumbing fixtures by deleting "1 Service Sink" from the "Other" column for use groups B and M. (4579,4638)

(H)  Section 403.2 Separate Facilities is amended to read as follows:

403.2 Separate Facilities. Where plumbing fixtures are required, separate facilities shall be provided for each sex. (4638)

EXCEPTIONS:

1. Separate facilities shall not be required for dwelling units and sleeping units. (4638)

2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 20 or less. (4638)

3. Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is 50 or less. (4638)

4. Separate facilities shall not be required in F and S occupancies with 20 or less identified work stations. (4638)

(I)  At the end of Section 410.1 insert the following: (4579,4638)

EXCEPTION: Bottle water dispensers may be substituted for drinking fountains in buildings and tenant spaces with a total occupant load, including employees and customers, of 20 or less. (4579,4638)

(J)  Section 604.4 shall be amended to read as follows: (4246,4638)

604.4 Maximum Flow and Water Consumption. The maximum water consumption flow rates and quantities for all plumbing fixtures and fixture fittings shall be in accordance with Arizona Revised Statutes, Title 45, Chapter 1, Article 12. (4246)

(K)  Table 608.1 Application of Backflow Preventers is amended to read according to the table on the following page. (4246,4638)
### TABLE 608.1
APPLICATION OF BACKFLOW PREVENTERS

<table>
<thead>
<tr>
<th>DEVICE STANDARDS</th>
<th>DEGREE OF HAZARD</th>
<th>APPLICATION</th>
<th>APPLICABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Gap</td>
<td>High or Low Hazard</td>
<td>Backsiphonage or Backpressure</td>
<td>ASME A112.1.2</td>
</tr>
<tr>
<td>Air Gap Fittings for Use with Plumbing Fixtures, Appliances, and Appurtenances</td>
<td>High or Low Hazard</td>
<td>Backsiphonage or Backpressure</td>
<td>ASME A112.1.3</td>
</tr>
<tr>
<td>Antisiphon-Type Fill Valves for Gravity Water Closet Flush Tanks</td>
<td>High Hazard</td>
<td>Backsiphonage Only</td>
<td>ASSE1002, CSA-B125</td>
</tr>
<tr>
<td>Barometric Loop</td>
<td>High or Low Hazard</td>
<td>Backsiphonage Only</td>
<td>(See Section 608.13.4)</td>
</tr>
<tr>
<td>Reduced-Pressure Principle Backflow Preventer</td>
<td>High or Low Hazard</td>
<td>Backpressure or Backsiphonage Sizes 3/8&quot; - 16&quot;</td>
<td>ASSE 1013, AWWA C511, CSA B64.4, CSA B64.4.1</td>
</tr>
<tr>
<td>Double-Check Backflow Prevention Assembly</td>
<td>Low Hazard</td>
<td>Backpressure or Backsiphonage Sizes 3/8&quot; - 16&quot;</td>
<td>ASSE 1015, CSA B64.5.1, AWWA C510, CSA B64.5</td>
</tr>
<tr>
<td>Double-Check Valve-Type Backflow Preventer</td>
<td>Low Hazard</td>
<td>Backpressure or Backsiphonage Sizes 1/4&quot; - 1&quot;</td>
<td>ASSE 1024, CSA B64.6</td>
</tr>
<tr>
<td>Backflow Preventer with Intermediate Atmospheric Vents</td>
<td>Low Hazard</td>
<td>Backpressure or Backsiphonage Sizes 1/4&quot; - 3/4&quot;</td>
<td>ASSE 1012, CSA-B64.3</td>
</tr>
<tr>
<td>Backflow Preventer for Carbonated Beverage Machines</td>
<td>Low Hazard</td>
<td>Backpressure or Backsiphonage Sizes 1/4&quot; - 3/8&quot;</td>
<td>ASSE 1022, CSA B64.3.1</td>
</tr>
<tr>
<td>Pipe-Applied Atmospheric-Type Vacuum Breaker</td>
<td>High or Low Hazard</td>
<td>Backsiphonage Only Sizes 1/4&quot; - 4&quot;</td>
<td>ASSE 1001, CSA B64.1.1</td>
</tr>
<tr>
<td>Pressure Vacuum Breaker Assembly</td>
<td>High or Low Hazard</td>
<td>Backsiphonage Only Sizes 1/2&quot; - 2&quot;</td>
<td>ASSE 1020, CSA</td>
</tr>
<tr>
<td>Hose-Connection Vacuum Breaker</td>
<td>High or Low Hazard</td>
<td>Low-Head Backpressure or Backsiphonage Sizes 1/2&quot;, 3/4&quot;, 1&quot;</td>
<td>ASSE 1011, B64.2.1, CSA-B64.2</td>
</tr>
<tr>
<td>Vacuum Breaker Wall Hydrants, Frost-Resistant, Automatic Draining Type</td>
<td>High or Low Hazard</td>
<td>Low-Head Backpressure or Backsiphonage Sizes 3/4&quot;, 1&quot;</td>
<td>ASSE 1019, CSA-B64.2.2</td>
</tr>
<tr>
<td>Laboratory Faucet Backflow Preventer</td>
<td>High or Low Hazard</td>
<td>Low-Head Backpressure and Backsiphonage</td>
<td>ASSE 1035, CSA B64.7</td>
</tr>
<tr>
<td>Hose Connection Backflow Preventer</td>
<td>High or Low Hazard</td>
<td>Low-Head Backpressure, Rated Working-Pressure Backpressure, or Backsiphonage Sizes 1/2&quot; - 1&quot;</td>
<td>ASSE 1052, CSA B64.2.1.1</td>
</tr>
<tr>
<td>Spillproof Vacuum Breaker</td>
<td>High or Low Hazard</td>
<td>Backsiphonage Only Sizes 1/4&quot; - 2&quot;</td>
<td>ASSE 1056</td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm.

a. Low Hazard - See Pollution (Section 202). High Hazard - See Contamination (Section 202).
b. See Backpressure (Section 202). See Backpressure, Low Head (Section 202). See Backsiphonage. (Section 202).

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(L) Section 608.16 Connections to the Potable Water System. Is amended to read as follows:

608.16 Connections to the Potable Water System. Connections to the potable water system shall conform to sections 608.16.1 through 608.16.11. (4638)
Section 608.16.4 Connections to Automatic Fire Sprinkler Systems and Standpipe Systems is amended to read as follows: (4246,4638)

608.16.4 Connections to Automatic Fire Sprinkler Systems and Standpipe Systems. The potable water supply to automatic fire sprinkler and standpipe systems shall be protected against backflow, in accordance with City of Mesa Standard Details. (4246,4638)

EXCEPTIONS:

1. Where the systems are installed as a portion of the water distribution system in accordance with the requirements of this Code and are not provided with a Fire Department connection, isolation of the water supply system shall not be required. (4246)

2. Isolation of the water distribution system is not required for deluge, preaction, or dry pipe systems. (4246)

At the end of section 608.16 Connections to the Potable Water System, add a new section 608.16.11 and subsection 608.16.11.1 to read as follows:

608.16.11 Pure Water Process Systems. The water supply to a pure water process system (such as dialysis water systems, semiconductor washing systems and similar process piping systems) shall be protected from back-pressure and back-siphonage by a reduced-pressure principle backflow preventer. (4638)

608.16.11.1 Dialysis Water Systems. The individual connections of the dialysis related equipment to the dialysis pure water system shall not require additional backflow protection where backflow or back-siphonage protection is integral with the dialysis equipment. (4638)

Section 701.2 sewer required is amended to read as follows:

701.2 Sewer Required. Every building in which plumbing fixtures are installed and all premises having drainage piping shall be connected to a public sewer. The public sewer may be considered as not being available only when so determined by the Maricopa County Environmental Services Department (MCESD), by authority granted by delegation from the Arizona Department of Environmental Quality (ADEQ) as stated in the Arizona Administrative Code R18-9-A309. (4246,4638)

At the end of Section 701 General add a new Subsection 701.10 to read as follows: (4579,4638)

701.10 Detectible Underground Locator Device. Underground nonmetallic sanitary drainage piping larger than two (2) inches in diameter shall be installed with insulated copper tracer wire or other approved conductor located adjacent to the piping. Access shall be provided to the tracer wire or the tracer wire shall terminate above ground at each end of the nonmetallic piping. The tracer wire size shall be not less than 18 AWG and the insulation type shall be suitable for direct burial. (4579)

Section 1002.4 Trap Seals is amended to read as follows:

Each fixture trap shall have a liquid seal of not less than 2 inches (51 mm) and not more than 4 inches (102 mm), or deeper for special designs relating to accessible fixtures. Where a trap seal is subject to loss by evaporation, a trap seal primer valve shall be installed. A trap seal primer valve shall conform to ASSE 1018 or ASSE 1044 and shall be provided with an air gap per Section 608.15.1. (4638)

Chapter 13 Referenced Standards is amended by replacing IECC-06 with IECC-09 (5055)
4-5-2: POTABLE WATER USE RESTRICTIONS: (4246)

(A) Purpose and Intent. The City Council of the City of Mesa has determined that it is in the best interests of the City to promote water conservation and the City has adopted a policy of water conservation. In furtherance of this policy, the City Council has determined that the further filling of artificial lakes with potable water within the water service area of the City is contrary to the water conservation policy and hinders water conservation. The City Council has also determined that further landscape watering with potable water at turf-related facilities within the water service area of the City is contrary to the City policy and hinders water conservation. For these reasons the City Council has determined that the immediate imposition of certain restrictions on the filling of artificial lakes and on landscape watering at turf-related facilities within the water service area of the City is a matter of public need and necessity. (4246)

(B) Definitions. For purposes of this Section: (4246)

ARTIFICIAL LAKE: A man-made lake, pond, lagoon, or other body of water that has a surface area greater than twelve thousand three hundred twenty (12,320) square feet and that is used wholly or partly for landscape, scenic, or recreational purposes. Artificial lake does not include a man-made lake used for groundwater recharge pursuant to Title 45, Chapter 2, Article 13, Arizona Revised Statutes. For purposes of this Section, two (2) or more lakes that are connected or that are designed to function as a unit shall be considered to be one (1) lake. (4246)

TURF-RELATED FACILITY: A facility that applies water to ten (10) or more acres of landscaping. Turf-related facility includes, but is not limited to, golf courses, parks and recreational facilities, school grounds, and cemeteries. (4246)

(C) Permit Required. It shall be unlawful for any person or entity to fill an artificial lake or to apply water for landscaping watering purposes on a turf-related facility without first obtaining a permit from the City Council required by this Section. (4246)

1. Application. Any person or entity desiring to fill an artificial lake and any person or entity desiring to apply water for landscape watering purposes on a turf-related facility within the water service area of the City as defined in Arizona Revised Statutes 45-402(26) shall, before filling the lake or before applying the water, make application to the City Council through its Development Services Administration for a permit. (4246)

2. Issuance of Permit. The City Council may schedule a hearing on the application for a permit for filling of an artificial lake or for applying water for landscape watering purposes on a turf-related facility at any regular or special meeting of the City Council. The City Council may issue a permit for the filling of an artificial lake or for applying water for landscape watering purposes on a turf-related facility if it is satisfied that all of the following conditions are met: (4246)

(a) The lake or turf-related facility is to be filled exclusively with any one (1) or a combination of the following: (4246)

(i) Effluent; (4246)
(ii) Storm water runoff that is not subject to appropriation under 45-131, Arizona Revised Statutes; (4246)

(iii) Water withdrawn pursuant to a poor quality permit issued pursuant to 45-516, Arizona Revised Statutes; (4246)

(iv) Groundwater withdrawn pursuant to a Type 1 or Type 2 Non-Irrigation Certificate of Grandfathered Right issued by the Arizona Department of Water Resources; (4246)

(v) Interim C.A.P. subcontract water. (4246)

(b) Measures will be taken to minimize evaporation loss of water from the lake by minimizing the surface area or from a turf-related facility by utilizing low-water-consuming turf and plants. (4246)

(c) The lake, when full, shall contain no less than five (5) acre feet of water per acre of surface area with an average depth of five feet (5'). (4246)

(d) The development or facility in which the lake or the turf-related facility is located will implement an effective indoor and outdoor water conservation program. (4246)

3. Temporary Permit. The City Council may issue a permit to fill an artificial lake with any water described in subparagraph 4-5-2(C)2(a)(iv) of this Section or allow the application of water described in subparagraphs 4-5-2(C)2(a)(iv) and (v) of this Section, for the period of no longer than three (3) years, and only if it is satisfied that sufficient water described in subparagraphs 4-5-2(C)2(1), (2), or (3) above is not available to fill the lake or to apply at a turf-related facility, but will be available no later than three (3) years from the date the permit is issued. The City Council shall determine the duration of the permit on the basis of the estimated time until sufficient water described in subparagraphs 4-5-2(C)2(1), (2) or (3) above will be available. (4246,4638)

4. Monitoring Use of Water. The Development Services Administration shall monitor the use of water by appropriate metering, pursuant to any permit issued under this Section, and the City Council shall terminate the permit upon making a finding that any of the conditions for issuance of the permit no longer applies. (4246)

5. Exceptions. This Section shall not apply to a lake that has been filled or a turf-related facility in existence prior to the effective date of this Section* or to a lake or turf-related facility on which the physical on-site construction has begun prior to the effective date of this Section* or when extensive irrigation designs or plans have been prepared prior to the effective date of this Section*. (4246)

(D) Use of Effluent. Where an existing artificial lake is filled with water from the Municipal water supply or an existing turf-related facility is supplied with water from the Municipal water supply or other water source, the City may supply effluent. The quality of the effluent must meet current health standards for full-body contact from the City wastewater treatment plant by a special contract for filling said lake or for use on said turf-related facility. The City shall not charge more for the effluent than the current cost of the present water source, with credit or payment for the value of the source exchanged with the City. (4246)

(E) Variance. The City Council may, in its discretion, grant a variance from the permit requirements of this Section whenever, in its judgment, compliance with such requirement or regulation for a permit is not in the best interest of the City. (4246)

4-5-3: PENALTY CLAUSE: (4246,4638)

Any person, firm, or corporation who shall violate any of the provisions of this Chapter of the Mesa City Code as amended shall be subject to all penalties and provisions of Section 4-1-9. (4246,4638)

* Ordinance 4246 was adopted on August 16, 2004, with an effective date of September 18, 2004.