File #: 230653, **Version:** 1

Amending various provisions of Subcode "P" of Title 4 of The Philadelphia Code, entitled "The Philadelphia Plumbing Code," by making additional additions, deletions and amendments to the City's adoption of the 2018 edition of the "International Plumbing Code," as published by the International Code Council, all under certain terms and conditions.

THE COUNCIL OF THE CITY OF PHILADELPHIA HEREBY ORDAINS:

SECTION 1: Subcode "P" of Title 4 of the Philadelphia Code, entitled "The Philadelphia Plumbing Code," is amended to read as follows. Additions to the Code are in **Bold**. Deletions from the Code are in [Brackets].

SUBCODE "P" (THE PHILADELPHIA PLUMBING CODE)

* * *

CHAPTER 2
DEFINITIONS

SECTION P-202 GENERAL DEFINITIONS

* * *

PRIVATE BUILDING SEWER. Any sanitary drainage or storm drainage sewer serving more than one building, privately owned and maintained and not directly controlled by the City of Philadelphia.

PRIVATE WATER DISTRIBUTION PIPE. The distribution pipe serving more than one building, privately owned and maintained and not directly controlled by the City of Philadelphia.

* * *

WASTE RECEPTOR. A floor sink, standpipe, hub drain, ~~or~~ floor drain*, or a mop/slop sink* **that receives the discharge of one or more indirect waste pipes.**

* * *

CHAPTER 3
GENERAL REGULATIONS

* * *

SECTION P-306 TRENCHING, EXCAVATION AND BACKFILL

* * *

P-306.4 Tunneling. ~~Where pipe is to be installed by tunneling, jacking or a combination of both, the pipe shall be protected from damage during installation and from subsequent uneven loading. Where earth tunnels are used, adequate supporting structures shall be provided to prevent future settling or caving.~~ [*The length of tunneling*] ***Tunneling*** *shall be limited to only* ***the extent*** *required to clear the obstacle above.*

P-306.5 Shoring. Shoring shall be installed in ditches and trenches as per the Occupational Safety and Health Administration's (OSHA) Excavation standards, 29 Code of Federal Regulations (CFR) Part 1926, Subpart P.

* * *

SECTION P-308 PIPING SUPPORT

* * *

P-308.3 Materials. Hangers, anchors and supports shall support the piping and the contents of the piping. Hangers ~~and strapping material~~ shall be of approved material that will not promote galvanic action.

* * *

SECTION P-314 CONDENSATE DISPOSAL

* * *

P-314.2 Evaporators and cooling coils. Condensate drain systems shall be provided for equipment and appliances containing evaporators or cooling coils. Condensate drain systems shall be designed, constructed and installed in accordance with Sections 314.2.1 through 314.2.5.

* * *

P-314.2.1 Condensate disposal. 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.

* * *

P-314.2.1.1 Disposal into Clothes Washer Box. Condensate shall be permitted to discharge into a clothes washer box with dual drainage outlets with one outlet dedicated to the clothes washer discharge and one outlet dedicated to condensate discharge. Condensate shall also be permitted to discharge into a clothes washer box with a single drainage outlet where the inlet of the clothes washer box outlet is sized to accommodate both the clothes washer discharge and the condensate discharge.

* * *

CHAPTER 4
FIXTURES, FAUCETS AND FIXTURE FITTINGS

* * *

SECTION P-403 MINIMUM PLUMBING FACILITIES

P-403.1 Minimum number of fixtures. Plumbing fixtures shall be provided in the minimum number as shown in Table 403.1, based on the actual use of the building or space. Uses not shown in Table 403.1 shall be considered individually by the code official. The number of occupants shall be determined by the International Building Code.

P-403.1.1 Fixture calculations. To determine the occupant load of each ~~sex~~ *gender*, the total occupant load shall be divided in half. To determine the required number of fixtures, the fixture ratio or ratios for each fixture type shall be applied to the occupant load of each ~~sex~~ *gender* in accordance with Table 403.1. Fractional numbers resulting from applying the fixture ratios of Table 403.1 shall be rounded up to the next whole number. For calculations involving multiple occupancies, such fractional numbers for each occupancy shall first be summed and then rounded up to the next whole number.

~~Exception~~ ***Exceptions***:

1. **The total occupant load shall not be required to be divided in half where approved statistical data indicates a distribution of ~~the sexes~~ *gender* of other than 50 percent of ~~each sex~~ *a gender.***

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.

3. Distribution of genders is not required where single-user water closets and bathing room fixtures are provided in accordance with Section 403.1.2.

P-403.1.2 Single-user toilet ~~facility~~ and bathing room fixtures. The plumbing fixtures located in single-user toilet ~~facilities~~ and bathing rooms, including family or assisted- use toilet and bathing rooms that are required by Section 1109.2.1 of the International Building Code, shall contribute toward the total number of required plumbing fixtures for a building or tenant space. Single-user toilet ~~facilities~~ and bathing rooms, and family or assisted-use toilet rooms and bathing rooms shall be identified *as being available* for use by ~~either sex~~ *all persons regardless of gender. The total number of fixtures shall be permitted to be based on the required number of separate facilities or based on the aggregate of any combination of single-user or separate facilities.*

P-403.1.3 Lavatory Distribution. Where two or more toilet rooms are provided for each ~~sex~~ *gender*, the required number of lavatories shall be distributed proportionately to the required number of water closets.

P-403.2 Separate facilities. Where plumbing fixtures are required, separate *gender-based* facilities shall be provided ~~for each sex~~.

Exceptions:

* * *

5. Separate facilities shall not be required to be designated by gender where single-user toilet rooms are provided in accordance with Section 403.1.2.

6. For occupancy classifications requiring the same number of water closets and lavatories for male and female under Table 403.1, separate facilities shall not be required where rooms having both water closets and lavatory fixtures are designed for use by all genders and privacy for water closets is provided in accordance with Section 405.3.4. Urinals shall not be permitted in facilities designed for use by all genders.

P-403.2.1 Family or assisted-use toilet facilities serving as separate facilities. Where a building or tenant space requires a separate toilet facility for each ~~sex~~ *gender* and each toilet facility is required to have only one water closet, two family or assisted-use toilet facilities shall be permitted to serve as the required separate facilities. Family or assisted- use toilet facilities shall not be required to be identified for exclusive use by either ~~sex~~ *gender* as required by Section 403.4.

* * *

SECTION P-405 INSTALLATION OF FIXTURES

* * *

P-405.3 Setting. Fixtures shall be set level and in proper alignment with reference to adjacent walls.

* * *

P-405.3.4 Water closet compartment. Each water closet utilized by the public or employees shall occupy a separate compartment with walls or partitions and a door enclosing the fixtures to ensure privacy.

* * *

P-405.3.4.1 Water closet compartments serving all genders. Partitions and doors enclosing a water closet in a toilet room serving all genders shall extend from floor to ceiling.

* * *

SECTION P-406 AUTOMATIC CLOTHES WASHERS

* * *

P-406.2 Waste connection. The waste from an automatic clothes washer shall discharge through an air break into a standpipe in accordance with Section ~~802.3.3~~ *802.4.3* or into a laundry sink. The trap and fixture drain for an automatic clothes washer standpipe shall be not less than 2 inches (51 mm) in diameter. The fixture drain for the standpipe serving an automatic clothes washer shall connect to a 3-inch (76 mm) or larger diameter fixture branch or stack. Automatic clothes washers that discharge

by gravity shall be permitted to drain to a waste receptor or an approved trench drain.

* * *

SECTION P-410 DRINKING FOUNTAINS

* * *

P-410.6 Educational Facilities. Structures or portions of structures used for educational occupancies shall be equipped with one drinking fountain for every 100 students or fraction thereof. At least one fountain shall be on each occupied floor of the building, without regard to the number of students. Water dispensers may be substituted for not more than fifty percent (50%) of the required number of drinking fountains. Each drinking fountain shall include a filtered water supply with a filter meeting or exceeding NSF/ANSI 53 and 42 requirements and a filter change indicator in accordance with NSF/ANSI 53.

* * *

SECTION P-413 FLOOR AND TRENCH DRAINS

* * *

P-413.3 Size of floor drains *and trench drains*. Floor drains*,* ***emergency floor drains,*** *and trench drains* shall have a drain outlet not less than ~~2~~ *3* inches (~~51~~ *76* mm) in diameter. ***Note: An adjustable repair coupling shall be permitted to connect underground piping to a floor drain or trench drain.***

* * *

SECTION P-414 FLOOR SINKS

P-414.1 Approval. Sanitary floor sinks shall conform to the requirements of ASME A112.6.7. ***Note: An adjustable repair coupling shall be permitted to connect underground piping to a floor sink.***

* * *

SECTION P-419 LAVATORIES

P-419.1 Approval. Lavatories shall conform to ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4 or CSA B45.5/IAPMO Z124. Group wash-up equipment shall conform to the requirements of Section 402. Every 20 inches (508 mm) of rim space*, including a faucet,* shall be considered as one lavatory. ***The distance between the centerline of each faucet shall be no less than 20".***

* * *

SECTION P-421 SHOWERS

* * *

P-421.3 Shower waste outlet. Waste outlets serving showers shall be not less than 11/2 inches (38 mm) in diameter and, for other than waste outlets in bathtubs, shall have removable strainers not less than 3 inches (76 mm) in diameter with strainer openings not less than 1/4 inch (6.4 mm) in least dimension. Where each shower space is not provided with an individual waste outlet, the waste outlet shall be located and the floor pitched so that waste from one shower does not flow over the floor area serving another shower. Waste outlets shall be fastened to the waste pipe in an approved manner.

Exception:

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A linear shower drain shall be permitted when sized and installed in accordance with the linear drain manufacturer. The area of any linear shower drain shall be a minimum of 7 square inches (4516 mm^2).

* * *

SECTION P-425 WATER CLOSETS

* * *

P-425.3 Water closet seats. Water closets shall be equipped with seats of smooth, nonabsorbent material. Seats of water closets provided for public or employee toilet facilities shall be of the hinged open-front *elongated* type. Integral water closet seats shall be of the same material as the fixture. Water closet seats shall be sized for the water closet bowl type.

* * *

CHAPTER 5
WATER HEATERS

* * *

SECTION P-504 SAFETY DEVICES

* * *

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

* * *

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

* * *

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

* * *

P-504.7.2 Pan drain termination. The pan drain shall extend full size and terminate over a suitably located indirect waste receptor or floor drain or extend to the exterior of the building and terminate not less than 6 inches (152 mm) and not more than 24 inches (610 mm) above the adjacent ground surface. Where a pan drain was not previously installed, a pan drain shall not be required for a replacement water heater installation. *The pan drain shall be permitted to discharge into a clothes washer box with dual drainage outlets with one outlet dedicated to the clothes washer discharge and one outlet dedicated to the pan drain. The pan drain shall also be permitted to drain into a clothes washer box with a single drainage outlet where the inlet of the clothes washer box outlet is sized to accommodate both the clothes washer discharge and the pan drain discharge.*

* * *

CHAPTER 6
WATER SUPPLY AND DISTRIBUTION

* * *

SECTION P-602 WATER REQUIRED

P-602.1 General. Structures equipped with plumbing fixtures and utilized for human occupancy or habitation shall be provided with a potable supply of water in the amounts and at the pressures specified in this chapter.

P-602.1.1 Separate Water Connection. A building having plumbing fixtures installed and intended for human habitation, occupancy or use on premises abutting on a street, alley, or easement in which there is a public water main shall have a separate connection to the public water main. Where located on the same deeded property and maintained under the same ownership, multiple buildings shall not be prohibited from connecting to a common private water distribution pipe that connects to the public water main provided that the common private water distribution pipe is not placed underneath any building or structure and is connected after the existing water meter.

P-602.2.1 Non-residential. Non-residential buildings and other structures on the same deeded property and maintained under the same ownership shall be permitted to connect to a common water supply.

P-602.2.2 Residential. Where one building stands in the rear of another building on the same deeded property and maintained under the same ownership, and a separate water supply cannot be provided for the rear building through an alley, yard or other open public space, the water supply of the front building shall be permitted to serve the rear building, provided the water supply of the front building is of adequate size and in suitable condition to serve both front and rear buildings.

* * *

P-602.2 Potable water required. Only potable water shall be supplied to plumbing fixtures that provide water for drinking, bathing or culinary purposes, or for the processing of food, medical or pharmaceutical products. Unless otherwise provided in this code, potable water shall be supplied to all plumbing fixtures.

P-602.3 Individual water supply. Where a potable public water supply is not available, individual sources of potable water supply shall be utilized.

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

* * *

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P-602.4 Private Water Distribution Pipes. Repairs to Existing Private water distribution pipe materials shall be in accordance with Section P-605. New or extended water distribution pipes may not cross any adjoining property lines except private water infrastructure designed in accordance with Section P-614.

* * *

SECTION P-603 WATER ~~SERVICE~~ ***DISTRIBUTION***

* * *

P-603.3 Property Lines. Water distribution pipes may not cross adjoining property lines except private water infrastructure designed in accordance with Section P-614.

* * *

SECTION P-604 DESIGN OF BUILDING WATER ~~DISTRIBUTION~~ *SUPPLY* SYSTEM

* * *

P-604.5 Size of fixture supply. The minimum size of a fixture supply pipe shall be as shown in Table 604.5. The fixture supply pipe shall terminate not more than 30 inches (762 mm) from the point of connection to the fixture. A reduced-size flexible water connector installed between the supply pipe and the fixture shall be of an approved type. The supply pipe shall extend to the floor or wall adjacent to the fixture. The minimum size of individual ~~distribution~~ *supply* lines utilized in gridded or parallel water supply systems shall be as shown in Table 604.5. ***A ridged water connector shall be required in all occupancies other than one- and two-family dwellings.***

* * *

SECTION P-605 MATERIALS, JOINTS AND CONNECTIONS

* * *

P-605.3 Water ~~service~~ *distribution* pipe. Water ~~service~~ *distribution* pipe shall conform to NSF 61 and shall conform to one of the standards listed in Table 605.3. Water ~~service~~ *distribution* pipe or tubing, installed underground and outside of the structure, shall have a working pressure rating of not less than 160 psi (1100 kPa) at 73.4ºF (23ºC). Where the water pressure exceeds 160 psi (1100 kPa), piping material shall have a working pressure rating not less than the highest available pressure. Water ~~service~~ *distribution* piping materials not third-party certified for water ~~distribution~~ *supply* shall terminate at or before the full open valve located at the entrance to the structure. Ductile iron water ~~service~~ *distribution* piping shall be cement mortar lined in accordance with AWWA C104/A21.4. ***Any water distribution pipe serving or located within occupancies other than one-and two-family dwellings and apartments shall be metallic piping in accordance with this section and listed on Table P-605.3.*** *All water service piping from the City water main tap to the curb stop shall conform to the regulations as set forth by the Philadelphia Water Department.*

* * *

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

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located within occupancies other than one- and two-family dwellings and apartments shall be metallic piping in accordance with this section.

* * *

P-605.4.1 High rise materials. Metallic piping shall be installed in buildings ***with an occupied floor located more than*** *75 feet (22,860 mm) [or more in height as measured from]* ***above*** *the lowest level of fire department vehicle access.*

Exception:

Nonmetallic piping may be used within demised individual residential dwelling units ***located within new construction*** *of buildings* ***with an occupied floor located more than 75 feet (22,860mm) and*** *not more than 150 feet (45,720 mm) [in height as measured from]* ***above*** *the lowest level of fire department vehicle access.*

* * *

P-605.6 Flexible water connectors. Flexible water connectors *shall be prohibited.*

Exception:

In one- and two-family dwellings, flexible water connectors where **exposed to continuous pressure shall conform to ASME A112.18.6/CSA B125.6. Access shall be provided to all flexible water connectors.**

* * *

P-605.13 Copper tubing. Joints between copper or copper- alloy tubing and fittings shall comply with Sections 605.13.1 through 605.13.7.

* * *

P-605.13.5 Press-connect joints. Press-connect joints shall conform to one of the standards indicated in Table 605.5, and shall be installed in accordance with the manufacturer's instructions. Cut tube ends shall be reamed to the full inside diameter of the tube end. Joint surfaces shall be cleaned. The tube shall be fully inserted into the press- connect fitting. Press-connect joints shall be pressed with a tool certified by the manufacturer. *Press-connect joints shall be limited to above ground installations only.*

* * *

P-605.13.7 Push-fit joints. Push-fit joints shall conform to ASSE 1061 and shall be installed in accordance with the manufacturer's instructions *and limited to above ground installations only.*

P-605.14 CPVC plastic. Joints between CPVC plastic pipe and fittings shall comply with Sections 605.14.1 through 605.14.4.

* * *

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P-605.14.4 Push-fit joints. Push-fit joints shall conform to ASSE 1061 and shall be installed in accordance with the manufacturer's instructions *and limited to above ground installations only.*

SECTION P-608 PROTECTION OF POTABLE WATER SUPPLY

* * *

P-608.18 Protection of individual water supplies. An individual water supply shall be located and constructed so as to be safeguarded against contamination in accordance with Sections 608.18.1 through 608.18.8*7*.

P-608.18.1 Well locations. A potable ground water source or pump suction line shall not be located closer to potential sources of contamination than the distances shown in Table 608.18.1. In the event the underlying rock structure is limestone or fragmented shale, the local or state health department shall be consulted on well site location. The distances in Table 608.18.1 constitute minimum separation and shall be increased in areas of creviced rock or limestone, or where the direction of movement of the ground water is from sources of contamination toward the well. ***Note: All well-water quality requires approval by the Department of Public Health.***

* * *

~~**P-608.18.6 Dug or bored well casings. Dug or bored well casings shall be of water-tight concrete, tile or galvanized or corrugated metal pipe extending to not less than 10 feet (3048 mm) below the ground surface. Where the water table is more than 10 feet (3048 mm) below the ground surface, the water-tight casing shall extend below the table surface. Well casings for dug wells or bored wells con- structed with sections of concrete, tile or galvanized or corrugated metal pipe shall be surrounded by 6 inches (152 mm) of grout poured into the hole between the out- side of the casing and the ground and extending not less than 10 feet (3048 mm) below the ground surface.**~~

P-608.18.7*6* Cover. Potable water wells shall be equipped with an overlapping water-tight cover at the top of the well casing or pipe sleeve such that contaminated water or other substances are prevented from entering the well through the annular opening at the top of the well casing, wall or pipe sleeve. Covers shall extend downward not less than 2 inches (51 mm) over the outside of the well casing or wall. A dug well cover shall be provided with a pipe sleeve permitting the withdrawal of the pump suction pipe, cylinder or jet body without disturbing the cover. Where pump sections or discharge pipes enter or leave a well through the side of the casing, the circle of contact shall be water tight.

P-608.18.8*7* Drainage. Potable water wells and springs shall be constructed such that surface drainage will be diverted away from the well or spring.

* * *

SECTION P-614 PRIVATE WATER INFRASTRUCTURE

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P-614.1 General. The provisions of this section shall govern the materials, design, and construction of Private Water Infrastructure.

P-614.1.1 Definitions. The following definitions shall apply to Private Water Infrastructure.

*MASTER METER. A measuring device owned and maintained by the Philadelphia Water Department used to collect data and indicate water usage from multiple individually metered units in a Condominium **or** [of] Planned Community.*

PRIVATE WATER INFRASTRUCTURE PIPE. The [water distribution] pipe that is constructed on private property between the Master Meter and the Private Water [Service] **Distribution** Pipe owned and maintained by the Unit Owner's Association to serve some or all units within a Condominium or Planned Community.

PRIVATE WATER [SERVICE] **DISTRIBUTION** PIPE. **For the purposes of this section, this is limited to the** section of pipe located between the Private Water Infrastructure Pipe and the individual building.

P-614.2 Materials. The Private Water Infrastructure **Pipe and Private Water Distribution** Pipe [and the Private Water Service Pipe] shall conform to one of the standards listed in Table 605.3 of this code **and the requirements shall be consistent with all materials, joints and connections listed in Section 605.**

P-614.3 Connections. The Private Water [Service] **Distribution** Pipe for each house or structure shall be connected to the Private Water Infrastructure Pipe separately. A Private Water Infrastructure Pipe used to convey both domestic and fire protection in a single pipe is permitted.

P-614.3.1 Shut off valves. Each connection of the Private Water [Service] **Distribution** Pipe to the Private Water Infrastructure Pipe shall have an accessible shut off valve installed no less than 3 feet (914 mm) from the outside of the building wall and in line with the ferrule connection on the Private Water Infrastructure Pipe.

* * *

P-614.5 Protection of structures. The Private Water Infrastructure Pipe installed parallel to footings and walls shall not extend into the bearing plane of a footing or wall in accordance with Section 307.5 of this code. **Private Water Infrastructure pipe shall not be installed within 5 feet (1524 mm) of any adjoining property line.** Private Water Infrastructure Pipe shall not be installed within [5-] **3** feet **(914 mm)** of any **parallel** [adjoining property] building foundation.

P-614.6 Fire hydrants. The Private Water Infrastructure Pipe with Fire hydrant connections shall be metered and require backflow protection in accordance with Philadelphia Water Department (PWD) Regulations. The Philadelphia Fire Department shall govern the placement of fire hydrants. PWD may direct the placement of blow-offs and meters on the Private Water [Service] **Distribution** Pipe to ensure water quality.

* * *

P-614.7 Easement required. Private Water Infrastructure Pipe shall require an easement with a minimum width

of 12 foot (3657 mm) and must provide adequate space to replace/ repair the private infrastructure. Minimum vertical drive height clearance of 13 feet 6 inches (4115 mm) or two times the pipe depth to pipe bottom, whichever is greater, shall be provided. The easement shall also provide access to individual private water [service] **distribution** pipes and valves and allow for shut- offs when necessary. No permanent structures shall be built over or in the easement unless these vertical height clearances are met.

* * *

CHAPTER 7
SANITARY DRAINAGE

* * *

SECTION P-701 GENERAL

* * *

P-701.2 Connection to sewer required. Sanitary drainage piping from plumbing fixtures in buildings and sanitary drainage piping systems from premises shall be connected to a public sewer. Where a public sewer is not available, the sanitary drainage piping and systems shall be connected to a private sewage disposal system in compliance with ~~state or local requirements.~~ *the regulations of the [Philadelphia Health] Department* ***of Public Health***. ~~Where state or local requirements do not exist for private sewage disposal systems, the sanitary drainage piping and systems shall be connected to an approved private sewage disposal system that is in accordance with the International Private Sewage Disposal Code.~~

* * *

P-701.2.1 Private Building Sewer. Repairs to existing private building sewer pipe materials shall be in accordance with Table P-702.3. New or extended private building sewers may not cross any adjoining property lines except private sanitary sewer infrastructure designed in accordance with Sections P-717.

* * *

P-701.8 Abandonment of building sewer and lateral. Abandoned laterals shall have the house trap removed, and the pipe shall be hermetically sealed by a cap or plug ***encased in concrete*** *at the curb line. Laterals 8 inches (203 mm) and greater shall be sealed by a cap or plug* ***encased in concrete at the point of connection to the public sewer.*** *Abandoned drainage piping within the building shall be hermetically sealed by a cap or plug.*

P-701.9 Property Lines. Drainage piping may not cross adjoining property lines except private sewer infrastructure designed in accordance with Section P-717.

* * *

SECTION P-702 MATERIALS

P-702.1 Above-ground sanitary drainage and vent pipe. Above-ground soil, waste and vent pipe shall conform to one of the standards listed in Table 702.1. *Any above ground soil, waste and vent piping serving or located within occupancies other than one- and two-family dwellings and apartments shall be metallic piping in accordance with this Section.*

TABLE 702.1 ABOVE-GROUND DRAINAGE AND VENT PIPE

MATERIAL	STANDARD
* * *	
Copper or copper-alloy tubing [a] (Type K, L, M or DWV)	**ASTM B75; ASTM B88; ASTM B251; ASTM B306**
* * *	

a. Type K copper tubing must be used for the drainage of all urinals

P-702.1.1 High-rise material. Metallic piping shall be installed throughout buildings ***with an occupied floor located more than*** *75 feet (22,860 mm) [or more in height as measured from]****above*** *the lowest level of fire department vehicle access.*

P-702.2 Underground building sanitary drainage and vent pipe. Underground building sanitary drainage and vent pipe shall conform to one of the standards listed in Table P-702.2. *Any underground building sanitary drainage and vent piping serving or located within occupancies other than one- and two-family dwellings and apartments shall be metallic piping in accordance with this section.*

TABLE P-702.2 **UNDERGROUND BUILDING DRAINAGE AND VENT PIPE**

[Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid~~, cellular core or composite~~ wall

ASTM D2661; ~~ASTM F628; ASTM F1488;~~ CSA B181.1

Table P-702.2

Cast-iron pipe

ASTM A74; ~~ASTM A888; CISPI 301~~

Table P-702.2

Polyvinyl chloride (PVC) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid~~, cellular core or composite~~ wall

ASTM D2665; ~~ASTM F891; ASTM F1488;~~ CSA B181.2

Table P-702.2

Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D. and a solid~~, cellular core or composite~~ wall

ASTM D2949~~, ASTM F1488~~]

MATERIAL	STANDARD

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Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid~~, cellular core or composite~~ wall	**ASTM D2661; ~~ASTM F628; ASTM F1488;~~ CSA B181.1**
Cast-iron pipe	**ASTM A74; ~~ASTM A888; CISPI 301~~**
***	***
Polyvinyl chloride (PVC) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid~~, cellular core or composite~~ wall	**ASTM D2665; ~~ASTM F891; ASTM F1488;~~ CSA B181.2**
Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D. and a solid~~, cellular core or composite~~ wall	**ASTM D2949~~, ASTM F1488~~**
***	***
Ductile iron pipe class 56	***AWWA C151/A21.51; AWWA C115/A21.15***

P-702.2.1 High-rise material. *Metallic piping shall be installed for all underground building sanitary drainage and vent piping for buildings-* ***with an occupied floor located more than*** *75 feet (22,860 mm) [or more in height as measured from]* ***above*** *the lowest level of fire department vehicle access.*

P-702.3 Building sewer pipe. Building sewer pipe shall conform to one of the standards listed in Table P-702.3. *Any building sewer pipe serving or located within occupancies other than one- and two-family dwellings and apartments shall be metallic piping in accordance with this section.*

* * *

TABLE P-702.3 **BUILDING SEWER PIPE**

[Cast-iron pipe

ASTM A74; ~~ASTM A888; CISPI 301~~

Table P-702.3

Ductile Iron pipe

AWWA C151/A21.51; AWWA C115/A21.15

Table P-702.3

Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid~~, cellular core or composite~~ wall

ASTM D2661; ~~ASTM F628; ASTM F1488;~~ CSA B181.1

Table P-702.3

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Acrylonitrile butadiene styrene (ABS) plastic pipe in sewer and drain diameters, including SDR 42 (PS 20), PS 35, SDR 35 (PS 45), PS 50, PS 100, PS 140, SDR 23.5 (PS 150) and PS 200; with a solid~~, cellular core or composite~~ wall

~~ASTM F1488;~~ ASTM D2751

Table P-702.3

Polyvinyl chloride (PVC) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140); with a solid~~, cellular core or composite~~ wall

ASTM D2665~~; ASTM F891; ASTM F1488~~

Table P-702.3

Polyvinyl chloride (PVC) plastic pipe in sewer and drain diameters, including PS 25, SDR 41 (PS 28), PS 35, SDR 35 (PS 46), PS 50, PS 100, SDR 26 (PS 115), PS 140 and PS 200; with a solid~~, cellular core or composite~~ wall

~~ASTM F891; ASTM F1488;~~ ASTM D3034; CSA B182.2; CSA B182.4

Table P-702.3

Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D. and a solid~~, cellular core or composite~~ wall

ASTM D2949~~; ASTM F1488~~]

* * *

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters, including Schedule 40, DR 22 (PS 200) and DR 24 (PS 140) with a solid ~~cellular core or composite~~ wall	**ASTM D2661; ~~ASTM F628; ASTM F1488;~~ CSA B181.1**
Acrylonitrile butadiene styrene (ABS) plastic pipe in sewer and drain diameters, including SDR 42 (PS 20), PS 35, SDR 35 (PS 45), PS 50, PS 100, PS 140, SDR 23.5 (PS 150) and PS 200; with a solid~~, cellular core or composite~~ wall	**~~ASTM F1488;~~ ASTM D2751**
Cast-iron pipe	**ASTM A74; ~~ASTM A888; CISPI 301~~**
* * *	* * *
Ductile iron pipe class 56	***AWWA C151/A21.51; AWWA C115/A21.15***
* * *	* * *
Polyvinyl chloride (PVC) plastic pipe in sewer and drain diameters, including PS 25, SDR 41 (PS 28), PS 35, SDR 35 (PS 46), PS 50, PS 100, SDR 26 (PS 115), PS 140 and PS 200; with a solid~~, cellular core or composite~~ wall	**~~ASTM F891; ASTM F1488;~~ ASTM D3034; CSA B182.2; CSA B182.4**
Polyvinyl chloride (PVC) plastic pipe with a 3.25-inch O.D. and a solid~~, cellular core or composite~~ wall	**ASTM D2949~~; ASTM F1488~~**

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* * *	* * *

* * *

P-702.3.1 High-rise material. Metallic piping shall be installed for all building sewer pipe for buildings ***with an occupied floor located more than*** *75 feet (22,860 mm) [or more in height as measured from]* ***above*** *the lowest level of fire department vehicle access.*

* * *

TABLE P-702.4 PIPE FITTINGS

MATERIALSTANDARD	
* * *	* * *
Ductile iron pipe class 56	***AWWA C151/A21.51; AWWA C115/A21.15***

* * *

SECTION P-703 BUILDING SEWER

* * *

P-703.4 Existing building sewers and building drains. Where the entire sanitary drainage system of an existing building is replaced, existing building drains under concrete slabs and existing building sewers that will serve the new system shall be internally examined to verify that the piping is sloping in the correct direction, is not broken, is not obstructed and is sized for the drainage load of the new plumbing drainage system to be installed.

P-703.4.1 Connections to existing private building sewers. Where connections are made to existing private building sewers, all provisions of 703.4 shall apply including confirmation and acceptance of condition and sizing by a registered design professional.

P-703.4.1.1 Extension of existing private building sewers. Extension of existing private building sewers is prohibited.

* * *

SECTION P-704 DRAINAGE PIPING INSTALLATION

P-704.1 Slope of horizontal drainage piping. Horizontal drainage piping shall be installed in uniform alignment at uniform slopes. The slope of a horizontal drainage pipe shall be not less than that indicated in Table 704.1 except that where the drainage piping is upstream of a grease interceptor, the slope of the piping shall be not less than ¼ inch per foot (2- percent slope). ***Building sewer force mains are not permitted.***

* * *

SECTION P-706 CONNECTIONS BETWEEN DRAINAGE PIPING AND FITTINGS

* * *

TABLE 706.3 - FITTINGS FOR CHANGE IN DIRECTION

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TYPE OF FITTING PATTERN	CHANGE IN DIRECTION		
	Horizontal to verti	**Vertical to horizon**	**Horizontal to horizontal**
* * *			
Quarter bend	**X**	**X** [a, d]	**X** [a]

* * *

d. A quarter bend shall be permitted, in lieu of an ideal bend, on a dry vent above the highest fixture and in a storm system.

* * *

SECTION P-708 CLEANOUTS

P-708.1 Cleanouts required. **Cleanouts shall be provided for drainage piping in accordance with Sections 708.1.1 through 708.1.11.** ***A cleanout shall be provided at or near the base of each vertical waste or soil stack.***

P-708.1.1 Horizontal drains and building drains. Horizontal drainage pipes ***and building drains*** [in buildings] shall have cleanouts located at intervals of not more than ~~100~~ *50* feet (~~30~~ ~~480~~ *15,240* mm) for lines four inch in diameter or less. ***Horizontal drainage pipes and*** [B] ***b***uilding drains shall have cleanouts located at intervals of not more than 100 feet (30,480 mm) *for lines five inch in diameter and above.* except where manholes are used instead of cleanouts, the manholes shall be located at intervals of not more than ~~400~~ *200* feet (~~122~~ *61* m). 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, the end of the horizontal drain or the end of the building drain.

Exception**:** Horizontal fixture drain piping serving a nonremovable trap shall not be required to have a cleanout for the section of piping between the trap and the vent connection for such trap.

* * *

P-708.1.10 Cleanout access. Required cleanouts shall not be installed in concealed locations. For the purposes of this section, concealed locations include, but are not limited to, the inside of plenums, within walls, within floor/ceiling assemblies, below grade and in crawl spaces where the height from the crawl space floor to the nearest obstruction along the path from the crawl space opening to the clean- out location is less than 24 inches (610 mm). Cleanouts with openings at a finished wall shall have the face of the opening located within 11/2 inches (38 mm) of the finished wall surface. Cleanouts located below grade shall be extended to grade level so that the top of the cleanout plug is at or above grade. A cleanout installed in a floor or walkway that will not have a trim cover installed shall have a countersunk plug installed so the top surface of the plug is flush with the finished surface of the floor or walk- way.

* * *

P-708.1.10.2 Floor cleanout assemblies. Where it is necessary to protect a cleanout plug from the loads of vehicular traffic, cleanout assemblies in accordance with ASME A112.36.2M shall be installed. ***Note: An adjustable repair coupling shall be permitted to connect underground piping to a cleanout.***

* * *

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SECTION P-709 FIXTURE UNITS

* * *

TABLE P-709.1 [Update floor drain minimum size and dfu factor for 3" minimum floor drain size per the Section 413.3 size change.] **DRAINAGE FIXTURE UNITS FOR FIXTURES AND GROUPS**

FIXTURE TYPE	DRAINAGE FIXTURE UNIT VALUE AS LOAD FACTORS	MINIMUM SIZE OF TRAP (inches)
***	***	***
Emergency floor drain	**0**	~~**2**~~ ***3***
Floor drain	~~**2**~~ ***3***	~~**2**~~ ***3***
***	***	***

* * *

SECTION P-712 SUMPS AND EJECTORS

* * *

P-712.3 Sump design. **The sump pump, pit and discharge piping shall conform to the requirements of Sections 712.3.1 through 712.3.5.**

* * *

P-712.3.2 Sump pit. The sump pit shall be not less than 18 inches (457 mm) in diameter and not less than 24 inches (610 mm) in depth, unless otherwise approved. The pit shall be provided with access and shall be located such that all drainage flows into the pit by gravity. The sump pit shall be constructed of tile, concrete, steel, plastic or other approved materials. The pit bottom shall be solid and pro- vide permanent support for the pump. The sump pit shall be fitted with a gastight removable cover that is installed not more than 2 inches (51 mm) below grade or floor level. The cover shall be adequate to support anticipated loads in the area of use. The sump pit shall be vented in accordance with Chapter 9.

Exception:

An elevator sump pit shall not require a sealed cover.

* * *

SECTION P-714 BACKWATER VALVES

P-714.1 Sewage backflow. Where plumbing fixtures are installed on a floor with a finished floor elevation below the fresh air inlet termination ~~elevation of the manhole cover of the next upstream manhole in the public sewer,~~ such fixtures shall be protected by a backwater valve installed in the building drain, or horizontal branch serving such fixtures. Plumbing fixtures installed on a floor with a finished floor elevation above the elevation of the fresh air inlet termination ~~manhole cover of the next upstream manhole in the public sewe~~r shall not discharge through a backwater valve.

Exception:

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In existing buildings, fixtures above the elevation of the fresh air inlet termination ~~manhole cover of the next upstream manhole in the public sewer~~ shall not be prohibited from discharging through a backwater valve. ***Note: For building sub-drains that service fixtures below the fresh air inlet termination that discharges into the building gravity drainage system by automatic pumping equipment, the required check valve installed with the pump shall provide sufficient means of protection against backflow.***

* * *

SECTION P-715 VACUUM DRAINAGE SYSTEMS

* * *

P-715.2 System design. Vacuum drainage systems shall be designed in accordance with the vacuum drainage system manufacturer's instructions. The system layout, including piping layout, tank assemblies, vacuum pump assembly and other components necessary for proper function of the system shall be in accordance with the manufacturer's instructions. Plans, specifications and other data for such systems shall be submitted to the code official for review and approval prior to installation.

* * *

P-715.2.5 Materials. Vacuum drainage pipe, fitting and valve materials shall be in accordance with the vacuum drainage system manufacturer's instructions and the requirements of this chapter *and supersede the requirements contained in Section 702.*

* * *

SECTION P-717 PRIVATE SANITARY SEWER INFRASTRUCTURE

* * *

P-717.2 Materials. Private Sanitary Sewer Infrastructure shall conform to [one of the standards] **all of the requirements** listed in [Table 702.3] **Section 702** of this code.

P-717.3 Slope of private sanitary sewer infrastructure. Private sanitary sewer infrastructure shall be installed in uniform alignment at uniform slopes. The slope of private sanitary sewer infrastructure shall be in accordance with [Table 704.1] **Section 704** of this code.

* * *

P-717.7 Protection of structures. Private sanitary sewer infrastructure **piping** installed parallel to footings and walls shall not extend into the bearing plane of a footing or wall in accordance with Section 307.5 of this code. **Private sanitary sewer infrastructure piping shall not be installed within 5 feet (1524 mm) of any adjoining property line.** Private sanitary sewer infrastructure Pipe shall not be installed within [5-] **3** feet **(914 mm)** of any [adjoining property] **parallel** building foundation.

* * *

CHAPTER 8
INDIRECT/SPECIAL WASTE

* * *

SECTION P-802 INDIRECT WASTES

P-802.1 Where required. **Food-handling equipment, in other than dwelling units, clear-water waste, humidifiers, dishwashing machines and utensils, pots, pans and dishwashing sinks shall discharge through an indirect waste pipe as specified in Sections 802.1.1 through 802.1.7. Fixtures not required to be indirectly connected by this section and the exception to Section 301.6 shall be directly connected to the plumbing system in accordance with Chapter 7.**

* * *

P-802.1.4 Swimming pools. ~~Where~~ ~~w~~*W*aste water from swimming pools, backwash from filters *shall discharge to the sanitary drainage system* and water from pool deck drains discharge to the ~~building~~ ***sanitary*** drainage system~~,~~. ~~the~~ *Swimming pool waste water* discharge *and pool deck drains* shall be through an indirect waste pipe by means of an air gap.

P-802.1.5 Nonpotable clear-water waste. Where devices and equipment such as process tanks, filters, drips and boilers discharge nonpotable water to the building drainage system, the discharge shall be through an indirect waste pipe by means of an air break or an air gap. ***Note: This waste may discharge on to a roof and into the storm system.***

* * *

P-802.1.7 Food utensils, dishes, pots and pans sinks. Sinks, in other than dwelling units, used for the washing, rinsing or sanitizing of utensils, dishes, pots, pans or service ware used in the preparation, serving or eating of food shall discharge indirectly through an air gap ~~or~~ ~~an~~ ~~air~~ ~~break~~ to the drainage system.

* * *

P-802.4 Waste receptors. **For other than hub drains that receive only clear-water waste and standpipes, a removable strainer or basket shall cover the outlet of waste receptors. Waste receptors shall not be installed in concealed spaces. Waste receptors shall not be installed in plenums, crawl spaces, attics, interstitial spaces above ceilings and below floors. Ready access shall be provided to waste receptors.** ***For the purpose of this section, a mop/slop sink shall be considered a waste receptor for clear water waste only.***

* * *

P-802.4.2 Hub drains *and floor sinks*. A hub drain shall be in the form of a hub or a pipe extending not less than 1 inch (25 mm) above ~~a water impervious~~ ***the finished*** floor. *Floor sinks shall be set not less than 1 inch (25 mm) above [a water impervious]* ***the finished*** *floor to the flood level rim.*

* * *

CHAPTER 9
VENTS

* * *

SECTION P-917 SINGLE-STACK VENT SYSTEM

* * *

P-917.6 Additional venting required. Additional venting shall be provided where more than one water closet discharges to a horizontal branch and where the distance from a fixture trap to the stack exceeds the limits in Section 917.4. Where additional venting is required, the fixture(s) shall be vented by individual vents, common vents, wet vents, circuit vents, or a combination waste and vent pipe. The dry vent extensions for the additional venting shall connect to a branch vent, vent stack, stack vent, ~~air admittance valve,~~ or shall terminate outdoors.

* * *

SECTION P-919 PHILADELPHIA SINGLE-STACK WASTE AND VENT SYSTEM

* * *

*P-919.1 Scope. The City of Philadelphia has the oldest known model plumbing code in the country dating back to June 30, 1885. Since the inception of the Philadelphia Plumbing Code, one of the main characteristics and theories has been the single stack method of waste and vent. This code and the single stack theory has stood the test of time and continues today to be a model code copied by many other codes as a base line. Every building and structure in the City of Philadelphia as of this writing has been built incorporating this methodology of the single stack theory. This section is intended to be used [as an option] for any modification or rebuilding of any of these existing structures, homes or buildings **or as an option for** any planned new construction in the future. Systems utilizing this section shall not be permitted to incorporate any other methods of design contained in other sections of this [Chapter] **Code**.*

P-919.2 Drainage system sizing.

* * *

P-919.2.2 Values for fixtures not listed. Fixture-unit values for fixtures that are not listed in Table 919.2 (a) and cannot be determined by similarity to a fixture listed therein shall be determined by Table 919.2 (b).

P-919.2.2.1 Values for indirect waste receptor. The drainage fixture unit load of an indirect waste receptor receiving the discharge of indirectly connected fixtures shall be the sum of the drainage fixture unit values of the fixtures that discharge to the receptor, but not less than the drainage fixture unit value given for the indirect waste receptor in Table P-919.2(a) or 919.2 (b).

P-919.2.2.2 Clear-water waste receptors. Where waste receptors such as floor drains, floor sinks and hub drains receive only clear-water waste from display cases, refrigerated display cases, ice bins, coolers and freezers, such receptors shall have a drainage fixture unit value of one half.

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* * *

P-919.2.5 Soil stack size. The size of a soil or waste stack is determined by the fixture units on the stack plus the fixture units on the horizontal branch from the base of the soil or waste stack connected to the [house] ***building*** *drain.*

P-919.2.6 Horizontal branch size. The size of ***all horizontal branch lines including*** *the horizontal branch from the base of the soil or waste stack connected to the [house]* ***building*** *drain is determined by the fixture units and gradient fall.*

P-919.2.7 Building drain/building sewer size. The size of the [house] ***building*** *drain is determined by its gradient fall and total number of fixture units.*

* * *

P-919.2.10 High-rise buildings. If the building is 75 feet (23 m) in height and not more than 160 feet (49 m) in height, as measured from the lowest level of fire department vehicle access, the vertical soil or waste stacks connected to the house drain or to any of its branches shall be one size larger than given in Table 919.2(c), and this shall also apply when the soil or waste stacks are connected to a horizontal branch pipe that discharges into a soil or waste stack. If the building is more than 160 feet in height, the vertical soil or waste stacks connected to the house drain or to any of its branches shall be two sizes larger than given in Table 919.2(c), and this shall also apply when the vertical soil or waste stacks are connected to the horizontal branch pipe that discharges into a soil or waste stack. The size of the main soil stack shall be sized according to the largest branch entering the stack, except if the amount of fixture units requires a larger size. The developed length of the soil or waste stacks shall be determined by measuring the distance between the center line of the horizontal branch pipe and the roof. If a relief vent is installed on all horizontal branches below the top floor and between the soil or waste stacks and the first fixture on the horizontal branch, the soil or waste stack sizes shall be in accordance with Table 919.2(c), regardless of the height of the building. ***The diameter of a relief vent shall not be less than one-half the diameter of the horizontal branch to which it is connected, with a minimum size of 1½ inches (38 mm). The maximum number of fixture units connected to the relief vent shall be in accordance with Table 919.9(a).*** *The size of the branch line and its stack shall be determined by the developed length of the stack.*

TABLE P-919.2(a) - FIXTURE-UNIT VALUES

FIXTURES	*PRIVATE INSTALL-ATIONS*	*PUBLIC INSTALL-ATIONS*	***MINIMUM TRAP SIZES (INCHES)***
Bathroom group consisting of 1 lavatory, 1 water closet, 1 bathtub or shower stall	*6*	*-*	***-***
Bathtub with 1-1/2 inch trap [a]	*2*	*3*	***1-1/2***
Bathtub with 2-inch trap [a]	*3*	*4*	***2***
Cup sink	*-*	*2*	***1-1/4***
Dishwashers, domestic, automatic	*4*	*-*	***1-1/2[c]***
Drinking fountain	*-*	*1/2*	***1-1/4***

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Floor drain	*3*	*3*	***3***
Kitchen sink with 1-1/2 inch trap [b]	*3*	*3*	***1-1/2***
Kitchen sink with 2-inch trap [b]	*-*	*4*	***2***
Laundry tray with 1-1/2 inch trap (1 or 2 compartment)	*3*	*3*	***1-1/2***
Laundry tray with 2-inch trap	*-*	*4*	***2***
Lavatory with 1-1/4 inch or 1-1/2 inch trap	*1*	*2*	***1-1/4***
Lavatory, barber, beauty parlor, or surgeons	*-*	*3*	***1-1/2***
Service sink (slop sink), mop receptor	*-*	*3*	***3***
Service sink, flushing rim with flush valve	*-*	*6*	***3***
Shower stall with 1-1/2 inch or 2 inch trap	*2*	*3*	***1-1/2***
Shower stall with required 3-inch trap	*-*	*6*	***3***
Urinal, stall and washout	*-*	*2*	***1-1/2***
Urinal, pedestal, siphon-jet and blow-out	*-*	*4*	***2***
Urinal, non-water	*-*	*1*	***1-1/2***
Wash fountain, duo	*-*	*2*	***2***
Wash fountain, any other size	*-*	*5*	***2***
Washing machine, domestic, automatic	*4*	*-*	***2***
Water closet	*3*	*6*	***3***
Fountain c uspidor (dental chair)	*-*	*1*	***1-1/4***
Sink, soda fountain or bar	*-*	*2*	***1-1/2***

For SI:1 inch=25.4 mm

a. With or without showerhead over bathtub.

b. With or without garbage grinder unit, or dishwasher, in sink with 1-1/2 or 2-inch trap.

c. Commercial dishwasher shall include minimum 2-inch trap.

* * *

P-919.7 Venting of offsets.

* * *

P-919.7.2 Yoke venting offsets. Such offsets shall be provided with a yoke vent equal to one-half the diameter of the vent stack or soil stack but not less than 11/2 inches (38 mm). The lower end of the yoke vent shall connect to the soil or waste stack through a wye below the offset and above the next lower horizontal branch, and the upper end shall connect to the stack vent or the vent stack not less than 6 inches (152 mm) above the highest fixture. ***The yoke vent may connect to a vent stack on the floor level above or higher provided the connection is a minimum of 6 inches (152 mm) above the flood level rim of the next fixture on the stack above the offset.***

* * *

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P-919.9 Size and length of vents.

* * *

*P-919.9.3 Size of vent stacks. A vent stack or main vent connecting relief vents, circuit vents or loop vents shall have a diameter of at least one-half the diameter of the soil or waste stack to which the vent stack or main vent is connected, but in no case less than 11/2 inches **(38 mm)**. The maximum number of fixture units connected to the vent stack shall be in accordance with Table 919.9(a). The vent stack or main vent shall not be less in size than the branch, circuit, or loop vent it is servicing. Where fixtures are installed on the house drain behind the line of vent, a minimum vent stack of 11/2 inches **(38 mm)** shall be required for small fixtures having a fixture unit value not greater than 10 **drainage fixture units** and a minimum of **a** 2 inch[es] **(51 mm) vent** for one or more water closets and other fixtures, except if a larger size is required according to Table 919.9(a).*

* * *

CHAPTER 10
TRAPS, INTERCEPTORS AND SEPARATORS

* * *

SECTION P-1002 TRAP REQUIREMENTS

* * *

P-1002.3 Prohibited traps. The following types of traps are prohibited:

* * *

~~**Exception**~~ ***Exceptions***:

1. **Drum traps used as solids interceptors and drum traps serving chemical waste systems shall not be prohibited.**

2. "S" traps are permitted to be used as a direct replacement to a previously installed "S" trap.

* * *

SECTION P-1003 INTERCEPTORS AND SEPARATORS

* * *

P-1003.1 Where required. Interceptors and separators shall be provided to prevent the discharge of oil, grease, sand and other substances harmful or hazardous to the public sewer, the private sewage system or the sewage treatment plant or processes. ***Interceptors and separators shall be connected to the sanitary sewer.***

P-1003.2 Approval. The size, type and location of each interceptor and of each separator 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. ***As an appurtenance contained within the plumbing system, the interceptor or separator shall not be limited by the material construction of the unit.***

P-1003.3 Grease interceptors. **Grease interceptors shall comply with the requirements of Sections 1003.3.1 through 1003.3.8.**

* * *

P-1003.3.5 Hydromechanical grease interceptors, fats, oils and greases disposal systems and automatic grease removal devices. Hydromechanical grease interceptors *shall be of semi-automatic design equipped with a full port type ball valve on the discharge side of the interceptor and a draw-off located in the grease accumulating chamber of the interceptor. Hydromechanical grease interceptors;* fats, oils, and greases disposal systems and automatic grease removal devices shall be sized in accordance with ASME A112.14.3, ASME A112.14.4, ASME A112.14.6, CSA B481.3 or PDI G101. Hydromechanical grease interceptors; fats, oils, and greases disposal systems and automatic grease removal devices shall be designed and tested in accordance with ASME A112.14.3, ASME A112.14.4, CSA B481.1, PDI G101 or PDI G102. Hydromechanical grease interceptors; fats, oils, and greases disposal systems and automatic grease removal devices shall be installed in accordance with the manufacturer's instructions. Where manufacturer's instructions are not provided, hydromechanical grease interceptors; fats, oils, and greases disposal systems and automatic grease removal devices shall be installed in compliance with ASME A112.14.3, ASME A112.14.4, ASME A112.14.6, CSA B481.3 or PDI G101.

* * *

P-1003.3.5.1 Grease interceptor capacity. Grease interceptors shall have the grease retention capacity indicated in Table 1003.3.5.1 for the flow-through rates indicated ***with a minimum capacity of 20 gallons per minute of flow and 40 pounds of grease retention capacity.***

* * *

TABLE 1003.3.5.1 - CAPACTIY OF GREASE INTERCEPTORS

TOTAL FLOW-THROUGH RATING (gpm)	GREASE RETENTION CAPACITY (pounds)
~~4~~	~~8~~
~~6~~	~~12~~
~~7~~	~~14~~
~~9~~	~~18~~
~~10~~	~~20~~
~~12~~	~~24~~
~~14~~	~~28~~

20	**40**
25	**50**
35	**70**
50	**100**
75	**150**
100	**200**

* * *

P-1003.4 Oil separators required. **At repair garages where floor or trench drains are provided, car washing facilities, factories where oily and flammable liquid wastes are produced and hydraulic elevator pits, oil separators shall be installed into which oil-bearing, grease-bearing or flammable wastes shall be discharged before emptying into the building drainage system or other point of disposal.** ***Interceptors and separators shall be connected to the sanitary sewer.***

* * *

P-1003.11 Hair interceptor. An approved hair interceptor shall be installed wherever hair is introduced into the drainage system in sufficient quantity to cause line stoppage and shall be installed in connection with the following uses or occupancies [when required by the Industrial Waste Division of the Water Department].

* * *

CHAPTER 11
STORM DRAINAGE

* * *

SECTION P-1101 GENERAL

P-1101.1 Scope. The provisions of this chapter shall govern the materials, design, construction and installation of storm drainage.

P-1101.1.1 Private Building Storm Sewer. Repairs to Existing Private Building Storm Sewer pipe materials shall be in accordance with Table P-1102.4. New or extended private Building Storm Sewers may not cross any adjoining property except when included as part of an approved post-construction Storm Water Management Plan in accordance with Philadelphia Water Department regulations or private storm sewer infrastructure designed in accordance with P-1115.

* * *

P-1101.3 Prohibited drainage. Storm water shall not be drained into sewers intended for sewage only.

Exceptions:

1. Drains contained in enclosed parking garage not exposed to the outside climatic elements.

2. Drains receiving washdown, soil, oil, fat/grease or any other hazardous waste.

* * *

[BS] P-1101.7 Roof design. Roofs shall be designed for the maximum possible depth of water that will pond thereon as determined by the relative levels of roof deck and overflow weirs, scuppers, edges or serviceable drains in combination with the deflected structural elements. In determining the maximum possible depth of water, all primary roof drainage means shall be assumed to be blocked. The maximum possible depth of water on the roof shall include the height of the water required above the inlet of the secondary roof drainage means to achieve the required flow rate of the secondary drainage means to accommodate the design rainfall rate as required by Section 1106.

Exception:

Canopies, marquees, balconies, and similar extended roof surfaces with a total of 300 square feet or less, shall not require drainage unless the areas include a parapet.

* * *

P-1101.9 Backwater valves. Storm drainage systems shall be provided with backwater valves as required for sanitary drainage systems in accordance with Section 714. ***For building sub-drains that service fixtures below the fresh air inlet termination that discharges into the building gravity drainage system by automatic pumping equipment, the required check valve installed with the pump shall provide sufficient means of protection against backflow.***

* * *

SECTION P-1102 MATERIALS

* * *

P-1102.2 Inside storm drainage conductors. Inside storm drainage conductors installed above ground shall conform to ~~one~~ ***all*** of the ***requirements and*** standards listed in ~~Table~~ *Section **702*** ~~702.1~~.

P-1102.3 Underground building storm drain pipe. Underground building storm drain pipe shall conform to ~~one~~ ***all*** of the ***requirements and*** standards listed in ~~Table~~ *Section **701*** ~~702.2~~.

* * *

SECTION P-1109 COMBINES SANITARY AND STORM PUBLIC SEWER

* * *

P-1109.3 Size of existing combined building drains and building sewers when adding additional load. The size of a combination sanitary and storm drain or sewer shall be computed in accordance with the method in Table 1109.4. The fixture units shall be converted into an equivalent projected roof or paved area. [Where the total

fixture load on the combined drain is less than or equal to 256 fixture units, the equivalent drainage area in horizontal projection shall be taken as 4,000 square feet (372 m2). Where the total fixture load exceeds 256 fixture units, each additional fixture unit shall be considered the equivalent of 15.6 square feet (1.5 m2) of drainage area.] ***Allowance in square feet of pitched roofs or paved areas for fixture units shall be as follows: 7 square feet for each of the first 1,500 Fixture Units; 5 square feet for each of the next 1,500 Fixture Units, 4 square feet for each of the next 2,000 Fixture Units, and 3 square feet for each Fixture Unit thereafter.*** *These values are based on a rainfall rate of 6 inches (127 mm) per hour.*

DELETE TABLE P-1109.4 AND REPLACE:

TABLE P-1109.4 MAXIMUM HORIZONTAL PROJECTED ROOF AREA IN SQUARE FEET FOR BUILDING STORM DRAINS AT VARIOUS SLOPES

Diameter (Inches)	*Fall Per Foot*			*Vertical Leaders*
	1/8"	*1/4"*	*1/2"*	
3		*930*	*1,300*	*1,750*
4	*1,585*	*2,100*	*3,300*	*3,650*
5	*2,875*	*3,800*	*5,300*	*6,000*
6	*4,300*	*6,000*	*9,000*	*10,800*
8	*9,200*	*13,000*	*18,000*	*23,000*
10	*16,500*	*25,000*	*35,000*	*40,000*
12	*26,600*	*40,000*	*60,000*	*65,000*
15	*47,500*	*75,000*	*100,000*	*115,000*
16	*57,250*	*92,500*	*131,000*	
18	*67,000*	*110,000*	*162,000*	
20	*85,500*	*135,000*	*196,000*	
24	*155,000*	*225,000*		
30	*295,000*	*416,000*		

* * *

SECTION P-1114 SUSTAINABLE GREEN ROOF DRAINAGE SYSTEMS

* * *

P-1114.2.1 Green roof rainfall rates. The green roof drainage system shall be designed based on the reduced rainfall rate in accordance with Section 1106.1 only where approved through the Philadelphia Water Department and shall satisfy the design, installation and maintenance requirements set forth by the Philadelphia Water Department [storm water management regulations] and, if applicable, the Philadelphia Zoning Code.

* * *

SECTION P-1115 PRIVATE STORM SEWER INFRASTRUCTURE

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P-1115.3 Slope of private storm sewer infrastructure. Private storm sewer infrastructure shall be installed in uniform alignment at uniform slopes. The slope of private storm sewer infrastructure shall be in accordance with [Table 704.1] ***Section 704*** *of this code.*

* * *

P-1115.7 Protection of structures. Private storm sewer infrastructure installed parallel to footings and walls shall not extend into the bearing plane of a footing or wall in accordance with Section 307.5 of this code. ***Private storm sewer infrastructure shall not be installed within 5 feet (1,524 mm) of any adjoining property line.*** *Private storm sewer infrastructure Pipe shall not be installed within [5-]* ***3*** *feet* ***(914 mm)*** *of any [adjoining property]* ***parallel*** *building foundation.*

* * *

P-1115.10 Storm backflow. Backwater valves shall be installed in accordance with Section 1101.9 of this code. ***For building sub-drains that service fixtures below the fresh air inlet termination that discharges into the building gravity drainage system by automatic pumping equipment, the required check valve installed with the pump shall provide sufficient means of protection against backflow.***

* * *

APPENDIX E
SIZING OF WATER PIPING SYSTEM

The International Plumbing Code Appendix E is adopted to provide acceptable methods for the sizing of water service and water distribution piping by a designer.

Notwithstanding the definitions set forth in Chapter 2 of this code, the following definitions apply to this Appendix.

WATER DISTRIBUTION PIPE. The pipe from the curb stop or curb line to the structure or through the meter pit to the first point of use if there is no structure.

WATER SERVICE PIPE. The pipe from the water main to the curb stop or curb line as regulated by Philadelphia Water Department Regulations.

WATER SUPPLY PIPES. The pipes within a structure or premises which convey water from the water distribution pipe to the plumbing fixtures or other outlets.

[WATER SERVICE PIPE. The pipe from the water main or other source of potable water supply, or from the meter when the meter is at the public right of way, to the water distribution system of the

building served.

WATER DISTRIBUTION PIPE. A pipe within the structure or on the premises that conveys water from the water service pipe, or from the meter when the meter is at the structure, to the points of utilization.

WATER SUPPLY SYSTEM. The water service pipe, the water distribution pipes, and the necessary connecting pipes, fittings, control valves and all appurtenances in or adjacent to the structure or premises.]

SECTION 2. Section 1 of this Ordinance shall be effective April 1, 2024.