

Exception: An outdoor appliance shall have a shutoff valve at the piping connection to the gas piping system.

Section 409.5.3, *Located at manifold*, is repealed in its entirety.

Secs. 10-73—10-80. - Reserved.

ARTICLE IX. - PLUMBING CODE

Sec. 10-81. - Adoption of *International Plumbing Code* (2018~~2021~~).

The 2018~~2021~~ edition of the *International Plumbing Code*, Chapters 2 through 15 and Appendices B through E, promulgated by the International Code Council, is adopted and incorporated in this article by reference as if fully set forth, except as it is amended by the following provisions of section 10-82. Provisions of this article are in addition to the provisions of the *International Plumbing Code*. The following provisions coinciding with the provisions of the *International Plumbing Code* supersede, repeal, or delete, when indicated, the corresponding provisions of the *International Plumbing Code*.

All references within the model codes to any building, electrical, fuel gas, mechanical, plumbing, energy conservation, ~~or existing building~~, or swimming pool code shall be construed to be a reference to the respective building, electrical, fuel gas, mechanical, plumbing, energy conservation, ~~or existing building~~, or swimming pool code specifically adopted by reference in articles II through XIV~~II~~ of this chapter.

Sec. 10-82. - Amendments to the adopted chapters and appendices of the *International Plumbing Code* (2018~~2021~~).

Additions to the *International Plumbing Code* (IPC) are shown as underlined text. Deletions of the IPC are shown as bracketed ~~[strikethroughs]~~.

Section 202, *GENERAL DEFINITIONS*, *GREASE INTERCEPTOR*, *Gravity* is amended as follows:

Gravity. Plumbing appurtenances of not less than 500 gallons (1893 L) capacity that are installed in the sanitary drainage system to intercept free-floating fats, oils, and grease from wastewater discharge. Separation is accomplished by gravity during a retention time of not less than 30 minutes. The appurtenance shall be a double compartment, first compartment 60% and the second compartment 40% with a minimum 20" manhole access to each compartment unless otherwise approved by the code official.

Section 202, *GENERAL DEFINITIONS*, is amended by adding the following definitions:

NFPA 70. The National Electrical Code, as amended by Article VI of this Code.

MEDICAL GAS PIPING ENDORSEMENT. A document entitling the holder of a Master or Journeyman Plumber License to install piping that is used solely to transport gases used for medical purposes including, but not limited to oxygen, nitrous oxide, medical air, nitrogen, medical vacuum. A document entitling the holder of a Plumbing Inspector License to inspect medical gas and vacuum system installations.

MULTIPURPOSE RESIDENTIAL FIRE PROTECTION SPRINKLER SPECIALIST ENDORSEMENT. A document entitling the holder of a Master or Journeyman Plumber License to install a multipurpose residential fire protection sprinkler system in a one or two family dwelling. A document entitling the

~~holder of a Plumbing Inspector License to inspect a multipurpose residential fire protection sprinkler system.~~

~~**RECLAIMED WATER.** Water from sources such as rainwater harvesting, A/C condensate collection, carwashes, ponds, lakes, rivers or other sources as approved by the *Building Official*. [Nonpotable water that has been derived from the treatment of wastewater by a facility or system licensed or permitted to produce water meeting the jurisdiction's water requirements for its intended uses. Also known as "recycled water."]~~

~~**RECYCLED WATER.** Water that, as a result of a tertiary treatment of domestic wastewater by a public agency, is suitable for a direct beneficial use or a controlled use that would not otherwise occur. The level of treatment and quality of the reclaimed/recycled water shall be approved by TCEQ.~~

Section 301, *GENERAL*, is amended by adding Section 301.8, *Accessible openings*, Section 301.9, *Separation from electrical lines in a ditch*, and Section 301.10, *Support*, as follows:

301.8 Accessible openings. When accessible openings are required by this Code, they shall be a minimum of 12 inches x 12 inches (305 mm x 305 mm) in dimension unless otherwise approved by the code official.

301.9 Separation from electrical lines in a ditch. When outside the footprint of the building, no plumbing, gas, sewer, or water piping shall be installed in the same ditch with electric lines unless a separation of 36 inches (914 mm) horizontally is maintained.

301.10 Support. Exterior appliances or equipment supported from the ground shall rest on level concrete or other approved base extending not less than three (3) inches (76 mm) above the adjoining ground level.

Section 305.4.1, *Sewer depth*, is amended as follows:

305.4.1 Sewer depth. Building sewers [that connect to private sewage disposal systems] shall be installed not less than a minimum of 12 [NUMBER] inches (304 mm) below finished grade. [at the point of septic tank connection.] [Building sewers shall be installed not less than [Number] inches (mm) below grade.]

Section 312.1.1, *Test gauges*, is amended as follows:

312.1.1 Test Gauges. Gauges used for testing shall be [as follows:] grade 1A or better as per ANSI/ASME B40.100-2005.

1. Tests requiring a pressure of 10 pounds per square inch (psi) (69 kPa) or less shall utilize a testing gauge having increments of 0.10 psi (0.69 kPa) or less.
2. Tests requiring a pressure of greater than 10 psi (69 kPa) but less than or equal to 100 psi (689 kPa) shall utilize a testing gauge having increments of 1 psi (6.9 kPa) or less.
3. Tests requiring a pressure of greater than 100 psi (689 kPa) shall utilize a testing gauge having increments of 2 psi (14 kPa) or less.

Section 312.2, *Drainage and vent water test*, is amended as follows:

312.2 Drainage and vent water test. Prior to any concealment, a [A] water test and subsequent inspection shall be applied to the drainage system either in its entirety or in sections. If applied to the entire system, all openings in the piping shall be tightly closed, except the highest opening, and the system shall be filled with water to the point of overflow. If the system is tested in sections, each opening shall be tightly plugged except the highest opening of the section under test, and each section shall be filled with water, but no section shall be tested with less than a 3.5-foot (1067 mm) [40-foot (3048 mm)] head of water. In testing successive sections, at least the upper 10 feet (3048 mm) of the next preceding section shall be tested so that no joint or pipe in the building, except the uppermost 10

feet (3048 mm) of the system, shall have been submitted to a test of less than a 3.5-foot (1067 mm) ~~[40-foot (3048 mm)]~~ head of water. This pressure shall be held for at least 15 minutes. The system shall then be tight at all points. The first floor underground drain, waste and vent piping (Rough-In) systems shall be retested to at least slab height and inspected after all backfill is in place and foundation steel installed but prior to placement of concrete. This inspection may also be obtained by retesting the first floor underground drain; waste and vent piping (Rough-In) system at the Top Out stage to assure there are no broken drains or vent pipes below the concrete slab. The system shall be tested to the overflow level of the Tub, or the next reasonable point on the system as approved by the code official.

Section 312.6, Gravity sewer test, is deleted in its entirety.

~~[312.6 Gravity sewer test. Gravity sewer tests shall consist of plugging the end of the building sewer at the point of connection with the public sewer, filling the building sewer with water, testing with not less than a 10-foot (3048 mm) head of water and maintaining such pressure for 15 minutes.]~~

Section 312.7, Forced sewer test, is deleted in its entirety.

~~[312.7 Forced sewer test. Forced sewer tests shall consist of plugging the end of the building sewer at the point of connection with the public sewer and applying a pressure of 5 psi (34.5 kPa) greater than the pump rating, and maintaining such pressure for 15 minutes.]~~

Section [M] 314.2.1, Condensate disposal, is amended with the following text:

[M] 314.2.1 Condensate disposal. Condensate disposal shall be in accordance with Chapter 34, Section 34-274 of the City Code of San Antonio for newly constructed commercial buildings. Existing commercial buildings shall be permitted to follow Chapter 34, Section 34-274 of the City Code of San Antonio for condensate disposal. Primary drain lines located in any unconditioned space, except for crawl spaces, shall be insulated with foam plastic rubber based insulation or approved material with a minimum thickness of 3/8 inch. ~~[Condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to an approved place of disposal. Such piping shall maintain a horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge into a street, alley or other areas so as to cause a nuisance.]~~

Section [M] 314.2.1.1, Condensate discharge, is amended as follows:

[M] 314.2.1.1 Condensate discharge. Condensate drains shall not directly connect to any plumbing drain, waste or vent pipe. Condensate drains shall not discharge into a plumbing fixture other than a floor sink, floor drain, trench drain, mop sink, hub drain, standpipe, utility sink or laundry sink. Condensate drain connections to a lavatory wye branch tailpiece or to a bathtub overflow pipe shall not be considered as discharging to a plumbing fixture. Except where ~~[discharging to grade outdoors]~~ installed per Chapter 34, Section 34-274 of the City Code of San Antonio, the point of discharge of condensate drains shall be located within the same occupancy, tenant space or dwelling unit as the source of the condensate.

Section [M] 314.2.4.1, Ductless mini-split system traps, is amended as follows:

[M]314.2.4.1 Ductless mini-split system traps. Ductless mini-split equipment that produces condensate shall be in accordance with their manufacturers' recommendations. ~~[provided with an in line check valve located in the drain line, or a trap.]~~

Section 401.3, Water conservation, is deleted and replaced with the following text:

401.3 Water conservation. The maximum discharge flow rates for plumbing fixture fittings shall be in accordance with applicable standards referenced in Chapter 15 and listed in Table 604.4, but in no case shall they exceed the maximum requirements of the Texas Commission of Environmental Quality

(TCEQ), Chapter 372, titled "Environmental Performance Standards for Plumbing Fixtures" and/or the requirements set forth by these amendments.

Table 403.1, MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES, Note e is deleted in its entirety and replaced with the following text and shall apply to all Classifications in the Table and Note f is deleted:

- e. Service sinks are not required for an occupant load of 15 or fewer or as otherwise approved by the code official.

~~ff. 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.]~~

Section 403.1.1, Fixture calculations, Exceptions is amended as follows, all other code text remains as is:

Exceptions:

- 2. Where multiple-user facilities are designed to serve all genders, the minimum fixture count shall be calculated 100 percent, based on total occupant load. In such multiple-user facilities, each fixture type shall be in accordance with ICC A117.1 and each urinal that is provided shall be [located in a stall] provided with walls and a door enclosing the fixture.

Section 403.2, Separate facilities, Exceptions is amended as follows, all other code text remains as is:

Exceptions:

- 6. Separate facilities shall not be required where rooms having both water closets and lavatory fixtures are designed for use by both sexes and privacy for water closets and urinals is provided [in accordance with Section 405.3.4. Urinals shall be located in an area visually separated from the remainder of the facility or each urinal that is provided shall be located in a stall] with walls and a door enclosing the fixtures.

Section 404, ACCESSIBLE PLUMBING FACILITIES, is deleted. Refer to TDLR Architectural Barriers Texas Accessibility Standards (TAS) Chapter 6.

Section 405.3.1, Water closets, urinals, lavatories and bidets, is amended 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 water closets, urinals, or bidets, fixtures, the fixtures shall not be set closer than 30 inches (762 mm) center to center between adjacent fixtures or adjacent water closets, urinals, or bidets. There shall be not less than a 21-inch (533 mm) clearance in front of 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 floor-mounted water closets and not less than 30 inches (762 mm) in width and 56 inches (1422 mm) in depth for wall-hung water closets.

Section 410.2, Small occupancies, is amended as follows:

410.2 Small Occupancies. Drinking fountains shall not be required for an occupant load of 30 ~~45~~ or fewer.

Section 410.4, Substitution, is amended as follows:

410. 4 Substitution. Where buildings with a use classification of A-2, B (clinics only), E (day care only), I-1, I-2 (Nursing Homes only), R-3 and R-4 as defined in the International Building Code ~~restaurants~~ provide drinking water in a container free of charge, drinking fountains shall not be required ~~[in these restaurants]~~. In other occupancies, where three or more drinking fountains are required, water dispensers, or water in other containers shall be permitted to be substituted for not more than 50 percent of the required number of drinking fountains.

Section 424.1, Approval, is amended by adding Section 424.1.1, Non-water using urinals, as follows:

424.1.1 Non-water using urinals. Non-water urinals shall conform to ASME A112.19.2/CSA B 45.1, ASME 112.19.19 or CSA B45.5/IAPMO Z124. Non-water urinals shall provide a trap seal that complies with the International Plumbing Code. Non-water urinals shall permit the uninhibited flow of waste through the urinal to the sanitary drainage system. Non-water urinal installations shall be designed to have an active plumbing fixture drain discharge ahead of the urinal drain by means of a vertical wet vent above the urinal drain tee. Refer to section 912.1.1 Vertical Wet Vent Permitted in the International Plumbing Code. (Texas House Bill 2667 (Legislative Session 81 (R))). In addition, the installation of an ~~appropriate~~appropriately sized water distribution and fixture supply piping must be installed in the wall at a location immediately adjacent to the non-water urinal so that a water supplied urinal may be placed at a future date.

Section 502.3, Water heaters installed in attics, is amended as follows:

502.3 Water heaters installed in attics. Storage type water heaters shall not be installed in an attic unless accessible from a door opening on the same floor level in one-and two-family residential occupancies and townhomes. Attics containing a water heater shall be provided with an opening an unobstructed passageway large enough to allow removal of the water heater. The passageway shall not be less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) in length when measured along the centerline of the passageway from the opening to the water heater. The passageway shall have continuous solid flooring not less than 24 inches (610 mm) wide. A level service space at least 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present at the front or service side of the water heater. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm) where such dimensions are large enough to allow removal of the water heater.

Section 502, INSTALLATION, is amended by adding Section 502.6, Water heaters installed under stairways and landings, as follows:

502.6 Water heaters installed under stairways and landings. An electric water heater is the only type of water heater that may be installed under a stairway or landing.

Section 502, INSTALLATION, is amended by adding Section 502.7, Water heaters installed in garages, as follows:

502.7 Electric water heaters installed in garages. Electric water heaters shall be elevated not less than 18 inches (457 mm) above the garage floor.

Section 504.1, Antisiphon devices, is amended as follows:

~~**504.1 Antisiphon devices.** An approved means, such as a [cold water "dip" tube with a hole at the top or a] vacuum relief valve installed in the cold water supply line above the top of the heater or tank, shall be provided to prevent siphoning of any storage water heater or tank.~~

Section 504.6, Requirements for discharge piping, is amended 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. Discharge to the floor of a garage or basement will only be allowed if approved by the code official. Terminate to the exterior a minimum of six inches (152 mm) and a maximum of 12 inches (304 mm) above the finish grade.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Discharge to a termination point that is accessible ~~[readily observable by the building occupants].~~
8. Not be trapped.
9. To 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 listed, 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.
15. Union or flex connector on temperature pressure relief valve shall be placed within six inches (1522 mm) of the valve for removal and replacement.

Section 604.4, Maximum flow and water consumption, Exceptions, is amended as follows:

604.4 Maximum flow and water consumption. The maximum water consumption flow rates and quantities for all plumbing fixtures and fixture fittings shall be in accordance with Table 604.4.

Exceptions:

- ~~[1. Blowout design water closets having a maximum water consumption of 3 ½ gallons (13 L) per flushing cycle.]~~
1. ~~[2.]~~ Vegetable sprays.
2. ~~[3.]~~ Clinical sinks having a maximum water consumption of 4 ½ gallons (17 L) per flushing cycle.
3. ~~[4.]~~ Service sinks.
4. ~~[5.]~~ Emergency showers.

Table 604.4, MAXIMUM FLOW RATES AND CONSUMPTION FOR PLUMBING FIXTURES AND FIXTURE FITTINGS, is amended as follows:

TABLE 604.4
MAXIMUM FLOW RATES AND CONSUMPTION FOR
PLUMBING FIXTURES^d AND FIXTURE FITTINGS

PLUMBING FIXTURE OR FIXTURE FITTING	MAXIMUM FLOW RATE OR QUANTITY ^b
Lavatory, private	<u>1.5</u> [2-2] gpm at 60 psi

Lavatory, public (metering)	0.25 gallon per metering cycle
Lavatory, public (other than metering)	0.5 gpm at 60 psi
Shower head ^a	<u>2.0</u> [2.5] gpm at 80 psi
Sink faucet	2.2 gpm at 60 psi
Urinal	<u>0.5</u> [1.0] gallon per flushing cycle
Water closet	<u>1.28</u> [1.6] gallons per flushing cycle

For SI: 1 gallon = 3.785 L, 1 gallon per minute = 3.785 L/m.
1 pound per square inch = 6.895 kPa.

- a. A hand-held shower spray is a shower head. All associated heads shall be appropriate for the flow rate.
- b. Consumption tolerances shall be determined from referenced standards.
- c. Where the Environmental Protection Agency has accepted that specific plumbing fixtures, by make and model, meet or exceed WaterSense standards, such fixtures installed will be from the most current listing available at the time of installation.

Section 604.9, Water hammer, is amended as follows:

604.9 Water hammer. The flow velocity of the water distribution system shall be controlled to reduce the possibility of water hammer. A water-hammer arrestor shall be installed where quick-closing valves are utilized. Water-hammer arrestors shall be installed in accordance with the manufacturer's specifications. Water-hammer arrestors shall conform to ASSE 1010. Water-hammer arrestors shall be installed to protect all washing machines, kitchen sinks, dishwashers, tubs and shower locations from water hammer. A separate tub and shower set back to back may be served by a single set of water-hammer arrestors, provided that the continuation of the water line from one fixture (where the arrestors are located) to the other fixture does not exceed 8 linear feet as measured along the pipe.

Table 605.3, WATER SERVICE PIPE, is amended to reflect changes. Unaltered sections of the Table remain in full force:

**TABLE 605.3
WATER SERVICE PIPE**

MATERIAL	STANDARD
Copper or copper alloy tubing (Type K, WK, L, or WL [, M or WM])	ASTM B75; ASTM B88; ASTM B251; ASTM B447
Polyvinyl chloride (PVC) plastic pipe	{ASTM D1785; ASTM D2241; ASTM D2672; CSA B137.3} AWWA C900-07

Table 605.4, WATER DISTRIBUTION PIPE, is amended to reflect changes. Unaltered sections of the Table remain in full force:

TABLE 605.4 WATER DISTRIBUTION PIPE

MATERIAL	STANDARD
Copper or copper alloy tubing (Type K, WK, L, or WL [, M or WM])	ASTM B75; ASTM B88; ASTM B251; ASTM B447

Section 605.24.2, Plastic pipe or tubing to other piping material, is amended as follows:

605.23.2 Plastic pipe or tubing to other piping material. Joints between different types of plastic pipe or between plastic pipe and other piping material shall be made with an approved adapters or transition fittings. Schedule 40 plastic socket molded (female adapter) fittings are prohibited when connecting to pipe threads.

Section 606.2, Location of shutoff valves, is amended as follows:

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

1. On the fixture supply at [tø] each 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 pipe to each sillcock.]
2. [3.] On the water supply pipe to each appliance or mechanical equipment.

Section 607.3, Thermal expansion control, is amended as follows:

607.3 Thermal expansion control. Where a storage water heater is supplied with cold water that passes through an on-site check valve, pressure reducing valve, or backflow preventer, a thermal

expansion tank 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 shall be sized in accordance to the manufacturer's instructions and sized such that the pressure in the water distribution system shall not exceed that required by section 604.8. Thermal expansion control is limited to the use of expansion tanks (per water conservation requirements of 1998, Ordinance 89128).

Table 608.1, APPLICATION OF BACKFLOW PREVENTERS, is amended to reflect changes. Unaltered sections of the Table remain in full force:

TABLE 608.1 APPLICATION OF BACKFLOW PREVENTERS

DEVICE	DEGREE OF HAZARD	APPLICATION	APPLICABLE STANDARDS
Backflow preventer for carbonated beverage machines	Low hazard	Backpressure or backsiphonage Sizes ¼"-3/8"	ASSE [1022] <u>1015</u>

~~Section 608.14, Backflow protection, is amended by adding sections 608.14.10, Listing, and 608.14.11, More than one assembly, as follows:~~

~~**608.14.10 Listing.** All backflow prevention assemblies, where not otherwise covered in this Code, shall conform to listed standards and be acceptable to the code official, with jurisdiction over the selection and installation of backflow prevention assemblies.~~

~~**608.14.11 More than one assembly.** Where more than one (1) backflow preventer is installed on a single premise, and the backflow preventers are installed in one location, each separate backflow preventer shall be permanently marked in an approved manner to identify the location of the system that the backflow preventer serves.~~

~~Section 608.15, Location of backflow preventers, is amended by adding Section 608.15.3, Access, as follows:~~

~~**608.15.3 Access.** All backflow preventers shall be readily accessible~~

~~Section 608.17.1.1, Carbonated beverage dispensers, is amended as follows:~~

~~**608.17.1.1 Carbonated beverage dispensers.** The water supply connection to each carbonated beverage dispenser shall be protected against backflow by a backflow preventer conforming to ASSE 1015 [4022] 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.~~

~~Section 608.17.2, Connections to boilers, is amended as follows:~~

~~**608.17.2 Connections to non-potable boilers.** The potable supply to the boiler shall be equipped with a backflow preventer with an intermediate atmospheric vent complying with ASSE 1013. [4042, ASSE 1081 or CAN/CSA B64.3.] Where conditioning chemicals are introduced into the system, the~~

potable water connection shall be protected by an air gap or a reduced pressure principle backflow preventer, complying with ASSE 1013, ~~CAN/CSA~~ B64.4 or AWWA C511.

Section 608.17.5, Connections to lawn irrigation systems, is amended as follows:

608.17.5 Connections to lawn irrigation systems. The potable water supply to lawn irrigation systems shall be protected against backflow by ~~[an atmospheric-type vacuum breaker,]~~ a pressure vacuum breaker assembly, ~~a double-check valve assembly or a reduced pressure principle backflow prevention assembly. [Valves shall not be installed downstream from an atmospheric vacuum breaker.]~~ Where chemicals are introduced into the system ~~or there is an on-site sewage facility (OSSF) system,~~ the potable water supply shall be protected against backflow by a reduced pressure principle backflow prevention assembly. The irrigation system shall be designed and installed in accordance with City Ordinance #100322 and #2008-08-07-0653.

Section 702.3, Building sewer pipe, is amended as follows:

702.3 Building sewer pipe. ~~Though not required, B~~building sewer pipes three inch and four inch ~~shall are recommended to~~ be a minimum of Schedule 40 PVC or SDR26. ~~Though not required, S~~sewer lines six inch and larger ~~shall are recommended to~~ be a minimum of SDR 35 PVC. Cast-iron and Stainless steel 316L may also be used for all sizes. Polyethylene (PE) plastic pipe (SDR-PR) ASTM F 714 may be used for replacement of underground sewers by pipe-bursting methods in Section 717. ~~[Building sewer pipe shall conform to one of the standards listed in Table 702.3.]~~

Section 705.1, General, is amended by adding section 705.1.1, Joint couplings, as follows:

705.1.1 Joint Couplings. All underground or under slab mechanical joint coupling installations shall be shielded and Wide-Bodied.

Section 706.3, Installation of fittings, is amended as follows:

706.3 Installation of fittings. ~~Fittings shall be installed to guide sewage and waste in the direction of flow. Change in directions shall be made by fittings installed in accordance with Table 706.3. Change in direction by combination fittings, side inlets or increasers shall be installed in accordance with Table 706.3 based on pattern of flow created by the fitting. Double sanitary tee patterns shall not receive the discharge of back-to-back water closets, [and] fixtures or appliances with or without pumping action discharge.~~

Exception: ~~Back-to-back water closet connections to double sanitary tees shall be permitted where the horizontal developed length between the outlet of the water closet and the connection to the double sanitary tee pattern is 18 inches (457 mm) or greater.~~

Section 708.1.2, Building sewers, is deleted and replaced with the following text:

708.1.2 Building sewers. ~~Building sewers smaller than 8 inches (203mm) shall have cleanouts located not more than 100 feet (30,480 mm) apart measured from the upstream entrance of the cleanout. The required cleanout fitting shall be a directional Tee-Wye drainage type fitting, unless otherwise approved by the code official. For building sewers 8 inches (203 mm) and larger, shall have a manhole located not more than 200 feet (60,960 mm) from the junction of the building drain and building sewer, at each change in direction and at intervals of not more than 400 feet (122 m) apart. The interval length shall be measured from the cleanout or manhole opening, along the developed length of the piping to the next drainage fitting providing access for cleaning, a manhole or the end of a building sewer.~~

Section 708.1.4, Changes of direction, is deleted and replaced with the following text:

708.1.4 Changes of direction. ~~An additional cleanout shall be provided in a drainage line for each aggregate horizontal change of direction exceeding 135 degrees (2.36 rad). [Where a horizontal drainage pipe, a building drain or a building sewer has a change of horizontal direction greater than~~

~~45 degrees (0.79 rad), a cleanout shall be installed at the change of direction. Where more than one change of horizontal direction greater than 45 degrees (0.79 rad) occurs within 40 feet (12 192 mm) of developed length of piping, the cleanout installed for the first change of direction shall serve as the cleanout for all changes in direction within that 40 feet (12 192 mm) of developed length of piping.]~~

Section 708.1.~~78~~, Manholes, is amended as follows:

708.1.~~78~~ Manholes. Manholes and manhole covers shall be of an *approved* type. Manhole covers located inside a building shall have gas-tight covers that require tools for removal. Manhole covers shall be identified as "SEWER" and shall not indicate a utility company thereon.

Section 708.1, Cleanouts required, is amended by adding section 708.1.1~~32~~, Individual fixture, as follows:

708.1.1~~32~~ Individual fixture. All washing machines and kitchen sinks shall have an accessible clean out.

~~Section 717.4, Permitting, is repealed in its entirety.~~

~~Section 717.8, Post-installation recorded video camera survey, is amended as follows.~~

~~**717.8 Post-installation recorded video camera survey.** The completed, relined piping system shall be inspected internally by a recorded video camera survey after the system has been flushed and flow-tested with water. The video survey shall be reviewed by a licensed engineer [submitted to the code official] prior to finalization of the permit. The video survey shall be reviewed and evaluated to provide verification that no defects exist. Any defects identified shall be repaired and replaced in accordance with this code.~~

~~Section 717.9, Certification, is amended as follows.~~

~~**717.9 Certification.** A certification shall be provided in writing to the code official, from a licensed engineer [the permit holder], that the relining materials have been installed in accordance with the manufacturer's installation instructions, the applicable standards and this code.~~

Section 802.4, Waste Receptors, is amended by adding an exception as follows:

802.4 Waste Receptors.

Exception: Waste receptors may be installed in a plenum. The trap shall be deep seal type and shall be protected by one of the methods in sections 1002.4.1.1 thru 1002.4.1.4.

Section 903.1.1, Roof extension unprotected, is amended as follows:

903.1.1 Roof extension unprotected. Open vent pipes that extend through a roof shall be terminated [not less than] at least 6 [NUMBER] inches (~~152~~(152 mm) above the roof. ~~Where a roof is to be used for an assembly or as a promenade, observation deck, sunbathing deck, or similar purposes, open vent pipes shall terminate not less than 7 feet (2134 mm) above the roof.~~

Section 905.4, Vertical rise of vent, is amended as follows:

905.4 Vertical rise of vent. Every dry vent shall rise vertically to a point not less than a minimum of 6 inches (152 mm) above the *flood level rim* of the highest trap or trapped fixture being vented. When structural conditions require horizontal vents to be installed below the flood level rim of the fixture they serve, they shall have a cleanout installed on the riser in an accessible location.

Exception: Vents for interceptors located outdoors.

~~Section 915.1, Type of fixtures, is amended as follows:~~

915.1 Type of fixtures. ~~A combination waste and vent system shall not serve fixtures other than floor drains, sinks, lavatories, and drinking fountains. Combination waste and vent systems shall not receive the discharge from a [food waste disposer or] clinical sink.~~

Section 915.2.3, *Connection*, is amended as follows:

915.2.3 Connection. The combination waste and vent system shall have a minimum of two vents, one at the start of the system and one at the end of the system before the last fixture ~~[be provided with a dry vent connected at any point within the system or the system shall connect to a horizontal drain that is vented in accordance with one of the venting methods described in this chapter serves vented fixtures located on the same floor].~~ Combination waste and vent systems connecting to building drains receiving only the discharge from a one or more stack or stacks shall be provided with a dry vent. The vent connection to the combination waste and vent pipe shall extend vertically to a point not less than 6 inches (152 mm) above the flood level rim of the highest fixture being vented before offsetting horizontally. The horizontal length of a combination waste and vent system shall be unlimited.

Section 917.1, *Where permitted*, is amended by adding section 917.1.1, *Engineering certification*, as follows:

917.1.1 Engineering certification. Single stack vent systems are considered to be an alternative engineering design system and shall be installed in strict accordance with the engineered design. Upon completion of this alternative design system, the design engineer shall submit a letter of the inspection of the systems compliance with the alternative design. The compliance letter shall be signed, sealed and dated, by the design engineer. Signage shall be permanently placed on site identifying the plumbing system as an alternative engineering design Single Stack Vent System and any alterations to the system shall be reviewed by an engineer.

Section 1003.2, *Approval*, is amended as follows:

1003.2 Approval. The size, type and location of each interceptor shall be designed and installed in accordance with the manufacturer's instructions and the requirements of this section based on the anticipated conditions of use. Wastes that do not require treatment or separation shall not be discharged into any interceptor or separator. All interceptors shall be stamped or labeled by the manufacturer with an indication of its size in gallons or its full discharge rate in gallons per minute (gpm). The full discharge rate to such an interceptor shall be determined at full flow. Each interceptor shall be rated equal to or greater than the incoming flow.

Section 1003.3.2, *Food waste disposers restriction*, is amended as follows:

1003.3.2 Food waste disposers restriction. ~~[A food waste disposer shall not discharge to a grease interceptor.]~~ Where 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 disposer. Emulsifiers, chemicals, enzymes and bacteria shall not discharge into the food waste disposers.

SECTION 1004, *MATERIALS, JOINTS AND CONNECTIONS*, is amended by adding Section 1004.2, *Sample well*, as follows:

1004.2 Sample well. An effluent sampling well for all interceptors shall be required. For new construction, the sample well shall have a riser a minimum of 6 inches (153 mm) in diameter and shall be installed after the confluence of all wasted streams from the facility and prior to discharging into the sanitary sewer collection system. The well shall be perpendicular to the effluent lateral to allow observation of the flow stream and provide for sampling of waste water. For remodeling of an existing structure requiring installation of an interceptor, the option to use an existing 4 inch (102 mm) diameter sample well may be permitted in lieu of a 6 inch (153 mm) sample well.

SECTION 1202, MEDICAL GASES, is amended by adding Section 1202.2, Medical gases not regulated by NFPA 99, as follows:

1202.2 Medical gases not regulated by NFPA 99. Where medical gases are installed in other than human medical care facilities such as, but not limited to, veterinary clinics, educational, instructional, and training facilities, etc, the installation shall comply with the minimum standards of the International Plumbing Code such as, but not limited to, the piping materials, support, testing, etc. The piping systems shall be appropriately labeled with the contents every 20 feet.

Section 1301.5, Potable water connections, is amended as follows:

~~**1301.5 Potable water connections.** Where a potable system is connected to a nonpotable water system, the potable water supply shall be protected against backflow in accordance with Section 608 and shall comply with the laws, rules and ordinances applicable to the application.~~

Section 1301.9.4, Makeup water, is amended as follows:

1301.9.4 Makeup water. Where an uninterrupted supply is required for the intended application, potable or reclaimed water shall be provided as a source of make-up water for the storage tank. The makeup water supply shall be protected against backflow in accordance with section 608. A full-open valve located on the makeup water supply line to the storage tank shall be provided. Inlets to the storage tank shall be controlled by fill valves or other automatic supply valves installed to prevent the tank from overflowing and to prevent the water level from dropping below a predetermined point. Where makeup water is provided, the water level shall not be permitted to drop below the water source water inlet or the intake of any attached pump. Where nonpotable systems are supplied with makeup water form a potable source, the potable makeup shall be protected by both an air gap and a RP backflow device in accordance with Section 608.

Sec. 10-83. - Fee schedule.

Plumbing, Gas, Sewer	
Plumbing License and Registration Fees	
Annual Irrigation Contractor Registration Fee	\$85.00
Plumbing, Gas, Sewer Permit Fees	
Plumbing Inspection (Basic Fee)- See section 10-39 for new residential construction plumbing inspection fee.	\$50.00
Fixture; Roof Drain; Reverse Osmosis, Fire Sprinkler Head (per unit)	\$7.00
Grease Trap; Oil Separator; Sand Trap; Lint Trap; Neutralization Tank (or tank receiving discharge of liquid waste from fixtures); Drain, Appurtenance; Appliance	
0—500 gallons	\$12.00
>500 gallons	\$17.00

Water Heater, Vent (Gas/electric)	\$8.00
Back-flow Prevention Device	
1/4" - 3/4"	\$15.00
1"	\$20.00
1 1/4"	\$45.00
1 1/2"	\$55.00
2"+	\$75.00
Water Softener	\$17.00
Underground Waterline	
0—100ft	\$10.00
101—250ft	\$15.00
251—500ft	\$25.00
501—1000ft	\$45.00
1001—2000ft	\$75.00
2001—3000ft	\$100.00
Over 3001ft (plus additional \$25 for each 200ft or part thereof over 3001ft)	\$125.00
Irrigation System Inspection Fee	\$50.00
Residential Landscape Irrigation System Permit Fee	\$50.00
Commercial Landscape Irrigation System Permit Fee	\$100.00
Gas Inspection (Basic Fee) - See section 10-39 for new residential construction gas inspection fee.	\$50.00
1—5 openings (fee for each of the first five opening)	\$10.00
>5 openings (fee for each opening over five)	\$3.00
Gas Test; Extension (with 1 opening); Replace Gas Line; Split Meter; Move Meter; Butane Conversion (each)	\$8.00

Sewer Inspection (Basic Fee)- See section 10-39 for new residential construction sewer inspection fee.	\$50.00
0—60 ft.	\$10.00
61—150 ft	\$20.00
151—300 ft	\$35.00
301—500 ft.	\$50.00
501—750 ft.	\$70.00
751—1,000 ft.	\$110.00
>1,000 ft.(plus \$20.00 for each 150ft or part thereof over 1000ft	\$125.00
Reclaim Water Line Openings Inspection	\$50.00
1—4 openings (flat fee)	\$40.00
>4 openings (fee for each opening over four)	\$5.00
Medical Gas Inspection (Basic Fee) (oxygen - O ₂ ; nitrous oxide - N ₂ O; medical compress air - MedAir Nitrogen - N ₂ ; vacuum - Vac; carbon dioxide - CO ₂ ; helium - He)	\$50.00
1—5 openings (flat fee)	\$13.00
>5 openings (fee for each opening over five)	\$3.00
Building-related and Fire Codes Appeals and Advisory Board Fees	
Building-related and Fire Codes Appeal Fee	\$155.00
Special Services for Plumbing	
After-hour Inspection Fee (per hour with 1 hour minimum)	\$100.00
Inspection for which no fee is specifically indicated (per hour with 1 hour minimum)	\$100.00
Permit Refund Fee	\$50.00
Permit Amendment Fee	\$10.00
Inspection Schedule Fee (Free on-line)	\$3.00
Re-inspection Fee	\$51.50
Permit Processing Fee	\$10.00

Completion permit fee: 50% of permit (plus cost of permit)	<u>50% of permit (plus cost of permit)</u>
Plumbing Plan Review only (without building plan number)—Per hour/1 hour minimum	\$100.00
Open Permit Review Fee	\$3.00/Permit
Rental of Facility Fees: \$125/hr (daily min. fee of \$250; Max fee of \$1000); Security Personnel: \$15/hour/staff (with 1 hour minimum); DSD Staff: \$30/hour/staff (with 1 hour min.); Custodian Service: \$15/hour (with 2 hour min.)	

Secs. 10-84—10-90. - Reserved.