**Supplement to the 6th Edition (2017) Florida Building Code, Plumbing**

**Note 1**: Throughout the document, change International Building Code to Florida Building Code, Building; change the International Energy Conservation Code tothe Florida Building Code, Energy Conservation; change the International Existing Building Code to Florida Building Code, Existing Building; change the International Fire code to Florida Fire Prevention Code; change International Fuel Gas Code to Florida Building Code, Fuel Gas; change the International Mechanical Code to Florida Building Code, Mechanical; change the International Plumbing Code to Florida Building Code, Plumbing; change the International Residential Code to Florida Building Code, Residential.

Chapter 1 **SCOPE AND ADMINISTRATION**

No Change

Chapter 2 **DEFINITIONS**

Revise as follows:

**[A] STRUCTURE.** That which is built or constructed ~~or a portion thereof~~.

(ADM28-16)

**FULL-OPEN VALVE.** A water control or shut off component in the water supply system piping that, where adjusted for maximum flow, the flow path through the component's closure member is not a restriction in the component's through-flow area.

(P3-15 Part I)

**PRESS-CONNECT JOINT.** A permanent mechanical joint incorporating an elastomeric seal or an elastomeric seal and corrosion-resistant grip ring. The joint is made with a pressing tool and jaw or ring

approved by the fitting manufacturer.

(P6-15)

***Delete without substitution:***

**~~SWIMMING POOL~~**~~. Any structure, basin, chamber or tank containing an artificial body of water for~~ ~~swimming, diving or recreational bathing having a depth of 2 feet (610 mm) or more at any point.~~

(P7-15)

**APPROVED AGENCY.** An established and recognized agency that is regularly engaged in conducting tests or furnishing inspection services, or furnishing product certification where such agency has been *approved* by the code official

(ADM6-16 Part I AMPC1)

**PUBLIC SWIMMING POOL** A pool, other than a residential pool, that is intended to be used for swimming or bathing and is operated by an owner, lessee, operator, licensee or concessionaire, regardless of whether a fee is charged for use.

(P36-15 Part I)

**ACCESSIBLE.** Describes a site, building, facility of portion thereof that complies with Chapter 11 of the *Florida Building Code, Building.*

**Revise as follows:**

**Fixture Fitting.**

**Supply fitting.** A fitting that controls the volume, direction of flow or both, of water and is either attached to or ~~accessible~~ is accessed from a fixture, or is used with an open or atmospheric discharge.

**Waste fitting.** No change

(P84-15)

**Delete without substitution:**

**~~STERILIZER.~~**

**~~Boiling type.~~** ~~A boiling-type sterilizer is a fixture of a nonpressure type utilized for boiling instruments,~~ ~~utensils or other equipment for disinfection. These devices are portable or are connected to the~~ ~~plumbing system.~~

**~~Instrument.~~** ~~A device for the sterilization of various instruments.~~

**~~Pressure (autoclave).~~** ~~A pressure vessel fixture designed to utilize steam under pressure for~~ ~~sterilizing.~~

**~~Pressure instrument washer sterilizer.~~** ~~A pressure vessel fixture designed to both wash and~~ ~~sterilize instruments during the operating cycle of the fixture.~~

**~~Utensil.~~** ~~A device for the sterilization of utensils as utilized in health care services.~~

**~~Water.~~** ~~A device for sterilizing water and storing water.~~

**STERILIZER VENT.** ~~A separate pipe or~~ *~~stack~~*~~, indirectly connected to the building drainage system at the~~ ~~lower terminal, that receives the vapors from nonpressure sterilizers, or the exhaust vapors from pressure~~ ~~sterilizers, and conducts the vapors directly to the open air. Also called vapor, steam, atmospheric or~~ ~~exhaust vent.~~

(P208-15)

Chapter 3 **GENERAL REGULATIONS**

Revise as follows:

**303.4 Third-party certification.** All plumbing products and materials required by the code to be in compliance with a referenced standard shall be listed by a third-party certification agency as complying with th referenced standards. Products and materials shall be identified in accordance with Section

303.1.

(P8-15)

***Add new text as follows:***

**303.5 Cast iron soil pipe, fittings and components** Cast iron soil pipes and fittings, and the couplings used to join these products together, shall be third party listed and labeled. Third party certifiers or inspectors shall comply wih the minimum inspection requirements of Annex A or Annex A1 of the ASTM

and CISPI product standards indicated in the code for such products.

(P9-15)

**305.6 Protection against physical damage.** In concealed locations where piping, other than cast-iron or galvanized steel, is installed through holes or notches in studs, joists, rafters or similar members less than 11/ ~~2~~ 4 inches (~~38~~ 31.8 mm) from the nearest edge of the member, the pipe shall be protected by steel shield plates. Such shield plates shall have a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage). Such plates shall cover the area of the pipe where the member is notch d or bored, and shall extend not less than 2 inches (51 mm) above sole plates and below top plates.

(P12-15)

**TABLE 308.5**

**HANGER SPACING**

|  |  |  |
| --- | --- | --- |
| **PIPING MATERIAL** | **MAXIMUM HORIZONTAL****SPACING (feet)** | **MAXIMUM VERTICAL****SPACING (feet)** |
| Cross-linked polyethylene (PEX) pipe 1 inch and smaller | 2.67(32 inches) | 10b |
| Cross-linked polyethylene (PEX) pipe 1 1/4 inch and larger | 4 | 10b |
| Polyethylene of raised temperature (PE-RT) pipe 1 inch and smaller | 2.67 (32 inches) | 10b |
| Polyethylene of raised temperature (PE-RT) pipe 1 1/4 inch and larger | 4 | 10b |

*(Portions of table not shown remain unchanged)*

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

a. The maximum horizontal spacing of cast-iron pipe hangers shall be increased to 10 feet where 10-foot lengths of pipe are installed.

b. For sizes 2 inches and smaller, a guide shall be installed midway between required vertical supports. Such guides shall prevent pipe movement in a direction perpendicular to the axis of the pipe

(P16-15)

**TABLE 308.5**

**HANGER SPACING**

|  |  |  |
| --- | --- | --- |
| **PIPING MATERIAL** | **MAXIMUM HORIZONTAL****SPACING (feet)** | **MAXIMUM VERTICAL****SPACING (feet)** |
| Polyethylene of raised temperature (PE- RT) pipe 1" and less | 2.67 (32 inches) | 10b |
| Polyethylene of raised temperature (PE- RT) pipe 1 1/4" and greater | 4 (48 inches) | 10b |

*(Portions of table not shown remain unchanged)*

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

a. The maximum horizontal spacing of cast-iron pipe hangers shall be increased to 10 feet where 10-foot lengths of pipe are installed.

b. For sizes 2 inches and smaller, a guide shall be installed midway between required vertical supports. Such guides shall prevent pipe movement in a direction perpendicular to the axis of the pipe

(P18-15)

***Revise as follows:***

**308.6 Sway bracing.** ~~Rigid support sway bracing shall be provided at~~ Where horizontal pipes 4 inches (102 mm) and larger convey drainage or waste, and where a pipe fitting changes ~~in~~ the flow direction greater than 45 degrees (0.79 rad) ~~for~~, rigid bracing or other rigid support arrangements shall be installed to resist movement of the upstream pipe ~~sizes 4 inches (102 mm) and larger~~ in a direction opposite the pipe flow. A change of flow direction into a vertical pipe shall not require the upstream pipe to be braced.

(P19-15 Part I)

Chapter 4 **FIXTURES, FAUCETS AND FIXTURE FITTINGS**

**Revise as follows:**

**SECTION ~~424~~ 412**

**FAUCETS AND FIXTURE FITTINGS**

**SECTION ~~412~~ 413**

**FLOOR AND TRENCH DRAINS**

**SECTION ~~427~~ 414**

**FLOOR SINKS**

**SECTION ~~425~~ 415**

**FLUSHING DEVICES ER CLOSETS AND URINALS**

**SECTION ~~413~~ 416**

**FOOD WASTE DISPOSER UNITS**

**SECTION ~~414~~ 417**

**GARBAGE CAN WASHERS**

**SECTION ~~422~~**

**HEALTH CARE FIXTURES AND EQUIPMENT**

**SECTION ~~415~~ ~~419~~ 418**

**LAUNDRY TRAYS**

**SECTION ~~416~~ ~~420~~ 419**

**LAVATORIES**

**SECTION ~~426~~ ~~421~~ 420**

**MANUAL FOOD AND BEVERAGE DISPENSING EQUIPMENT**

**SECTION ~~417~~ ~~422~~ 421**

**SHOWERS**

**SECTION ~~418~~ ~~423~~ 422**

**SINKS**

**SECTION ~~423~~ ~~424~~ 423**

**SPECIALTY PLUMBING FIXTURES**

**SECTION ~~419 425~~ 424**

**URINALS**

**SECTION ~~420~~ ~~426~~ ~~425~~**

**WATER CLOSETS**

**SECTION 4~~21~~ ~~427~~ 426**

**WHIRLPOOL BATHTUBS**

(P26-15)

**[Table 403.1 as revised should match that of the 2018 IPC]**

**Revise as follows:**

**TABLE 403.1**

**MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURESa (See Sections 403.1.1 and 403.2)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **N O.** | **CLASSIFICA TION** | **OCCUPA NCY** | **DESCRIPT ION** | **WATER CLOSETS (URINALS: SEE SECTION****419.2)** | **LAVATORI ES** | **BATHTU****BS/ SHOWE RS** | **DRINKI NG FOUNT AIN (SEE SECTIO****N 410)** | **OTHE R** |
| **MALE** | **FEMAL E** | **MA LE** | **FEMA LE** |
| 1 | Assembly | A-1d | Theaters and other buildings for the performing arts and motionpictures | 1 per125 | 1 per65 | 1 per 200 | — | 1 per500 | 1service sink |
| A-2d | Nightclubs, bars, taverns, dance halls and buildings for similar purposes | 1 per40 | 1 per40 | 1 per 75 | — | 1 per500 | 1service sink |
| Restaurant s, banquet halls and food courts | 1 per75 | 1 per75 | 1 per 200 | — | 1 per500 | 1service sink |
|  | 1 per | 1 per | 1 per 250 | — |  1 per |  1 servi |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Casino Gaming Areas | 100 for the first 400and 1 p er 250 for the remain derexceedi | 50 for the first 400and 1 p er 150 for the remain derexceedi | for the first 750and 1 per 500 for the remainder exceeding 750 |  | 1,000 | ce sink |
| ng 400  | ng 400 |
| A-3d | Auditorium s without perma- nent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades and gymnasiums | 1 per125 | 1 per65 | 1 per 200 | — | 1 per500 | 1service sink |
| Passenger terminals and transportation facilities | 1 per500 | 1 per500 | 1 per 750 | — | 1 per1,000 | 1service sink |
| Places of worship and other religiousservices | 1 per150 | 1 per75 | 1 per 200 | — | 1 per1,000 | 1service sink |

*(Portions of table not shown remain unchanged)*

The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by the *International Building Code*.

Toilet facilities for employees shall be separate from facilities for inmates or care recipients.

A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted provided that each patient sleeping unit has direct access to the toilet room and provision for privacy for the toilet room user is provided.

The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.

For business and mercantile occupancies with an occupant load of 15 or fewer, service sinks shall not be required.

**Revise as follows:**

**TABLE 403.1**

**MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURESa (See Sections 403.1.1 and 403.2)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO.** | **CLASSIFICATION** | **OCCUPANCY** | **DESCRIPTION** | **WATER CLOSETS (URINALS: SEE SECTION 419.2)** | **LAVATORIES** | **BATHTUBS****/ SHOWERS** | **DRINKING FOUNTAIN (SEE SECTION 410)** | **OTHER** |
| **MALE** | **FEMALE** | **MALE** | **FEMALE** |
| 4 | Factory and industrial | F-1 and F-2 | Structures in which occupants are engaged in work fabricating, assembly or processing of products ormaterials |  |  |  |  | ~~(see Section~~ ~~411)~~ |  |  |
| 8 | Storage | S-1 S-2 | Structures for the storage of goods, warehouses, store- house and freight depots. Low and ModerateHazard. |  |  | ~~See Section~~ ~~411~~~~—~~ |  |  |

*(Portions of table and notes not shown remain unchanged)*

(P33-15)

**TABLE 403.1**

**MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURESa (See Sections 403.1.1 and 403.2)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **N O.** | **CLASSIFICAT ION** | **~~OCCUPAN~~ ~~CY~~** | **DESCRIPTI ON** | **WATER CLOSETS (URINALS: SEE SECTION 419.2)** | **LAVATORIE S** | **BATHTU****BS/ SHOWER S** | **DRINKI NG FOUNT AIN (SEE SECTIO N 410)** | **OTHE R** |
| **MAL E** | **FEMA LE** | **MAL E** | **FEMA LE** |
| 1 | Assembly | ~~A-1~~~~d~~ | Theaters and other buildings for the performing arts and motion pictures |  |  |  |  |  |  |
| ~~A-2~~~~d~~ | Nightclubs, bars, taverns, dance halls and buildings for similar purposes |  |  |  |  |  |  |
| Restaurants, banquet halls and food courts |  |  |  |  |  |  |
| ~~A-3~~~~d~~ | Auditoriums without perma- nent seating, art galleries, exhibition halls, |  |  |  |  |  |  |
|  |  |  | museums, |  |  |  |  |  |  |
| lecture |
| halls, |
| libraries, |
| arcades |
| and |
| gymnasium |
| s |
| Passenger |  |  |  |  |  |  |
| terminals |
| and |
| transportati |
| on facilities |
| Places of |  |  |  |  |  |  |
| worship and |
| other |
| religious |
| services |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO.** | **CLASSIFICAT ION** | **~~OCCUPAN~~ ~~CY~~** | **DESCRIPTI ON** | **WATER CLOSETS (URINALS: SEE SECTION 419.2)** | **LAVATORI ES** | **BATHTU****BS/ SHOWER S** | **DRINKI NG FOUNT AIN (SEE SECTIO N 410)** | **OTH ER** |
| **MAL E** | **FEMA LE** | **MAL E** | **FEMA LE** |
| 1(cont.) | Assembly | ~~A-4~~ | Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activities |  |  |  |  |  |  |  |
| ~~A-5~~ | Stadiums, amusement parks, bleachers and grandstand s for outdoor sporting events and activities |  |  |  |  |  |  |  |
| 2 | Business | ~~B~~ | Buildings for the transaction |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | of business, professional services, other services involving merchandis e, office buildings, banks, light industrial and similar uses |  |  |  |  |  |
| 3 | Educational | ~~E~~ | Educational facilities |  |  |  |  |  |
| 4 | Factory and industrial | ~~F-1 and F- 2~~ | Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials |  |  |  |  |  |
| 5 | Institutional | ~~I-1~~ | Residential care |  |  |  |  |  |
| ~~I-2~~ | Hospitals, ambulatory nursing home care recipient |  |  |  |  |  |
| Employees, other than residential careb |  |  |  |  |  |
| Visitors, other than residential care |  |  |  |  |  |
| ~~I-3~~ | Prisonsb |  |  |  |  |  |
| Reformitori es, detention centers, and correctional centersb |  |  |  |  |  |
| Employeesb |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | ~~I-4~~ | Adult day care and child day care |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **N O.** | **CLASSIFICAT ION** | **~~OCCUPAN~~ ~~CY~~** | **DESCRIPTI ON** | **WATER CLOSETS (URINALS: SEE SECTION 419.2)** | **LAVATORIE S** | **BATHTU****BS/ SHOWER S** | **DRINKI NG FOUNT AIN (SEE SECTIO N 410)** | **OTHE R** |
| **MAL E** | **FEMA LE** | **MAL E** | **FEMA LE** |
| 6 | Mercantile | ~~M~~ | Retail stores, service stations, shops, salesrooms, markets and shopping centers |  |  |  |  |  |
| 7 | Residential | ~~R-1~~ | Hotels, motels, boarding houses (transient) |  |  |  |  |  |
| ~~R-2~~ | Dormitories, fraternities, sororities and boarding houses (not transient) |  |  |  |  |  |
| ~~R-2~~ | Apartment house |  |  |  |  |  |
| ~~R-3~~ | Congregate living facilities with 16 or fewer persons |  |  |  |  |  |
| ~~R-3~~ | One- and two-family dwellings and lodging houses with five or fewer guestrooms |  |  |  |  |  |
| ~~R-4~~ | ~~Congregate~~ | ~~1 per 10~~ | ~~1 per 10~~ | ~~1 per 8~~ | ~~1 per~~ | ~~1~~ |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | ~~living~~ ~~facilities~~ ~~with 16 or~~ ~~fewer~~ ~~persons~~ |  |  |  | ~~100~~ | ~~servic~~ ~~e sink~~ |
| 8 | Storage | ~~S-1 S-2~~ | Structures for the storage of goods, warehouses, store- house and freight depots. Low and Moderate Hazard. |  |  |  |  |  |

*(Portions of table not shown remain unchanged)*

The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by

the *International Building Code*.

Toilet facilities for employees shall be separate from facilities for inmates or care recipients.

A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted provided that each patient sleeping unit has direct access to the toilet room and provision for privacy for the toilet room user is provided.

The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.

For business and mercantile ~~occupancies~~ classifications with an occupant load of 15 or fewer, service sinks shall not be required

Further Modified by Public Comment 1

**Modify as follows:**

**TABLE 403.1 (403.1)**

**MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURESa (See Sections 403.1.1 and 403.2)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **NO.** | **CLASSIFICATION** | **DESCRIPTION** | **WATER CLOSETS (URINALS: SEE****SECTION 419.2)** | **LAVATORIES** | **BATHTUBS/ SHOWERS** | **DRINKING FOUNTAIN (SEE SECTION 410)** | **OTHER** |
| **MALE** | **FEMALE** | **MALE** | **FEMALE** |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 2 | Business | Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial, ambulatorycareand similar uses | 1 per 25 for the first50and 1 per 50 for the remainder exceeding50 | 1 per 40 for thefirst 80 and 1 per 80 for the remainder exceeding 80 | — | 1 per 100 | 1service sinke |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 5 | Institutional | ~~Residential~~ ~~care~~Custodial care facilities | 1 per 10 | 1 per 10 | 1 per 8 | 1 per 100 | 1service sink |
| Medical care recipients inhospitas~~,~~ ~~ambulatory~~ nursinghomes ~~care~~~~recipient~~ | 1 per roomc | 1 per roomc | 1 per 15 | 1 per 100 | 1service sink per |
|  |  |  |  | floor |
| Employees, in hospitals and nursing homes~~other than~~ | 1 per 25 | 1 per 35 | — | 1 per 100 | — |
|  |  | ~~residential care~~b |  |  |  |  |  |
| Visitors in hospitals and nursing homes, ~~other than~~ ~~residential care~~ | 1 per 75 | 1 per 100 | — | 1 per 500 | — |
| Prisonsb | 1 per cell | 1 per cell | 1 per 15 | 1 per 100 | 1service sink |
| Reformitories, detention centers, and correctional centersb | 1 per 15 | 1 per 15 | 1 per 15 | 1 per 100 | 1service sink |
| Employees in reformitories, detention centers and correctional centersb | 1 per 25 | 1 per 35 | — | 1 per 100 | — |
| Adult day care and child day care | 1 per 15 | 1 per 15 | 1 | 1 per 100 | 1service sink |

The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by

the International Building Code.

Toilet facilities for employees shall be separate from facilities for inmates or care recipients.

A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted provided that each patient sleeping unit has direct access to the toilet room and provision for privacy for the toilet room user is provided.

The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.

For business and mercantile classifications with an occupant load of 15 or fewer, service sinks shall not be required.

(P34-15 AMPC1)

**[Table 403.1 as revised should match that of the 2018 IPC]**

***Add new text as follows:***

**403.1.1 Outdoor public swimming pool fixtures** Outdoor public swimming pools used for aquatic recreation and having a water area of less than 7500 ft2 (697 m2) shall have not less than one water closet, one urinal, one lavatory and one shower for males and not less than two water closets, one lavatory and one shower for females.

Outdoor public swimming pools used for aquatic recreation having a water area of 7500 ft2 (697 m2) or more shall have, for every 7500 ft2 (697 m2) or portion thereof, not less than 0.7 water closets, one urinal, 0.85 lavatory and one shower for males and not less than two water closets, one lavatory and one shower for females. Where the result of a fixture calculation is a portion of a whole number, the result shall be rounded up to the nearest whole number.

Section 403.1.1 (Fixture calculations) shall not apply where complying with this section.

**Revise as follows:**

**TABLE 403.1**

**MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURESa (See Sections 403.1.1 and 403.2)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO.** | **CLASSIFICATI ON** | **OCCUPAN CY** | **DESCRIPTI ON** | **WATER CLOSETS (URINALS: SEE SECTION 419.2)** | **LAVATORIE S** | **BATHTUB****S/ SHOWER S** | **DRINKIN G FOUNTAI N (SEE SECTION 410)** | **OTHE R** |
| **MALE** | **FEMALE** | **MAL E** | **FEMAL E** |
| 1(cont.) | Assembly | A-4 | Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and | 1 per 75 for the first 1,500and 1 per 120 for the | 1 per 40 for the first 1,520and1 per 60 for the remainde | 1per 200 | 1 per150 | — | 1 per1,000 | 1servic e sink |
|  |  |  | activities | remainde | r |  |  |  |  |  |
|  | r | exceedin |
|  | exceedin | g |
|  | g | 1,520 |
|  | 1,500 |  |
|  | Stadiums, | 1 per 75 | 1 per 40 for the first 1,520and1 per 60 for the remainde r exceedin g1,520 |  |  |  |  |  |
|  | amusement | for the |  |  |  |  |  |
|  | parks, | first1,500 |  |  |  |  |  |
|  | bleachers |  |  |  |  |  |  |
|  | and | and 1 |  |  |  |  |  |
| A-5 | grandstandsfor outdoor sporting | per120 for the | 1per 200 | 1 per150 | — | 1 per1,000 | 1servic e sink |
|  | events andactivitiesf | remainder |  |  |  |  |  |
|  |  | exceedin |  |  |  |  |  |
|  |  | g |  |  |  |  |  |
|  | 1,500 |  |  |  |  |

*(Portions of table not shown remain unchanged)*

1. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by

the *International Building Code*.

b. Toilet facilities for employees shall be separate from facilities for inmates or care recipients.

c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted provided that each patient sleeping unit has direct access to the toilet room and provision for privacy for the toilet room user is provided.

d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.

e. For business and mercantile occupancies with an occupant load of 15 or fewer, service sinks shall not be required.

 f. The required number and type of plumbing fixtures for outdoor public swimming pools shall be in accordance with Section ~~609 of the~~ *~~International Swimming Pool and Spa Code~~* 403.6.

**[Table 403.1 as revised should match that of the 2018 IPC]**

~~403.1.1 Outdoor public swimming pool fixtures. Outdoor public swimming pools used for aquatic recreation and having a water area of less than 7500 ft2 (697 m2) shall have not less than one water closet, one urinal, one lavatory and one shower for males and not~~ less than two water ~~closets, one lavatory and one shower for females.~~

~~Outdoor public swimming pools used for aquatic recreation having a water area of 7500 ft2 (697 m2) or more shall have, for every~~ ~~7500 ft2 (697 m2) or portion thereof, not less than 0.7 water closets, one urinal, 0.85 lavatory and one shower for males and not less~~ ~~than two water closets, one lavatory and one shower for females. Where the result of a fixture calculation is a portion of a whole~~ ~~number, the result shall be rounded up to the nearest whole number.~~

~~Section 403.1.1 (Fixture calculations) shall not apply where complying with this section.~~

(P36-15 Part I AMPC1)

**Revise as follows:**

403.1.2**~~Family or assisted-use~~ Single-user toilet facility and ~~bath~~ bathing room fixtures.** ~~Fixtures~~ The plumbing fixtures located ~~within~~ in single-user toilet facilities and bathing rooms, including family or assisted-use toilet and bathing rooms that are required by Section 1109.2.1 of the *International Building Code* ~~are permitted to be included in~~ shall contribute towards the total number of required plumbing fixtures for ~~either the male~~ a building or ~~female occupants in assembly~~ tenant space. Single-user toilet facilities and ~~mercantile~~ *~~occupancies~~* bathing rooms, and family or assisted-use toilet and bathing rooms shall be identified for use by either sex.

 (P40-15 AMPC2)

**403.1.3 Potty parity.** In assembly occupancies, restrooms which are open to the public must have a ratio of 3:2 water closets provided for women as the combined total of water closets and urinals provided for men, unless these are two or fewer such fixtures for men, in accordance with §553.86, *Florida Statutes*.  The ratio established by potty parity is not required to be maintained for the additional fixtures provided in excess of the minimum required fixtures.

(P8166)

***Revise as follows:***

**403.2 Separate facilities.** Where plumbing fixtures are required, separate facilities shall be provided for each sex.

**Exceptions:**

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

2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or fewer.

3. Separate facilities shall not be required in mercantile *occupancies* in which the maximum occupant load is 100 or fewer.

4 Separate facilities shall not be required in business *occupancies* in which the maximum occupant load is 25 or fewer.

(P44-15) AMPC1

**403.3 Required public toilet facilities.** ~~Customers~~ For structures and tenant spaces intended

for *public* utilization, customers, patrons and visitors shall be provided with *public* toilet facilities ~~in~~. Employees associated with structures and tenant spaces ~~intended for public utilization~~ shall be provided with toilet facilities. The number of plumbing fixtures located within the required toilet facilities shall be provided in accordance with Section 403 for all users. ~~Employees shall be provided with toilet facilities in~~ ~~all~~ *~~occupancies~~*~~.~~ Employee toilet facilities shall be either separate or combined employee and *public* toilet facilities.

**Exception:** *Public* toilet facilities shall not be required ~~in~~ for:

1. Open or enclosed parking garages where there are no parking attendants.

2. Structures and tenant spaces intended for quick transactions, including takeout, pickup and drop off, having a public access area less than or equal to 300 square feet (28 m2).

(P45-15)

**Add new text as follows:**

403.~~6~~7 **Fixture distribution.** Where two or more toilet rooms are provided for each sex, the required number of lavatories shall be distributed proportionately to the required number of water closets.

(P46-15 Part I)

**Revise as follows:**

**405.3.1 Water closets, urinals, lavatories and bidets.** A water closet, urinal, lavatory or bidet shall not be set closer than 15 inches (381 mm) from its center to any side wall, partition, vanity or other obstruction. Where partitions or other obstructions do not separate adjacent fixtures, ~~or~~ fixtures shall not be set closer than 30 inches (762 mm) center to center between adjacent fixtures. There shall be not less than a 21-inch (533 mm) clearance in front of ~~the~~ a water closet, urinal, lavatory or bidet to any wall, fixture or door. Water closet compartments shall be not less than 30 inches (762 mm) in width and not less than 60 inches (1524 mm) in depth for floormounted water closets and not less than 30 inches (762 mm) in width and 56 inches (1422 mm) in depth for wallhung water closets.

**405.3.5 Urinal partitions.** Each urinal utilized by the *public* or employees shall occupy a separate area with walls or partitions to provide privacy. The width between walls or partitions at each urinal shall be not less than 30 inches (762 mm).The walls or partitions shall begin at a height not greater than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal not less than 18 inches (457 mm) or to a point not less than 6 inches (152 mm) beyond the outermost front lip of the urinal measured from the finished backwall surface, whichever is greater.

**Exceptions:**

1. Urinal partitions shall not be required in a single-occupant or family/assisted-use toilet room with a lockable door.

2. Toilet rooms located in child day care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.

(P49-15)

***Revise as follows:***

**405.4.1 Floor flanges.** Floor flanges for water closets or similar fixtures shall be not less than 0.125 inch (3.2 mm) thick for ~~brass~~ copper alloy, 0.25 inch (6.4 mm) thick for plastic and 0.25 inch (6.4 mm) thick and not less than a 2-inch (51 mm) caulking depth for cast iron or galvanized malleable iron.

Floor flanges of hard lead shall weigh not less than 1 pound, 9 ounces (0.7 kg) and shall be composed of lead alloy with not less than 7.75-percent antimony by weight. Closet screws and bolts shall be of ~~brass~~ copper alloy. Flanges shall be secured to the building structure with corrosion-resistant screws or bolts.

(P50-15)

**405.4.3 Securing wall-hung water closet bowls.** Wall-hung water closet bowls shall be supported by a concealed metal carrier that is attached to the building structural members so that strain is not transmitted to the closet connector or any other part of the plumbing system. The carrier shall conform to ~~ASME A112.6.1M or~~  ASME A112.6.2.

(P51-15 Part I)

***Add new text as follows:***

**405.~~6~~ 10 Plumbing fixtures with a pumped waste** Plumbing fixtures with a pumped waste shall comply with ASME A112.3.4/CSA B45.9. The plumbing fixture with a pumped waste shall be installed in accordance with the manufacturer's instructions.

(P52-15)

**TABLE 403.6**

**PUBLIC SWIMMING POOL—REQUIRED FIXTURE COUNT**

**(No change to the Table)**

**Note:**

1 Square Footage of Interactive water features are required to be included when calculating the “size of pool”  for  the purposes of determining  the type and number of fixtures for the sanitary facilities. For those facilities with an Interactive Water Feature in addition to the pool, causing the combined pool size square-footage to exceed the threshold required category fixture count, a unisex restroom may be installed to satisfy the fixture requirement for every additional 1,250 square feet or fraction thereof. The IWF feature flow for one unisex restroom shall not exceed 100 gpm, nor shall bathing load exceed 20 patrons.

(SW7798 A5 only + Commission DOH handout)

***Revise as follows:***

**409.1 Approval.** Commercial dishwashing machines shall conform to ASSE 1004 and NSF 3. Residential dishwashers shall conform to NSF 184.

(P56-15)

***Revise as follows:***

**409.3 Waste connection.** The waste connection of a commercial dishwashing machine shall comply with Section ~~802.1.6 or~~ 802.1.7~~, as applicable~~.

***Add new text as follows:***

**409.4 Residential dishwasher waste connection.** The waste connection of a residential dishwasher shall connect directly to a wye branch fitting on the tailpiece of the kitchen sink, directly to the dishwasher connection of a food waste disposer, or through an air break to a standpipe. The waste line of a residential dishwasher shall rise and be securely fastened to the underside of the sink rim or counter top.

***Revise as follows:***

**410.1 Approval.** Drinking fountains shall conform to ASME A112.19.1/CSA B45.2 or ASME A112.19.2/CSA B45.1 and water coolers shall conform to ~~AHRI 1010~~ASHRAE 18. Drinking fountains, water coolers and *~~water coolers~~* water dispensers shall conform to NSF 61, Section 9. Electrically operated, refrigerated drinking *~~water coolers~~* water coolers and water dispensers shall be listed and labeled in accordance with UL 399.

(P58-15)

***Add new text as follows:***

**411.3 Water supply.** Where hot and cold water is supplied to an emergency shower or eyewash station the temperature of the water supply shall only be controlled by a temperature actuated mixing valve complying with ASSE 1071.

(P63-15)

**Delete without substitution:**

**~~[BG] 419.3 (424.3) Surrounding material.~~** ~~Wall and floor space to a point 2 feet (610 mm) in front of a urinal lip~~ ~~and 4 feet (1219 mm) above the floor and at least 2 feet (610 mm) to each side of the urinal shall be~~ ~~waterproofed with a smooth, readily cleanable, nonabsorbent material.~~

(P67-15)

**416.5 (419.5) ~~Tempered w~~Water for public hand-washing facilities.** Cold or *Tempered water* shall be delivered from lavatories and group wash fixtures located in public toilet facilities provided for customers, patrons, and visitors. *Tempered water* shall be delivered through an *approved* water-temperature limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 or CSA B125.3.

(P7194)

***Revise as follows:***

**~~422.1 Scope.~~** ~~This section shall govern those aspects of health care plumbing systems that differ from plumbing systems in other structures. Health care plumbing systems shall conform to the requirements of this section in addition to the other requirements of this code. The provisions of this section shall apply to the special devices and equipment installed and maintained in the following~~ *~~occupancies~~*~~: nursing homes Group I-1, homes for the aged Group I-2, orphanages, infirmaries, first aid stations, psychiatric Group B ambulatory care facilities, clinics, professional medical offices of dentists and doctors, mortuaries, educational facilities, surgery, dentistry, research and testing laboratories, establishments and Group F facilities manufacturing pharmaceutical drugs and medicines and other structures with similar apparatus and equipment classified as plumbing.~~

(P69-15/P208-15)

***Delete without substitution:***

**~~422.10 Special elevations.~~** ~~Control valves, vacuum outlets and devices protruding from a wall of an operating, emergency, recovery, examining or delivery room, or in a corridor or other location where patients are transported on a wheeled stretcher, shall be located at an elevation that prevents bumping the patient or stretcher against the device.~~

(P70-15)

***Delete without substitution:***

~~422.3~~ **~~Protection.~~** ~~All devices, appurtenances, appliances and apparatus intended to serve some special function, such as sterilization, distillation, processing, cooling, or storage of ice or foods, and that connect to either the water supply or drainage system, shall be provided with protection against backflow, flooding, fouling, contamination of the water supply system and stoppage of the drain.~~

(P71-15)

***Revise as follows:***

~~422.4~~ **~~Materials.~~** Fixtures designed for therapy, special cleansing or disposal of waste

materials, ~~combinations of such purposes, or any other special purpose,~~ shall be of smooth, impervious, corrosion-resistant materials ~~and, where subjected to temperatures in excess of 180°F (82°C), shall be~~ ~~capable of withstanding, without damage, higher temperatures~~.

(P72-15)

***Delete without substitution:***

~~422.5~~ **~~Access.~~** *~~Access~~* ~~shall be provided to concealed piping in connection with special fixtures where such piping contains steam traps, valves, relief valves, check valves, vacuum breakers or other similar items that require periodic inspection, servicing, maintenance or repair.~~ *~~Access~~* ~~shall be provided to concealed piping that requires periodic inspection, maintenance or repair.~~

**422.9.~~1 Sterilizer piping.~~** *~~Access~~* ~~for the purposes of inspection and maintenance shall be provided to all sterilizer piping and devices necessary for the operation of sterilizers.~~

(P73-15)

**~~SECTION 422~~**

**~~HEALTH CARE FIXTURES AND EQUIPMENT~~**

~~422.1~~ **~~Scope.~~** ~~This section shall govern those aspects of health care plumbing systems that differ from plumbing systems in other structures. Health care plumbing systems shall conform to the requirements of this section in addition to the other requirements of this code. The provisions of this section shall apply to the special devices and equipment installed and maintained in the following~~ *~~occupancies~~*~~: nursing homes, homes for the aged, orphanages, infirmaries, first aid stations, psychiatric facilities, clinics, professional offices of dentists and doctors, mortuaries, educational facilities, surgery, dentistry, research and testing laboratories, establishments manufacturing pharmaceutical drugs and medicines and other structures with similar apparatus and equipment classified as plumbing.~~

~~422.2~~ **~~Approval.~~** ~~All special plumbing fixtures, equipment, devices and apparatus shall be of an~~ *~~approved~~* ~~type.~~

~~422.3~~ **~~Protection.~~** ~~All devices, appurtenances, appliances and apparatus intended to serve some special function, such as sterilization, distillation, processing, cooling, or storage of ice or foods, and that connect to either the water supply or drainage system, shall be provided with protection against backflow,~~ ~~flooding, fouling, contamination of the water supply system and stoppage of the drain.~~

~~422.4~~ **~~Materials.~~** ~~Fixtures designed for therapy, special cleansing or disposal of waste materials, combinations of such purposes, or any other special purpose, shall be of smooth, impervious, corrosion- resistant materials and, where subjected to temperatures in excess of 180°F (82°C), shall be capable of withstanding, without damage, higher temperatures.~~

~~422.5~~ **~~Access.~~** *~~Access~~* ~~shall be provided to concealed piping in connection with special fixtures where such piping contains steam traps, valves, relief valves, check valves, vacuum breakers or other similar items that require periodic inspection, servicing, maintenance or repair.~~ *~~Access~~* ~~shall be provided to concealed piping that requires periodic inspection, maintenance or repair.~~

~~422.6~~ **~~Clinical sink.~~** ~~A clinical sink shall have an integral trap in which the upper portion of a visible trap seal provides a water surface. The fixture shall be designed so as to permit complete removal of the contents by siphonic or blowout action and to reseal the trap. A flushing rim shall provide water to cleanse the interior surface. The fixture shall have the flushing and cleansing characteristics of a water closet.~~

~~422.7~~ **~~Prohibited usage of clinical sinks and service sinks.~~** ~~A clinical sink serving a soiled utility room shall not be considered as a substitute for, or be utilized as, a service sink. A service sink shall not be utilized for the disposal of urine, fecal matter or other human waste.~~

~~422.8~~ **~~Ice prohibited in soiled utility room.~~** ~~Machines for manufacturing ice, or any device for the handling or storage of ice, shall not be located in a soiled utility room.~~

~~422.9~~ **~~Sterilizer equipment requirements.~~** ~~The approval and installation of all sterilizers shall conform to the requirements of the~~ *~~International Mechanical Code~~*~~.~~

~~422.9.1~~ **~~Sterilizer piping.~~** *~~Access~~* ~~for the purposes of inspection and maintenance shall be provided to all sterilizer piping and devices necessary for the operation of sterilizers.~~

~~422.9.2~~ **~~Steam supply.~~** ~~Steam supplies to sterilizers, including those connected by pipes from overhead mains or branches, shall be drained to prevent any moisture from reaching the sterilizer. The condensate drainage from the steam supply shall be discharged by gravity.~~

~~422.9.3~~ **~~Steam condensate return.~~** ~~Steam condensate returns from sterilizers shall be a gravity return system.~~

~~422.9.4~~ **~~Condensers.~~** ~~Pressure sterilizers shall be equipped with a means of condensing and cooling the exhaust steam vapors. Nonpressure sterilizers shall be equipped with a device that will automatically control the vapor, confining the vapors within the vessel.~~

~~422.10~~ **~~Special elevations.~~** ~~Control valves, vacuum outlets and devices protruding from a wall of an operating, emergency, recovery, examining or delivery room, or in a corridor or other location where patients are transported on a wheeled stretcher, shall be located at an elevation that prevents bumping the patient or stretcher against the device.~~

(P208-15)/(P75-15 AM)

***Revise as follows:***

**423.3 Footbaths, and pedicure baths ~~and head shampoo sinks~~.** The water supplied to specialty plumbing fixtures, such as pedicure chairs having an integral foot bathtub~~, footbaths,~~ and ~~head shampoo sinks,~~ footbaths shall be limited to a maximum temperature of 120°F (49°C) by a water temperature limiting device that conforms to ASSE 1070 or CSA B125.3.

***Add new text as follows:***

**412.10 (424.10) Head shampoo sink faucets** Head shampoo sink faucets shall be supplied with hot water that is limited to a maximum temperature of 120°F (49°C) by a water temperature limiting device that conforms to ASSE 1070 or CSA B125.3. Each faucet shall have integral check valves to prevent crossover flow between the hot and cold water supply connections.

(P76-15 AM)

***Revise as follows:***

**412.7 (424.7) Temperature-actuated, flow reduction ~~valves~~ devices for individual fixture**

**fittings.** Temperature-actuated, flow reduction devices, where installed for individual fixture fittings, shall conform to ASSE 1062. A temperature-actuated, flow reduction device shall be an *approved* method for limiting the water temperature to not greater than 120º F (49º C) at the outlet of a faucet or fixture

fitting. Such ~~valves~~ devices shall not be used alone as a substitute for the balanced-pressure, thermostatic or combination shower valves required in Section 412.3 or as a substitute for bathtub or whirlpool tub water-temperature limiting valves required in Section 412.5.

(P83-15)

**415.3.4 (425.3.4) Access required.** All parts in a flush tank shall be ~~accessible~~ provided with access for repair and replacement.

(P84-15)

Chapter 5 **WATER HEATERS**

**501.7 Pressure marking of storage tanks.** Storage tanks and water heaters installed for domestic hot water shall have the maximum allowable working pressure clearly and indelibly stamped in the metal or marked on a plate welded thereto or otherwise permanently attached. Such markings shall be in ~~an accessible~~ a position with access on the outside of the tank so as to make inspection or reinspection readily possible.

(P84-15)

***Revise as follows:***

**502.1 General.** Water heaters shall be installed in accordance with the manufacturer's instructions. Oil- fired water heaters shall conform to the requirements of this code and the *Florida Building Code, Mechanical*. Electric water heaters shall conform to the requirements of this code and provisions of NFPA 70. Gas- fired water heaters shall conform to the requirements of the Florida Building Code, *Fuel Gas*. Solar thermal water heating systems shall conform to the requirements of the Florida Building Code,  *Mechanical* and SRCC 300.

(P89-15)

***Revise as follows:***

**504.6 Requirements for discharge piping.** The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.

2. Discharge through an *air gap* located in the same room as the water heater.

3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the *air gap*.

4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.

5. Discharge to the floor, to the pan serving the water heater or storage tank, to a waste receptor or to the outdoors.

6. Discharge in a manner that does not cause personal injury or structural damage.

7. Discharge to a termination point that is readily observable by the building occupants.

8. Not be trapped.

9. Be installed so as to flow by gravity.

10. Terminate not more than 6 inches (152 mm) above and not less than two times the discharge pipe diameter above the floor or *flood level rim* of the waste receptor.

11. Not have a threaded connection at the end of such piping.

12. Not have valves or tee fittings.

13. Be constructed of those materials listed in Section 605.4 or materials tested, rated and *approved* for such use in accordance with ASME A112.4.1.

14. Be one nominal size larger than the size of the relief valve outlet, where the relief valve discharge piping is installed with insert fittings. The outlet end of such tubing shall be fastened in place.

 (P93-15 Part I AMPC2)

***Revise as follows:***

**504.7 Required pan.** Where a storage tank-type water heater or a hot water storage tank is installed in a location where water leakage from the tank will cause damage, the tank shall be installed in a ~~galvanized~~ pan constructed of one of the following:

1. Galvanized steel ~~pan having a material thickness~~ or aluminum of not less than 0.0236 inch (0.6010 mm) in thickness.

2. Plastic not less than 0.036 inch (0.9 mm) in thickness.

3. Other approved materials.

A plastic pan shall not be installed beneath a gas-fired water heater. ~~(No. 24 gage), or other~~ ~~pans~~ *~~approved~~* ~~for such use.~~

(P97-15)

Chapter 6 **WATER SUPPLY AND DISTRIBUTION**

***Revise as follows:***

**602.3.1 Sources.** Dependent on geological and soil conditions and the amount of rainfall, individual water supplies are of the following types: drilled well, driven well, dug well, bored well, spring, stream or cistern. Surface bodies of water and land cisterns shall not be sources of individual water supply unless properly treated by *approved* means to prevent contamination. Individual water supplies shall be constructed and installed in accordance with the applicable state and local laws. Where such laws do not address all of the requirements set forth in NGWA-01, individual water supplies shall comply with NGWA-01 for those requirements not addressed by state and local laws.

(P98-15 Part I)

**TABLE 605.3 WATER SERVICE PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyethylene of raised temperature (PE-RT) plastic tubing | ASTM F 2769; CSA B137.18 |

*(Portions of table not shown remain unchanged)*

**TABLE 605.4 WATER DISTRIBUTION PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyethylene of raised temperature (PE-RT) plastic tubing | ASTM F 2769; CSA B137.18 |

*(Portions of table not shown remain unchanged)*

(P112-15)

**TABLE 605.3 WATER SERVICE PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Cross-linked polyethylene (PEX) plastic pipe and tubing | ASTM F 876; ~~ASTM F 877;~~ AWWA C904; CSA B137.5 |

*(Portions of table not shown remain unchanged)*

**TABLE 605.4 WATER DISTRIBUTION PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Cross-linked polyethylene (PEX) plastic tubing | ASTM F 876; ~~ASTM F 877;~~ CSA B137.5 |

*(Portions of table not shown remain unchanged)*

(P113-15 Part I)

**TABLE 605.3 WATER SERVICE PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| ~~Brass pipe~~ | ~~ASTM B 43~~ |

*(Portions of table not shown remain unchanged)*

(P114-15)

**602.3.1 Sources.** Dependent on geological and soil conditions and the amount of rainfall, individual water supplies are of the following types: drilled well, driven well, dug well, bored well, spring, stream or cistern. Surface bodies of water and land cisterns shall not be sources of individual water supply unless properly treated by *approved* means to prevent contamination. Individual water supplies shall be constructed and installed in accordance with the applicable state and local laws. Where such laws do not address all of the requirements set forth in NGWA-01, individual water supplies shall comply with NGWA-01 for those requirements not addressed by state and local laws.

(P98-15 Part II)

**604.11 Individual pressure balancing in-line valves for individual fixture fittings.** Where individual pressure balancing in-line valves for individual fixture fittings are installed, such valves shall comply with ASSE 1066. Such valves shall be installed in ~~an accessible~~ location with access and shall not be utilized alone as a substitute for the balanced pressure, thermostatic or combination shower valves required in Section 424.3.

(P84-15)

***Revise as follows:***

**605.4 Water distribution pipe.** Water distribution pipe shall conform to NSF 61 and shall conform to one of the standards listed in Table 605.4. Hot water distribution pipe and tubing shall have a pressure rating of not less than 100 psi (690 kPa) at 180ºF (82ºC).

Further Modified by Committee

**605.4 Water distribution pipe.** Water distribution pipe shall conform to NSF 61 and shall conform to one of the standards listed in Table 605.4. ~~Hot and cold w~~ater distribution pipe and tubing shall have a pressure rating of not less than 100 psi (690 kPa) at 180ºF (82ºC).

(P115-15 Part I AM)

**605.4 Water distribution pipe.** Water distribution pipe and tubing shall conform to NSF 61 and shall conform to one of the standards listed in Table 605.4. Hot water distribution pipe and tubing shall have a pressure rating of not less than 100 psi (690 kPa) at 180ºF (82ºC).

**Final – 2018 IPC**

***Revise as follows:***

**TABLE 605.4 WATER DISTRIBUTION PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| ~~Brass pipe~~ | ~~ASTM B 43~~ |
| Copper or copper-alloy pipe | ASTM B 42; ASTM B 43; ASTM B 302 |

*(Portions of table not shown remain unchanged)*

(P118-15)

***Revise as follows:***

**TABLE 605.5 PIPE FITTINGS**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Fittings for polyethylene of raised temperature (PE-RT) plastic tubing | ASSE 1061; ASTM F 1807; ASTM F 2098; ASTM F 2159; ASTM F 2735; ASTM F 2769 |

*(Portions of table not shown remain unchanged)*

(P119-15)

***Revise as follows:***

**TABLE 605.5 PIPE FITTINGS**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Fittings for polyethylene of raised temperature (PE-RT) plastic tubing | ASTM F 1807; ASTM F 2098; ASTM F 2159; ASTM F 2735; ASTM F 2769; ASTM D3261; CSA B137.18 |

*(Portions of table not shown remain unchanged)*

(P120-15)

***Revise as follows:***

**TABLE 605.7 (605.7) VALVES**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Chlorinated polyvinyl chloride (CPVC) plastic | ASME A112.4.14; ASME A112.18.1/CSA B125.1; ASTM F 1970; CSA B125.3, IAPMO Z1157 |
| Copper or copper alloy | ASME A112.4.14; ASME A112.18.1/CSA B125.1; ASME B16.34; CSA B125.3; MSS SP-67; MSS SP-80; MSS SP-110, IAPMO Z1157 |
| Cross-linked polyethylene (PEX) plastic | ASME A112.4.14; ASME A112.18.1/CSA B125.1; CSA B125.3; NSF 359, IAPMO Z1157 |
| Gray iron and ductile iron | AWWA C500; AWWA C504; AWWA C507; MSS SP-67; MSS SP-70; MSS SP-71; MSS SP-72; MSS SP-78, IAPMO Z1157 |
| Polypropylene (PP) plastic | ASME A112.4.14; ASTM F 2389, IAPMO Z1157 |
| Polyvinyl chloride (PVC) plastic | ASME A112.4.14; ASTM F 1970, IAPMO Z1157 |

(P123-15)

***Revise as follows:***

**TABLE 605.7 (605.7) VALVES**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Chlorinated polyvinyl chloride (CPVC) plastic | ASME A112.4.14; ASME A112.18.1/CSA B125.1; ASTM F 1970; CSA B125.3; MSS SP-122 |
| Copper or copper alloy | ASME A112.4.14; ASME A112.18.1/CSA B125.1; ASME B16.34; CSA B125.3; MSS SP-67; MSS SP-80; MSS SP- 110; MSS SP-139 |
| Cross-linked polyethylene (PEX) plastic | ASME A112.4.14; ASME A112.18.1/CSA B125.1; CSA B125.3; NSF 359 |
| Gray iron and ductile iron | AWWA C500; AWWA C504; AWWA C507; MSS SP-67; MSS SP-70; MSS SP-71; MSS SP-72; MSS SP-78 |
| Polypropylene (PP) plastic | ASME A112.4.14; ASTM F 2389 |
| Polyvinyl chloride (PVC) plastic | ASME A112.4.14; ASTM F 1970; MSS SP-122 |

(P124-15 Part I)

 **Revise as follows:**

**TABLE 605.8 (605.8) MANUFACTURED PIPE NIPPLES**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| ~~Brass-,~~ Copper or copper alloy, and chromium-plated | ASTM B 687 |
| Steel | ASTM A 733 |

(P126-15)

 **Revise as follows:**

**TABLE 608.1**

**APPLICATION OF BACKFLOW PREVENTERS**

|  |  |  |  |
| --- | --- | --- | --- |
| **DEVICE** | **DEGREE OF HAZARDa** | **APPLICATIONb** | **APPLICABLE STANDARDS** |
| **Backflow prevention assemblies:** |
| Spill-resistant vacuum breaker assembly | High or low hazard | Backsiphonage only Sizes 1 /4 ″–2″ | ASSE 1056, CSA B64.1.3 |

*(Portions of table not shown remain unchanged)*

For SI: 1 inch = 25.4 mm

a. Low hazard—See Pollution (Section 202).

High hazard—See Contamination (Section 202).

b. See Backpressure, low head (Section 202). See Backsiphonage (Section 202).

(P127-15)

***Delete without substitution:***

~~605.11~~ **~~Brass.~~** ~~Joints between brass pipe and fittings shall comply with Sections 605.11.1 through 605.11.4.~~

~~605.11.1~~ **~~Brazed joints.~~** ~~All joint surfaces shall be cleaned. An~~ *~~approved~~* ~~flux shall be applied where required. The joint shall be brazed with a filler metal conforming to AWS A5.8.~~

~~605.11.2~~ **~~Mechanical joints.~~** ~~Mechanical joints shall be installed in accordance with the manufacturer's instructions.~~

~~605.11.3~~ **~~Threaded joints.~~** ~~Threads shall conform to ASME B1.20.1. Pipe-joint compound or tape shall be applied on the male threads only.~~

~~605.11.4~~ **~~Welded joints.~~** ~~All joint surfaces shall be cleaned. The joint shall be welded with an~~ *~~approved~~* ~~filler metal.~~

(P129-15)

***Add new text as follows:***

**605.14.7 Push-fit joints** Push-fit joints shall conform to ASSE 1061 and shall be installed in accordance with the manufacturer's instructions.

**605.15.4 Push-fit joints.** Push-fit joints shall conform to ASSE 1061 and shall be installed in accordance with the manufacturer's instructions.

**605.17.3 Push-fit joints.** Push-fit joints shall conform to ASSE 1061 and shall be installed in accordance with the manufacturer's instructions

(P132-15 Part I)

***Revise as follows:***

**605.24.1 Copper pipe or ~~copper-alloy~~ tubing to galvanized steel pipe.** Joints between

copper pipe or ~~copper-alloy~~ tubing and galvanized steel pipe shall be made with a ~~brass fitting~~ copper- alloy or dielectric fitting or a dielectric union conforming to ASSE 1079. The copper tubing shall be soldered to the fitting in an *approved* manner, and the fitting shall be screwed to the threaded pipe.

(P134-15)

**606.2 Location of shutoff valves.** Shutoff valves shall be installed in the following locations:

1.       On the fixture supply to each plumbing fixture other than bathtubs and showers in ~~one- and two- family~~ residential *occupancies*, and other than in individual sleeping units that are provided with unit shutoff valves in hotels, motels, boarding houses and similar *occupancies*.

2.       On the water supply to each sillcock.

3.       On the water supply pipe to each appliance or mechanical equipment.

(P7192)

***Revise as follows:***

**607.3 Thermal expansion control.** Where a storage water heater is supplied with cold water that passes through a check valve, pressure reducing valve or backflow preventer, a thermal expansion ~~tank~~ control device shall be connected to the water heater cold water supply pipe at a point that is downstream of all check valves, pressure reducing valves and backflow preventers. Thermal expansion ~~tanks~~ control devices shall be sized in accordance with the ~~tank~~ manufacturer's instructions and shall be sized such that the pressure in the water distribution system shall not exceed that required by Section 604.8.

(P141-15)

***Revise as follows:***

**608.3 Devices, appurtenances, appliances and apparatus.** Devices, appurtenances, appliances and apparatus intended to serve some special function, such as sterilization, distillation, processing, cooling, or storage of ice or foods, and that connect to the water supply system, shall be provided with protection against backflow and contamination of the water supply system. ~~Water pumps, filters, softeners, tanks and other appliances and devices that handle or treat potable water shall be protected against contamination.~~

**Add new text as follows:**

 **608.4 Potable water handling and treatment equipment.** Water pumps, filters, softeners, tanks and other appliances and devices that handle or treat potable water to be supplied to the potable water distribution system shall be located to prevent contamination from entering the appliances and devices. Overflow, relief valve and waste discharge pipes from such appliances and devices shall terminate through an air gap.

**Note: re-number sections as per the 2018 IPC**

**608.~~4~~5 Water Service piping.**

**608~~.5~~ 6 Chemicals and other substances.**

**608.~~6~~ 7 Cross connection control.**

**608.~~7~~ 8Valves and outlets prohibited below grade.**

**608.~~8~~ 9 Identification of nonpotable water systems.**

**…..**

(P149-15AM)

**608.7 Valves and outlets prohibited below grade.** Potable water outlets and combination stop-and- waste valves shall not be installed underground or below grade. ~~Freezeproof~~ A freezeproof yard ~~hydrants~~ hydrant that ~~drain~~ drains the riser into the ground ~~are~~ shall be considered ~~to be~~ as having a stop-and- waste ~~valves~~ valve below grade.

**~~Exception:~~** ~~Freezeproof yard hydrants that drain the riser into the ground shall be permitted to be~~ ~~installed, provided that the potable water supply to such hydrants is protected upstream of the~~ ~~hydrants in accordance with Section 608 and the hydrants are permanently identified as nonpotable~~ ~~outlets by~~ *~~approved~~* ~~signage that reads as follows: "Caution, Nonpotable Water. Do Not Drink."~~

**Exception:** Freezeproof yard hydrants that drain the riser into the ground shall be permitted to be installed provided that the potable water supply to such hydrants is protected in accordance with Section 608.13.2 or 608.13.5 and the hydrants and the piping from the backflow preventer to the hydrant are identified in accordance with Section 608.8.

(P150-15 Part I)

**608.9 Reutilization prohibited.** Water utilized for the heating or cooling of equipment or other processes shall not be returned to the potable water system. Such water shall be discharged into a drainage system through an *air gap* or shall be utilized for nonpotable purposes.

(P151-15)

**608.11 ~~Painting of~~ Potable water tanks.** Where in contact with potable water intended for drinking water, water tanks, coatings for the inside of tanks and liners for water tanks shall conform to NSF 61. The interior surface of a potable water tank shall not be lined, painted or repaired with any material that changes the taste, odor, color or potability of the water supply when the tank is placed in, or returned to, service.

(P152-15)

**608.13.1 Air gap.** The minimum required *air gap* shall be measured vertically from the lowest end of a potable water outlet to the *flood level rim* of the fixture or receptacle into which such potable water outlet discharges. *Air gaps* shall comply with ASME A112.1.2 and *air gap* fittings shall comply with ASME A112.1.3. Products that are *listed* and *labeled* to ASME A112.1.2 or ASME A112.1.3 shall be considered to be in compliance with this section.

(P153-15)

**~~608.13.5 Pressure vacuum breaker assemblies.~~** Pressure vacuum breaker assemblies shall ~~conform to~~ comply with ASSE 1020 or CSA B64.1.2. Spill-resistant vacuum breaker assemblies shall comply with ASSE 1056 or CSA B64.1.3. These assemblies ~~are designed for installation under continuous pressure conditions where~~ shall be installed with the critical level ~~is installed at~~ of the ~~required height~~ assembly located not less than 12 inches (304.8 mm) above all downstream piping and outlets. Pressure vacuum breaker assemblies shall not be installed in locations where spillage could cause damage to the structure.

***Delete without substitution:***

**~~608.13.8 Spill-resistant pressure vacuum breaker assemblies.~~** ~~Spill-resistant pressure vacuum breaker assemblies shall conform to ASSE 1056 or CSA B64.1.3. These assemblies are designed for installation under continuous-pressure conditions where the critical level is installed at the required height.~~

(P155-15)

***Add new text as follows:***

**608.16.1 Beverage dispensers.** The water supply connection to beverage dispensers shall be protected against backflow in accordance with Sections 608.16.1.1 and 608.16.1.2.

**~~608.16.1~~ 608.16.1.1 ~~Beverage~~ Carbonated beverage dispensers.** The water supply connection to carbonated beverage dispensers shall be protected against backflow by a backflow preventer conforming to ASSE 1022 or by an *~~air gap~~* air gap. The portion of the backflow preventer device downstream from the second check valve of the device and the piping downstream therefrom shall not be affected by carbon dioxide gas.

***Add new text as follows:***

**608.16.1.2 Coffee machines and non carbonated drink dispensers.** The water supply connection to coffee machines and noncarbonated beverage dispensers shall be protected against backflow by a backflow preventer conforming to ASSE 1022, ASSE 1024 or by an air gap.

(P159-15)

**608.16.1 Beverage dispensers.** The water supply connection to each beverage ~~dispensers~~

dispenser shall be protected against backflow by a backflow preventer conforming to ASSE 1022 or by an *air gap*. The portion of the backflow preventer device downstream from the second check valve and the piping downstream therefrom shall not be affected by carbon dioxide gas.

**608.16.9 Dental ~~pump~~ pumping equipment.** ~~Where~~ The water supply connection to each dental pumping equipment ~~connects to the water distribution system, the water supply~~ system shall be protected against backflow in accordance with Section 608.13.1, 608.13.2, 608.13.5, 608.13.6 or 608.13.8.

**608.16.10 Coffee machines and noncarbonated beverage dispensers.** The water supply connection to each coffee ~~machines~~ machine and each noncarbonated beverage ~~dispensers~~ dispenser shall be protected against backflow by a backflow preventer conforming to ASSE 1022 or by an *air gap*.

(P160-15)

**608.16.1 Beverage dispensers.** The water supply connection to beverage dispensers shall be protected against backflow ~~by a backflow preventer conforming to ASSE 1022 or by an~~ *~~air gap~~*~~. The portion of the backflow preventer device downstream from the second check valve~~ in accordance with Section 608.16.1.1 and ~~the piping downstream therefrom shall not be affected by carbon dioxide gas~~ 608.16.1.2.

***Add new text as follows:***

608.16.1.1 **Carbonated beverage dispensers.** The water supply connection to carbonated beverage dispensers shall be protected against backflow by a backflow prevention device conforming to ASSE 1022 or by an air gap. The portion of the backflow preventer device downstream from the second check valve of the device and the piping downstream therefrom shall not be affected by carbon dioxide gas.

608.16.1.2 **Coffee machines and noncarbonated beverage dispensers.** The water supply connection to coffee machines and noncarbonated beverage dispensers shall be protected against backflow by a backflow prevention device conforming to ASSE 1024 or by an air gap.

***Delete without substitution:***

~~608.16.10~~ **~~Coffee machines and noncarbonated beverage dispensers.~~** ~~The water supply connection to coffee machines and noncarbonated beverage dispensers shall be protected against backflow by a backflow preventer conforming to ASSE 1022 or by an~~ *~~air gap~~*~~.~~

(P161-15)

***Add new text as follows:***

**608.16.11 Humidifiers.** The water supply connection to humidifiers that do not have internal backflow protection shall be protected against backflow by a backflow preventer conforming to ASSE 1012 or by an *air gap*.

(P162-15 AMPC1)

**609.1 Scope.** This section shall govern those aspects of health care plumbing systems that differ from plumbing systems in other structures. Health care plumbing systems shall conform to the requirements of this section in addition to the other requirements of this code. The provisions of this section shall apply to the special devices and equipment installed and maintained in the following occupancies: ~~nursing homes~~ Group I-1, ~~homes for the aged~~ Group I-2, ~~orphanages, infirmaries, first aid stations, psychiatric~~ Group B ambulatory care facilities, ~~clinics, professional~~ medical offices ~~of dentists~~ and ~~doctors, mortuaries, educational facilities, surgery, dentistry,~~ research and testing laboratories, ~~establishments~~ and Group F facilities manufacturing pharmaceutical drugs and medicines ~~and other structures with similar apparatus and equipment classified as plumbing~~.

(P69-15)

Chapter 7 **SANITARY DRAINAGE**

***Delete without substitution:***

**~~701.8 Drainage piping in food service areas.~~** ~~Exposed soil or waste piping shall not be installed above any working, storage or eating surfaces in food service establishments.~~

(P167-15)

**Revise as follows:**

**TABLE 702.1**

**ABOVE-GROUND DRAINAGE AND VENT PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| ~~Brass pipe~~ | ~~ASTM B 43~~ |
| Copper or copper-alloy pipe | ASTM B 42; ASTM B 43; B 302 |

 *(Portions of table not shown remain unchanged)*

(P168-15 Part I)

**Revise as follows:**

**TABLE 702.2**

**UNDERGROUND BUILDING DRAINAGE AND VENT PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyolefin pipe | ASTM F 1412; ASTM F714; CSA B181.3 |

*(Portions of table not shown remain unchanged)*

(P170-15 Part I)

***Revise as follows:***

**TABLE 702.3 (702.3)**

**BUILDING SEWER PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS200) and DR 24 (PS 140); with a solid, cellular core or composite wall | ASTM D 2661; ASTM F 628; ASTM F 1488; CSA B181.1 |
| Acrylonitrile butadiene styrene (ABS) plastic pipe in sewer and drain diameters, including SDR 42 (PS 20), PS 35, SDR 35 (PS 45), PS 50, PS 100, PS140, SDR 23.5 (PS 150) and PS 200; with a solid, cellular core or composite wall | ASTM F 1488; ASTM D 2751 |
| Cast-iron pipe | ASTM A 74; ASTM A 888; CISPI 301 |
| Concrete pipe | ASTM C 14; ASTM C 76; CSA A257.1M; CSA A257.2M |
| Copper or copper-alloy tubing (Type K or L) | ASTM B 75; ASTM B 88;ASTM B 251 |
| Polyethylene (PE) plastic pipe (SDR-PR) | ASTM F 714 |
| Polypropylene (PP) Plastic Pipe | ASTM F2736; ASTM F2764; CSA B182.13 |
| Polyvinyl chloride (PVC) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall | ASTM D 2665; ASTM F 891; ASTM F 1488 |
| Polyvinyl chloride (PVC) plastic pipe in sewer and drain diameters, including PS 25, SDR 41 (PS 28),PS 35, SDR 35 (PS 46), PS 50, PS 100, SDR 26(PS 115), PS 140 and PS 200; with a solid, cellular core or composite wall | ASTM F 891; ASTM F 1488; ASTM D 3034; CSA B182.2; CSA B182.4 |
| Polyvinyl chloride (PVC) plastic pipe with a 3.25-inchO.D. and a solid, cellular core or composite wall | ASTM D 2949, ASTM F 1488 |
| Polyvinylidene fluoride (PVDF) plastic pipe | ASTM F 1673; CSA B181.3 |
| Stainless steel drainage systems, Types 304 and 316L | ASME A112.3.1 |
| Vitrified clay pipe | ASTM C 4; ASTM C 700 |

For SI: 1 inch = 25.4 mm.

**703.2 Drainage pipe in filled ground.** Where a building sewer or building drain is installed on filled or unstable ground, the drainage pipe shall conform to one of the standards for ABS plastic pipe, cast-iron pipe, copper or copperalloy tubing, ~~or~~ PVC plastic pipe or PP plastic pipe listed in Table 702.3.

**Add new text as follows:**

**705.16 Polypropylene plastic.** The joint between polypropylene plastic pipe and fittings shall incorporate an elastomeric seal. The joint shall conform to ASTM D3212. Mechanical joints shall not be installed above ground.

(P171-15)

***Revise as follows:***

**TABLE 702.4 PIPE FITTINGS**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| ~~Malleable iron~~ | ~~ASME B 16.3~~ |

*(Portions of table not shown remain unchanged)*

(P173-15)

***Revise as follows:***

**TABLE 702.4 PIPE FITTINGS**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyethylene | ASTM D2683 |

 *(Portions of table not shown remain unchanged)*

(P174-15 Part I)

***Revise as follows:***

**703.4 Existing building sewers and building drains.** ~~Existing~~ Where the entire sanitary drainage system of an existing building is replaced, existing building drains under concrete slabs and existing building sewers ~~and drains shall connect with new building sewer and drainage systems only~~ ~~where found by examination and test to conform to~~ that will serve the new system shall be internally examined to verify that the piping is sloping in ~~quality~~ the correct direction, is not broken, is not obstructed and is sized for the drainage load of ~~material. The code official shall notify~~ the ~~owner~~ new plumbing drainage system to ~~make the changes necessary to conform to this code~~ be installed.

(P176-15)

***Revise as follows:***

**704.2 ~~Change~~.** No reduction in size in the direction of ﬂow. The size of the drainage piping shall not be reduced in ~~size in~~ the direction of the ﬂow. The following shall not be considered a reduction in size in the direction of ﬂow:

1. A 4-inch by 3-inch (102 mm by 76 mm) water closet ~~connection shall~~ ﬂange.

2. A water closet bend ﬁtting having a 4-inch (102 mm) inlet and a 3-inch (76 mm) outlet provided that the 4 inch leg of the ﬁtting is upright and below, but not ~~be considered as a reduction in size.~~ connected to, the water closet ﬂange.

3. An oﬀset closet ﬂange.

 (P178-15 Part I AMPC1)

***Delete without substitution:***

~~705.3~~ **~~Brass.~~** ~~Joints between brass pipe or fittings shall comply with Sections 705.3.1 through 705.3.4.~~

~~705.3.1~~ **~~Brazed joints.~~** ~~All joint surfaces shall be cleaned. An~~ *~~approved~~* ~~flux shall be applied where required. The joint shall be brazed with a filler metal conforming to AWS A5.8.~~

~~705.3.2~~ **~~Mechanical joints.~~** ~~Mechanical joints shall be installed in accordance with the manufacturer's instructions.~~

~~705.3.3~~ **~~Threaded joints.~~** ~~Threads shall conform to ASME B1.20.1. Pipe-joint compound or tape shall be applied on the male threads only.~~

~~705.3.4~~ **~~Welded joints.~~** ~~All joint surfaces shall be cleaned.The joint shall be welded with an~~ *~~approved~~* ~~filler metal.~~

(P179-15)

***Revise as follows:***

705.16.1 **Copper or copper-alloy pipe or tubing to cast-iron hub pipe.** Joints between copper or copper-alloy pipe or tubing and cast-iron hub pipe shall be made with a ~~brass~~ copper or copper-alloy ferrule or compression joint. The copper or copper-alloy pipe or tubing shall be soldered to the ferrule in an *approved* manner, and the ferrule shall be joined to the cast-iron hub by a caulked joint or a mechanical compression joint.

705.16.2 **Copper or copper-alloy pipe or tubing to galvanized steel pipe.** Joints between copper or copper-alloy pipe or tubing and galvanized steel pipe shall be made with a ~~brass converter fitting~~ copper-alloy or dielectric fitting. The copper tubing shall be soldered to the fitting in an *approved* manner, and the fitting shall be screwed to the threaded pipe.

705.16.3 **Cast-iron pipe to galvanized steel ~~or brass pipe~~.** Joints between cast-iron and galvanized steel ~~or brass pipe~~ shall be made by either caulked or threaded joints or with an *approved* adapter fitting.

**705.19 Soldering bushings.** Soldering bushings shall be of ~~red brass~~ copper or copper-alloy and shall be in accordance with Table 705.19.

(P180-15)

***Revise as follows:***

**705.16.1 Copper pipe or ~~copper-alloy~~ tubing to cast-iron hub pipe.** Joints between

copper pipe or ~~copper-alloy~~ tubing and cast-iron hub pipe shall be made with a ~~brass~~ copper-alloy ferrule or compression joint. The copper pipe or ~~copper-alloy~~ tubing shall be soldered to the ferrule in

an *approved* manner, and the ferrule shall be joined to the cast-iron hub by a caulked joint or a mechanical compression joint.

(P181-15 Part I)

***Revise as follows:***

**705.16.4 Plastic pipe or tubing to other piping material.** Joints between different types of plastic

pipe shall be made with an approved adapter fitting or by a solvent cement joint only where a single joint is made between ABS and PVC pipes at the end of a building drainage pipe and the beginning of a building sewer pipe using a solvent cement complying with ASTM D3138. Joints between plastic pipe and other piping material shall be made with an *approved* adapter fitting. Joints between plastic pipe and cast- iron hub pipe shall be made by a caulked joint or a mechanical compression joint.

**707.1 Prohibited joints.** The following types of joints and connections shall be prohibited:

1. Cement or concrete joints.

2. Mastic or hot-pour bituminous joints.

3. Joints made with fittings not *approved* for the specific installation.

4. Joints between different diameter pipes made with elastomeric rolling O-rings.

5. Solvent-cement joints between different types of plastic pipe except where provided for in Section 705.16.4.

6. Saddle-type fittings

7.

(P184-15 Part I)

***Revise as follows:***

**705.18 Caulking ferrules.** Ferrules shall be of ~~red brass~~ copper-alloy and shall be in accordance with Table 705.18.

(P185-15)

***Revise as follows*:**

**705.18 Caulking ferrules.** ~~Ferrules~~ Caulking ferrules shall be of red brass and shall be in accordance with Table 705.18.

(P186-15)

***Revise as follows:***

**708.1.6 Cleanout plugs.** Cleanout plugs shall be of ~~brass~~ copper-alloy, plastic or other *approved* materials. Cleanout plugs for borosilicate glass piping systems shall be of borosilicate glass. ~~Brass~~ Copper-alloy cleanout plugs shall conform to ASTM A 74 and shall be limited for use only on metallic piping systems. Plastic cleanout plugs shall conform to the referenced standards for plastic pipe fittings, as indicated in Table 702.4. Cleanout plugs shall have a raised square head, a countersunk square head or a countersunk slot head. Where a cleanout plug will have a trim cover screw installed into the plug, the plug shall be manufactured with a blind end threaded hole for such purpose.

(P191-15 Part I)

***Revise as follows:***

**709.3 ~~Values for continuous and semicontinuous~~ Conversion of gpm flow into dfu values.** Where discharges to a waste receptor or to a drainage system are only known in gallons per minute (liters per second) values, the *~~Drainage~~ drainage fixture unit* values for ~~continuous and semicontinuous flow into a drainage system~~ those flows shall be computed on the basis that 1 gpm (0.06 L/s) of flow is equivalent to two *drainage* fixture units.

(P192-15)

**712.3.2 Sump pit.** The sump pit shall be not less than 18 inches (457 mm) in diameter and not less than 24 inches (610 mm) in depth, unless otherwise *approved*. The pit shall be ~~accessible~~ provided with access and shall be located such that all drainage flows into the pit by gravity. The sump pit shall be constructed of tile, concrete, steel, plastic or other *approved* materials. The pit bottom shall be solid and provide permanent support for the pump. The sump pit shall be fitted with a gastight removable cover that is installed flush with grade or floor level, or above grade or floor level. The cover shall be adequate to support anticipated loads in the area of use. The sump pit shall be vented in accordance with Chapter 9.

(P84-15)

***Revise as follows:***

**712.3.3 Discharge pipe and fittings.** Discharge pipe and fittings serving sump pumps and ejectors shall be constructed of materials in accordance with Sections 712.3.3.1 and 712.3.3.2 ~~and shall be~~ *~~approved~~*.

(P195-15 Part I)

***Revise as follows*:**

**712.3.3.1 Materials.** Pipe and fitting materials shall be constructed of ~~brass~~ copper, ~~copper~~ copper-alloy, CPVC, ductile iron, PE, or PVC.

(P196-15)

***Revise as follows:***

**712.4.2 Capacity.** A sewage pump or sewage ejector shall have the capacity and head for the application requirements. Pumps or ejectors that receive the discharge of water closets shall be capable of handling spherical solids with a diameter of up to and including 2 inches (51 mm). Other pumps or ejectors shall be capable of handling spherical solids with a diameter of up to and including ~~1~~ ½ inch (~~25~~13 mm). The capacity of a pump or ejector based on the diameter of the discharge pipe shall be not less than that indicated in Table 712.4.2.

**Exceptions:**

1. Grinder pumps or grinder ejectors that receive the discharge of water closets shall have a discharge opening of not less than 1 -1/4 inches (32 mm).

2. Macerating toilet assemblies that serve single water closets shall have a discharge opening of not less than 3/4 inch (19 mm).

(P197-15 Part I)

***Revise as follows:***

**713.4 Vacuum system station.** Ready *access* shall be provided to vacuum system station ~~receptacles~~ inlets. ~~Such receptacles shall be built into cabinets or recesses and shall be visible.~~

(P200-15)

**713.1 Scope.** This section shall govern those aspects of health care plumbing systems that differ from plumbing systems in other structures. Health care plumbing systems shall conform to this section in addition to the other requirements of this code. The provisions of this section shall apply to the special devices and equipment installed and maintained in the following occupancies: ~~nursing homes; homes for the aged; orphanages; infirmaries; first aid stations; psychiatric~~ Group I-1, Group I-2, Group B ambulatory care facilities~~; clinics; professional~~, medical offices ~~of dentists~~ and ~~doctors; mortuaries; educational facilities; surgery, dentistry,~~ research and testing laboratories~~; establishments~~, and Group F facilities manufacturing pharmaceutical drugs and medicines~~; and other structures with similar apparatus~~ ~~and equipment classified as plumbing~~.

(P69-15)

***Revise as follows:***

**713.5 ~~Bottle~~ Medical vacuum system.** ~~Vacuum (fluid suction)~~ Medical vacuum systems intended for collecting, removing and disposing of blood, ~~pus~~ other bodily fluids or ~~other fluids by the bottle system~~ waste anesthesia gasses shall ~~provided~~ comply with ~~receptacles equipped with an overflow prevention device at each vacuum outlet station.~~NFPA 99.

***Delete without substitution:***

**713.6 ~~Central disposal system equipment.~~** ~~Central vacuum (fluid suction) systems shall provide continuous service. Systems equipped with collecting or control tanks shall provide for draining and cleaning of the tanks while the system is in operation. In hospitals, the system shall be connected to the emergency power system. The exhausts from a vacuum pump serving a vacuum (fluid suction) system shall discharge separately to open air above the roof.~~

**713.7 ~~Central vacuum or disposal systems.~~** ~~Where the waste from a central vacuum (fluid suction) system of the barometric-lag, collection-tank or bottle-disposal type is connected to the drainage system, the waste shall be directly connected to the sanitary drainage system through a trapped waste.~~

~~713.7.1~~ **~~Piping.~~** ~~The piping of a central vacuum (fluid suction) system shall be of corrosion-resistant~~ ~~material with a smooth interior surface. A~~ *~~branch~~* ~~shall be not less than 1/2- inch (12.7 mm) nominal pipe size for one outlet and shall be sized in accordance with the number of vacuum outlets. A main shall be not less than 1-inch (25 mm) nominal pipe size. The pipe sizing shall be increased in accordance with the manufacturer's instructions as stations are increased.~~

~~713.7.2~~ **~~Velocity.~~** ~~The velocity of airflow in a central vacuum (fluid suction) system shall be less than 5,000 feet per minute (25 m/s).~~

(P201-15)

**~~SECTION713~~ ~~HEALTH CARE PLUMBING~~**

~~713.1~~ **~~Scope.~~** ~~This section shall govern those aspects of health care plumbing systems that differ from plumbing systems in other structures. Health care plumbing systems shall conform to this section in addition to the other requirements of this code. The provisions of this section shall apply to the special devices and equipment installed and maintained in the following occupancies: nursing homes; homes for the aged; orphanages; infirmaries; first aid stations; psychiatric facilities; clinics; professional offices of dentists and doctors; mortuaries; educational facilities; surgery, dentistry, research and testing~~

~~laboratories; establishments manufacturing pharmaceutical drugs and medicines; and other structures~~ ~~with similar apparatus and equipment classified as plumbing.~~

~~713.2~~ **~~Bedpan washers and clinical sinks.~~** ~~Bedpan washers and clinical sinks shall connect to the drainage and vent system in accordance with the requirements for a water closet. Bedpan washers shall also connect to a local vent.~~

~~713.3~~ **~~Indirect waste.~~** ~~Sterilizers, steamers and condensers shall discharge to the drainage through an indirect waste pipe by means of an~~ *~~air gap~~*~~. Where a battery of not more than three sterilizers discharges to an individual receptor, the distance between the receptor and a sterilizer shall not exceed 8 feet (2438 mm). The indirect waste pipe on a bedpan steamer shall be trapped.~~

~~713.4~~ **~~Vacuum system station.~~** ~~Ready~~ *~~access~~* ~~shall be provided to vacuum system station receptacles. Such receptacles shall be built into cabinets or recesses and shall be visible.~~

~~713.5~~ **~~Bottle system.~~** ~~Vacuum (fluid suction) systems intended for collecting, removing and disposing of blood, pus or other fluids by the bottle system shall be provided with receptacles equipped with an overflow prevention device at each vacuum outlet station.~~

~~713.6~~ **~~Central disposal system equipment.~~** ~~Central vacuum (fluid suction) systems shall provide continuous service. Systems equipped with collecting or control tanks shall provide for draining and cleaning of the tanks while the system is in operation. In hospitals, the system shall be connected to the emergency power system. The exhausts from a vacuum pump serving a vacuum (fluid suction) system shall discharge separately to open air above the roof.~~

~~713.7~~ **~~Central vacuum or disposal systems.~~** ~~Where the waste from a central vacuum (fluid suction) system of the barometric-lag, collection-tank or bottle-disposal type is connected to the drainage system, the waste shall be directly connected to the sanitary drainage system through a trapped waste.~~

~~713.7.1~~ **~~Piping.~~** ~~The piping of a central vacuum (fluid suction) system shall be of corrosion-resistant material with a smooth interior surface. A~~ *~~branch~~* ~~shall be not less than~~ ~~1~~~~/~~~~2~~~~- inch (12.7 mm) nominal pipe size for one outlet and shall be sized in accordance with the number of vacuum outlets. A main shall be not less than 1-inch (25 mm) nominal pipe size. The pipe sizing shall be increased in accordance with the manufacturer's instructions as stations are increased.~~

~~713.7.2~~ **~~Velocity.~~** ~~The velocity of airflow in a central vacuum (fluid suction) system shall be less than 5,000 feet per minute (25 m/s).~~

~~713.8~~ **~~Vent connections prohibited.~~** ~~Connections between local vents serving bedpan washers or sterilizer vents serving sterilizing apparatus and normal sanitary plumbing systems are prohibited. Only one type of apparatus shall be served by a local vent.~~

~~713.9~~ **~~Local vents and stacks for bedpan washers.~~** ~~Bedpan washers shall be vented to open air above the roof by means of one or more local vents. The local vent for a bedpan washer shall be not less than a 2-inch-diameter (51 mm) pipe. A local vent serving a single bedpan washer is permitted to drain to the fixture served.~~

~~713.9.1~~ **~~Multiple installations.~~** ~~Where bedpan washers are located above each other on more than one floor, a local vent~~ *~~stack~~* ~~is permitted to be installed to receive the local vent on the various floors. Not more than three bedpan washers shall be connected to a 2-inch (51 mm) local vent~~ *~~stack~~*~~, not more than six to a 3-inch (76 mm) local vent~~ *~~stack~~* ~~and not more than 12 to a 4-inch (102 mm) local vent~~ *~~stack~~*~~. In multiple installations, the connections between a bedpan washer local vent and a local vent~~*~~stack~~* ~~shall be made with tee or tee-wye sanitary pattern drainage fittings installed in an upright position.713.9.2~~ **~~Trap required.~~** ~~The bottom of the local vent stack, except where serving only one bedpan washer, shall be drained by means of a trapped and vented waste connection to the sanitary drainage system. The trap and waste shall be the same size as the local vent~~ *~~stack~~*~~.~~

~~713.9.3~~ **~~Trap seal maintenance.~~** ~~A water supply pipe not less than~~ ~~1~~ ~~/~~~~4~~ ~~inch (6.4 mm) in diameter shall be taken from the flush supply of each bedpan washer on the discharge or fixture side of the vacuum breaker, shall be trapped to form not less than a 3-inch (76 mm) water seal and shall be connected to the local vent stack on each floor. The water supply shall be installed so as to provide a supply of water to the local vent stack for cleansing and drain trap seal maintenance each time a bedpan washer is flushed.~~

~~713.10~~ **~~Sterilizer vents and stacks.~~** ~~Multiple installations of pressure and nonpressure sterilizers shall have the vent connections to the sterilizer vent~~ *~~stack~~* ~~made by means of inverted wye~~

~~fittings.~~ *~~Access~~* ~~shall be provided to vent connections for the purpose of inspection and maintenance.~~

~~713.10.1~~ **~~Drainage.~~** ~~The connection between sterilizer vent or exhaust openings and the sterilizer vent~~ *~~stack~~* ~~shall be designed and installed to drain to the funnel or baskettype waste fitting. In multiple installations, the sterilizer vent~~ *~~stack~~* ~~shall be drained separately to the lowest sterilizer funnel or basket-~~ ~~type waste fitting or receptor.~~

~~713.11~~ **~~Sterilizer vent stack sizes.~~** ~~Sterilizer vent~~ *~~stack~~* ~~sizes shall comply with Sections 713.11.1 through 713.11.4.~~

~~713.11.1~~ **~~Bedpan steamers.~~** ~~The minimum size of a sterilizer vent serving a bedpan steamer shall be 1~~~~1~~~~/~~~~2~~ ~~inches (38 mm) in diameter. Multiple installations shall be sized in accordance with Table 713.11.1.~~

**~~TABLE 713.11.1~~**

**~~STACK SIZES FOR BEDPAN STEAMERS AND BOILING-TYPE STERILIZERS (Number of Connections of~~**

**~~Various Sizes Permitted to Various-sized Sterilizer Vent Stacks)~~**

|  |  |
| --- | --- |
| **~~STACK SIZE (inches)~~** | **~~CONNECTION SIZE~~** |
| **~~11/2"~~** |  | **~~2"~~** |
| ~~11 /2a~~ | ~~1~~ | ~~or~~ | ~~0~~ |
| ~~2a~~ | ~~2~~ | ~~or~~ | ~~1~~ |
| ~~2b~~ | ~~1~~ | ~~and~~ | ~~1~~ |
| ~~3a~~ | ~~4~~ | ~~or~~ | ~~2~~ |
| ~~3b~~ | ~~2~~ | ~~and~~ | ~~2~~ |
| ~~4a~~ | ~~8~~ | ~~or~~ | ~~4~~ |
| ~~4b~~ | ~~4~~ | ~~and~~ | ~~4~~ |

~~For SI: 1 inch = 25.4 mm.~~ ~~a. Total of each size.~~

b. ~~Combination of sizes.~~

~~713.11.2~~ **~~Boiling-type sterilizers.~~** ~~The size of a sterilizer vent~~ *~~stack~~* ~~shall be not less than 2 inches (51 mm) in diameter where serving a utensil sterilizer and not less than 1~~~~1~~~~/~~~~2~~ ~~inches (38 mm) in diameter where serving an instrument sterilizer. Combinations of boiling-type sterilizer vent connections shall be sized in accordance with Table 713.11.1.~~

~~713.11.3~~ **~~Pressure sterilizers.~~** ~~Pressure sterilizer vent stacks shall be 2~~~~1~~~~/~~~~2~~ ~~inches (64 mm) minimum. Those serving combinations of pressure sterilizer exhaust connections shall be sized in accordance with Table 713.11.3.~~

**~~TABLE 713.11.3~~**

**~~STACK SIZES FOR PRESSURE STERILIZERS (Number of Connections of Various Sizes Permitted To~~ ~~Various-sized Vent Stacks)~~**

|  |  |
| --- | --- |
| **~~STACK SIZE (inches)~~** | **~~CONNECTION SIZE~~** |
| **~~3/4"~~** | **~~1"~~** | **~~11/4"~~** | **~~11/2"~~** |
| ~~11 /2a~~ | ~~3 or~~ | ~~2 or~~ | ~~1~~ | ~~—~~ |
| ~~11 / 2b~~ | ~~2 and~~ | ~~1~~ | ~~—~~ | ~~—~~ |
| ~~2a~~ | ~~6 or~~ | ~~3 or~~ | ~~2 or~~ | ~~1~~ |
| ~~2b~~ | ~~3 and~~ | ~~2~~ | ~~—~~ | ~~—~~ |
| ~~2b~~ | ~~2 and~~ | ~~1 and~~ | ~~1~~ | ~~—~~ |
| ~~2b~~ | ~~1 and~~ | ~~1 and~~ | ~~—~~ | ~~1~~ |
| ~~3a~~ | ~~15 or~~ | ~~7 or~~ | ~~5 or~~ | ~~3~~ |
| ~~3b~~ | ~~1 and~~ | ~~1 and 5 and~~ | ~~2 and~~ | ~~2 1~~ |

~~For SI: 1 inch = 25.4 mm.~~ ~~a. Total of each size.~~

~~b. Combination of sizes.~~

~~713.11.4~~ **~~Pressure instrument washer sterilizer sizes.~~** ~~The diameter of a sterilizer vent stack serving~~

~~an instrument washer sterilizer shall be not less than 2 inches (51 mm). Not more than two sterilizers shall~~ ~~be installed on a 2-inch (51 mm)~~ *~~stack~~*~~, and not more than four sterilizers shall be installed on a 3-inch (76~~ ~~mm)~~

(P208-15)

**715.2 Material.** ~~Bearing parts of backwater valves shall be of corrosion-resistant material.~~ Backwater valves shall comply with ASME A112.14.1, CSA B181.1 or CSA B181.2.

***Delete without substitution:***

**715.3 ~~Seal.~~** ~~Backwater valves shall be so constructed as to provide a mechanical seal against backflow.~~

**715.4 ~~Diameter.~~** ~~Backwater valves, when fully opened, shall have a capacity not less than that of the pipes in which they are installed.~~

***Revise as follows:***

**715.~~5~~715.3 Location.** Backwater valves shall be installed so that *access* is provided to the working parts ~~for service and repair~~.

(P203-15)

***Revise as follows:***

**717.4 Pipe.** The replacement ~~piping~~ pipe shall be ~~manufactured with~~ made of a high density polyethylene (HDPE) and shall have a standard dimension ratio (SDR) of 17 ~~and~~. The pipe shall be in compliance with ASTM F 714.

**717.5 Pipe fittings.** Pipe fittings to be connected to the replacement ~~piping~~ pipe shall be made of ~~extra- high molecular weight PE3408 material~~ high-density polyethylene (HDPE) and shall be ~~manufactured with an SDR of 17 and~~ in compliance with ASTM D 2683.

(P204-15 Part I)

**Revise as follows:**

**SECTION 717**

**REPLACEMENT OF UNDERGROUND BUILDING SEWERS AND BUILDING DRAINS BY PIPE- BURSTING METHODS**

**717.1 General.** This section shall govern the replacement of existing *building sewer and building drain* piping by pipe-bursting methods.

**717.2 Applicability.** The replacement of *building sewer and building drain* piping by pipe-bursting methods shall be limited to gravity drainage piping of sizes 6 inches (152 mm) and smaller. The replacement piping shall be of the same nominal size as the existing piping.

**717.6 Cleanouts.** Where the existing *building sewer or building drain* did not have cleanouts meeting the requirements of this code, cleanout fittings shall be installed as required by this code.

**TABLE 702.2**

**UNDERGROUND BUILDING DRAINAGE AND VENT PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyethylene (PE) plastic pipe (SDR-PR) | ASTM F 714 |

*(Portions of table not shown remain unchanged)*

For SI: 1 inch = 25.4 mm.

(P279-15 Part I)

**CHAPTER 8 INDIRECT/SPECIAL WASTE**

**Revise as follows:**

**801.1 Scope.** This chapter shall govern matters concerning indirect waste piping and special wastes. This chapter shall further control matters concerning food-handling establishments,

sterilizers, humidifiers, clear-water waste, swimming pools, methods of providing *air breaks* or *air gaps*, and neutralizing devices for corrosive wastes.

**801.2 Protection.** Devices, appurtenances, appliances and apparatus intended to serve some special function, such as sterilization, humidification, distillation, processing, cooling, or storage of ice or foods, and that discharge to the drainage system, shall be provided with protection against backflow, flooding, fouling, contamination and stoppage of the drain.

**802.1 Where required.** Food-handling equipment, in other than dwelling units, clear-water waste, humidifiers, dishwashing machines and utensils, pots, pans and dishwashing sinks shall discharge through an indirect waste pipe as specified in Sections 802.1.1 through 802.1.8. Health-care related fixtures, devices and equipment shall discharge to the drainage system through an indirect waste pipe by means of an *air gap* in accordance with this chapter and Section 713.3. Fixtures not required by this section to be indirectly connected shall be directly connected to the plumbing system in accordance with Chapter 7.

(P162-15 AMPC1)

**802.1 Where required.** Food-handling equipment, in other than dwelling units, clear-water waste, dishwashing machines and utensils, pots, pans and dishwashing sinks shall discharge through an indirect waste pipe as specified in Sections 802.1.1 through 802.1.8. Health-care related fixtures, devices and equipment shall discharge to the drainage system through an indirect waste pipe by means of an *air gap* in accordance with this chapter and Section 713.3. Fixtures not required ~~by this section~~ to be indirectly connected by this section and the exception of Section 301.6 shall be directly connected to the plumbing system in accordance with Chapter 7.

(P206-15)

**Revise as follows:**

**802.1 Where required.** Food-handling equipment, in other than dwelling units, clear-water waste, dishwashing machines and utensils, pots, pans and dishwashing sinks shall discharge through an indirect waste pipe as specified in Sections 802.1.1 through 802.1.8. ~~Health-care related fixtures, devices and equipment shall discharge to the drainage system through an indirect waste pipe by means of an~~ *~~air gap~~* ~~in accordance with this chapter and Section 713.3.~~ Fixtures not required by this section to be indirectly connected shall be directly connected to the plumbing system in accordance with Chapter 7.

(P207-15)

**802.1 Where required.** Food-handling equipment, in other than dwelling units, clear-water waste, dishwashing machines and utensils, pots, pans and dishwashing sinks shall discharge through an indirect waste pipe as specified in Sections 802.1.1 through 802.1.8. Health-care related fixtures, devices and equipment shall discharge to the drainage system through an indirect waste pipe by means of an *air gap* in accordance with this chapter ~~and Section 713.3~~. Fixtures not required by this section to be indirectly connected shall be directly connected to the plumbing system in accordance with Chapter 7.

(P208-15)

***Delete without substitution:***

**~~802.1.6 Domestic dishwashing machines.~~** ~~Domestic dishwashing machines shall discharge indirectly through an~~ *~~air gap~~* ~~or~~ *~~air break~~* ~~into a waste receptor in accordance with Section 802.2, or discharge into a wye branch fitting on the tailpiece of the kitchen sink or the dishwasher connection of a food waste disposer. The waste line of a domestic dishwashing machine discharging into a kitchen sink tailpiece or food waste disposer shall connect to a deck-mounted air gap or the waste line shall rise and be securely fastened to the underside of the sink rim or counter.~~

(P57-15)

**Add new text as follows:**

**802.3.3.1 Connection of laundry tray to standpipe.** As an alternative for a laundry tray fixture connecting directly to a drainage system, a laundry tray waste line without a fixture trap shall connect to a standpipe for an automatic clothes washer drain. The standpipe shall extend not less than 30 inches (732 mm) above the weir of the standpipe trap and shall extend above the flood level rim of the laundry tray. The outlet of the laundry tray shall not be greater than 30 inches (762 mm) horizontal distance from the side of the standpipe.

(P212-15)

**~~804.1~~ 802.2 ~~General~~ Material, joints, and connections.** The materials, joints, connections, and methods utilized for the construction and installation of indirect waste ~~pipes and~~ piping systems shall comply with the applicable provisions of Chapter 7.

**Delete without substitution:**

**SECTION ~~804~~**

**~~MATERIALS, JOINTS AND CONNECTIONS~~**

(P213-15)

**CHAPTER 9 VENTS**

**Revise as follows:**

**918.8 Prohibited installations.** Air admittance valves shall not be installed in nonneutralized special waste systems as described in Chapter 8 except where such valves are in compliance with ASSE 1049, are constructed of materials *approved* in accordance with Section 702.5 and are tested for chemical resistance in accordance with ASTM F 1412. Air admittance valves shall not be located in spaces utilized as supply or return air plenums. Air admittance valves without an engineered design shall not be utilized to vent sumps or tanks of any type. Air admittance valves shall not be installed on outdoor vent terminals for the sole purpose of reducing clearances to gravity air intakes or mechanical air intakes.

(P226-15 Part I)

**918.8 Prohibited installations.** Air admittance valves shall not be installed in nonneutralized special waste systems as described in Chapter 8 except where such valves are in compliance with ASSE 1049, are constructed of materials *approved* in accordance with Section 702.5 and are tested for chemical resistance in accordance with ASTM F 1412. Air admittance valves shall not be located in spaces utilized as supply or return air plenums. Air admittance valves ~~without an engineered design~~ shall not be ~~utilized~~ used to vent sumps or tanks ~~of any type~~ except where the vent system for the sump or tank has been designed by an engineer.

(P227-15)

**CHAPTER 10 TRAPS, INTERCEPTORS AND SEPARATORS**

Revise as follows:

 1003.3 Grease ~~traps and grease~~ interceptors ~~for publicly-owned or investor-owned sewage systems~~.

Grease interceptors for publicly owned or investor-owned sewage systems shall comply with the requirements of Sections 1003.3.1 through 1003.3.~~5~~8. Grease interceptors for onsite sewage treatment and disposal systems shall comply with the requirements of 1003.3.2 and 1003.3.9

(**SP8165)** /(P230-15)

1003.3.1Grease interceptors and automatic grease removal devices required.

A grease interceptor or automatic grease removal device shall be required to receive the drainage from fixtures and equipment with grease-laden waste located in food preparation areas, such as in restaurants, hotel kitchens, hospitals, school kitchens, bars, factory cafeterias and clubs. Fixtures and equipment shall include pot sinks, prerinse sinks; soup kettles or similar devices; wok stations; floor drains or sinks into which kettles are drained; automatic hood wash units and dishwashers without prerinse sinks. Grease interceptors and automatic grease removal devices shall receive waste only from fixtures and equipment that allow fats, oils or grease to be discharged. Where lack of space or other constraints prevent the installation or replacement of a grease interceptor, one or more grease interceptors shall be permitted to be installed on or above the floor and upstream of an existing grease interceptor.

**Revise as follows:**

**1003.3.2 Food waste disposers restriction.** ~~Where~~ A food waste ~~disposers connect to grease~~ ~~interceptors, a solids interceptor shall separate the discharge before connecting to the grease interceptor.~~ ~~Solids interceptors and grease interceptors shall be sized and rated for the discharge of the food waste~~ ~~disposers. Emulsifiers, chemicals, enzymes and bacteria~~ disposer shall not discharge ~~into the food waste~~ ~~disposer~~ to a grease interceptor

**(P233-15)/(P234-15)**

**1003.3.3 Additives to grease interceptors**.

Dispensing systems that dispense interceptor performance additives to grease interceptors shall not be installed except where such systems dispense microbes for the enhancement of aerobic bioremediation of grease and other organic material, or for inhibiting growth of pathogenic organisms by anaerobic methods. Such microbial dispensing systems shall be installed only where the grease interceptor manufacturer’s instructions allow such systems and the systems conform to ASME A112.14.6. Systems that discharge emulsifiers, chemicals or enzymes to grease interceptors shall be prohibited.

**(SP8165/P234-15)**

1003.3.~~34~~ Grease interceptors and automatic grease removal devices not required.

A grease interceptor or an automatic grease removal device shall not be required for individual dwelling units or any private living quarters.

1003.3.~~4~~5 Hydromechanical grease interceptors, fats, oils and greases disposal systems and automatic grease removal devices.

Hydromechanical grease interceptors; fats, oils, and greases disposal systems and automatic grease removal devices shall be sized in accordance with ASME A112.14.3, ASME A112.14.4, ASME A112.14.6, CSA B481.3 or PDI G101. Hydromechanical grease interceptors; fats, oils, and greases disposal systems; and automatic grease removal devices shall be designed and tested in accordance with ASME A112.14.3, ASME A112.14.4, CSA B481.1, PDI G101 or PDI G102. Hydromechanical grease interceptors; fats, oils, and greases disposal systems; and automatic grease removal devices shall be installed in accordance with the manufacturer’s instructions. Where manufacturer’s instructions are not provided, hydromechanical grease interceptors; fats, oils, and greases disposal systems; and automatic grease removal devices shall be installed in compliance with ASME A112.14.3, ASME A112.14.4, ASME A112.14.6, CSA B481.3 or PDI G101.

**Exception:** Grease interceptors that are sized, constructed and approved in accordance with Rule 64E-6, *Florida Administrative Code* and that are located outside the building shall not be required to meet the requirements of this section.

1003.3.~~4~~5.1Grease interceptor capacity.

Grease interceptors shall have the grease retention capacity indicated in Table 1003.3.4.1 for the flow-through rates indicated.

TABLE 1003.3.~~4~~5.1

CAPACITY OF GREASE INTERCEPTORSa

|  |  |
| --- | --- |
| **TOTAL FLOW-THROUGH RATING (gpm)** | **GREASE RETENTION CAPACITY (pounds)** |
| 4 | 8 |
| 6 | 12 |
| 7 | 14 |
| 9 | 18 |
| 10 | 20 |
| 12 | 24 |
| 14 | 28 |
| 15 | 30 |
| 18 | 36 |
| 20 | 40 |
| 25 | 50 |
| 35 | 70 |
| 50 | 100 |
| 75 | 150 |
| 100 | 200 |

For SI: 1 gallon per minute = 3.785 L/m, 1 pound = 0.454 kg.

1.    a.For total flow-through ratings greater than 100 (gpm), double the flow-through rating to determine the grease retention capacity (pounds).

1003.3.~~4~~5.2Rate of flow controls.

Grease interceptors shall be equipped with devices to control the rate of water flow so that the water flow does not exceed the rated flow. The flow-control device shall be vented and terminate not less than 6 inches (152 mm) above the flood rim level or be installed in accordance with the manufacturer’s instructions.

1003.3.~~5~~6Automatic grease removal devices.

Where automatic grease removal devices are installed, such devices shall be located downstream of each fixture or multiple fixtures in accordance with the manufacturer’s instructions. The automatic grease removal device shall be sized to pretreat the measured or calculated flows for all connected fixtures or equipment. Ready *access* shall be provided for inspection and maintenance.

1003.3.~~6~~7 Gravity grease interceptors and gravity grease interceptors with fats, oils, and greases disposal systems.

The required capacity of gravity grease interceptors and gravity grease interceptors with fats, oils, and greases disposal systems shall be determined by multiplying the peak drain flow into the interceptor in gallons per minute by a retention time of 30 minutes. Gravity grease interceptors shall be designed and tested in accordance with IAPMO/ANSI Z1001. Gravity grease interceptors with fats, oils, and greases disposal systems shall be designed and tested in accordance with ASME A112.14.6 and IAPMO/ANSI Z1001. Gravity grease interceptors and gravity grease interceptors with fats, oils, and greases disposal systems shall be installed in accordance with manufacturer’s instructions. Where manufacturer’s instructions are not provided, gravity grease interceptors and gravity grease interceptors with fats, oils, and greases disposal systems shall be installed in compliance with ASME A112.14.6 and IAPMO/ANSI Z1001.

1003.3.~~7~~8 Direct connection.

The discharge piping from a grease interceptor shall be directly connected to the sanitary drainage system.

1003.3.9 Grease interceptors for onsite sewage treatment and disposal systems.

Grease interceptors are not required for a residence. However, one or more grease interceptors are required where grease waste is produced in quantities that could otherwise cause line stoppage or hinder sewage disposal. Where a grease interceptor is required or used, only kitchen wastewater shall first pass through the interceptor and then be discharged into the first compartment of a septic tank or other approved system. Grease interceptors shall be water tight. Each interceptor shall be engineered to withstand the load, such as from vehicular traffic, to be placed on the interceptor. Grease interceptors shall be sized, constructed and approved in accordance with Rule 64E-6, *Florida Administrative Code*.

1003.4 Oil separators required.

At repair garages where floor or trench drains are provided, car washing facilities, factories where oily and flammable liquid wastes are produced and hydraulic elevator pits, oil separators shall be installed into which oil-bearing, grease-bearing or flammable wastes shall be discharged before emptying into the building drainage system or other point of disposal.

**Exception:** An oil separator is not required in hydraulic elevator pits where an approved alarm system is installed. Such alarm systems shall not terminate the operation of pumps utilized to maintain emergency operation of the elevator by fire fighters.

1003.4.1Separation of liquids.

A mixture of treated or untreated light and heavy liquids with various specific gravities shall be separated in an *approved* receptacle.

1003.4.2Oil separator design.

Oil separators shall be listed and labeled, or designed in accordance with Sections 1003.4.2.1 and 1003.4.2.2.

1003.4.2.1General design requirements.

Oil separators shall have a depth of not less than 2 feet (610 mm) below the invert of the discharge drain. The outlet opening of the separator shall have not less than an 18-inch (457 mm) water seal.

1003.4.2.2Garages and service stations.

Where automobiles are serviced, greased, repaired or washed or where gasoline is dispensed, oil separators shall have a capacity of not less than 6 cubic feet (0.168 m3) for the first 100 square feet (9.3 m2) of area to be drained, plus 1 cubic foot (0.028 m3) for each additional 100 square feet (9.3 m2) of area to be drained into the separator. Parking garages in which servicing, repairing or washing is not conducted, and in which gasoline is not dispensed, shall not require a separator. Areas of commercial garages utilized only for storage of automobiles are not required to be drained through a separator.

~~1003.5Grease interceptors for onsite sewage treatment and disposal systems.~~

~~Grease interceptors are not required for a residence. However, one or more grease interceptors are required where grease waste is produced in quantities that could otherwise cause line stoppage or hinder sewage disposal. Where a grease interceptor is required or used, only kitchen wastewater shall first pass through the interceptor and then be discharged into the first compartment of a septic tank or other approved system. Grease interceptors shall be water tight. Each interceptor shall be engineered to withstand the load, such as from vehicular traffic, to be placed on the interceptor. Grease interceptors shall be sized, constructed and approved in accordance with Rule 64E-6,~~ *~~Florida Administrative Code~~*~~.~~

 [*Renumber subsequent sections to 1003.5 etc]*

(SP8165)

**CHAPTER 11 STORM DRAINAGE**

**Revise as follows:**

**TABLE 1102.4 BUILDING STORM SEWER PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polypropylene (PP) Pipe | CSA B182.13 |

*(Portions of table not shown remain unchanged)*

(P236-15)

**TABLE 1102.4 BUILDING STORM SEWER PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyethylene (PE) plastic pipe | ASTM F667; ASTM F 2306/F 2306M |

*(Portions of table not shown remain unchanged)*

(P237-15)

**TABLE 1102.4 BUILDING STORM SEWER PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyethylene (PE) plastic pipe | ASTM F 2306/F 2306M; ASTM F2648/F2648M |

*(Portions of table not shown remain unchanged)*

(P238-15)

**TABLE 1102.4 BUILDING STORM SEWER PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polypropylene (PP) Pipe | ASTM F2881 |

*(Portions of table not shown remain unchanged)*

(P239-15)

**TABLE 1102.4 (1102.4) BUILDING STORM SEWER PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall. | ASTM D 2661; ~~ASTM D~~ ~~2751;~~ ASTM F 628; ASTM F1488; CSA B181.1; CSA B182.1 |
| Cast-iron pipe | ASTM A 74; ASTM A 888;CISPI 301 |
| Concrete pipe | ASTM C 14; ASTM C 76; CSA A257.1M; CSA A257.2M |
| Copper or copper-alloy tubing (Type K, L, M or DWV) | ASTM B 75; ASTM B 88; ASTM B 251; ASTM B 306 |
| Polyethylene (PE) plastic pipe | ASTM F 2306/F 2306M |
| Polyvinyl chloride (PVC) plastic pipe (Type DWV, SDR26, SDR35, SDR41, PS50 or PS100) in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid, cellular core or composite wall. | ASTM D 2665; ASTM D 3034; ASTM F 891; ASTM F1488; CSA B182.4; CSA B181.2; CSA B182.2 |
| Vitrified clay pipe | ASTM C 4; ASTM C 700 |
| Stainless steel drainage systems, Type 316L | ASME A112.3.1 |

(P240-15)

**TABLE 1102.5 SUBSOIL DRAIN PIPE**

|  |  |
| --- | --- |
| **MATERIAL** | **STANDARD** |
| Polyethylene (PE) plastic pipe | ASTM F 405; ASTM F667; CSA B182.1; CSA B182.6; CSA B182.8 |

*(Portions of table not shown remain unchanged)*

(P241-15)

**1103.4 Cleanout.** ~~An accessible~~ A cleanout shall be installed on the building side of the trap and shall be provided with access.

(P84-15)

**1106.5 Parapet wall ~~scupper location~~ scuppers.** ~~Parapet wall~~ Where scuppers are used for

primary roof drainage ~~scupper~~ or for secondary (emergency overflow) roof drainage or both, the quantity, size, location and ~~overflow scupper location shall comply with the requirements of Section 1503.4~~inlet elevation of the scuppers shall be chosen to prevent the depth of ponding water on the roof from exceeding the maximum water depth that the roof was designed for as determined by Section 1611.1 of the *International Building Code*. Scupper openings shall be not less than 4 inches (102 mm) in height and have a width that is equal to or greater than the circumference of a roof drain sized for the same roof area. The flow through the primary system shall not be considered when locating and sizing secondary scuppers.

(P246-15)

**1108.3 Sizing of secondary drains.** Secondary (emergency) roof drain systems shall be sized in accordance with Section 1106 based on the rainfall rate for which the primary system is sized. Scuppers shall be sized to prevent the depth of ponding water from exceeding that for which the roof was designed as determined by Section 1101.7. Scuppers shall have an opening dimension of not less than 4 inches (102 mm) in height and have an opening width equal to the circumference of the roof drain required for the area served, sized in accordance with Table 1106.2(1). The flow through the primary system shall not be considered when sizing the secondary roof drain system.

(P246-15)

**1113.1.2 Sump pit.** The sump pit shall be not less than 18 inches (457 mm) in diameter and not less than 24 inches (610 mm) in depth, unless otherwise *approved*. The pit shall be ~~accessible~~ provided with access and shall be located such that all drainage flows into the pit by gravity. The sump pit shall be constructed of tile, steel, plastic, cast iron, concrete or other *approved* material, with a removable cover adequate to support anticipated loads in the area of use. The pit floor shall be solid and provide permanent support for the pump.

(P84-15)

**CHAPTER 12 SPECIAL PIPING AND STORAGE SYSTEMS**

No change

**CHAPTER 13 NONPOTABLE WATER SYSTEMS**

Revise as follows:

**~~1301.6~~ ~~Approved components~~ Components and materials.** Piping, plumbing components and materials used in collection and conveyance systems shall be ~~manufactured~~ of material approved by the manufacturer for the intended application ~~and compatible with any disinfection and treatment systems~~ ~~used~~.

(P251-15)

**Delete without substitution:**

**~~1301.9.1 Sizing.~~** ~~The holding capacity of the storage tank shall be sized in accordance with the~~ ~~anticipated demand.~~

(P253-15)

**~~1301.9.2 Location.~~** ~~Storage tanks shall be installed above~~ Any storage tank or ~~below grade. Above-grade~~ ~~storage tanks~~ portion thereof that is above-grade shall be protected from direct ~~sunlight and shall be~~ ~~constructed using opaque, UV-resistant materials such as, but not limited to, heavily tinted plastic,~~ ~~fiberglass, lined metal, concrete, wood, or painted~~ exposure to ~~prevent algae growth, or shall have~~ ~~specially constructed sun barriers including, but not limited to, installation in garages, crawl spaces or~~ ~~sheds.~~ sunlight by one of the following methods:

1. Tank construction using opaque, UV-resistant materials such as heavily tinted plastic, fiberglass, lined metal, concrete, wood, or painted to prevent algae growth,

2. Specially constructed sun barriers.

3. Installation in garages, crawl spaces or sheds.

Storage tanks and their manholes shall not be located directly under soil piping, waste piping or any source of contamination.

(P255-15)

**1301.9.7 Access.** Not less than one access opening shall be provided to allow inspection and cleaning of the tank interior. Access openings shall have an *approved* locking device or other approved method of securing access. Below-grade storage tanks, located outside of the building, shall be provided with a manhole either not less than 24 inches (610 mm) square or with an inside diameter not less than 24 inches (610 mm). Manholes shall extend not less than 4 inches (102 mm) above ground or shall be designed to prevent water infiltration. Finished grade shall be sloped away from the manhole to divert surface water. Manhole covers shall be secured to prevent unauthorized access. Service ports in manhole covers shall be not less than 8 inches (203 mm) in diameter and shall be not less than 4 inches (102 mm) above the finished grade level. The service port shall be secured to prevent unauthorized access.

**Exception:** ~~Storage~~ Water storage tanks for treated water that are less than 800 gallons (3028L) in volume and installed below grade shall not be required to be equipped with a manhole~~, but shall~~ ~~have~~ provided that the tank has a service port of not less than 8 inches (203 mm) in diameter.

(P258-15)

**1301.9.9 Draining of tanks.** ~~Where tanks require draining~~ Tanks shall be provided with a means of emptying the contents for the purpose of service or cleaning~~, tanks~~. Tanks shall be drained by using a pump or by a drain located at the lowest point in the tank. The tank drain pipe shall discharge as required for overflow pipes and shall not be smaller in size than specified in Table 606.5.7. Not less than one cleanout shall be provided on each drain pipe in accordance with Section 708.

(P259-15)

**1302.1 General.** The provisions of ASTM E2635 and Section 1302 shall govern the construction, installation, alteration and repair of on-site nonpotable water reuse systems for the collection, storage, treatment and distribution of on-site sources of nonpotable water as permitted by the jurisdiction.

**1304.3 Reclaimed water systems.** The design of the reclaimed water systems shall conform to ~~ASTM E~~ ~~2635 and~~ *accepted engineering practice*.

(P261-15)

**1302.2 Sources.** On-site nonpotable water reuse systems shall collect waste discharge from only the following sources: bathtubs, showers, lavatories, clothes washers and laundry trays. ~~Water~~

Where *approved* and as appropriate for the intended application, water from other *~~approved~~* nonpotable sources ~~including swimming pool backwash operations, air conditioner condensate, rainwater, cooling~~ ~~tower blow-down water, foundation drain water, steam system condensate, fluid cooler discharge water,~~ ~~food steamer discharge water, combination oven discharge water, industrial process water and fire pump~~ ~~test water~~ shall ~~also be permitted to~~ be collected for reuse by on-site nonpotable water reuse systems, ~~as~~ *~~approved~~* ~~by the code official and as appropriate for the intended application~~.

(P262-15)

**Delete without substitution:**

**~~1302.7.2 Design and construction.~~** ~~Storage tanks shall be designed and constructed in accordance with~~ ~~Chapters 16 through 22 of the~~ *~~International Building Code~~* ~~and in accordance with the following standards, as appropriate for the material of the storage tank: AWWA D100, AWWA D115, AWWA D120,~~ ~~UL 58, UL 1746, UL 1316, UL 142, API 12F or API 12D.~~

(P267-15)

**~~1303.2 Collection surface.~~** Rainwater shall be collected only from above-ground impervious roofing surfaces constructed from approved materials and where *approved* ~~materials. Collection of water~~ ~~from~~ vehicular parking or pedestrian ~~surfaces shall be prohibited except where the water is used exclusively for landscape irrigation. Overflow and bleed-off pipes from roof-mounted appliances including,~~ ~~but not limited to, evaporative coolers, water heaters, and solar water heaters shall not discharge onto~~ ~~rainwater collection~~ walking surfaces.

(P269-15)

**1302.5 Filtration.** Untreated water collected for reuse shall be filtered as required for the intended end use. Filters shall be ~~accessible~~ provided with access for inspection and maintenance. Filters shall utilize a pressure gauge or other *approved* method to provide indication when a filter requires servicing or replacement. Filters shall be installed with shutoff valves immediately upstream and downstream to allow for isolation during maintenance.

**1302.8.1 Bypass valve.** One three-way diverter valve listed and labeled to NSF 50 or other approved device shall be installed on collection piping upstream of each storage tank, or drainfield, as applicable, to divert untreated on-site reuse sources to the sanitary *sewer* to allow servicing and inspection of the system. Bypass valves shall be installed downstream of fixture traps and vent connections. Bypass valves shall be marked to indicate the direction of flow, connection and storage tank or drainfield connection. Bypass valves shall be installed in ~~accessible~~ locations that are provided with access. Two shutoff valves shall not be installed to serve as a bypass valve.

**1302.9 Pumping and control system.** Mechanical equipment including pumps, valves and filters shall be ~~easily accessible and removable~~ provided with access that allows for removal in order to perform repair, maintenance and cleaning. The minimum flow rate and flow pressure delivered by the pumping system shall be appropriate for the application and in accordance with Section 604.

**1303.8 Filtration.** Collected rainwater shall be filtered as required for the intended end use. Filters shall be ~~accessible~~ provided with access for inspection and maintenance. Filters shall utilize a pressure gauge or other *approved* method to provide indication when a filter requires servicing or replacement. Filters shall be installed with shutoff valves installed immediately upstream and downstream to allow for isolation during maintenance.

**1303.12 Pumping and control system.** Mechanical equipment including pumps, valves and filters shall be ~~easily accessible and removable~~ provided with access that allows for removal in order to perform repair, maintenance and cleaning. The minimum flow rate and flow pressure delivered by the pumping system shall be appropriate for the application and in accordance with Section 604.

(P84-15)

**1303.3 Debris excluders.** Downspouts and leaders shall be connected to ~~a roof washer and shall be~~ ~~equipped with~~ a debris excluder or equivalent device that is designed to ~~prevent the contamination of~~ ~~collected rainwater with~~ remove leaves, sticks, pine needles and similar ~~material. Debris excluders and~~ ~~equivalent devices shall be self-cleaning.~~ debris to prevent such from entering the storage tank

**~~1303.4 Roof washer~~ First-flush diverter.** ~~A sufficient amount of rainwater~~ First-flush diverters shall ~~be~~ ~~diverted at the beginning of each rain event,~~ operate automatically and ~~not allowed to enter the storage~~ ~~tank, to wash accumulated debris from the collection surface. The amount of rainfall to be diverted shall~~ ~~be field adjustable as necessary to minimize storage tank water contamination. The roof washer~~ shall not rely on ~~manually operated~~ manually-operated valves or devices~~, and shall operate automatically~~. Diverted rainwater shall not be drained to the roof surface, and shall be discharged in a manner consistent with the storm water runoff requirements of the jurisdiction. ~~Roof washers~~ First-flush diverters shall be accessible for maintenance and service.

**1303.15.2 ~~Roofwasher~~ First-flush diverter test.** ~~Roofwashers~~ First-flush diverters shall be tested by introducing water into the ~~gutters~~ collection system upstream of the diverter. Proper diversion of the first ~~quantity~~ amount of water shall be in accordance with the requirements of Section 1303.4 ~~shall be~~ ~~verified~~.

(P270-15)

**1303.15.8 Water quality test.** The quality of the water for the intended application shall be verified at the point of use in accordance with the requirements of the jurisdiction. ~~Except where site conditions as~~ ~~specified in ASTM E 2727 affect the rainwater, collected rainwater shall be considered to have the~~ ~~parameters indicated in Table 1303.15.8.~~

**Delete without substitution:**

**~~TABLE 1303.15.8~~ ~~RAINWATER QUALITY~~**

|  |  |
| --- | --- |
| **~~PARAMETER~~** | **~~VALUE~~** |
| ~~pH~~ | ~~6.0-7.0~~ |
| ~~BOD~~ | ~~Not greater than 10 mg/L~~ |
| ~~NTU~~ | ~~Not greater than 2~~ |
| ~~Fecal coliform~~ | ~~No detectable fecal coli in 100 mL~~ |
| ~~Sodium~~ | ~~No detectable sodium in 100 mL~~ |
| ~~Chlorine~~ | ~~No detectable chlorine in 100 mL~~ |
| ~~Enteroviruses~~ | ~~No detectable enteroviruses in 100 mL~~ |

**Add new text as follows:**

**1303.15.9 Collected raw rainwater quality.** ASTM E2727 shall be used to determine what, if any, site conditions impact the quality of collected raw rainwater and whether those site conditions require treatment of the raw water for the intended end use or make the water unsuitable for specific end uses.

(P275-15)

**1303.15.8 Water quality test.** The quality of the ~~water~~ rainwater for the intended application shall be verified at the point of use in accordance with the requirements of the jurisdiction. ~~Except where site~~ ~~conditions as specified in ASTM E 2727 affect the rainwater, collected rainwater shall be considered to~~ ~~have the parameters indicated in Table 1303.15.8.~~

(P276-15)

**1304.3.1.3 Labeling and marking.** Nonpotable ~~rainwater~~ distribution piping labeling and marking shall comply with Section 608.8.

(P278-15)

**CHAPTER 14 SUBSURFACE LANDSCAPE IRRIGATION SYSTEMS**

SUBSURFACE LANDSCAPE IRRIGATION SYSTEMS (reserved)

~~1401
GENERAL~~

~~1401.1Scope.~~

~~The provisions of Chapter 14 shall govern the materials, design, construction and installation of subsurface landscape irrigation systems connected to nonpotable water from on-site water reuse systems.~~

~~1401.2Materials.~~

~~Above-ground drain, waste and vent piping for subsurface landscape irrigation systems shall conform to one of the standards listed in Table 702.1. Subsurface landscape irrigation, underground building drainage and vent pipe shall conform to one of the standards listed in Table 702.2.~~

~~1401.3Tests.~~

~~Drain, waste and vent piping for subsurface landscape irrigation systems shall be tested in accordance with Section 312.~~

~~1401.4Inspections.~~

~~Subsurface landscape irrigation systems shall be inspected in accordance with Section 110 of the~~ *~~Florida Building Code, Building~~*~~.~~

~~1401.5Disinfection.~~

~~Disinfection shall not be required for on-site nonpotable water reuse for subsurface landscape irrigation systems.~~

~~1401.6Coloring.~~

~~On-site nonpotable water reuse for subsurface landscape irrigation systems shall not be required to be dyed.~~

**~~SECTION~~**~~1402
SYSTEM DESIGN AND SIZING~~

~~1402.1Sizing.~~

~~The system shall be sized in accordance with the sum of the output of all water sources connected to the subsurface irrigation system. Where gray water collection piping is connected to subsurface landscape irrigation systems, gray water output shall be calculated according to the gallons-per-day-per-occupant number based on the type of fixtures connected. The gray water discharge shall be calculated by the following equation:~~

**~~(Equation 14-1)~~**

**~~where:~~**

***~~A~~* ~~= Number of occupants:~~**

**~~Residential—Number of occupants shall be determined by the actual number of occupants, but not less than two occupants for one bedroom and one occupant for each additional bedroom.~~**

**~~Commercial—Number of occupants shall be determined by the~~ *~~Florida Building Code, Building~~*~~.~~**

***~~B~~* ~~= Estimated flow demands for each occupant:~~**

**~~Residential—25 gallons per day (94.6 lpd) per occupant for showers, bathtubs and lavatories and 15 gallons per day (56.7 lpd) per occupant for clothes washers or laundry trays.~~**

**~~Commercial—Based on type of fixture or water use records minus the discharge of fixtures other than those discharging gray water.~~**

***~~C~~* ~~= Estimated gray water discharge based on the total number of occupants.~~**

~~1402.2Percolation tests.~~

~~The permeability of the soil in the proposed absorption system shall be determined by percolation tests or permeability evaluation.~~

~~1402.2.1Percolation tests and procedures.~~

~~At least three percolation tests in each system area shall be conducted. The holes shall be spaced uniformly in relation to the bottom depth of the proposed absorption system. More percolation tests shall be made where necessary, depending on system design.~~

~~1402.2.1.1Percolation test hole.~~

~~The test hole shall be dug or bored. The test hole shall have vertical sides and a horizontal dimension of 4 inches to 8 inches (102 mm to 203 mm). The bottom and sides of the hole shall be scratched with a sharp-pointed instrument to expose the natural soil. All loose material shall be removed from the hole and the bottom shall be covered with 2 inches (51 mm) of gravel or coarse sand.~~

~~1402.2.1.2Test procedure, sandy soils.~~

~~The hole shall be filled with clear water to a minimum of 12 inches (305 mm) above the bottom of the hole for tests in sandy soils. The time for this amount of water to seep away shall be determined, and this procedure shall be repeated if the water from the second filling of the hole seeps away in 10 minutes or less. The test shall proceed as follows: Water shall be added to a point not more than 6 inches (152 mm) above the gravel or coarse sand. Thereupon, from a fixed reference point, water levels shall be measured at 10-minute intervals for a period of 1 hour. Where 6 inches (152 mm) of water seeps away in less than 10 minutes, a shorter interval between measurements shall be used, but in no case shall the water depth exceed 6 inches (152 mm). Where 6 inches (152 mm) of water seeps away in less than 2 minutes, the test shall be stopped and a rate of less than 3 minutes per inch (7.2 s/mm) shall be reported. The final water level drop shall be used to calculate the percolation rate. Soils not meeting the above requirements shall be tested in accordance with Section 1303.7.1.3.~~

~~1402.2.1.3Test procedure, other soils.~~

~~The hole shall be filled with clear water, and a minimum water depth of 12 inches (305 mm) shall be maintained above the bottom of the hole for a 4-hour period by refilling whenever necessary or by use of an automatic siphon. Water remaining in the hole after 4 hours shall not be removed. Thereafter, the soil shall be allowed to swell not less than 16 hours or more than 30 hours. Immediately after the soil swelling period, the measurements for determining the percolation rate shall be made as follows: any soil sloughed into the hole shall be removed and the water level shall be adjusted to 6 inches (152 mm) above the gravel or coarse sand. Thereupon, from a fixed reference point, the water level shall be measured at 30-minute intervals for a period of 4 hours, unless two successive water level drops do not vary by more than~~ ~~1~~~~/~~~~16~~ ~~inch (1.59 mm). At least three water level drops shall be observed and recorded. The hole shall be filled with clear water to a point not more than 6 inches (152 mm) above the gravel or coarse sand whenever it becomes nearly empty. Adjustments of the water level shall not be made during the three measurement periods except to the limits of the last measured water level drop. When the first 6 inches (152 mm) of water seeps away in less than 30 minutes, the time interval between measurements shall be 10 minutes and the test run for 1 hour. The water depth shall not exceed 5 inches (127 mm) at any time during the measurement period. The drop that occurs during the final measurement period shall be used in calculating the percolation rate.~~

~~1402.2.1.4Mechanical test equipment.~~

~~Mechanical percolation test equipment shall be of an~~ *~~approved~~* ~~type.~~

~~1402.2.2Permeability evaluation.~~

~~Soil shall be evaluated for estimated percolation based on structure and texture in accordance with accepted soil evaluation practices. Borings shall be made in accordance with Section 1402.2.1.1 for evaluating the soil.~~

~~1402.3Subsurface landscape irrigation site location.~~

~~The surface grade of all soil absorption systems shall be located at a point lower than the surface grade of any water well or reservoir on the same or adjoining lot. Where this is not possible, the site shall be located so surface water drainage from the site is not directed toward a well or reservoir. The soil absorption system shall be located with a minimum horizontal distance between various elements as indicated in Table 1402.3. Private sewage disposal systems in compacted areas, such as parking lots and driveways, are prohibited. Surface water shall be diverted away from any soil absorption site on the same or neighboring lots.~~

~~TABLE 1402.3~~

~~LOCATION OF SUBSURFACE IRRIGATION SYSTEM~~

|  |  |
| --- | --- |
| **~~ELEMENT~~** | **~~MINIMUM HORIZONTAL DISTANCE~~** |
| **~~Storage tank (feet)~~** | **~~Irrigation disposal field (feet)~~** |
| ~~Buildings~~ | ~~5~~ | ~~2~~ |
| ~~Lot line adjoining private property~~ | ~~5~~ | ~~5~~ |
| ~~Water wells~~ | ~~50~~ | ~~100~~ |
| ~~Streams and lakes~~ | ~~50~~ | ~~50~~ |
| ~~Seepage pits~~ | ~~5~~ | ~~5~~ |
| ~~Septic tanks~~ | ~~0~~ | ~~5~~ |
| ~~Water service~~ | ~~5~~ | ~~5~~ |
| ~~Public water main~~ | ~~10~~ | ~~10~~ |

~~For SI: 1 foot = 304.8 mm.~~

**~~SECTION~~**~~1403
INSTALLATION~~

~~1403.1Installation.~~

~~Absorption systems shall be installed in accordance with Sections 1403.1.1 through 1403.1.5 to provide landscape irrigation without surfacing of water.~~

~~1403.1.1Absorption area.~~

~~The total absorption area required shall be computed from the estimated daily gray water discharge and the design-loading rate based on the percolation rate for the site. The required absorption area equals the estimated gray water discharge divided by the design-loading rate from Table 1403.1.1.~~

~~TABLE 1403.1.1~~

~~DESIGN LOADING RATE~~

|  |  |
| --- | --- |
| **~~PERCOLATION RATE(minutes per inch)~~** | **~~DESIGN LOADING FACTOR(gallons per square foot per day)~~** |
| ~~0 to less than 10~~ | ~~1.2~~ |
| ~~10 to less than 30~~ | ~~0.8~~ |
| ~~30 to less than 45~~ | ~~0.72~~ |
| ~~45 to 60~~ | ~~0.4~~ |

~~For SI: 1 minute per inch = min/25.4 mm, 1 gallon per square foot = 40.7 L/m~~~~2~~~~.~~

~~1403.1.2Seepage trench excavations.~~

~~Seepage trench excavations shall be not less than 1 foot (304 mm) in width and not greater than 5 feet (1524 mm) in width. Trench excavations shall be spaced not less than 2 feet (610 mm) apart. The soil absorption area of a seepage trench shall be computed by using the bottom of the trench area (width) multiplied by the length of pipe. Individual seepage trenches shall be not greater than 100 feet (30 480 mm) in~~ *~~developed length~~*~~.~~

~~1403.1.3Seepage bed excavations.~~

~~Seepage bed excavations shall be not less than 5 feet (1524 mm) in width and have more than one distribution pipe. The absorption area of a seepage bed shall be computed by using the bottom of the trench area. Distribution piping in a seepage bed shall be uniformly spaced not greater than 5 feet (1524 mm) and not less than 3 feet (914 mm) apart, and greater than 3 feet (914 mm) and not less than 1 foot (305 mm) from the sidewall or headwall.~~

~~1403.1.4 Excavation and construction.~~

~~The bottom of a trench or bed excavation shall be level. Seepage trenches or beds shall not be excavated where the soil is so wet that such material rolled between the hands forms a soil wire. All smeared or compacted soil surfaces in the sidewalls or bottom of seepage trench or bed excavations shall be scarified to the depth of smearing or compaction and the loose material removed. Where rain falls on an open excavation, the soil shall be left until sufficiently dry so a soil wire will not form when soil from the excavation bottom is rolled between the hands. The bottom area shall then be scarified and loose material removed.~~

~~1403.1.5Aggregate and backfill.~~

~~Not less than 6 inches in depth of aggregate, ranging in size from~~ ~~1~~~~/~~~~2~~ ~~to 2~~~~1~~~~/~~~~2~~ ~~inches (12.7 mm to 64 mm), shall be laid into the trench below the distribution piping elevation. The aggregate shall be evenly distributed not less than 2 inches (51 mm) in depth over the top of the distribution pipe. The aggregate shall be covered with~~ *~~approved~~* ~~synthetic materials or 9 inches (229 mm) of uncompacted marsh hay or straw. Building paper shall not be used to cover the aggregate. Not less than 9 inches (229 mm) of soil backfill shall be provided above the covering.~~

~~1403.2Distribution piping.~~

~~Distribution piping shall be not less than 3 inches (76 mm) in diameter. Materials shall comply with Table 1403.2. The top of the distribution pipe shall be not less than 8 inches (203 mm) below the original surface. The slope of the distribution pipes shall be not less than 2 inches (51 mm) and not greater than 4 inches (102 mm) per 100 feet (30 480 mm).~~

~~TABLE 1403.2~~

~~DISTRIBUTION PIPE~~

|  |  |
| --- | --- |
| **~~MATERIAL~~** | **~~STANDARD~~** |
| ~~Polyethylene (PE) plastic pipe~~ | ~~ASTM F405~~ |
| ~~Polyvinyl chloride (PVC) plastic pipe~~ | ~~ASTM D2729~~ |
| ~~Polyvinyl chloride (PVC) plastic pipe with a 3.5-inch O.D. and solid cellular core or composite wall~~ | ~~ASTM F1488~~ |

~~For SI: 1 inch=25.4 mm.~~

~~1403.2.1Joints.~~

~~Joints in distribution pipe shall be made in accordance with Section 705 of this code.~~

(SP8384)

**CHAPTER 15 REFERENCED STANDARDS**

**Reference standards type:**

**Add new standard(s) as follows:**

**See attached**