Plumbing

2012 IPC & 2012 IRC

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### IPC Definition: Hydromechanical Grease Interceptor
- Plumbing appurtenances installed to intercept fats, oils, and greases by air entrapment, buoyancy, and interior baffling

### IPC Definition: Gravity Grease Interceptor
- Plumbing appurtenance not less than 500 gallons and separation of fats, oils, and greases by gravity during a retention time of less than 30 minutes

### IPC Definition: Plumbing Appliance
- Clarifies that a fixture is not an appliance. Examples of appliances include water heaters, hot water dispensers, garbage disposals, dishwashers, clothes washers, and water softeners

### IPC and IRC Definition: Plumbing Fixture
- Clarifies that a fixture is a receptacle or device that is connected to a water supply system or discharges to a drainage system or both
  - Examples:
    - water closets
    - bathtubs
### 303.4 and P2609 Third-party certification
- All plumbing products and materials shall be listed and labeled by third-party certification agency as complying with the referenced standards.

### 304.4 Openings for Pipes
- IPC removes requirement for metal collars. Adds "shall be sealed with caulking materials or gasketing systems compatible with the materials and locations"
- Removes requirement for fastening collars to structure

### 305.3 and P2603.4 Pipes Through Foundation Walls
- IPC and IRC delete requirements for a relieving arch or a pipe sleeve under a footing
- Breakage section deleted from IPC

### 312.2 and P2503.5.1 Drainage and Vent Air Test
- IPC and IRC add plastic piping shall not be tested using air

### 315.1 and P2501.1 Sealing of Annular Spaces
- Was in IPC and IRC sleeve sections. Adds caulking material shall be compatible with the pipe, sleeve, and building materials in contact with the sealing materials
Table 403.1 Minimum Number of Required Fixtures
- Business and mercantile occupancies service sink footnote “g”
- Occupant load of 15 or fewer shall not be required to have a service sink
- Virginia amendment to add footnote “h”

403.1.3 Marina Fixtures
- VUSBC amendment adds: Notwithstanding any provision to the contrary, plumbing fixtures shall be provided for marinas in the minimum number shown in Table 403.1.3.

Table 403.1.3 Minimum Number of Required Plumbing Fixtures for Marinas
- Separate facilities are not required where the number of slips is less than 25.
- Urinals may be substituted for up to 50% of water closets.

403.2 Separate Facilities
- Exception 3
- Separate facilities in mercantile occupancies are not required in which the maximum occupant load is 100 or fewer.

403.2.1 Family or Assisted - Use Toilet Serving as Separate Facilities
- New section allows 2-family/assisted – use toilet facilities to serve as separate facilities in a building where separate facilities are required to have one water closet for each sex.
403.3 Required Public Toilet Facilities

- Exception: Public facilities are not required in open or enclosed parking garages.
- Toilet facilities are not required in parking garages where there are no attendants.

403.3.2 Toilet Room Location

- IPC adds language from Building Code: toilet rooms shall not open directly into a room used for preparation of food service to the public.

403.3.3 Location of Toilet Facilities in Occupancies Other Than Malls

- Adds open so there is no distinction of just covered malls.
- VUSBC exception:
  - Some exceptions for cemeteries, provided certain conditions are met

403.3.4 Location of Toilet Facilities in Malls

- Adds open so there is no distinction between just covered malls

403.6 Door Locking

- New section adds where a toilet room is provided for the use of multiple occupants, the egress door for the room shall not be lockable from inside the room.
403.5 Drinking Fountain Location

- New section.
- Drinking fountains shall not be required in individual spaces provided public drinking fountains are located within 500 feet (300 feet in malls) of the most remote location in the tenant space and not more than one story above or below the tenant space. Drinking fountains shall be on an accessible route.

405.3.1 Water Closets, Urinals, Lavatories and Bidets

- Water closet compartments shall not be less than 60 inches in depth for floor-mounted water closets and 56 inches for wall-hung closets.

405.3.2 Public Lavatories

- VUSBC exception:
  In educational use occupancies, the required lavatory shall be permitted to be located adjacent to the room or space containing the water closet provided that not more than one operational door is between the water closet and the lavatory.

406.2 Automatic Clothes Waste Connection

- The fixture drain for a standpipe for an automatic clothes washer shall connect to a 3” fixture branch or stack.

407.2 and P2713.1 Bathtub Waste Outlets and Overflows

- IPC and IRC add:
  - Bathtubs shall have an overflow outlet and a water-tight stopper.

410.2 Minimum Number of Drinking Fountains

- IPC adds the requirements from the IBC to require a drinking fountain for wheelchair use and standing persons
410.3 Drinking Fountains Substitution
- Where restaurants provide drinking water in a container free of charge, drinking fountains shall not be required

410.4 Prohibited Locations (Drinking Fountains)
- In the IPC water coolers and bottled water dispensers are included with drinking fountains as being prohibited in public restrooms.

416.5 Tempered Water for Public Hand-Washing Facilities
- Group wash fixtures are added as needing tempered water

424.9 and P2722.5 Water Closet Personnel Hygiene Devices
- IPC and IRC add new section that requires conformance to the requirements of ASME A112.4.2

504.7 and P2801.5 Required Pan
- The IPC and IRC clarify that only storage tank type water heaters require a pan
P2801.6 Water Heaters Installed in Garages

- IRC exception: Elevation of the ignition source is not required for appliances that are listed as flammable vapor ignition – resistant

605.25 and P2905.19 Polyethylene of Raised Temperature Plastic

- The IPC and IRC add the new material for water service and water distribution piping

607.1.1 Temperature Limiting Means

- New section prohibits using the thermostat of a water heater serving as the temperature limiting means to comply with the maximum allowable hot or tempered water requirements

607.2 Hot or Tempered Water Supply to Fixtures

- The hot or tempered water developed length has been reduced from 100 feet to 50 feet where the water supply shall have a recirculating system or heat-traced piping

(E)607.5 Pipe Insulation

- The IPC details the International Energy Conservation Code requirements for automatic hot water temperature maintenance systems (circulated loop or heat traced).
- Not less than 1 inch thick pipe insulation
### 608.8 and P2901.1 Identification of Non-Potable Water
- Deletes *in buildings*.
- Identification of non-potable water required whether it is inside or outside

### 608.13.8 and P2902.3 Spill-Resistant Pressure Vacuum Breakers
- IPC and IRC change from spill-proof to spill-resistant and adds CSA B64.1.3 standard

### 608.14 Location of Backflow Preventers
- Editorial change to as specified by the manufacturer's instructions not approved manufacturer

### 608.16.6 Connections Subject to Back-Pressure
- Adds *high hazard* as the back-pressure that needs protection by a reduced pressure principle backflow preventer assembly

### 608.16.10 Coffees Machines and Noncarbonated Beverage Dispensers
- In addition to protection by ASSE 1022 or by an air gap, the VUSBC adds ASSE 1024
706.2 and P3002.3.1 Obstructions

- IPC and IRC add:
  - Tubular waste fittings used to convey vertical flow upstream of the trap seal liquid level of a fixture trap shall not be considered an obstruction.

Table 709.1 Drainage Fixture Units for Fixtures and Groups

- Footnote f has *in dwelling units* deleted.
- Additional fixtures to a bathroom group can have the drainage fixture value unit added to any bathroom group not just dwelling units.

712.3.3 and P30007.3.3 Sumps and Ejectors Discharge Pipe and Fittings

- The IPC and IRC add the materials suitable for pressurized sewage discharge.
- Brass, Copper, CPVC, Ductile Iron, PE or PVC.

712.3.3.2 and P3007.3.5 Ratings

- IPC and IRC add Pipe and fittings shall be rated for the maximum system operating pressure and temperature.

802.1.8 Food Utensils, Dishes, Pots and Pans Sinks

- The IPC deletes *directly connected* as an option for connecting food preparation sinks in commercial kitchens.
1003.3.4 Grease Interceptor and Automatic Grease Removal Devices

- The IPC in the exception does not require the PDI or ASME standards for interceptors with a volume not less than 500 gallons and are located outdoors.

802.2 Installation

- IPC increases from 24" to 30" horizontally or from 4 feet to 54 inches in total developed length the requirement for trapping indirect waste piping.

802.2 Installation-Exception

- Waste receptors receiving only clear water waste and not directly connected to a sanitary drainage system, shall not require a trap.

802.3 and P2706.1 Waste Receptors

- IPC and IRC add plenums, crawl spaces, interstitial spaces above ceilings and below floors as locations where waste receptors shall not be installed.

P2706.1 Waste Receptors Exception 2

- The IRC adds clothes washer standpipes shall not be prohibited in bathrooms.

901.3 Chemical Waste Vent Systems

- IPC adds shall terminate outdoors or to an air admittance valve that complies with ASSE 1049 tested for chemical resistance in accordance with ASTM F1412.
### 903.5 and P3103.5.1 Location of Vent Terminal
- IPC and IRC change from 2 feet to 3 feet of an opening from other openings unless above the top of such opening.

### 915 Combination Waste and Vent System
- Editorial change from Combination Drain and Vent

### 917 Single Stack System
- System where drainage stack and vertical drains are oversized to allow air for venting.

### 1003.1 Interceptors and Separators Where Required
- Changes from preventing discharges to the building drainage system to discharges to the public sewer.

### 1003.3.1 Grease Interceptors and Automatic Grease Removal Devices Required
- IPC adds one or more grease interceptors shall be permitted to be installed on or above the floor and upstream of an existing grease interceptor.

### 1107 Siphonic Roof Drainage Systems
- IPC adds this unconventional roof drainage system.
1108 Secondary Roof Drains
- IPC adds: Where roof drains are required.

Chapter 13 Non-Potable Water Systems
New chapter separates:
- Gray Water Systems
- Rainwater Water Systems
- Reclaimed Water Systems

Non-Potable Water Systems
- Water systems for collection, treatment, storage, distribution and reuse of non-potable water.
- Non-potable systems include reclaimed water, rainwater, and gray water systems.

Reclaimed Water Definition
- Water resulting from the treatment of domestic, municipal or industrial wastewater that is suitable for a water reuse that is suitable for a water reuse that would otherwise occur. “Gray water” is excluded from definition

Rainwater Definition
- Natural precipitation, including snow melt, from roof surfaces only.

Gray Water Definition
- Water discharged from lavatories, bathtubs, showers, clothes washers and laundry trays.
Definition: Non-Potable Fixtures and Outlets

Fixtures and outlets that are not dependent on potable water for the safe operation to perform their intended use. Such fixtures and may include, but not limited to:

- Water closets
- Urinals
- Irrigation
- Mechanical equipment
- Hose connections to perform operations such as vehicle washing and lawn maintenance

Definition: Storm Water

- Precipitation that is discharged across the land surface or through conveyances to one or more waterways and that may include storm water runoff, snow melt, runoff, and surface runoff and drainage.

IPC 301.3 - Exception

- Bathtubs, showers, lavatories, clothes washers and laundry trays shall not be required to discharge to the sanitary drainage systems where such fixtures discharge to an approved non potable gray water system in accordance with Chapter 13.

IPC 602.2.1 Non-Potable Fixtures and Outlets

- New section:
  - Non-potable water shall be permitted to serve non-potable type fixtures and outlets in accordance with Chapter 13.

IPC 1101.2 - Exception

- Rainwater non-potable water systems shall be permitted in accordance with Chapter 13.

ICC/A117.1-2009 Chapter 6 Plumbing Elements and Facilities- Drinking Fountains

- 602.2 Exceptions 3 & 4 have been deleted.
- In existing buildings, parallel approaches are not permitted to drinking fountains.
**ICC/A117.1-2009 Toilet and Bathing Rooms**

- 603.2.1 Turning Space adds the required turning space shall not be provided within a toilet compartment.

**ICC/ANSI -2009 Swing-Up Grab Bars**

- 604.5.3 Swing-up grab bars are deleted from this section.
- Swing-up grab bars are permitted as required only in Type B units.

**ICC/A117.1-2009 Urinals**

- 605.2 Height and depth adds dimensions for stall type urinals.
  - 13 ½ inches minimum in depth measured from the outer face of the urinal rim to the wall.

**ICC/A117.1-2009 Bathtubs**

**607.5 Controls.**

- Clarifies that the controls shall be between the open side of the bathtub and the centerline of the width of the bathtub.

**ICC/A117.1-2009 Grab Bars at Bathtubs**

- Horizontal back wall grab bar can be between 8 inches minimum and 10 inches maximum above the rim of the bathtub.
- This was a specific height of 9 inches in 2003.
ICC/A117.1-2009 Bathtub Hand Shower

- 607.6 Hand Shower adds where provided the adjustable hand shower mounted on a vertical bar shall be installed so as to not obstruct the use of the grab bars.

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ICC/A117.1-2009 Standard Roll-in Type Shower Seats

608.2.2.3 Seat.

- A folding seat shall be provided on an end wall.
- Exception: A fixed seat shall be permitted where the seat does not overlap the minimum clear inside dimension required in Section 608.2.2.1

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ICC/A117.1 Grab Bars in Standard Roll In Showers

608.3.2 Grab bar required on back wall beginning at edge of seat

- No grab bar above seat.
- Back wall grab extends length of wall not required more than 48 inches.
- Opposite side wall of seat if within 72 inches shall extend length of wall but not more than 30 inches.

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ICC/A117.1-2009 Controls & Hand Showers for Standard Roll-In Showers

- 608.4.2 requires the controls and hand shower to be located on the back wall above the grab bar, 48 inches maximum from the floor and 16 inches minimum and 27 inches maximum from the end wall behind the seat.

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ICC/A117.1 2009 Shower Hand Showers

- 608.5 Hand Showers. Adds where provided the adjustable hand shower mounted on a vertical bar shall be installed so as to not obstruct the use of the grab bars.
<table>
<thead>
<tr>
<th>ICC/A117.1 2009 Hand Showers Exception to 608.5</th>
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<tr>
<td>- In other than Accessible units and Type A units, a fixed shower head located 48 inches maximum above the shower floor shall be permitted in lieu of a hand shower.</td>
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