

Ordinance 2018-34 2024-?? Exhibit E

Amendments to the:
2018 2024 International Plumbing Code

Chapter 1 Administration. DELETE chapter 1 with the exception of section 107. 111 (Deleted sections are administered by 2018 IBC, Chapter 1)

ADD new section 301.4.1 to read:

301.4.1 Individual metering in new multi-family residential units. The water supply to all new multi-family residential buildings shall be individually metered for each dwelling unit. The metering may be private or utility installed.

Section 305.4.1 Sewer depth. INSERT [number] as “12” in both locations.

Section 312.1 Required tests. REVISE section by DELETING the last two sentences of the first paragraph.

Section 314.2.1 Condensate disposal: REVISE section by ADDING the following at the end of the paragraph: Condensate disposal shall be allowed to terminate as follows:

1. At or below grade outside the building in an area capable of absorbing the condensate flow without surface drainage.
2. Over roof drains, gutters, or downspouts that connect to drainage pipes, provided they terminate at or above grade in an area capable of absorbing the condensate flow without surface drainage

Section 405.3.2 Public lavatories. REVISE section by adding an exception as follows: Gender neutral restroom configurations that consist of a continuous bank of single user rooms may share lavatories provided the quantity of lavatories is not reduced and the lavatories are located directly outside the single user rooms.

Section 410.4 Substitution. REVISE section by ADDING a second third sentence to read: When a single drinking fountain is required, it may be substituted with a point of use water cooler or dispenser.

ADD new section 412.11 412.13 to read:

412.11 412.13 Automatic faucets. New or replacement faucets serving lavatories in all buildings other than R3 occupancies or International Residential Code structures shall be provided with automatic faucets in accordance with section 419.6 Table 603

ADD new section 419.6 419.7 read:

419.6 419.7 Automatic faucets. Lavatories installed in all buildings other than R3 occupancies or International Residential Code structures shall be provided with automatic faucets dispensing a maximum of 0.25 gallon per metering cycle. Covered in Table 604.4 now

Section 423.3 Footbaths and pedicure baths. REVISE section by ADDING the following at the end of the paragraph:

Provide backflow prevention on both the cold and hot water supply to each individual bath.

For tub fill only, provide air gap of “3” times the diameter of each water inlet. Or reduced pressure principle backflow prevention assembly. Or pressure type vacuum breaker install not less than 12” above the flood rim of the bath.

Drainage from each bath shall terminate with an air gap at an indirect waste receptor that includes a floor sink

or washer standpipe. Gravity drains from tubs can be directly connected to the waste system through a trap and vent.

ADD new section 424.1.1 to read:

424.1.1 Waterless urinals. All urinals installed in new construction shall be of the waterless type. When a flushing urinal is replaced, every effort shall be made to replace it with a waterless unit.

Section 504.6 Requirements for discharge piping. REVISE section by DELETING item number 2 for areas at or less than 4000 feet elevation.

Section 504.7.1 Pan size and drain. REVISE section by ADDING the following at the end of the second sentence: “A drain shall not be required for replacement water heaters in locations where no previously installed drain is available.”

Section 604.3 Water distribution system design criteria. REVISE section **Table** by DELETING the last sentence and REPLACING it with the following:
~~The minimum flow rate for fixtures and appliances not listed in Table 604.3 shall be in accordance with the manufacturer’s installation instructions. The minimum flow pressure at the fixture or appliance shall be 15 psi or the flow pressure prescribed by the fixture or appliance manufacturer. The column titled “Flow Pressure (psi)” in its entirety.~~

Table 604.3 Water distribution system design criteria required capacity at fixture supply pipe outlets. REVISE table by DELETING the column titled “FLOW PRESSURE (psi)” in its entirety.

Section 604.4 Maximum flow and water consumption. DELETE the section and REPLACE with the following:
The maximum water consumption flow rates and quantities for all plumbing fixtures and fixture fittings shall be in accordance with Table 604.4 and such fixtures and fixture fittings shall be Environmental Protection Agency (EPA) WaterSense Certified fixtures or within the maximum flow or quantity required of WaterSense Certified fixtures, excluding fixture types that are not included under the WaterSense Program.
Exceptions:
1. Blowout design water closets having a water consumption not greater than 3 ½ gallons (13L) per flushing cycle.
2. Vegetable sprays.
3. Clinical sinks having a water consumption not greater than 4 ½ gallons (17L) per flushing cycle.
4. Service sinks.
5. Emergency showers.
6. Replacement of existing fixtures that do not require a permit.

Table 604.4 Maximum Flow Rates and Consumption for Plumbing Fixtures and Fixture Fittings. REVISE the table as follows:

Plumbing Fixture or Fixture Fitting	Maximum Flow Rate or Quantity (b)
Lavatory, private	1.5 gpm at 60 psi
Lavatory, public	0.25 gallon per metering cycle
Lavatory, public (other than metering)	0.5 gpm at 60 psi
Showerheads a, c	2.0 gpm at 80 psi
Sink faucet	1.8 gpm at 80 psi
Flushing Urinals	0.5 gallons/flush
Water Closet	1.28 gallons/flush

Section 608.17.4 Connections to automatic fire sprinkler systems and standpipe systems. REVISE section by DELETING all text therein and in subsection 608.17.4.1 and REPLACING it with the following:
The potable water supply to automatic fire sprinkler and standpipe systems shall be protected against backflow in accordance with ARS § 41-2168.

Section 609.6 Clinical, hydrotherapeutic and radiological equipment. REVISE section by ADDING a second sentence to read:
“If water is used for cooling or heat removal, it shall comply with the *International Mechanical Code*, amended section ~~930~~ **932.1**.”

Section 714.1 Sewage backflow. REVISE section by DELETING the paragraph and ADDING new text to read:
Where the finish floor elevation is less than 12 inches above the elevation of the next upstream manhole cover in the sewer, a backwater valve shall be installed in the building drain or branch of the building drain serving that floor. Floors discharging from above that reference point shall not discharge through the same back water valve.

Section ~~903.1~~ 903.1.1 Roof extension unprotected. INSERT [number] as “6” inches (for elevations at or less than 4000 ft) and “30” inches (for elevations greater than 4000 ft).

Section 1003.2 Approval. REVISE section by DELETING the last sentence and ADDING new text to read:
Wastes from drains serving the kitchen, such as condensate and hand sinks, shall discharge through the interceptor. Water closets and urinals and wastes that do not require treatment or separation and are not in the kitchen shall not be discharged into any interceptor or separator.

Section 1003.3 Grease interceptors. DELETE section and Table 1003.3.5.1 and REPLACE with the following:

Hydromechanical and gravity grease interceptors shall be designed and installed per Industrial Wastewater Ordinance by Pima County Regional Wastewater Reclamation Department Industrial Wastewater Control Section, Article XIV Grease Management Program

A Fixtures to be connected to a grease interceptor located within the kitchen area or subject to grease waste¹:

- pre-rinse and or pre-wash sinks;
- two or three compartment sinks;
- meat prep sink;
- wok stoves;
- self cleaning stove ventilation/exhaust hood;
- kitchen floor drains;
- floor sinks;
- mop sinks;
- food prep sinks;
- hand sinks²;
- dishwasher; and
- food waste disposal units³.

¹ Depending on use and context, the requirement for above listed fixtures to drain through an interceptor may be appealed to RWRD.

² A hand wash sink located in the kitchen area shall either discharge through a grease interceptor or have a sign posted above it stating: "HANDWASH SINK ONLY! NO FOOD PREPARATION OR DISHWASHING ALLOWED."

³Discharges from food waste disposal units must drain through a minimum 3/8 inch screen.

B1 Hydromechanical grease interceptors

Hydromechanical grease interceptors (HGI) **manufactured and designed per PDI G101**, which are generally installed inside, may be used when there are four (4) or fewer fixtures. The minimum size HGI to be installed shall be rated no smaller than 25 gallon per minute with a 50-pound grease capacity. Flow Control devices shall be designed and installed so that the total flow through such devices shall at no time be greater than the rated flow of the HGI.

Exception: dishwasher and food waste disposal units shall not drain through a hydromechanical grease interceptor.

B2 Hydromechanical grease interceptors meeting ASME A112.14.3.

Hydromechanical grease interceptors (HGI) **manufactured, designed, and certified to ASME A112.14.3** for grease production sizing and flow rate shall be installed per manufacturer's requirements.

C Grease interceptor sizing criteria

Gravity grease interceptor (GGI) shall be sized in accordance with table and formula below.

Drainage Fixture Units per table defined in Pima County Industrial Wastewater Ordinance 13.36.420 (C)	Minimum Size (gallons)
Up to 10 DFU	300
11-16 DFU	500
17-25 DFU	750
26-33 DFU	1,000
34-44 DFU	1250
45-66 DFU	1500
67-111 DFU	2000
Greater than 112 DFU	Contact Industrial Wastewater Control

$$V_{(\min)} = F \times R \times S$$

Where:

- $V_{(\min)}$ = Minimum Gravity Grease Interceptor Operating Volume, gallons
- F = Flow Rate (maximum), gallons per minute
- R = Retention Time = 30 minutes
- S = Storage Factor = 25%

$$\text{Thus: } V_{(\min)} = F \times 30 \times 1.25$$

The flow rate shall be determined based on the total flow rate from all equipment and plumbing fixtures connected to the gravity grease interceptor using one of the following equations:

- Drainage Fixture Units (DFU) **less than or equal to 40**: $F = (0.8 \times \text{DFU})$
- Drainage Fixture Units **greater than 40**: $F = (0.3 \times \text{DFU}) + 20$

Where: DFU = Drainage Fixture Units per Table 709.1

- The minimum retention time of 30 minutes is based on Wastewater Engineering, Treatment, Disposal and Reuse, Third Edition, Metcalf and Eddy, Inc., McGraw-Hill, Inc., page 1028.
- A minimum of **25%** storage is required for floatable fats, oil and grease and settled solids is required for gravity grease interceptors.
- The minimum sized GGI to be installed shall be 300 gallons.

Note: Providing additional interceptor capacity can reduce an interceptor's maintenance frequency. However, solid accumulation and low flows in an interceptor can, over an extended period of time, produce a corrosive environment which can damage the structural integrity of the interceptor. An oversized interceptor may also generate odor problems.

Gravity grease interceptors shall be designed and tested in accordance with IAPM/ANSI Z1001. GGIs shall be installed per manufacturer's instructions. Where manufacturer's instructions are not provided, GGIs shall be installed in compliance with ASME A112.14.6 and IAPMO/ANSI Z1001.

Grease interceptors shall have a minimum of two compartments and two man-ways. All man-ways shall have a minimum 20" inside diameter.

Grease interceptor discharge shall be vented in accordance with chapter 9, provided with cleanout in accordance with section 708, and directly connected to the sanitary drainage system.

Section 1101.3 Prohibited drainage. REVISE the section by ADDING the following at the end of the paragraph: Exception: Exterior fixtures, installed to prevent drainage outside the fixture or pan are acceptable.

Section 1302 On-site nonpotable water reuse systems . DELETE section and REPLACE with the following: Regulated under Arizona Administrative Code (A.A.C.) Title 18, Chapter 9.

Appendix B Rates of rainfall for various cities. REVISE appendix by ADDING "Tucson..... 3.0" under "Arizona".