

ORDINANCE NO. \_\_\_\_\_

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF MESA, MARICOPA COUNTY, ARIZONA, RELATING TO PUBLIC HEALTH AND SAFETY, REPEALING TITLE 4, BUILDING REGULATION, CHAPTER 5, MESA PLUMBING CODE, SECTION 1 INTERNATIONAL PLUMBING CODE ADOPTED AND SECTION 2 PENALTY CLAUSE OF THE MESA CITY CODE; ADOPTING THE 2018 INTERNATIONAL PLUMBING CODE BY REFERENCE; ADOPTING AMENDMENTS TO CERTAIN PROVISIONS IN THE 2018 INTERNATIONAL PLUMBING CODE; ADDING A NEW TITLE 4, CHAPTER 5, SECTION 1 MESA PLUMBING CODE AND 2 PENALTY CLAUSE; AND AN EFFECTIVE DATE OF FEBRUARY 10, 2019.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF MESA, MARICOPA COUNTY, ARIZONA as follows:

**Section One.**        **REPEAL.**

That Title 4, Chapter 5, Section 1, Section 2 and Section 3 as amended, of the Mesa City Code is repealed.

**Section Two.**        **ADOPTION BY REFERENCE.**

**SECTION 4-5-1.**        That Title 4, Chapter 5, Section 1 of the Mesa City Code shall now read as follows:

The following publications are hereby adopted by reference as if set out at length in this Code, three copies of which shall be filed in the office of the City Clerk and Kept available for public use and inspection:

Appendix C – Structural Safety  
Appendix E – Sizing of Water Piping System

**Section Three.**        **AMENDMENTS TO THE 2018 INTERNATIONAL PLUMBING CODE.**

That Title 4, Chapter 5, Section 2 of the Mesa City Code shall now read as follows:

Note: Underlined indicates proposed addition and ~~Strikethrough~~ indicates deletions to the text.

(A) **CHAPTER 1 ADMINISTRATION**

(1) **Section 101.1 of the 2018 International Plumbing Code is amended to read, in its entirety, as follows:**

**101.1 Title.** These regulations shall be known as the ~~Plumbing Code of [NAME OF JURISDICTION]~~ *Mesa Plumbing Code*, hereinafter referred to as “this code.”

(2) **Section 101.3 through 110.4 inclusive are deleted in their entirety.**

(B) **CHAPTER 2 DEFINITIONS**

(1) **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 solely for janitorial purposes (not a kitchen sink or lavatory).

(C) **CHAPTER 3 General Regulations**

(1) **Section 305 Protection of Pipes and Plumbing System Components** is amended by adding a new subsection.

305.8 Detectable 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 not be less than 18 awg and the insulation type shall be suitable for direct burial.

(D) **CHAPTER 4 FIXTURES, FAUCETS AND FIXTURE FITTINGS** is amended as follows:

(1) **Table 403.1 Minimum Number of Required Plumbing Fixtures** is amended by deleting “1 Service Sink” from the “Other” column for use groups B and M.

TABLE 403.1  
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES<sup>a</sup>  
(See Sections 403.1.1 and 403.2)

NO.	CLASSIFICATION	DESCRIPTION	WATER CLOSETS		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN	OTHER
			MALE	FEMALE	MALE	FEMALE			
2	Business	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings banks light industrial and similar uses	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50		1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80		—	1 per 100	+ Service Sink <sup>e</sup>

6	Mercantile	Retail stores, service stations, shops, salesrooms, markets and shopping centers	1 per 500	1 per 750	—	1 per 1,000	1 Service Sink <sup>a</sup>
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(portions of table not shown do not change)

(2) **Section 410.2 Small Occupancies.** Drinking fountains shall not be required for an occupant load of ~~15~~ 20 or fewer.

(E) **CHAPTER 6 WATER SUPPLY AND DISTRIBUTION** is amended to read as follows and Table 604.4 has been deleted.

(1) **Section 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 ~~Table 604.4~~ Arizona Revised Statutes, Title 45, Chapter 1, Article 12.

**Exceptions:**

1. ~~Blowout design water closets [3.5 gallons (13 L) per flushing cycle].~~
2. ~~Vegetable sprays.~~
3. ~~Clinical sinks [4.5 gallons (17 L) per flushing cycle].~~
4. ~~Service sinks.~~
5. ~~Emergency showers.~~

**~~TABLE 604.4~~**  
**~~MAXIMUM FLOW RATES AND CONSUMPTION FOR~~**  
**~~PLUMBING FIXTURES AND FIXTURE FITTING~~**

<b><del>PLUMBING FIXTURE OR FIXTURE FITTING</del></b>	<b><del>MAXIMUM FLOW RATE OR QUANTITY</del></b>
<del>Lavatory, private</del>	<del>2.2 gpm at 60 psi</del>
<del>Lavatory, public, (metering)</del>	<del>0.25 gallon per metering cycle</del>
<del>Lavatory, public (other than metering)</del>	<del>0.5 gpm at 60 psi</del>
<del>Shower head<sup>a</sup></del>	<del>2.5 gpm at 80 psi</del>
<del>Sink faucet</del>	<del>2.2 gpm at 60 psi</del>
<del>Urinal</del>	<del>1.0 gallon per flushing cycle</del>
<del>Water closet</del>	<del>1.6 gallons per flushing cycle</del>

For SI: 1 gallon = 3.785 L, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.

a. A hand-held shower spray is a shower head.

b. Consumption tolerances shall be determined from referenced standards.

Table 608.1 **Application of Backflow Preventers** is amended to read as follows:

**Table 608.1**  
**APPLICATION OF BACKFLOW PREVENTERS**

<b>DEVICE</b>	<b>DEGREE OF HAZARD<sup>a</sup></b>	<b>APPLICATION</b>	<b>APPLICABLE STANDARDS</b>
<b>Backflow prevention assemblies:</b>			
Double check backflow prevention assembly <del>and double check fire protection</del>	Low Hazard	Backpressure or backsiphonage	ASSE 1015, AWWA C510, CSA B64.5, CSA B64.5.1

<del>backflow prevention assembly</del>		Sizes 3/8" - 16"	
<del>Double check detector fire protection backflow prevention assemblies</del>	Low hazard	<del>Backpressure or backsiphonage</del> Sizes 2" - 16"	ASSE 1048
Pressure vacuum breaker assembly	High or low hazard	Backsiphonage only Sizes 1/2" – 2;	ASSE 1020, CSA B64.1.2
Reduced pressure principle backflow prevention assembly <del>and reduced pressure principle fire protection backflow assembly</del>	High or low hazard	Backpressure or backsiphonage  Sizes 3/8"- 16"	ASSE 1013, AWWA C511, CSA B64.4, CSA B64.4.1
<del>Reduced pressure detector fire protection backflow prevention assemblies</del>	High or low hazard	<del>Backsiphonage or backpressure (Fire sprinkler systems)</del>	ASSE 1047
Spill-resistant vacuum breaker	High or low hazard	Backsiphonage only Sizes 1/4" – 2"	ASSE 1056 CSA B64.1.3
<b>Backflow preventer plumbing devices:</b>			
Antisiphon-type fill valves for gravity water closet flush tanks	High hazard	Backsiphonage only	ASSE 1002/ASME A112.1002/CSA B125.12, CSA B125.3
Backflow preventer for carbonated beverage machines	Low hazard	Backpressure or backsiphonage  Sizes 1/4" – 3/8"	ASSE 1022
Backflow preventer with intermediate atmospheric vents	Low hazard	Backpressure or backsiphonage  Sizes 1/4" – 3/4"	ASSE 1012, CSA B64.3
Dual-check-valve-type backflow preventer	Low hazard	Backpressure or backsiphonage  Sizes 1/4" – 1"	ASSE 1024, CSA B64.3
Hose connection backflow preventer	High or low hazard	Low head backpressure rated working pressure, backpressure or backsiphonage Sizes 1/2" - 1"	ASME A112.21.3, ASSE 1052, CSA B64.2.1.1
Hose connection vacuum breaker	High or low hazard	Low head backpressure or backsiphonage Sizes 1/2", 3/4", 1"	ASME A112.21.3, ASSE 1011, CSA B64.2, CSA B64.2.1
Laboratory faucet backflow preventer	High or low hazard	Low head backpressure and backsiphonage	ASSE 1035, CSA B64.7
Pipe-applied atmospheric-type vacuum breaker	High or low hazard	Backsiphonage only Sizes 1/4" – 4"	ASSE 1001, CSA B64.1.1
Vacuum breaker wall hydrants, frost-resistant, automatic-draining-type	High or low hazard	Low head backpressure or backsiphonage Sizes 3/4", 1"	ASME A112.21.3, ASSE 1019, CSA B64.2.2
<b>Other means or methods:</b>			
Air gap	High or low hazard	Backsiphonage or backpressure	ASME A112.1.2
Air gap fittings for use with plumbing fixtures, appliances and appurtenances	High or low hazard	Backsiphonage or backpressure	ASME A112.1.3
Barometric loop	High or low hazard	Backsiphonage only	(See Section 608.134.4

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).

**(2) Section 608.17 Connections to the potable water system** is amended to read:

Connections to the potable water system shall conform to Sections 608.17.1 through 608.17.40 11.  
And a new subsection, 608.17.11 and 608.17.11.1 has been added.

**(3) Section 608.17.4 Connections to automatic fire sprinkler systems and standpipe systems** is amended to read as follows:

The potable water supply to automatic fire sprinkler and standpipe systems shall be protected against backflow, ~~by a double check backflow prevention assembly, a double check fire protection backflow prevention assembly or a reduced pressure principle fire protection backflow prevention assembly.~~ in accordance with City of Mesa Standard Details.

**Exceptions:**

1. Where 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.
2. Isolation of the water distribution system is not required for deluge, preaction or dry pipe systems.

**(4) 608.17.11 Pure water process systems.** 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.

**(5) 608.17.11.1 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.

**(F) CHAPTER 7 SANITARY DRAINAGE** is amended by adding new verbiage at the end of 701.2 and adding a new sub-section, 701.8 Detectable Underground Locator Device to read as follows:

**(1) Section 701.2 Connection to sewer required.** Sanitary drainage piping from plumbing fixtures in buildings and sanitary drainage piping systems from premises shall be connected to a public sewer. Where a public sewer is not available, the sanitary drainage piping and systems shall be connected to a private sewage disposal system in compliance with state or local requirements. Where state or local requirements do not exist for private sewage disposal systems, the sanitary drainage piping and systems shall be connected to an approved private sewage disposal system that is in accordance with the International Private Sewage Disposal Code. 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.

**Exception:** Sanitary drainage piping and systems that convey only the discharge from bathtubs, showers, lavatories, clothes washers and laundry trays shall not be required to connect to a public sewer or to a private sewage disposal system provided that the piping or systems are connected to a system in accordance with Chapter 13 or 14.

- (2) **Section 701.8 Detectable 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 will 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 not be less than 18 awg and the insulation type shall be suitable for direct burial.

(G) **CHAPTER 10 TRAPS, INTERCEPTORS AND SEPARATORS** is amended as follows:

- (1) **Section 1002.4 Trap Seals.** 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 608.16.1.

**SECTION 4-5-2 POTABLE WATER USE RESTRICTIONS:**

- (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.

- (B) **Definitions.** For purposes of this section:

1. 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.

2. 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.

- (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 as required by this section.

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.

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

(1) effluent;

(2) storm water runoff that is not subject to appropriation under 45-131, Arizona revised statutes;

(3) water withdrawn pursuant to a poor-quality permit issued pursuant to 45-516, Arizona Revised Statutes;

(4) groundwater withdrawn pursuant to a type 1 or type 2 non-irrigation certificate of grandfathered right issued by Arizona Department of Water Resources;

(5) interim C.A.P. subcontract water.

(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.

(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').

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

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)(4) of this section or allow the application of water described in subparagraphs 4-5-2(c)2(a)(4) and (5) 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 will be available.

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.

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.

(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.

(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.

**SECTION 4-5-3. PENALTY CLAUSE:** 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.

PASSED AND ADOPTED by the City Council of the City of Mesa, Maricopa County, Arizona,  
this 7th day of January, 2019.

APPROVED:

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Mayor

ATTEST:

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City Clerk