

Plumbing Fixtures, Fixture Fittings and Plumbing Appliances

7.1 FIXTURE STANDARDS

Plumbing fixtures, plumbing fixture trim, and plumbing appliances shall comply with the standards listed in Table 3.1.3. Plumbing supply fittings covered under the scope of NSF 61 shall comply with the requirements of NSF 61.

7.2 FIXTURES FOR ACCESSIBLE USE

Plumbing fixtures for accessible use and their installation shall conform to the requirements of Chapter 11 of the building subcode (N.J.A.C. 5:23-3.14).

- ~~a. Plumbing fixtures for accessible use and their installation shall conform to the local accessibility code or regulations~~
- ~~b. Exposed waste and water supply piping for accessible sinks and lavatories shall be covered with protectors or insulators that comply with ASME A112.19.12~~

Comment: Requirements for accessible plumbing fixtures are in ADA Standards for Accessible Design and ANSI A117.1. Refer to local codes and regulations.

- ~~e. The support and drain systems for adjustable sinks that facilitate accessible use shall comply with ASME A112.19.12.~~

7.3 INSTALLATION

7.3.1 General

Plumbing fixtures, fixture trim, and plumbing appliances shall be installed in accordance with the requirements of this Code and the manufacturer's instructions and recommendations.

7.3.2 Minimum Clearances

For other than accessible applications, minimum clearances between plumbing fixtures and from fixtures to adjacent walls shall be in accordance with Figure 7.3.2.

7.3.3 Access for Cleaning

Plumbing fixtures shall be so installed as to provide access for cleaning the fixture and the surrounding area.

7.3.4 Securing Floor-Mounted Fixtures

Floor-mounted fixtures shall be securely supported by the floor or floor/wall structure. No strain shall be transmitted to the connecting piping. Fastening screws or bolts shall be corrosion-resisting.

7.17 GARBAGE CAN WASHERS

Garbage can washers shall include a removable basket or strainer to prevent large particles of garbage from entering the drainage system. The water supply connection shall be protected from back siphonage in accordance with Chapter 10. Garbage can washers shall be trapped and vented as required for floor drains.

See Figure 7.17

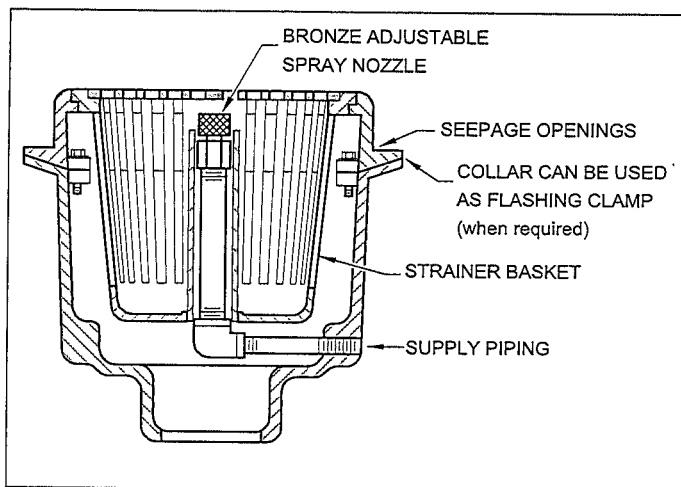


Figure 7.17
A GARBAGE CAN WASHER

7.18 SPECIAL INSTALLATIONS

7.18.1 Protection of Water Supply

The water supply to special installations shall be protected from backflow in accordance with Sections 10.4.3 and 10.5. Examples of such special installations include decorative fountains, ornamental pools and waterfalls, swimming and wading pools, baptisteries, and similar custom-built equipment.

7.18.2 Approval

Special installations requiring water supply and/or drainage shall be submitted to the Authority Having Jurisdiction for approval.

7.19 FLUSHING DEVICES FOR WATER CLOSETS AND URINALS

7.19.1 General

Appropriate flushing devices shall be provided for water closets, urinals, clinical sinks, and other fixtures that depend on trap siphonage to discharge the contents of the fixture.

7.19.2 Separate Devices

A separate flushing device shall be provided for each fixture.

EXCEPTION: A single device may be used to automatically flush two or more urinals.

7.19.3 Flush Tanks: Gravity, Pump Assisted, Vacuum Assisted.

a. Flush tanks shall have ballcocks or other means to refill the tank after each discharge and to shutoff the water supply when the tank reaches the proper operating level. Ballcocks shall be the anti-siphon type and comply with ASSE 1002.

b. Except in approved water closet and flush tank designs, the seat of the tank flush valve shall be at least 1 inch above the flood level rim of the fixture bowl.

b. Fixtures for customer and employee use shall be permitted to be met by providing centrally located facilities accessible to multiple establishments. The maximum distance of entry to these facilities shall not exceed 500 feet from the entrance of any establishment served.

c. Drinking water facilities shall not be required for customers where normal occupancy is short term as defined in Section 1.2.

d. For establishments less than 1500 square feet in total floor area, one water closet and one lavatory in a restroom shall be permitted to provide the requirements for serving the both customers and employees.

7.21.8 Food Service Establishments

a. Restaurants and other food service establishments with a seated occupant load exceeding 100 customers shall be provided with separate toilet facilities for employees and customers. Customer and employee toilet facilities may be combined for seated customer loads of 100 or less and fixtures shall be provided for the total number of customers and employees. For employees of 15 or less, one employee toilet facility, designed for use by no more than one person at a time, shall be permitted for use by both sexes.

b. Where food service establishments and food courts are open to public areas in malls and transportation terminals, toilet facilities that serve both customers and employees may be centrally located and serve multiple establishments. The maximum distance of entry to central toilet facilities shall be 500 feet from any establishment or food court served.

c. Drinking water facilities shall not be required in restaurants or other food service establishments if drinking water service is provided or available on request.

7.21.9 Family and Assisted-Use Toilet Rooms

a. Accessible family or assisted-use toilet rooms containing one water closet and one lavatory shall be provided as required by the applicable building code *building subcode*.

b. In assembly and mercantile occupancies, the plumbing fixtures within family and assisted-use toilet rooms may be counted as part of the minimum required fixtures for males or for females.

7.21.10 Fractions of the Minimum Number of Required Plumbing Fixtures

a. In Table 7.21.1, where the number of persons of each sex is less than 100% of a particular group, the number of fixtures required for that group may be reduced by the fraction of the persons in that group. The fraction of the required fixtures shall be rounded up to the next whole number.

b. Where a facility includes two or more different occupancy classifications with access to the same installed plumbing fixtures, the fraction of the required fixtures for each classification may be added and the total combined fraction of the required fixtures shall be rounded up to the next whole number.

7.22 WATER TREATMENT SYSTEMS

Water softeners, reverse osmosis water treatment units, and other drinking water treatment systems shall meet the requirements of the appropriate standards referenced in Section 10.18.1. Waste discharge from such equipment shall enter the drainage system through an air gap. Discharge piping shall be of a material approved for potable water, sanitary drainage, or storm drainage.

7.23 SAFETY FEATURES FOR SWIMMING POOLS, SPAS AND HOT TUBS

7.23.1 Entrapment Avoidance. Suction outlets shall be designed and installed in accordance with ANSI/APSP-7.

7.23.1 Spas and Hot Tubs

~~Spas and hot tubs shall comply with the requirements of subsections 7.23.2, 7.23.3, and 7.23.4.~~

7.23.2 Entrapment Avoidance

~~There shall be nothing in the spa or hot tub that can cause the user to become entrapped underwater. Types of entrapment can include, but not be limited to, rigid, non-giving protrusions, wedge-shaped openings, and any arrangement of components that could pinch and entrap the user.~~

7.23.3 Outlets Per Pump

There shall be a minimum of two (2) suction inlets for each pump in the suction inlet system, separated by at least 3 feet or located on two (2) different planes, such as one on the bottom and one on the vertical wall, or one on each of 2 vertical walls. The suction inlets shall be piped so that the water is drawn through the inlets simultaneously by a common suction line to the pump. Blocking one suction inlet shall not create excessive suction at other inlets.

7.23.4 Obstructions and Entrapment Avoidance

Where vacuum cleaning fittings are provided, they shall be located outside of the spa or hot tub and shall not be accessible to the spa or hot tub user.

7.24 PLUMBED EMERGENCY EYEWASH AND SHOWER EQUIPMENT

- a. Emergency eyewash, eye/face wash, and shower equipment shall comply with the requirements of ANSI/ISEA Z358.1
- b. The installer shall assemble and install the equipment in accordance with the manufacturer's instructions.
- c. The location of the emergency equipment shall be determined by the facility designer to provide the required access for protection from the specific hazards within the facility.
- d. The emergency equipment shall be designed and manufactured to provide the discharge patterns and flow rates required by ANSI/ISEA Z358.1 for the hazard(s) for which protection is being provided.
- e. The temperature of the flushing fluid shall be from 60°F to 100°F unless the facility designer has indicated that other specific temperatures are required to provide protection from a particular hazard.
- f. Temperature actuated mixing valves for plumbed emergency equipment shall comply with ASSE 1071.
- g. The minimum required water supply shall be 0.4 gpm for eyewashes, 3.0 gpm for eye/face washes, and 20 gpm for showers in accordance with ANSI/ISEA Z358.1.
- h. Water shutoff valves shall have provisions to prevent unauthorized closure.
- i. Equipment with waste pipe connections shall be connected to the building drain piping. Floor drains shall be provided for showers and equipment without waste connections.
- j. Where necessary for the hazards that the emergency equipment is being provided for, the drainage shall be neutralized or otherwise treated before discharge into the building drainage system. Acid waste shall be connected to an acid waste disposal system if available.

7.25 COMMERCIAL DISHWASHING PRE-RINSE SPRAY VALVES

Commercial dishwashing pre-rinse spray valves shall have a maximum flow rate of 1.6 gallons per minute at 60 psi.

Table 7.21.1 see (1)
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES

Classification	Occupancy Group see (14)	No. of Persons of Each Sex see (4), (16)	Water Closets see (5) for urinals		Lavatories		Bath or Shower	Drinking Water Facilities	Other
			Male	Female	Male	Female			
Residential (R)	R-1: Hotels, motels, boarding houses (transient)		1 water closet per guest room		1 lavatory per guest room		1 per guest room		1 service sink per floor (21)
	R-2: Dormitories, fraternities, sororities, boarding houses (not transient)	10 or less	2	2	2	2	1 per 8 people	1 per 100 people	1 service sink per floor (21)
		11 - 20	add 1	add 1	add 1	add 1			
	See Note: (9)	ea. add'1 20 over 20	add 2	add 2	add 2	add 2			
	R-2: Apartment houses, condominiums.		1 water closet per unit		1 lavatory per unit		1 per unit		1 kitchen sink per unit provisions for 1 clothes washer per 20 units (10)
	R-2 R-3/R-5: One- and two-family dwellings.		1 water closet per unit		1 lavatory per unit		1 per unit		1 kitchen sink per unit provisions for 1 clothes washer per unit
R-3: Congregate living facilities with 16 or fewer persons.	10 or less	1	1	1	1	1 per 8 people	1 per 100 people	1 service sink per floor (21)	
	ea. add'1 10 over 10	add 1	add 1	add 1	add 1				
See Note: (9)									
R-4: Residential care, assisted living facilities.	10 or less	1	1	1	1	1 per 8 residents	1 per 100 people	1 service sink per floor (21)	
	ea. add'1 10 over 10	add 1	add 1	add 1	add 1				
See Note: (9)									
Storage (S)	S-1 & S-2: Structures for the storage of goods, warehouses, storehouses, and freight depots. See Notes: (6), (9), (18), (19)	50 or less	1	1	1	1	1 per 500 people	1 service sink per floor (21)	
		51 - 100	add 1	add 1	add 0	add 0			
		ea. add'1 100 over 100	add 1	add 1	add 1	add 1			

Notes for Table 7.21.1 (where indicated in the Table):

- (1) Plumbing fixtures shall be provided in numbers not less than those shown in this Table for the type of building occupancy (7.21.1). ~~For accessible requirements, see local, state, and national codes. Additional fixtures may be required where environmental conditions or special activities may be encountered.~~
- (2) Drinking water facilities for customers are not required in restaurants or other food service establishments if drinking water service is available (7.21.8.c). Drinking water facilities are not required for customers in mercantile or business establishments where normal occupancy is short term (7.21.7.c). Kitchen sinks and bar sinks may be used for employee drinking water facilities (7.21.5.b).
- (3) In food preparation areas, fixture requirements may be dictated by local Health Codes (7.21.6.b).
- (4) Wherever both sexes are present in approximately equal numbers, multiply the total census by 50% to determine the number of persons of each sex to be provided for (7.21.2.c). This regulation applies only where specific information that would otherwise affect the fixture count is not provided.
- (5) Not more than 50% of the required number of water closets for males may be urinals (7.21.5.a).
- (6) In buildings with multiple floors, access to fixtures shall not exceed one vertical story (7.21.3.a).
- (7) Fixtures for customers and employees as required by this Table may be met by providing centrally located facilities accessible to several stores (7.21.7.b). The maximum distance from the entry for any store to these facilities shall not exceed 500 feet (7.21.7.b).
- (8) Where food service establishments and food courts are open to public areas in malls and transportation terminals, toilet facilities for both customers and employees may be centrally located and serve multiple establishments (7.21.8.b).
- (9) Fixtures accessible only to private offices shall not be counted to determine compliance with this Table (7.21.3.b).
- (10) Facilities without laundry rooms for their occupants shall not require provisions for clothes washers.
- (11) In residential care facilities where water closets and lavatories are provided in individual patient rooms, the minimum number of fixtures for employees and visitors shall be as required for hospitals.
- (12) Requirements for employees and customers may be met with a single set of restrooms (7.21.7.a).
- (13) If the design number of customers in food handling establishments exceeds 100, separate facilities for employees and customers are required (7.21.8.a).
- (14) Occupancy groups shall be as described in the local building code.
- (15) See 7.21.4 and 7.21.7 for toilet facilities for occupancies with a total floor area of 1500 square feet or less.
- (16) In determining the number of required fixtures for numbers of persons that fall in the "each additional (xx) over (xx)" listings, the requirement applies to fractions of the listed group (7.21.10).
- (17) Laboratories in higher education facilities shall have safety showers if required by ANSI/ISEA Z358.1 and the facility design.
- (18) Warehouse storage area requirements shall be permitted to be met by providing a facility centrally located within the storage area. The maximum travel distance to the facility shall not exceed 500 feet.
- (19) The requirements for multiple individual self-storage areas shall be permitted to be met by fixtures located in the facility's administration building. The administration office must be accessible during normal business hours.
- (20) Showers may be omitted in recreational facilities without locker rooms when approved by the Authority Having Jurisdiction.
- (21) Service sinks may not be required on floor levels if the AHJ determines that housekeeping is not required (7.21.5.d). Service sinks shall be permitted to serve two adjacent floors (one above and one below) where there is service elevator access.

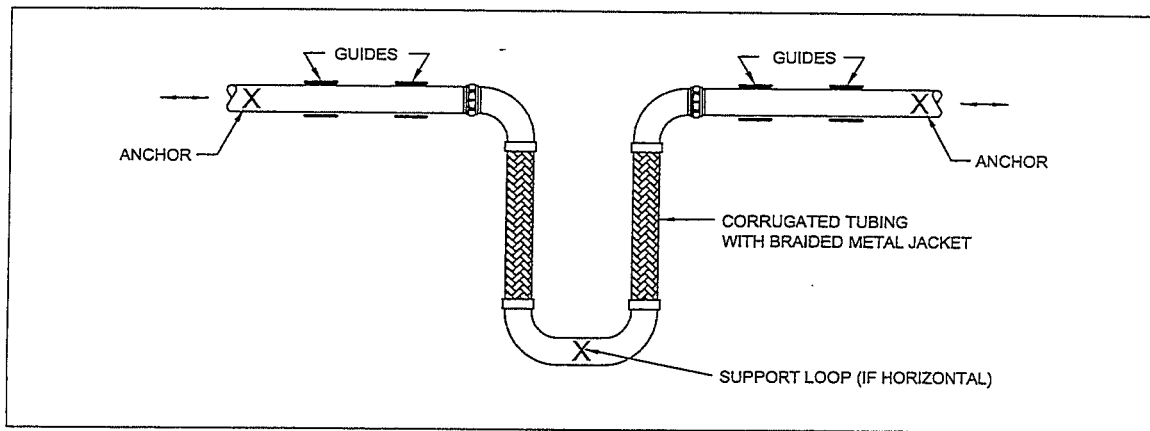


Figure 8.5 - C
A FLEXIBLE EXPANSION LOOP TO ABSORB THERMAL EXPANSION

8.6 BASE OF STACKS

Bases of cast-iron stacks shall be supported on concrete, brick laid in cement mortar, metal brackets attached to the building construction, or by other methods approved by the Authority Having Jurisdiction. Other piping material shall be so anchored as to support the stack at the base.

8.7 SUPPORT OF PLASTIC PIPE

- a. Plastic drain, waste, vent, and pressure pipe shall be installed and supported as recommended by the manufacturer's instructions.
- b. Maximum horizontal support spacing shall be based on the pipe schedule or wall thickness, the pipe size, the system operating temperature, the ambient temperature, and any concentrated loads.
- c. Vertical pipe shall be maintained in straight alignment with supports at each story height. Intermediate supports shall be provided where required for stability.
- d. Pipe shall also be supported at changes of direction or elevation.
- e. Supports shall not compress, distort, cut, or abrade the piping and shall allow free movement.
- f. Provisions shall be made for expansion and contraction of the piping.
- g. Fixture trap arms longer than three feet shall be supported as close as possible to the trap.

8.8 UNDERGROUND INSTALLATION

See Section 2.6.

8.9 SEISMIC SUPPORTS FOR PIPING

Where earthquake loads are applicable in accordance with the adopted building code, plumbing piping supports shall be designed and installed for the seismic forces in accordance with the adopted building ~~code~~ ~~subcode~~.

8.10 ALTERNATE PIPE HANGER AND SUPPORT SPACING

In lieu of the pipe hanger and support spacing required by Section 8.2 for vertical piping and Section 8.3 for horizontal piping, the pipe support spacing shall be permitted to comply with MSS SP-58 and the pipe manufacturer's recommendations. The spacing for water piping, waste and sanitary drain piping, and storm water piping shall be based on full water. The spacing for vent piping shall be permitted to be based on full vapor.

Water Supply and Distribution

10.1 QUALITY OF WATER SUPPLY

- a. Only potable water shall be supplied to plumbing fixtures used for drinking, bathing, culinary use or the processing of food, medical or pharmaceutical products.
- b. Reclaimed non-potable water shall be permitted in other than single dwelling units for flushing water closets and urinals, landscape irrigation, and other reuse applications in accordance with the requirements of the Authority Having Jurisdiction.
- c. Graywater in single dwelling units shall be limited to subsurface landscape irrigation in accordance with the requirements of the Authority Having Jurisdiction.
- d. Graywater in other than single dwelling units that is filtered and disinfected shall be permitted to be used for flushing water closets and urinals in accordance with the requirements of the Authority Having Jurisdiction.
- e. Harvested rainwater in other than single dwelling units that is filtered shall be permitted to be used for flushing water closets and urinals and subsurface landscape irrigation in accordance with the requirements of the Authority Having Jurisdiction.
- f. Reclaimed non-potable water, gray water, and harvested rain water, including the collection piping, distribution piping, storage and pumping equipment, shall be part of the plumbing system as covered by this Code regardless of their location on the property.

10.2 RESERVED

10.3 WATER REQUIRED

Plumbing fixtures shall be provided with a supply of water in the amounts and at the pressures specified in this Chapter.

10.4 PROTECTION OF POTABLE WATER SUPPLY

10.4.1 General

A potable water supply shall be designed, installed and maintained to prevent contamination from non-potable liquids, solids or gases by cross connections.

10.4.2 Interconnections

Interconnections between two or more public water supplies shall be permitted only with the approval of the Authority Having Jurisdiction in accordance with the rules of the New Jersey Department of Environmental Protection at N.J.A.C. 7:10-10.

10.4.3 Cross Connection Control

Potable water supplies shall be protected in accordance with the provisions of this code and where applicable the Safe Drinking Water Regulations (N.J.A.C. 7:10). The requirements of this code shall establish requirements for individual outlet protection. The requirements of the Safe Water Drinking Act shall establish the requirements for containment. See Figures 10.4.3-A and 10.4.3-B

Potable water supplies shall be protected in accordance with the cross connection control program of the Authority Having Jurisdiction and the provisions of this Code. Cross connection control shall be provided at individual outlets, and where required, by containment of the premises. Each potential cross connection within the premises shall be protected. Where containment is required, the potable water supply shall be protected by a backflow protection device installed immediately downstream of the meter or between the service shutoff valve and the first outlet or branch connection.

10.4.4 Private Supplies

- a. Private potable water supplies (i.e., wells, cisterns, lakes, streams) shall require the same backflow prevention that is required for a public potable water supply.
- b. Cross connection between a private potable water supply and a public potable water supply shall not be made unless specifically approved by the Authority Having Jurisdiction *in accordance with N.J.A.C. 7:10-10.2(e)*.

Comment: Interconnections between private water supplies and public water supplies are generally prohibited because private supplies are usually not monitored continuously for water quality.

10.4.5 Toxic Materials

- a. Piping conveying potable water shall be constructed of non-toxic material.
- b. The interior surface of a potable water tank shall not be lined, painted, or repaired with any material that will affect the taste, odor, color or potability of the water supply when the tank is placed in or returned to service.

Comment: The toxicity rating of a piping material can be found in the material standard listed in Table 3.1.3. The piping materials listed in Table 3.4 are non-toxic and are suitable for conveying potable water.

10.4.6 Reserved

10.4.7 Reserved

10.4.8 Used Materials

Materials that have been used for any purpose other than conveying potable water shall not be used for conveying potable water.

10.4.9 Water As a Heat-Transfer Fluid

Potable water may be used as a heat-transfer fluid provided that the potable water system is protected against cross connection.

10.5 BACKFLOW PREVENTION

10.5.1 Air Gaps

- a. The water supply outlets for plumbing fixtures and other discharges shall be protected from back siphonage by a fixed air gap or a required backflow preventer.
- b. Air gaps shall comply with ASME A112.1.2 or Table 10.5.2. Air gap fittings shall comply with ASME A112.1.3.

10.5.2 Requirements for Air Gaps

- a. How Measured: Air gaps shall be measured vertically from the lowest opening of the water supply outlet to either (1) the flood level rim of the fixture or receptor served, or (2) the maximum elevation of the source of contamination.
- b. Minimum size (distance): The minimum required air gap shall be in accordance with Table 10.5.2 based on the opening of the water supply outlet and the affect of any nearby vertical surfaces (walls).

10.5.6 Testing and Maintenance of Backflow Prevention Assemblies

a. Assemblies that are designed to be field tested shall be tested prior to final inspection of the initial installation and once each year thereafter.

b. Assemblies installed in a building potable water supply distribution system for protection against backflow shall be maintained in good working condition and be repaired when necessary.

c. Testable assemblies are those backflow prevention assemblies having test cocks or test procedures and include, but are not limited, to the following:

1. Reduced pressure principle backflow preventers (ASSE 1013)
2. Reduced pressure fire protection principle backflow preventers (ASSE 1013)
3. Double check backflow prevention assemblies (ASSE 1015)
4. Double check fire protection backflow prevention assemblies (ASSE 1015)
5. Pressure vacuum breaker assemblies (ASSE 1020)
6. Reduced pressure detector fire protection backflow prevention assemblies (ASSE 1047)
7. Double check detector fire protection backflow prevention assemblies (ASSE 1048)
8. Spill resistant vacuum breakers (ASSE 1056)

d. Where tests indicate that the assembly is not functioning properly, it shall be serviced or repaired in accordance with the manufacturer's instructions and be retested.

e. ~~Testing and repair of assemblies shall be performed by certified individuals approved by an agency acceptable to the Authority Having Jurisdiction.~~

f. Certification for testing and repair shall be in accordance with the appropriate sections of ASSE 5000 Cross-Connection Control Professional Qualification Standard. Testing shall be in accordance with ASSE 5110 Backflow Prevention Assembly Testers. Repair shall be in accordance with ASSE 5130 Backflow Prevention Assembly Repairers.

g. Copies of test reports for the initial installation shall be sent to the Authority Having Jurisdiction and the water supplier. Copies of annual test reports shall be sent to the water supplier.

h. Where a continuous water supply is critical and cannot be interrupted for the periodic testing of a backflow prevention assembly, multiple backflow prevention assemblies or other means of maintaining a continuous supply shall be provided that does not create a potential cross connection.

10.5.7 Tanks and Vats—Below Rim Supply

a. Where a potable water inlet terminates below the rim of the tank or vat and the tank or vat has an overflow of a diameter not less than given in Table 10.8.3, the overflow pipe shall be provided with an air gap as close to the tank as possible.

b. The potable water supply inlet to the tank or vat shall terminate a distance not less than 1-1/2 times the height to which water can rise in the tank above the top of the overflow. This level shall be established at the maximum flow rate of the supply to the tank or vat and with all outlets closed except the air-gapped overflow outlet.

c. An alternate to 10.5.7.b is a vacuum breaker on the water supply inlet pipe above the rim of the tank or vat.

See Figure 10.5.7. Also Sections 10.8.3, 10.8.4, 10.8.5, and 10.8.6

d. Equipment that requires a pressure vacuum breaker or spill resistant vacuum breaker in its water supply includes, but is not limited to, Chinese ranges (woks), rethermalizers, hoses with a pressure nozzle, and pasta cookers.

e. Equipment that requires an atmospheric vacuum breaker in its water supply includes, but is not limited to, garbage disposals, automatic dishwashers, dish machine automatic detergent feeders, detergent feeders for 3-compartment sinks, wall-mounted chemical feeders, garbage can washers, mop sinks, steam tables with submerged inlets, and dish troughs with submerged inlets.

f. Equipment that requires a vented double check valve or equivalent in its water supply includes, but is not limited to, untreated boilers such as espresso machines, the oven in combination steamer/ovens, carbonated beverage machines, beverage carbonators, non-carbonated beverage machines, coffee machines, iced tea machines, hot chocolate machines, cappuccino machines, instant hot water dispensers, slushy machines, and any other beverage equipment.

g. The water supply to a post-mix carbonated beverage dispenser shall be protected against backflow with an integral backflow preventer conforming to ASSE 1022 or an air gap.

1. Post-mix carbonated beverage dispensers and carbonated beverage systems with an integral dual check backflow preventer without an atmospheric vent (ASSE 1032) or without an integral backflow preventer conforming to ASSE 1022 or without an integral air gap shall have the water supply connection to the dispenser protected by a double check valve with atmospheric vent port conforming to ASSE 1022.

2. When an ASSE 1022 device must be installed in the water supply piping external to the carbonated beverage dispenser, the piping from the device to the beverage dispenser shall be acid resistant and not copper.

3. ASSE 1012 backflow preventers with intermediate atmospheric vents are not constructed for use with carbonated beverages and shall not be used for backflow prevention from post-mix carbonated beverage dispensers.

h. All backflow prevention assemblies and devices shall be installed in accordance with their manufacturer's instructions for the particular application.

10.5.9 Protection from Fire Systems

a. Potable water supplies to water-based fire protection systems, including but not limited to standpipes and automatic sprinkler systems, shall be protected from back pressure and back siphonage by one of the following testable assemblies:

1. double check fire protection backflow prevention assembly – ASSE 1015 (DCF)
2. double check detector fire protection backflow prevention assembly – ASSE 1048 (DCDA or DCDA-II)
3. reduced pressure fire protection principle backflow prevention assembly – ASSE 1013 (RPF)
4. reduced pressure detector fire protection backflow prevention assembly – ASSE 1047 (RPDA or RPDA-II).

EXCEPTIONS:

(1) ASSE 1024 dual check backflow preventers shall be permitted in stand-alone residential fire sprinkler systems that comply with NFPA 13D or NFPA 13R, do not supply plumbing fixtures, and do not include a fire department connection.

(2) Backflow preventers shall not be required in NFPA 13D multipurpose or network residential fire sprinkler systems that supply both plumbing fixtures and residential fire sprinklers. The piping in such systems shall be approved for potable water. Such systems shall not have a fire department connection.

(3) ASSE 1024 dual check backflow preventers shall be permitted in limited area fire sprinkler systems that comply with NFPA 13 and do not have a fire department connection.

(4) ~~Where fire protection systems include a fire department connection, ASSE 1013 reduced pressure fire protection principle backflow preventers (RPF) or ASSE 1047 reduced pressure detector fire protection backflow prevention assemblies (RPDA or RPDA-II) shall be required. Where fire protection systems supplied from a potable water system include a fire department (Siamese) connection which is located less than 1,700 feet from a non-potable water source, the water supply shall be protected by one of the following:~~
(i) *Reduced pressure backflow preventer assembly; or*
(ii) *Reduced pressure detector assembly.*

10.6.5 Water Service Sizing

The water service pipe shall be of sufficient size to furnish water to the building in the quantities and at the pressures required elsewhere in this Code. The pipe size shall not be less than 3/4 inch nominal.

10.7 WATER PUMPING AND STORAGE EQUIPMENT

10.7.1 Pumps and Other Appliances

Water pumps, filters, softeners, tanks and other appliances and devices used to handle or treat potable water shall be protected against contamination as per Section 10.5.

10.7.2 Prohibited Location of Potable Supply Tanks

Potable water gravity tanks or manholes of potable water pressure tanks shall not be located directly under any sanitary drain piping.

10.8 WATER PRESSURE BOOSTER SYSTEMS

10.8.1 Water Pressure Booster Systems Required

a. When the water pressure in the public water main or individual water supply system is insufficient to supply the potable peak demand flow to plumbing fixtures and other water needs freely and continuously with the minimum pressure and quantities specified in Section 10.14.3, or elsewhere in this Code, ~~and in accordance with good practice~~, the rate of supply shall be supplemented by one of the following methods:

1. An elevated water tank.
2. A hydro-pneumatic pressure booster system.
3. A water pressure booster pump.

10.8.2 Reserved

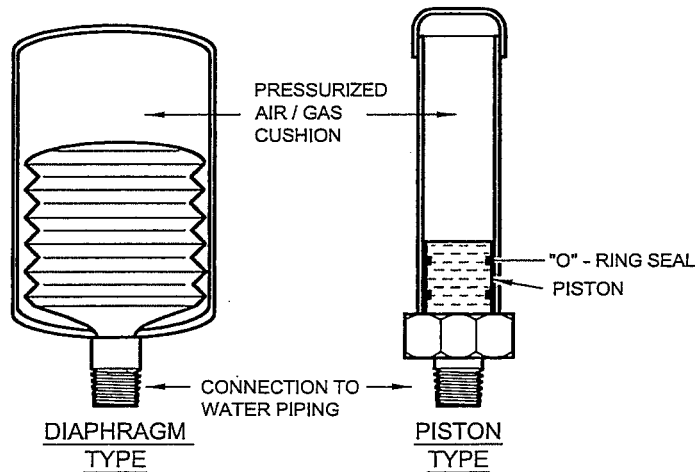
10.8.3 Overflows for Water Supply Tanks

Gravity or suction water supply tanks shall be provided with an overflow having a diameter not less than that shown in Table 10.8.3. The overflow outlet shall discharge above and within not less than 6 inches of a roof or roof drain, floor or floor drain, or over an open water-supplied fixture. The overflow outlet shall be covered by a corrosion-resistant screen of not less than 16 x 20 mesh to the inch and by 1/4 inch hardware cloth, or it shall terminate in a horizontally installed 45° angle-seat check valve. Drainage from overflow pipes shall be directed so as not to freeze on roof walkways. *See Figure 10.5.7*

Maximum Makeup Water Flow – gpm	13	55	100	165	355	640	1040	>1040
Overflow Pipe Size – inches	1-1/2	2	2-1/2	3	4	5	6	8

10.8.4 Covers

All water supply tanks shall be covered to keep out unauthorized persons, dirt, and vermin. The covers of gravity tanks shall be vented with a return bend vent pipe having an area not less than the area of the down feed riser pipe and the vent shall be screened with corrosion resistant screen having not less than 14 and not more than 20 openings per linear inch. *See Figure 10.5.7*



NOTES:

1. Water hammer arrestors should be sized and installed according to the manufacturer's instructions.
2. PDI Standard WH201 establishes PDI Sizes "A" through "F" with recommendations on the number of fixture units served by each size. Most manufacturers rank their products to the PDI Sizes.
3. Water hammer arrestors can be installed vertically or horizontally. They should be installed on the run of a tee fitting so that the unobstructed shock path is directly into the water hammer arrestor. See Figure 1.2.3.
4. The number of elbows upstream from a water hammer arrestor should be minimized because they create points of shock before the arrestor.
5. Water hammer arrestors must be accessible and have a means of shutoff to permit replacement if necessary. The means of shutoff can be the shutoff valve for a fixture or group of fixtures.

**FIGURE 10.14.7
WATER HAMMER ARRESTORS**

10.15 HOT WATER

10.15.1 Hot Water Supply System

In residences and buildings intended for human occupancy, hot water shall be supplied to all plumbing fixtures, appliances, and equipment that require hot water for their use. *Outlet temperature of hot water from lavatory faucets in public use facility restrooms or public toilet rooms shall be provided with a means to limit the maximum temperature to 110 degrees F.*

EXCEPTION: In buildings other than dwelling units, tempered water supply systems shall be permitted to supply fixtures that deliver only tempered water.

10.15.2 Temperature Maintenance Where Required

a. Where the developed length of the hot water supply piping exceeds 100 feet from the hot water source to the farthest hot water outlet, the system shall maintain the temperature of the hot water to within 25 feet developed length from every hot water outlet served.

b. Where required by Section 10.15.2.a, the hot water temperature within the piping shall be maintained by heat tracing or recirculation of the hot water. The temperature of the hot water in the piping shall be maintained by automatic controls with manual auto-off.

c. The requirements of this section for temperature maintenance also apply to tempered water supply piping.

See Figure 10.15.2

10.19 SIZING OF RESIDENTIAL WATER SOFTENERS

Residential-use water softeners shall be sized per Table 10.19.

Required Size of Softener Connection (in.)	Number of Bathroom Groups Served ¹
3/4	Up to 2 ²
1	Up to 4 ³

NOTES FOR TABLE 10.19

1. The number of bathroom groups served may include a kitchen sink, dishwasher, laundry sink, and automatic clothes washer.
2. An additional water closet and lavatory shall be permitted without an increase in sizing.
3. Over four Bathroom Groups, the softener shall be engineered for the specific installation.

10.20 DWELLING UNIT FIRE SPRINKLER SYSTEMS

~~10.20 NFPA 13D MULTIPURPOSE RESIDENTIAL FIRE SPRINKLER SYSTEMS~~

Section P2904, Dwelling unit fire sprinkler systems, of the one- and two-family dwelling subcode shall be considered part of the plumbing subcode.

~~R10.20.1 Where Permitted~~

~~NFPA 13D multipurpose residential fire sprinkler systems shall be permitted where approved by the Authority Having Jurisdiction for fire protection systems.~~

~~10.20.2 General~~

- ~~a. The plumbing requirements for NFPA 13D multipurpose residential fire sprinkler systems, which provide both domestic cold water distribution and fire sprinkler protection for one- and two-family dwellings from a combination piping system, shall comply with the applicable requirements of this Code.~~
- ~~b. The fire protection requirements for NFPA 13D multipurpose residential fire sprinkler systems shall comply with the requirements of NFPA 13D and the Authority Having Jurisdiction for fire protection systems.~~
- ~~c. NFPA 13D multipurpose piping systems include network systems where each fire sprinkler is supplied from at least three separate parts.~~
- ~~d. NFPA 13D piping systems shall not be multipurpose if they require the use of antifreeze.~~
- ~~e. NFPA 13D multipurpose piping systems shall not include domestic hot water distribution to plumbing fixtures. Piping for hot water distribution shall comply with Section 3.4.3.~~
- ~~f. The design of the plumbing portions of NFPA 13D multipurpose piping systems shall comply with the requirements of this Code.~~
- ~~g. The design of the fire sprinkler portions of NFPA 13D multipurpose piping systems shall comply with the requirements of NFPA 13D.~~
- ~~h. The installation of the plumbing portions of NFPA 13D multipurpose piping systems, which consist of the water supply to the multipurpose system and the branch piping that supplies cold water to plumbing fixtures and end-use devices, shall be performed under the plumbing permit issued by the Authority Having Jurisdiction for plumbing.~~
- ~~i. The installation of the fire sprinkler portions of NFPA 13D multipurpose piping systems, which consist of the fire sprinklers and their supply piping, shall be performed under the fire sprinkler permit issued by the Authority Having Jurisdiction for fire sprinkler systems.~~

12.4.6 Extensions Outside Building

No sanitary drain or vent pipe extension shall be installed on the outside of a wall of any new building, but shall be carried up inside the building

EXCEPTION: In those localities where the outdoor temperature does not drop below 32°F, the Authority Having Jurisdiction may approve the installation outside the building.

12.4.7 Flashing Roof Vent Terminals

a. Vent terminals through the roof shall be made watertight to the roof by sealing the flashing to either the exterior or interior of the vent terminal.

b. Vent terminals that are externally sealed shall employ manufactured vent stack flashing sleeves, roof couplings, or no-caulk roof vent flashings.

c. Where vent terminals are sealed by counter-flashing over the top of the vent terminal, the counter flashing shall not decrease the interior free area of the minimum required vent terminal size. Vent terminals shall be increased at least one pipe size when counter-flashed. Interior counter flashing shall be sealed gas-tight to prevent the entrance of sewer gas into the building through the flashing.

~~12.5 FROST CLOSURE~~

~~Where the Authority Having Jurisdiction requires protection against frost closure, vent terminals less than 3" pipe size shall be increased at least one pipe size to not less than 3" size. Where an increase is necessary, the increase in size shall be made inside the building at least one foot below a roof or ceiling that is thermally insulated and in an area not subject to freezing temperatures.~~

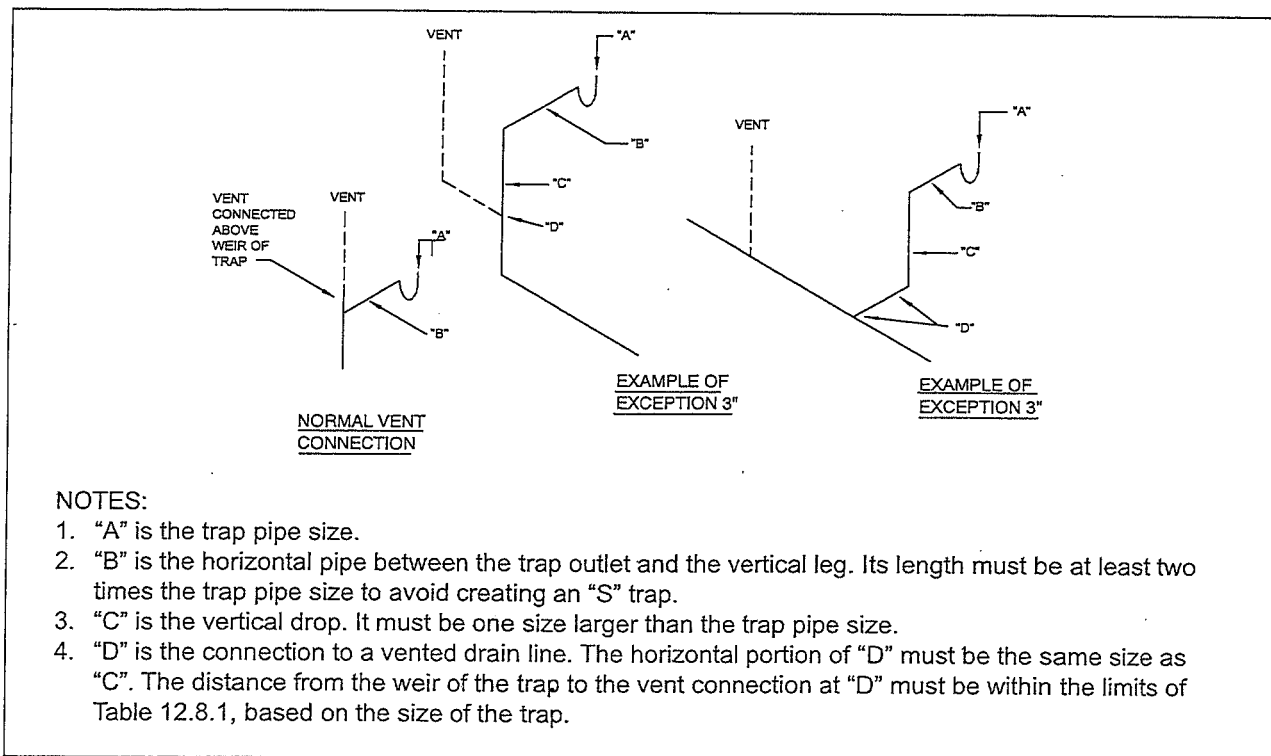


Figure 12.8.1 - B
EXAMPLES OF EXCEPTION #3 TO SECTION 12.8.1
(VENT CONNECTIONS BELOW THE WEIR OF A TRAP)

~~12.8.2 Provision for Venting Future Fixtures~~

~~On new construction of residential dwelling units with basements, a 2" minimum size vent shall be installed between the basement and attic or tied into an existing, properly sized vent and capped for future use.~~

12.8.3 Crown Venting Limitation

A vent shall not be installed within two pipe diameters of the trap weir. *See Figure 12.8.3*

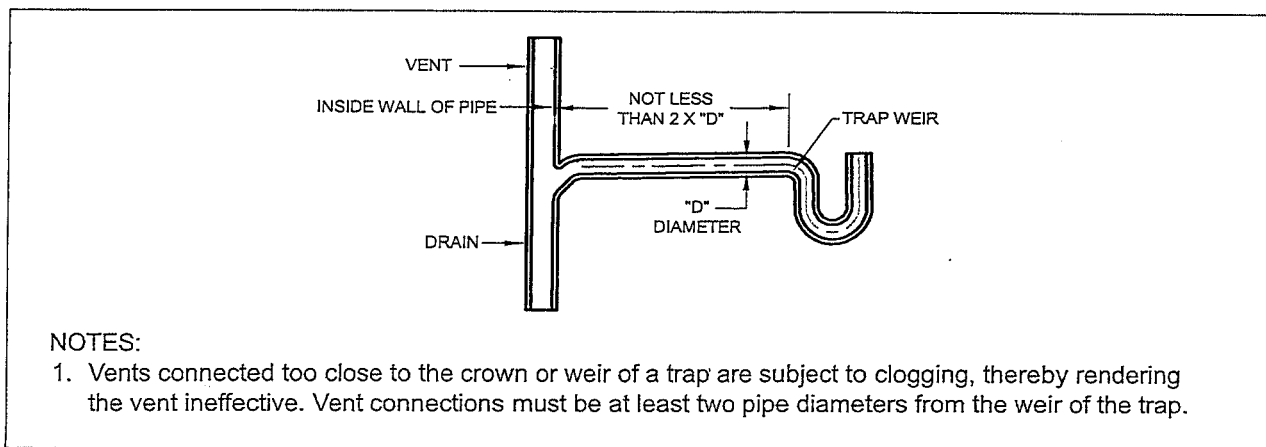


Figure 12.8.3
CROWN VENTS ARE PROHIBITED

Storm Water Drainage

13.1 GENERAL

13.1.1 Where Required

Roofs, paved areas, yards, courts, and courtyards shall be drained to either a storm sewer where available, a combined sewer where necessary, or to a place of disposal satisfactory to the Authority Having Jurisdiction. EXCEPTION: Storm water from one- and two-family dwellings may be discharged on lawns or streets provided that the storm water flows away from the dwelling and does not otherwise create a nuisance.

13.1.2 Storm Water Drainage to Sanitary Sewer Prohibited

Storm water shall not be drained into sewers intended for sewage only, except as approved by the Authority Having Jurisdiction.

Comment #1: The peak storm water flows in combined sanitary and storm sewer systems can overload the sewage treatment facility, causing it to bypass untreated sewage into its point of discharge.

Comment #2: In many cities with combined sewers, it is impractical to install separate sewers in the downtown areas because of the number of existing utilities under the streets.

Comment #3: Some jurisdictions with combined sewers require that new or renovated buildings have separate sanitary and storm building drains so that they could be connected to separate sewers in the future.

13.1.3 Sanitary and Storm Sewers

Where separate systems of sanitary drainage and storm water are installed in the same property, the storm and sanitary building sewers and drains may be laid side by side in the same trench.

13.1.4 Reserved

13.1.5 Foundation Drains

a. *Foundation drains shall be provided in accordance with the building subcode.*

~~a. Foundation drains shall be provided around the perimeter of basements, cellars, crawl spaces, or any building space below grade. The drains shall be positioned either inside or outside of the footing, and shall be of the perforated or open joint approved drain tile or pipe not less than 3" pipe size. The top of foundation drains shall be not less than 2 inches below the underside of the floor slab being protected.~~

~~b. Weep holes~~

~~1. Where foundation drains are located on the interior side of hollow core concrete masonry units, 1/2" 3/4" diameter weep holes shall be located through the inside face of the foundation wall at the footing on 16 inch centers.~~

~~2. Where foundation drains are located on the interior side of a poured concrete foundation wall, 1 1/2" pipes shall be installed through the footing on six foot centers.~~

~~c. Foundation drains shall be laid in a filter bed of gravel, crushed stone, slag, approved 3/4" crushed recycled glass aggregate, or other approved porous materials. The bottom of the filter bed shall be no higher than the bottom of the base course beneath the floor slab. There shall be not less than 2 inches of filter bed beneath the foundation drain. Where foundation drains are located outside of the footings, there shall be at least 6 inches of filter bed above the top of the pipe.~~

~~d. Drainage from foundations shall be discharged to a storm drain, street, alley, approved water course, or at grade. When discharged at grade, the point of discharge shall be at least 10 feet from any property line, where possible, and shall not create a nuisance.~~

e. Where foundation drains are below the required point of discharge, one or more automatic sump pumps shall be provided. The pump or pumps shall have adequate capacity to convey all drainage to its point of discharge. The minimum pump capacity shall be 15 gallons per minute at the required discharge head. Sump pits shall be sized to accommodate the pump(s), as recommended by the pump manufacturer, but shall be not less than 15 inches in diameter nor less than 18 inches deep. Sump pits shall be provided with fitted covers. Pits shall be located to avoid foot traffic where their covers do not have sufficient strength to carry such weight. Discharge lines from sump pumps shall be sized according to the design pump capacity and shall be not less than 1-1/4" pipe size. A check valve shall either be incorporated into each sump pump or be installed in the discharge line from each sump pump, except that check valves may be eliminated where the discharge pipe would be subject to freezing. Under such conditions, the sump pit shall be adequately sized to prevent short cycling of the pump.

f. Where sump pumps discharge at grade on unpaved surfaces, the discharge pipe shall extend to a splash block or equivalent, which shall be designed to contain the discharge, reduce its velocity, and avoid disturbing adjacent areas. Where necessary, the discharge pipe shall terminate with an elbow to direct the flow along the splash block. Splash blocks shall be at least 24 inches long.

g. Water-operated sump pumps shall comply with Section 13.1.13.

See Figure 13.1.5-A and 13.1.5-B

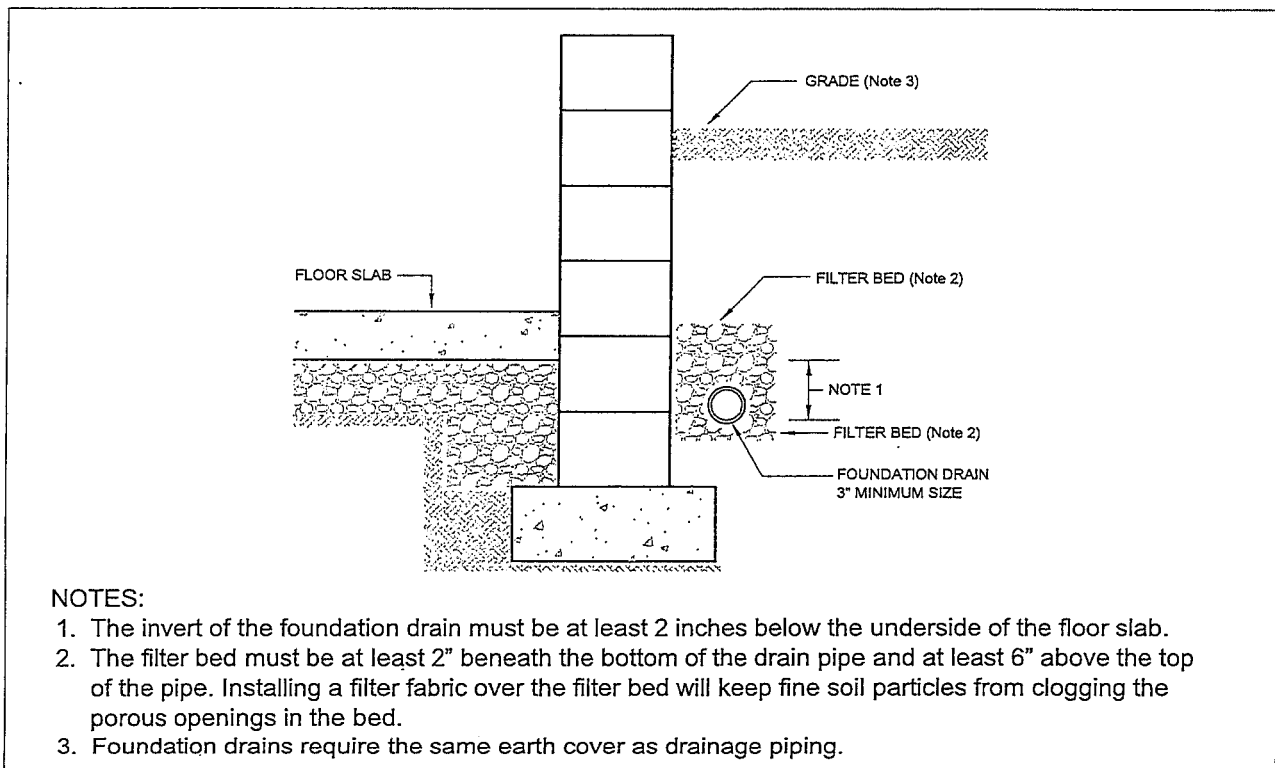


Figure 13.1.5 - A
A FOUNDATION DRAIN OUTSIDE OF A FOOTING

13.1.8 Parking and Service Garages

Storm water drainage from parking and service garages shall be in accordance with Sections 6.3.1.d and 6.3.1.e.

13.1.9 Trench Drains

Trench drains shall be installed in accordance with the manufacturer's instructions for excavation, anchoring, assembly, and the connection of piping.

13.1.10 Roof Drainage

13.1.10.1 Primary Roof Drainage

Roof areas of buildings shall be drained by roof drains or scuppers unless gutters and downspouts or other non-plumbing drainage is provided. The location and sizing of roof drains and scuppers shall be coordinated with the structural design and slop of the roof. ~~Roof drains, scuppers, vertical conductors or leaders, and horizontal storm drainage piping for primary drainage shall be sized based on a storm of 60 minutes duration and a 100-year return period (See Appendix A). Rainfall rates shall be applied so that the applicable rainfall rate for Burlington and Ocean counties and all counties south shall be six inches per hour and for Mercer and Monmouth and all counties north, the applicable rainfall rate shall be five inches per hour.~~

~~13.1.10.2 Secondary Roof Drainage~~

~~a. Where parapet walls or other construction extend above the roof and create areas where storm water would become trapped if the primary roof drainage system failed to provide sufficient drainage, an independent secondary roof drainage system consisting of scuppers, standpipes, or roof drains shall be provided. Secondary roof drainage shall be sized for a 100-year, 15-minute storm (see Appendix A). The capacity of the primary system shall not be considered in the sizing of the secondary system.~~

~~b. Where secondary drainage is provided by means of roof drains or standpipes, the secondary system shall be separate from the primary system and shall discharge independently at grade or other approved point of discharge.~~

~~c. Where secondary roof drainage is provided, the overflow level(s) into the secondary system shall be established by the amount of ponding that is allowed in the structural design of the roof, including roof deflection. An allowance shall be made to account for the required overflow head of water above the secondary inlets. The elevation of the secondary inlet plus the required overflow head shall not exceed the maximum allowable water level on the roof.~~

~~d. Scuppers shall be sized as rectangular weirs, using hydraulic principles to determine the required length and resulting overflow head (see Appendix A). Secondary roof drains and standpipes shall be sized according to Table 13.6.1. Where standpipes are used, the head allowance required under Section 13.1.10.2.c shall be not less than 1 1/2 inches.~~

~~e. Strainers shall not be required on open standpipes when used for secondary inlets.~~

~~f. Where secondary roof drainage is provided by roof drains or standpipes, they shall be permitted to discharge horizontally, similar to scuppers, but below the roof level.~~

13.1.10.3 Vertical Walls

Where vertical walls drain onto roofs, an allowance based on 50% of the maximum projected wall area shall be added to the roof area onto which each wall drains.

13.1.10.4 Equivalent Systems

When approved by the Authority Having Jurisdiction, the requirements of Sections 13.1.10.1 and 13.1.10.2 shall not preclude the installation of an engineered roof drainage system that has sufficient capacity to prevent water from ponding on the roof in excess of that allowed in the roof structural design during a 100-year, 15-minute storm.

b. After the plumbing fixtures have been set and their traps filled with water, their connections shall be tested and proved gas and watertight. A final smoke or peppermint test shall be required, except in the case of a previous on site-inspected water or air tested system. If a smoke or peppermint test is required, the following test methods shall be employed:

1. A smoke test shall be made by filling all traps with water and then reintroducing into the entire system a pungent, thick smoke produced by one or more smoke machines. When the smoke appears at stack openings on the roof, they shall be closed and a pressure equivalent to a one-inch water column shall be developed and maintained for the period of the inspection.

2. Where the Authority Having Jurisdiction, due to practical difficulties or hardships, finds that a smoke test cannot be performed, a peppermint test shall be substituted in lieu thereof. Such peppermint test shall be conducted by the introduction of two ounces of oil of peppermint into the roof terminal of every line or stack to be tested. The oil of peppermint shall be followed at once by ten quarts of hot (140°F) water whereupon all roof vent terminals shall be sealed. A positive test, which reveals leakage, shall be the detection of the odor of peppermint at any trap or other point on the system. Oil of peppermint or persons whose person or clothes have come in contact with oil of peppermint shall be excluded from the test area.

Comment: The smoke or peppermint tests on the finished plumbing can be waived by the Authority Jurisdiction when they are considered unnecessary. However, the finished plumbing tests should be performed if the installation appears to be improper or there is odor of sewer gas.

15.5 METHOD OF TESTING BUILDING SEWERS

The building sewer shall be tested by insertion of a test plug at the point of connection with the public sewer, private sewer, individual sewage disposal system, or other point of disposal. It shall then be filled with water under a head of not less than 10 feet. The water level at the top of the test head of water shall not drop for at least 15 minutes. Where the final connection of the building sewer cannot reasonably be subjected to a hydrostatic test, it shall be visually inspected.

15.6 METHODS OF TESTING WATER SUPPLY SYSTEMS

a. Upon completion of a section or the entire water supply system, it shall be tested and proved tight under a water pressure not less than the working pressure under which it is to be used or 80 pounds per square inch, whichever is greater.

b. For metallic pipe and where the Authority Having Jurisdiction determines that providing potable water for the test represents a hardship or practical difficulty, the system may be tested with air to the pressures noted above, as allowed by the pipe manufacturer.

c. For plastic pipe, testing by compressed gas or air pressure shall be prohibited.

d. Piping shall be disinfected after testing per Section 10.9.

15.6.1 Combination Domestic/Fire Water Service Systems:

Piping for combination domestic/fire water service systems shall be pressure tested to not less than 200 psig and shall maintain that pressure without loss for two hours.

15.6.1.1 Leakage:

The following provisions shall apply to buried pipe in all combination domestic/fire water service systems, except for limited sprinkler systems:

- (1) The amount of leakage at the joints shall be no greater than 2 qt/hr (1.89 L/hr) per 100 joints or gaskets, regardless of pipe diameter.*
- (2) The amount of leakage in accordance with (1) above shall be permitted to be increased in increments of 1 fluid ounce (30 ml) per inch valve diameter per hour for each metal seated valve that isolates the test section.*
- (3) The amount of leakage in buried piping shall be measured at the test pressure specified by pumping from a calibrated container.*

15.7 DEFECTIVE PLUMBING

Where there is reason to believe that the plumbing system of any building has become defective, it shall be subjected to test or inspection and any defects found shall be corrected.

15.8 MAINTENANCE

15.8.1 General

The plumbing and drainage systems shall be maintained at all times in compliance with the provisions of this Code.

15.8.2 Exception

Existing plumbing installed under prior regulations or lack thereof, may remain unchanged unless immediate hazards to health, life, or property are evident.

15.9 FLUSHING OF PIPING

Lead-in connections to system risers and fire service mains from the water supply to the system riser (excluding limited systems) shall be flushed completely before connection is made to sprinkler piping. The flushing operation shall be continued for a sufficient amount of time to ensure that the system is thoroughly cleaned. The minimum rate of flow shall be not less than one of the following:

- (1) The hydraulically calculated water demand rate of the system, including any hose requirements.*
- (2) The flow that is necessary to provide a velocity of 10 ft/sec (3.1 m/sec).*
- (3) The maximum flow rate available to the system under fire conditions.*

Regulations Governing Individual Sewage Disposal Systems for Homes and Other Establishments Where Public Sewage Systems Are Not Available

(Sections 16.1 through 16.12.1.13 are deleted by the NJUCC and modified per the following.)

16.1 GENERAL

On-site sewage disposal systems are under the jurisdiction of the Department of Environmental Protection and the county or local boards of health, as applicable.

16.2 ABANDONED DISPOSAL SYSTEMS

When an existing building is being demolished and the existing sewage disposal system is abandoned or an existing sewage disposal system is being abandoned and a connection is being made to the public sewer disposal system or new sewage disposal system, the plumbing subcode official shall ensure that the existing abandoned tank is disconnected from the building, pumped out and filled with gravel, stones, or soil material.

~~16.1 GENERAL PROVISIONS~~

~~16.1.1 General~~

~~In the absence of State or other local laws governing the installation, use and maintenance of private sewage disposal systems, the provisions of this Chapter shall apply.~~

~~16.1.2 Sewage Disposal~~

~~"Sewage disposal" under this section shall mean all private methods of collecting and disposing of domestic sewage, including septic tanks.~~

~~16.1.3 Domestic Sewage~~

~~Domestic sewage shall be disposed of by an approved method of collection, treatment and effluent discharge. Domestic sewage or sewage effluent shall not be disposed of in any manner that will cause pollution of the ground surface, ground water, bathing areas, lakes, ponds, watercourses, tidewater, or create a nuisance. It shall not be discharged into any abandoned or unused well, or into any crevice, sink hole, or other opening either natural or artificial in a rock formation.~~

~~*Comment: Federal and local environmental agencies have criteria for the allowable contaminant levels that can be discharged into a water course or other point of discharge. Improper disposal of sewage can result in; (1) contamination of public or private water supplies, (2) spread of disease by insects or vermin, (3) creation of objectionable odors, (4) pollution of public water resources, or (5) other conditions that are detrimental to public health and safety.*~~

~~16.1.4 Non Water Carried Sewage~~

~~When water under pressure is not available, all human body wastes shall be disposed of by depositing them in approved privies, chemical toilets, or such other installations acceptable to the Authority Having Jurisdiction.~~

~~16.1.5 Water Carried Sewage~~

~~Water carried sewage from bathrooms, kitchens, laundry fixtures and other household plumbing shall pass through a septic or other approved sedimentation tank prior to its discharge into the soil or into a sand filter. Where underground disposal or sand filtration is not feasible, consideration shall be given to special methods of collection and disposal.~~

Chapter 17

Potable Water Supply Systems

(Chapter 17, Sections 17.1 through 17.15.2 are deleted by the NJUCC and modified per the following.)

17.1 GENERAL

On-site water supply systems are under the jurisdiction of the Department of Environmental Protection and the county or local boards of health, as applicable.

~~17.1 GENERAL REGULATIONS~~

~~17.1.1 Applicability~~

~~The regulations in this chapter apply to any private potable water supply system where plumbing fixtures are installed for human occupancy.~~

~~*Comment: This chapter applies to private water supply systems serving one or more buildings independent of any public water supply.*~~

~~17.1.2 Pumps~~

~~Pumps shall be installed only in wells, springs and cisterns that comply with the rules and regulations as determined by the Authority Having Jurisdiction.~~

~~17.2 QUANTITY OF WATER REQUIRED~~

~~17.2.1 Single Dwelling Units~~

~~The minimum capacity of the system in gallons per minute shall equal the number of fixtures installed.~~

~~*Comment: A capacity of 1 GPM per fixture in a single dwelling unit is a rough rule of thumb. The peak demand should be verified using Tables 10.14.2A and 10.14.2B. See Section 17.2.4 where well yields do not satisfy the peak demand.*~~

~~17.2.2 Other Than a Single Dwelling Unit~~

~~In other than a single dwelling unit, the water system shall be designed in accordance with Tables 10.14.2A, and 10.14.2B and shall be capable of supplying the maximum demand to the system according to usage, but, in no case, less than for a minimum period of 30 minutes.~~

~~*Comment: See Section 10.14.3 for determining the peak demand on the potable water supply system.*~~

~~17.2.3 Available Water~~

~~Total water available during any 24 hour period shall not be less than the requirements of Table 16.3.7.~~

~~*Comment: Table 16.3.7 indicates the daily design sewage flows from various establishments. The available water supply must be able to satisfy this daily volume requirement, as well as the peak GPM demand.*~~

Trailer Connection Fixture

A connection to a trap that is connected to the park drainage system, and receives the water, liquid or other waste discharge from a trailer coach.

Trailer Park Drainage System

The entire system of drainage piping used to convey sewage or other waste from a trailer connection fixture to the sewer.

Trailer Park Branch Line

That portion of drainage piping that receives the discharge from not more than two trailer connection fixtures.

Trailer Park

Any area or tract of land where space is rented or held-out for rent, or occupied by two or more trailer coaches.

Trailer Park Sewer System

That piping that extends from the public or private sewage disposal system to a point where the first trailer park drainage system branch fitting is installed.

Trailer Park Water Service Main

That portion of the water distribution system that extends from the street main, water meter, or other source of supply to the trailer site water service branch.

Trailer Site

That area set out by boundaries on which one trailer can be located.

Trailer Site Water Service Branch

That portion of the water distributing system extended from the park service main to a trailer site, and includes connections, devices, and appurtenances thereto.

Water Service Connection

That portion of the water supply piping that extends as a single terminal under the trailer coach for connection with the trailer coach park water supply system.

18.2 STANDARDS

18.2.1 General

Plumbing systems hereafter installed in trailer home parks shall conform to the provisions set forth in the preceding chapters of this Code, where applicable, and also to the provisions set forth in this Chapter. ~~Trailer home park plumbing and drainage systems shall, in addition, conform to all other applicable Authority Having Jurisdiction regulations.~~

18.2.1.1 Permanently Installed Manufactured Homes

This section is not applicable to permanently installed manufactured homes meeting the Federal Manufactured Home Construction and Safety Standards, 24 C.F.R. Part 3280.

18.2.1.2 Approved Structures

An approved structure placed on a site for use as a permanent dwelling shall meet the applicable requirements of this subcode, excluding Chapter 18.

18.2.2 Plans and Specifications

Before any plumbing or sewage disposal facilities are installed or altered in any trailer park, plans and specifications shall be filed, and required permits obtained from the Authority Having Jurisdiction. Plans shall show the following in detail:

18.2.2.1 Plot Plan

Plot plan of the park, drawn to scale, indicating elevations, property lines, driveways, existing or proposed buildings, and sizes of trailer sites.

18.8 SANITARY FACILITIES

18.8.1 Public Water Closets, Showers, and Lavatories

Separate public water closets, showers, and lavatories shall be installed and maintained for each sex in accordance with the following ratio of trailer sites:

18.8.1.1 Dependent Trailer

Trailer parks constructed and operated exclusively for dependent trailers shall have one water closet, one shower, and one lavatory for each 10 sites or fractional part thereof.

Comment: Dependent trailers are not equipped with a water closet and lavatory and are dependent on the trailer park for such facilities.

~~18.8.1.2 Independent Trailer~~

~~Trailer parks constructed and operated exclusively for independent trailers shall have one water closet, one shower, and one lavatory for each 100 sites or fractional part thereof.~~

~~*Comment: Independent trailers are equipped with a water closet and lavatory and are not dependent on the trailer park for such facilities.*~~

18.8.1.3 Combined Trailer Use

Trailer parks constructed and operated for the combined use of dependent and independent trailers shall have facilities as shown in Table 18.8.1.3.

Table 18.8.1.3 FACILITIES REQUIRED FOR COMBINED TRAILER USE			
Sites	Water Closets	Showers	Lavatories
2-25	1	1	1
26-70	2	2	2

18.8.1.4 Additional Water Closets

For combined trailer use, one additional water closet shall be provided for each 100 sites or fractional part thereof in excess of 70 sites.

Comment: Section 18.8.1.4 applies to trailer parks with combined trailer use, as in Section 18.8.1.3.

18.8.2 Exclusivity

Each toilet facility shall be for the exclusive use of the occupants of the trailer sites in the trailer park.

18.8.3 Showers

In every trailer park *for dependent trailers*, shower bathing facilities with hot and cold running water shall be installed in separate compartments. Each compartment shall be provided with a self-closing door or otherwise equipped with a waterproof draw curtain.

18.8.4 Laundry Facilities

Every trailer park *for dependent trailers* shall be provided with an accessory utility building containing at least one clothes washer or laundry tray equipped with hot and cold running water for every 20 trailer sites or fraction thereof, but in no case shall there be less than two laundry trays in any trailer park.

18.8.5 Shower Compartments

The inner face of walls of all shower compartments shall be finished with concrete, metal, tile or other approved waterproof materials extending to a height of not less than six feet above the floor. Floors or shower compartments shall be made of concrete or other similar impervious material. Floors shall be waterproof and slope 1/4 inch per foot to the drains.

~~18.9 MAINTENANCE~~

~~All required devices or safeguards shall be maintained in good working order. The owner, operator, or lessee of the trailer park, or his designated agent shall be responsible for the maintenance.~~

~~18.10 OPERATOR'S RESPONSIBILITY VIOLATIONS~~

~~When it is evident that there exists, or may exist, a violation of any pertinent regulation, the owner, operator, lessee, person in charge of the park, or any other person causing a violation shall immediately disconnect the trailer water supply and sewer connections from the park systems and shall employ such other corrective measures as may be ordered by the Authority Having Jurisdiction.~~

Referenced Standards

19.1 REFERENCED STANDARDS

Table 19.1 lists the standards that are referenced within the requirements of this Code. Table 19.1 shows the designation number of the standard, its edition date, a date if reaffirmed, any addendums or amendments, its title, and the Sections and/or Tables in the Code where the standard is referenced.

19.2 STANDARDS ORGANIZATIONS

AHAM	Association of Home Appliance Manufacturers 1111 19th Street, NW, Suite 402 Washington, DC 20036 USA 202-872-5955	FM	FM Global 270 Central Avenue Johnston, RI 02919-4949 USA 401-275-3000 fax: 401-275-3029
ANSI	American National Standards Institute 1899 L Street, NW, 11th Floor Washington, DC 20036 USA 202-293-8020 fax: 202-293-9287	IAPMO	IAPMO 4755 E. Philadelphia Street Ontario, CA 91761 USA 909-472-4100 fax: 909-472-4150
ASHRAE	ASHRAE Headquarters 1791 Tullie Circle, NE Atlanta, GA 30329 USA 404-636-8400 fax: 404-321-5478	ISEA	International Safety Equipment Association 1901 North Moore Street Arlington, VA 22209-1762 USA 703-525-1695 fax: 703-528-2148
ASME	ASME Two Park Avenue New York, NY 10016-5990 USA 800-843-2763	MSS	Manufacturers Standardization Society 127 Park Street, NE Vienna, VA 22180-4602 USA 703-281-6613
ASSE	ASSE International 18927 Hickory Creek Drive, Suite 220 Mokena, IL 60448 USA 708-995-3019 fax: 708-479-6139	NFPA	NFPA 1 Batterymarch Park Quincy, MA 02169-7471 USA 617-770-3000 fax: 617-770-0700
ASTM	ASTM International 100 Barr Harbor Drive P.O. Box C700 West Conshohocken, PA 19428-2959 USA 877-909-2786	NSF	NSF International 789 N. Dixboro Road P.O. 130140 Ann Arbor, MI 48105 USA 800-673-6275 fax: 734-769-0109
AWWA	American Water Works Association 6666 W. Quincy Avenue Denver, CO 80235 USA 800-926-7337 fax: 303-347-0804	PDI	Plumbing and Drainage Institute 800 Turnpike Street - Suite 300 North Andover, MA 01845 USA 800-589-8956
CISPI	Cast Iron Soil Pipe Institute 3008 Preston Station Drive Hixson, TN 37343 USA 423-842-2122	UL	Underwriters Laboratories Inc. 333 Pfingsten Road Northbrook, IL 60062-2096 USA 847-272-8800
CSA	CSA Group 178 Rexdale Boulevard Toronto, ON, Canada, M9W 1R3 800-463-6727	APSP	The Association of Pool and Spa Professionals 2110 Eisenhower Avenue, Alexandria, VA 22314 703-838-0083 fax: 703-549-0493

Appendix A of the subcode, entitled "Sizing Storm Drainage Systems" is deleted in its entirety per the NJUCC.

Appendix A

~~Sizing Storm Drainage Systems~~

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E.8.6 Referenced Standards

- a. ASSE 1050-2009 Stack Air Admittance Valves for Sanitary Drainage Systems.
- b. ASSE 1051-2009 Individual and Branch Type Air Admittance Valves for Plumbing Drainage Systems.

E.8.7 Requirements for Special Design Plumbing Systems

The requirements of Sections E.1, E.2, E.3, and E.4 apply to this special design plumbing system.

E.9 SIPHONIC ROOF DRAINAGE

E.9.1 General Requirements

- a. Siphonic roof drainage systems for primary roof drainage shall be designed, installed, inspected, and tested in accordance with the requirements of ASPE Standard 45- Siphonic Roof Drainage, its Appendices, and the other requirements of Section of E.9 in NSPC Appendix E.
- b. Systems shall be permitted to be designed using computer programs that produce results equivalent to ASPE Standard 45.
- c. Design plans shall show all details of the system installation, including pipe sizing, routing, elevations, fittings, and orientation. The system installation shall be coordinated with all other aspects of the facility construction.
- d. The requirements of Sections E.1, E.2, E.3, and E.4 apply to this special design plumbing system.

E.9.2 Roof Drains

Siphonic roof drains shall comply with ASME A112.6.9.

E.9.3 Rainfall Rates

~~The rainfall rates used for sizing primary and secondary roof drainage systems shall be in accordance with Table A.1 in NSPC Appendix A.~~ *Rainfall rates shall be applied so that the applicable rainfall rate for Burlington and Ocean counties and all counties south shall be six (6) inches per hour and for Mercer and Monmouth and all counties north, the applicable rainfall rate shall be five (5) inches per hour.*

~~E.9.4 Secondary Roof Drainage~~

~~Secondary roof drainage shall be provided in accordance with NSPC Section 13.1.10.2.~~

E.9.5 Referenced Standards

ASPE Standard 45-current edition 2007 Siphonic Roof Drainage
ASME A112.6.9-2005 Siphonic Roof Drains

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