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## Welcome to the PMG Educational Program

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## 2018 IPC Significant Changes

Based on the  
2018 International Plumbing Code®, (IPC®)

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Identify significant changes between  
the 2015 and 2018 IPC

Apply code requirements to design, plan  
submittals and/or inspection.


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## OBJECTIVES

- Identify the differences between 2015 and 2018 IPC codes.
- Explain differences between current and previous code years.
- Identify changes in organization and code requirements.
- Identify design, plan review and inspection requirements.



Mark Youngman link to: <http://www.iccsolutions.com/>

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## Tips



### Guide to a successful class:

1. Slides contain some text and iconic images to help you learn.
2. Text and commentary is in the handout.
3. Follow along in the course handout.
4. Ask Questions, ask questions, ASK QUESTIONS!!!!



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## Course Icons



Addition



Deletion



Modification



Clarification



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## Chapter 2 Definitions



## Section 202



### • ACCESSIBLE.

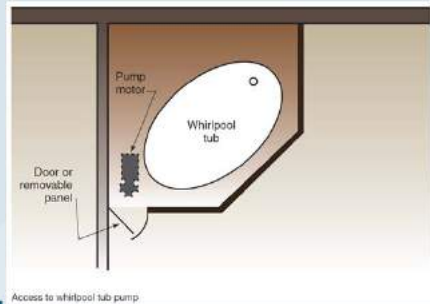


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## Section 202



- **ACCESSIBLE.**



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## Section 202



- **ACCESSIBLE.**



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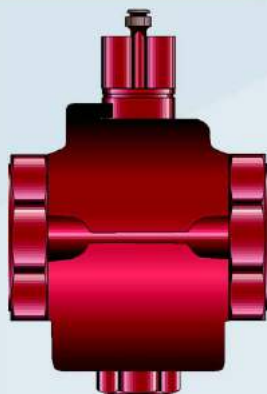
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## Section 202



- **FULL-OPEN VALVE.**

Plug valve with  
rectangular port in  
closure member



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## Section 202



- **PRESS-CONNECT JOINT.**




Press-connect copper fitting

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## Section 202




- **PUBLIC SWIMMING POOL.**

Public swimming pool serving an apartment complex

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## Section 202




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## Section 202



- **SWIMMING POOL.**



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## Section 202



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Section 202



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Chapter 3  
General Regulations

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303.5 Cast Iron Soil Pipe




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303.5 Cast Iron Soil Pipe



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## 305.1 Protection Against Contact



Metallic  
piping in  
plastic  
sheathing

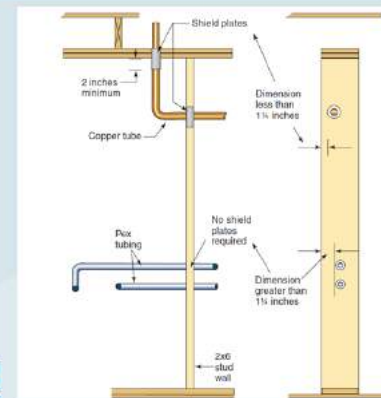


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## 305.6 Protection Against Physical Damage

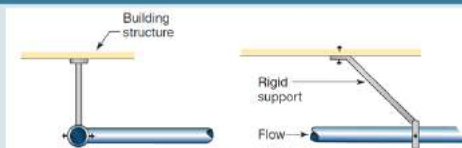


Minimum  
allowable  
distance from  
face of member  
to pipe

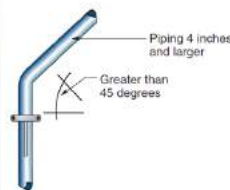


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## 308.6 Sway Bracing



ELEVATION VIEWS



PLAN VIEW

One method of  
anti-sway bracing



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## 308.10 Thermal Expansion Tanks



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## 308.10 Thermal Expansion Tanks



One method of independent tank support

Photo courtesy of Fluidra-Hubbard Enterprises



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## Chapter 4

Fixtures, Faucets  
and Fixture FittingsTable 403.1 Minimum Number  
of Required Plumbing Fixtures

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Table 403.1  
Gaming Area Plumbing Fixtures**TABLE 403.1** Minimum Number of Required Plumbing Fixtures<sup>a</sup>  
(See Sections 403.1.1 and 403.2)

Classification	Description	Water Closets (Urinals: See Section 419.2)		Lavatories		Bathtubs/ Showers	Drinking Foundation	Other
		Male	Female	Male	Female			
Assembly	Gaming areas	1 per 100 for the first 400 and 1 per 250 for the remainder exceeding 400	1 per 50 for the first 400 and 1 per 150 for the remainder exceeding 400	1 per 250 for the first 750 and 1 per 500 for the remainder exceeding 750	—	—	1 per 1,000	1 service sink



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Table 403.1 Selection Based on Description of Use Column



**TABLE 403.1** Minimum Number of Required Plumbing Fixtures<sup>a</sup>  
(See Sections 403.1.1 and 403.2)

Classification	Description	Occupancy	Water Closets		Lavatories		Bathubs/ Showers	Drinking Foundation	Other
			Male	Female	Male	Female			



Small business occupancy



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Table 403.1 Plumbing Fixtures for Outdoor Public Swimming Pools



**TABLE 403.1** Minimum Number of Required Plumbing Fixtures<sup>a</sup>  
(See Sections 403.1.1 and 403.2)

Classification	Description	Water Closets		Lavatories		Bathubs/ Showers	Drinking Foundation	Other
		Male	Female	Male	Female			
	Stadiums, amusement parks, bleachers and grandstands for outdoor sporting events and activities <sup>f</sup>							

Notes a through e are unchanged.

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*.



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Table 403.1



- Note "f" in Table 403.1 points the reader to Section 609 of the *International Swimming Pool and Spa Code* for determining the required number of plumbing fixtures



Plumbing fixtures for outdoor public swimming pools are determined by the ISPSPC.



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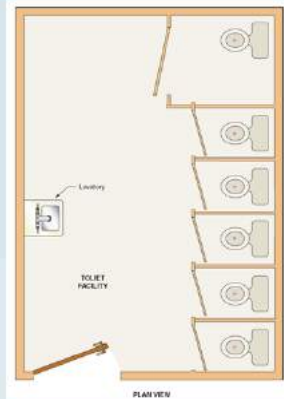
403.1.2 Single-user Toilet Facility and Bathing Room Fixtures



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### 403.1.3 Lavatory Distribution



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### 403.2 Separate Facilities



- Separate facilities not required in businesses which have a max. occupant load of 25 or fewer.

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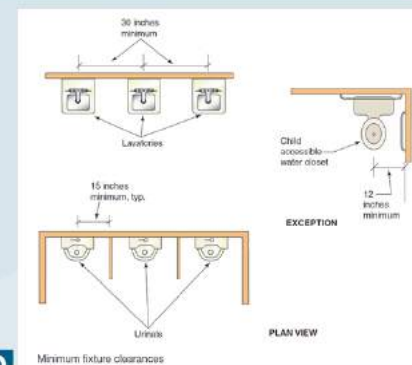
### 403.3 Employee and Public Toilet Facilities



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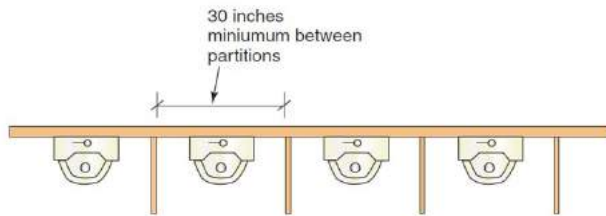
### 405.3.1 Water Closets, Urinals, Lavatories and Bidets



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## 405.3.5 Urinal Partitions



PLAN VIEW

Minimum clearance between urinal partitions



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## 405.5 Plumbing Fixtures with a Pumped Waste



Photo Courtesy of SFA Saniflo



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## 405.5 Plumbing Fixtures With a Pumped Waste



Pumped waste fixture



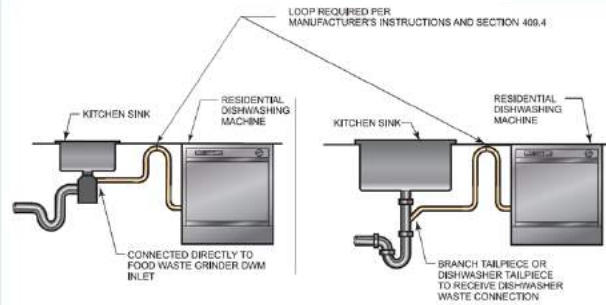
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## 409.1 Approval



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## 409.4 Residential Dishwasher Waste Connection



Residential dishwasher waste connection



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## 409.4 Residential Dishwasher Waste Connection



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## 411.3 Water Supply



Emergency eyewash



Emergency shower and eyewash station



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## 412.7 Temperature-actuated, Flow Reduction Valves Devices for Individual Fixture Fittings



Temperature-actuated flow reduction devices may be used to prevent scalding but are not a substitute for required balanced-pressure, thermostatic or combination shower valves.



Temperature-actuated flow reduction device

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## Section 422 Health Care Fixtures and Equipment



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## Chapter 5 Water Heaters



## 502.1 General



- Solar thermal water heating systems shall conform to the requirements of the International Mechanical Code and ICC 900/SRCC 300.



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## Solar Water Heating System Standard



Solar thermal collector

Photo courtesy of iStock.com




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## Solar Water Heating System Standard



ICC 900/  
SRCC 300-2015  
Solar Thermal System  
Standard  
American National Standards Institute

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Solar thermal water heating systems must conform to ICC 900/SRCC 300.

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## 504.6 Requirements for Discharge Piping



Schlüter®-Kerdi

Insert fitting for piping

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## 504.7 Required Pan



Photo courtesy of Lowe's

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## Discussion Activity



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## Chapter 6

# Water and Supply Distribution

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**602.3.1 Sources**

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Water well

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**605.13.7, 605.14.4 & 605.16.3 Push-fit Joints**

**TABLE 605.5 Pipe Fittings**

Material	Standard
Fittings for polyethylene of raised temperature (PE-RT) plastic tubing	ASSE 1061; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735

Push-fit fitting

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**607.3 Thermal Expansion Control**

Thermal expansion control device

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## 608.3 Devices, Appurtenances, Appliances and Apparatus



Photo Courtesy of US Water Systems



Photo Courtesy of Lowe's

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## 608.4 Potable Water Handling and Treatment Equipment



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## 608.12 Potable Water Tanks



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## 608.17.1.1 Carbonated Beverage Dispensers



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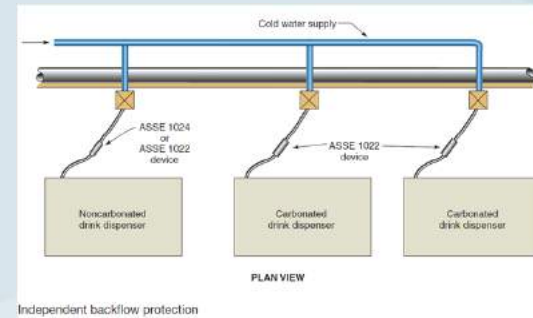
### 608.17.1.2 Coffee Machines and Noncarbonated Drink Dispensers



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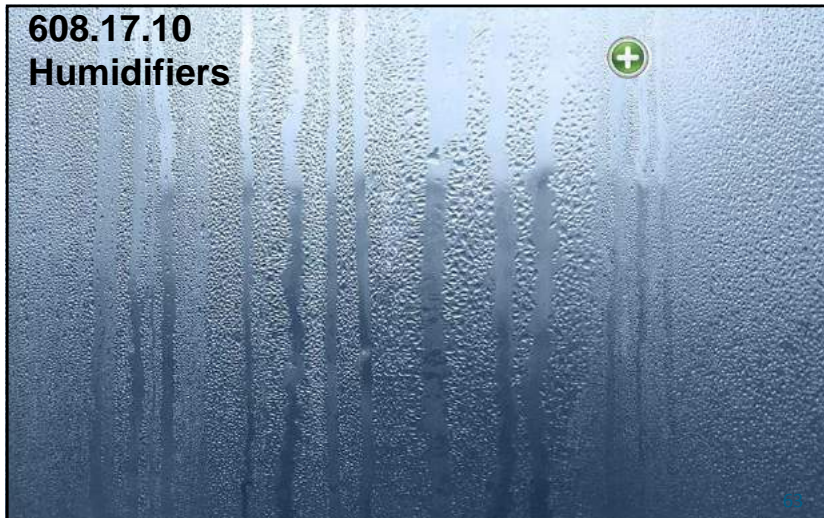
### 608.17.1.2 Coffee Machines and Noncarbonated Drink Dispensers



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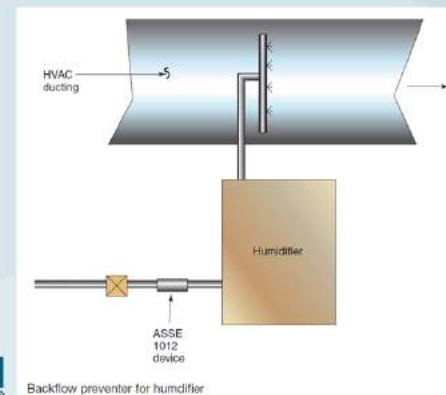
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### 608.17.10 Humidifiers



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### 608.17.10 Humidifiers



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609.1 Scope



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609.1 Scope



Group I-1 Assisted living facility

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611.1 Design



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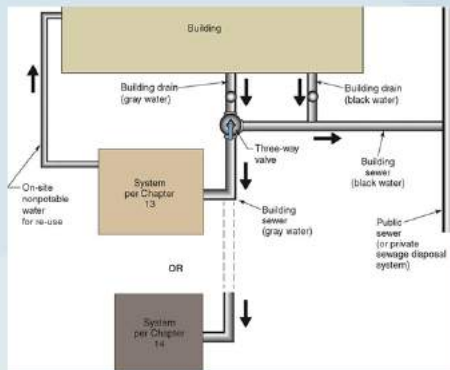
Chapter 7  
Sanitary Drainage

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## 701.2 Connection to Sewer Required



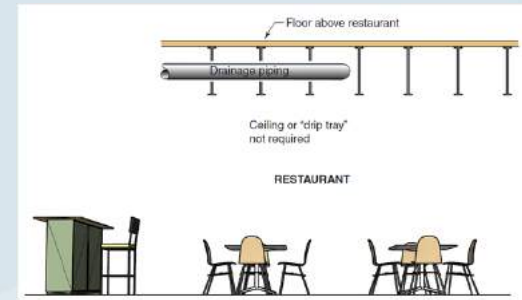
Where state requirements do not exist, private sewage disposal systems must comply with the IPSDC.



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## 701.8 Drainage Piping in Food Service Areas



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## Table 702.3



### BUILDING SEWER PIPE

MATERIAL	STANDARD
Polypropylene (PP) Plastic Pipe	ASTM F2736; ASTM F2764; CSA B182.13

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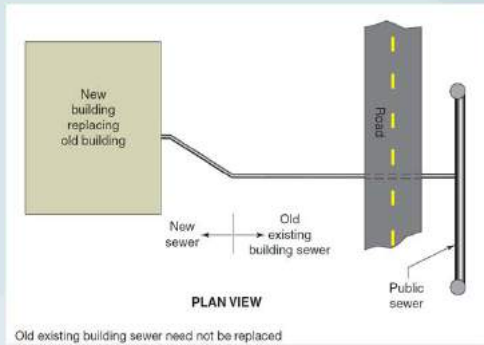
## Table 702.3



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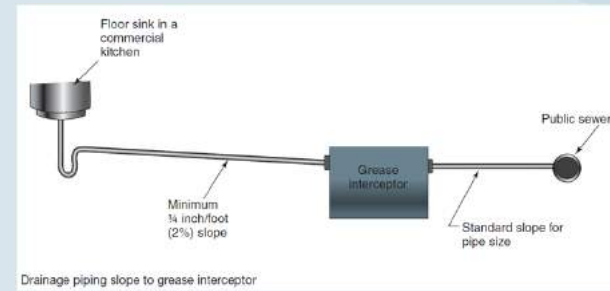
## 703.4 Existing Building Sewers and Building Drains



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## 704.1 Slope of Horizontal Drainage Piping



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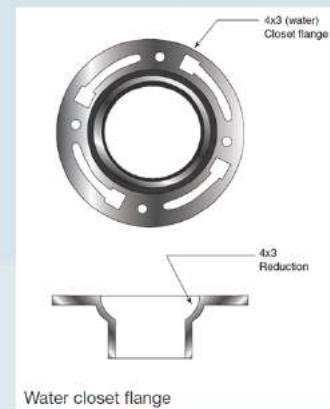
## 704.2 Reduction in Pipe Size



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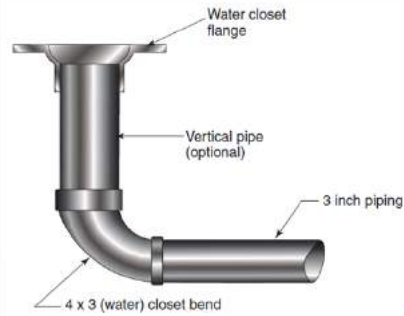
## 704.2 Reduction in Pipe Size



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## 704.2 Reduction in Pipe Size



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4 x 3 water closet bend

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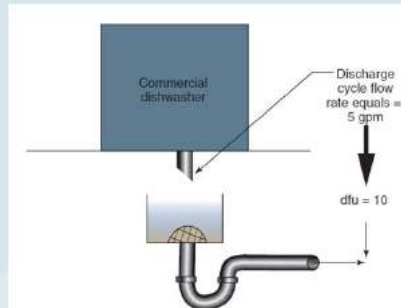
## 705.16.4 Plastic Pipe or Tubing to Other Piping Material



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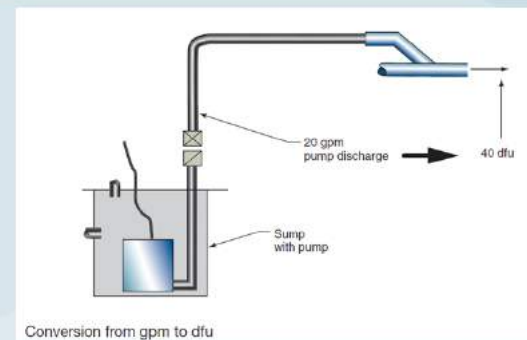
## 709.3 Conversion of gpm Flow to dfu Values



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## 709.3 Conversion of gpm Flow to dfu Values

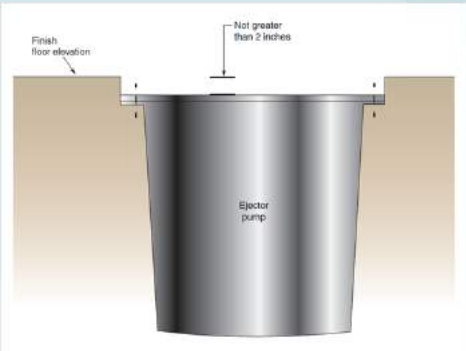


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## 712.3.2 Sump Pit



Finish floor elevation

Not greater than 2 inches

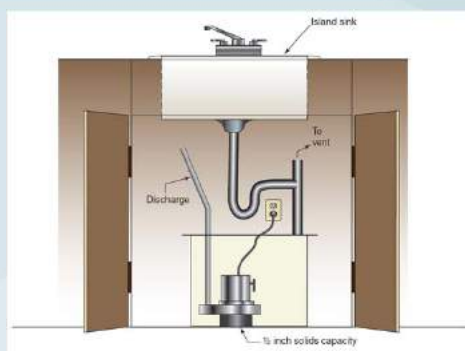
Ejector pump

Elevation of floor with respect to sump cover

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## 712.4.2 Capacity



Island sink

Discharge

To vent

1/2 inch solids capacity

Sink pump system

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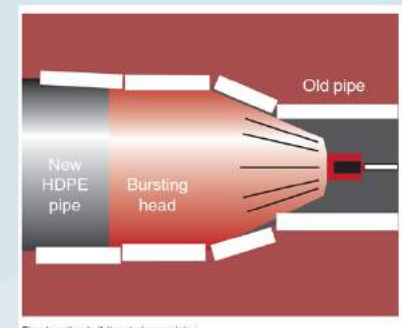
## Section 713 Health Care Plumbing



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## Section 716 Replacement of Underground Building Sewers and Building Drains by Pipe Bursting Methods



Old pipe

New HDPE pipe

Bursting head

Pipe bursting building drainage piping

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## Chapter 8

### Indirect/Special Waste

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## 802.1 Protection

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## 802.4.3.1 Connection of Laundry Tray to Standpipe

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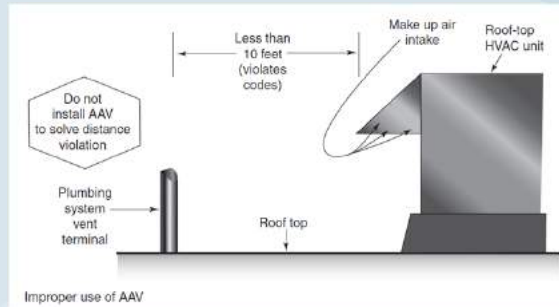
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## Chapter 9

### Vents

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## 918.8 Prohibited Installations



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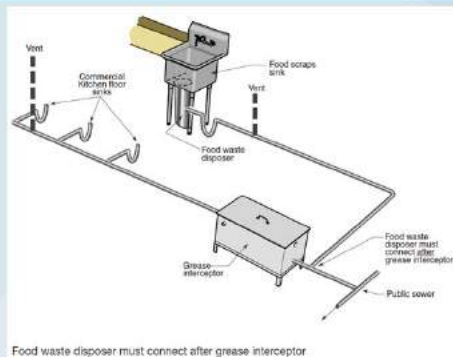


## Chapter 10

## Traps Interceptors and Separators

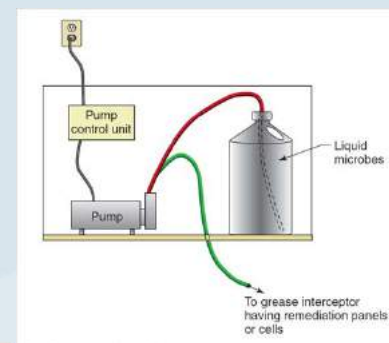


## 1003.3.2 Food Waste Disposers Restriction



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## 1003.3.3 Additives to Grease Interceptors



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## Chapter 11

# Storm Drainage

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**Table 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 D2661; <del>ASTM D 2754</del> ; ASTM F628; ASTM F1488; CSA B181.1; CSA B182.1
Polyethylene (PE) plastic pipe	ASTM F667; ASTM F2306/F2306M; ASTM F2648/F2648M
Polypropylene (PP) Pipe	ASTM F2881; CSA B182.13;
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 D2665; ASTM D3034; ASTM F891; ASTM F1488; CSA B182.4; CSA B181.2; CSA B182.2

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**1106.5 Parapet Wall Scuppers**



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## Chapter 13

# Nonpotable Water Systems

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## 1302.7.2 Design and Construction



Gray water storage tank

Photo courtesy of Norwesco

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## 1303.1.1 Fire Protection Systems



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## 1303.15.8 Rainwater Quality Test



**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

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## 1303.15.9 Collected Raw Rainwater Quality



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## Discussion Activity



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