

**WSR 23-14-125**  
**EXPEDITED RULES**  
**BUILDING CODE COUNCIL**  
 [Filed July 5, 2023, 10:38 a.m.]

Title of Rule and Other Identifying Information: Chapter 51-56 WAC, Amendments to the 2021 Uniform Plumbing Code (UPC).

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: Reconciling state amendments with section renumbering and model code modifications in the 2021 UPC; correcting errors and omissions.

Reasons Supporting Proposal: With the exception of the issues noted below, this represents section and reference numbering housekeeping.

WAC	Section	Change	Rationale/Discussion
51-56-008	Implementation	Changes implementation date from "July 1, 2023" to "October 29, 2023."	Necessary to align with previous filing that changes implementation date.
51-56-0400	2021 UPC Section 407.1	Adds new amendment section "407.1 Application" and changes table reference from "422.1" to International Building Code Table 2902.1."	Section is needed because model code table is not adopted.
51-56-0500	2021 UPC Section 501.1	Corrects reference from "Table 501(2)" to "Table 501.1(1)."	Corrects error in original filing. No change to regulatory effect.
51-56-0600	2021 UPC Section 609.12	Re-numbers section from "609.11" to "609.12."	Editorial. No change in regulatory effect.
		Removes words "C403.2.8 and Table C403.2.8 or."	Table reference is wrong and remaining reference is correct and also refers to other tables within the WSEC-C which are applicable.
51-56-0700	2021 UPC Section 701.2 #6	Corrects reference to Table "1701.1" to "701.2."	Corrects error in original filing. No change to regulatory effect.
51-56-1100	2021 UPC Section 1103.4(1)	Changes "(6)" to "(7)."	Corrects omitted reference from original filing which was meant to read "(no change to items (1) through (7))."

Statutory Authority for Adoption: RCW 19.27.031, 19.27.074.

Statute Being Implemented: RCW 19.27.031, 19.27.074.

Rule is not necessitated by federal law, federal or state court decision.

Name of Proponent: State building code council, governmental.

Name of Agency Personnel Responsible for Drafting and Implementation: Dustin Curb, 1500 Jefferson Street S.E., Olympia, WA 98504, 360-972-4158; Enforcement: Local jurisdictions having authority.

This notice meets the following criteria to use the expedited adoption process for these rules:

Adopts or incorporates by reference without material change federal statutes or regulations, Washington state statutes, rules of other Washington state agencies, shoreline master programs other than those programs governing shorelines of statewide significance, or, as referenced by Washington state law, national consensus codes that generally establish industry standards, if the material adopted or incorporated regulates the same subject matter and conduct as the adopting or incorporating rule.

Corrects typographical errors, makes address or name changes, or clarifies language of a rule without changing its effect.

Explanation of the Reason the Agency Believes the Expedited Rule-Making Process is Appropriate: This addresses clerical oversight.

NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEAR-

INGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Dustin Curb, State Building Code Council, 1500 Jefferson Street S.E., Olympia, WA 98504, phone 360-972-4158, email Dustin.Curb@des.wa.gov, AND RECEIVED BY September 5, 2023.

July 3, 2023  
Tony Doan  
Chair

## OTS-4734.2

AMENDATORY SECTION (Amending WSR 23-02-057 and 23-12-110, filed 1/3/23 and 6/7/23, effective 10/29/23)

**WAC 51-56-008 Implementation.** The Uniform Plumbing Code adopted by chapter 51-56 WAC shall become effective in all counties and cities of this state on (~~July 1~~) October 29, 2023.

AMENDATORY SECTION (Amending WSR 23-02-057 and 23-12-110, filed 1/3/23 and 6/7/23, effective 10/29/23)

### **WAC 51-56-0400 Chapter 4—Plumbing fixtures and fixture fittings.**

**402.5 Setting.** Fixtures shall be set level and in proper alignment with reference to adjacent walls. No water closet or bidet shall be set closer than fifteen (15) inches (381 mm) from its center to any side wall or obstruction nor closer than thirty (30) inches (762 mm) center to center to any similar fixture. The clear space in front of any water closet or bidet shall be not less than twenty-four (24) inches (610 mm). No urinal shall be set closer than twelve (12) inches (305 mm) from its center to any side wall or partition nor closer than twenty-four (24) inches (610 mm) center to center.

EXCEPTIONS: 1. The clear space in front of a water closet, lavatory or bidet in dwelling units and sleeping units shall be not less than 21 inches (533 mm).  
2. The installation of paper dispensers or accessibility grab bars shall not be considered obstructions.

**405.4 Application.** No individual, public or private corporation, firm, political subdivision, government agency, or other legal entity, may, for purposes of use in the state of Washington, distribute, sell, offer for sale, import, install, or approve for installation any plumbing fixtures or fittings unless the fixtures or fittings meet the standards as provided for in this chapter.

**407.1 Application.** Lavatories shall comply with ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4, ASME A112.19.12, CSA B45.5/IAPMO Z124, CSA B45.8/IAPMO Z403, CSA B45.11/IAPMO Z401 or CSA B45.12/IAPMO Z402. Group wash fixtures shall comply with the requirements of Section 401.2. Every 20 inches (508 mm) of rim space of a group wash fixture shall be considered as one lavatory

for determining the number of lavatories required in accordance with the International Building Code Table 2902.1.

Lavatory assemblies with automatic soap dispensers, faucets, or hand dryers shall comply with IAPMO IGC 127.

**407.2 Water Consumption.** The maximum water flow rate of faucets shall comply with Section 407.2.1 through 407.2.2.

**407.2.1 Maximum Flow Rate.** The maximum flow rate for public lavatory faucets shall not exceed 0.5 gpm at 60 psi (1.9 L/m at 414 kPa).

**407.2.1.1 Residential Lavatory Faucets.** The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons (4.54 L) per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons (3.03 L) per minute at 20 psi.

**407.2.1.2 Lavatory Faucets in Common and Public Use Areas.** The maximum flow rate of lavatory faucets, installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings, shall not exceed 0.5 gallons (1.89 L) per minute at 60 psi.

**407.2.2 Metering Faucets.** Metered faucets shall deliver a maximum of 0.25 gallons (1.0 L) per metering cycle in accordance with ASME A112.18.1/CSA B125.1.

**407.4 Metering Valves.** Lavatory faucets located in restrooms intended for use by the general public shall be equipped with a metering valve designed to close by spring or water pressure when left unattended (self-closing).

EXCEPTIONS:      1. Where designed and installed for use by persons with a disability.  
                         2. Where installed in day care centers, for use primarily by children under 6 years of age.

**408.2 Water Consumption.** Showerheads shall meet the maximum flow rate of 1.8 gallons (6.81 L) per minute measured at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA Water-Sense Specification for Showerheads.

EXCEPTION:      Emergency use showers shall be exempt from the maximum water usage rates.

**408.2.1 Multiple Showerheads Serving One Shower.** When a shower is served by more than one showerhead, including handheld showerheads, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons (6.81 L) per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time.

**408.4 Waste Outlet.** Showers shall have a waste outlet and fixture tailpiece not less than two (2) inches (50 mm) in diameter. Fixture tailpieces shall be constructed from the materials specified in Section 701.2 for drainage piping. Strainers serving shower drains shall have a waterway at least equivalent to the area of the tailpiece.

EXCEPTION:      In a residential dwelling unit where a 2 inch waste is not readily available and approval of the AHJ has been granted, the waste outlet, fixture tailpiece, trap and trap arm may be 1-1/2 inch when an existing tub is being replaced by a shower sized per Section 408.2. This exception only applies where one shower head rated at 1.8 gpm is installed.

**408.6 Shower Compartments.** Shower compartments, regardless of shape, shall have a minimum finished interior of nine hundred (900) square inches (0.58 m<sup>2</sup>) and shall also be capable of encompassing a thirty (30) inch (762 mm) circle. The minimum required area and dimensions shall be measured at a height equal to the top of the threshold and at a point tangent to its centerline. The area and dimensions shall be maintained to a point of not less than seventy (70) inches (1,778 mm) above the shower drain outlet with no protrusions other than the fixture valve or valves, shower head, soap dishes, shelves, and safety

grab bars or rails. Fold-down seats in accessible shower stalls shall be permitted to protrude into the thirty (30) inch (762 mm) circle.

EXCEPTIONS: 1. Showers that are designed to comply with ICC/ANSI A117.1.  
2. The minimum required area and dimension shall not apply for a shower receptor having overall dimensions of not less than thirty (30) inches (762 mm) in width and sixty (60) inches (1,524 mm) in length.

**411.2 Water Consumption.** The effective flush volume of all water closets shall not exceed 1.28 gallons (4.8 L) per flush when tested in accordance with ASME A112.19.2/CSA B45.1.

EXCEPTIONS: 1. Water closets located in day care centers, intended for use by young children may have a maximum water use of 3.5 gallons per flush or 13.25 liters per flush.  
2. Water closets with bed pan washers may have a maximum water use of 3.5 gallons per flush or 13.25 liters per flush.  
3. Blow out bowls, as defined in ANSI/ASME A112.19.2M, Section 5.1.2.3 may have a maximum water use of 3.5 gallons per flush or 13.25 liters per flush.

**411.2.2 Performance.** Water closets installed shall meet or exceed the minimum performance criteria developed for certification of high-efficiency toilets under the WaterSense program sponsored by the U.S. Environmental Protection Agency (EPA).

**411.2.3 Flushometer Valve Activated Water Closets.** Flushometer valve activated water closets shall have a maximum flush volume of 1.28 gallons (4.8 Lpf) of water per flush in accordance with ASME A112.19.2/CSA B45.1.

**412.1 Application.** Urinals shall comply with ASME A112.19.2/CSA B45.1, ASME A112.19.19, or CSA B45.5/IAPMO Z124. Wall-mounted urinals shall have an average water consumption not to exceed 0.125 gallons (0.47 L) per flush. Other urinals shall have an average water consumption not to exceed 0.5 gallons (1.89 L) per flush.

**414.3 Drainage Connection.** Domestic dishwashing machines shall discharge indirectly through an air gap fitting in accordance with Section 807.3 into a waste receptor, a wye branch fitting on the tailpiece of a kitchen sink, or dishwasher connection of a food waste disposer. Commercial dishwashing machines shall discharge indirectly through an air gap.

**415.2 Drinking Fountain Alternatives.** This section is not adopted. See Building Code chapter 29.

**418.3 Location of Floor Drains.** Floor drains shall be installed in the following areas:

1. Toilet rooms containing two (2) or more water closets or a combination of one (1) water closet and one (1) urinal, except in a dwelling unit. The floor shall slope toward the floor drains.

2. Laundry rooms in commercial buildings and common laundry facilities in multifamily dwelling buildings.

## 420.0 Sinks

**420.2 Water Consumption.** Sink faucets shall have a maximum flow rate of not more than 2.2 gpm at 60 psi (8.3 L/m at 414 kPa) in accordance with ASME A112.18.1/CSA B125.1.

EXCEPTION: Clinical sinks, laundry trays, service sinks.

**420.2.1 Kitchen Faucets.** Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons (6.81 L) per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons (8.3 L) per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons (6.81 L) per minute at 60 psi.

EXCEPTION: Where faucets meeting the maximum flow rate of 1.8 gpm (6.81 L) are unavailable, aerators or other means may be used to achieve reduction.

**420.3 Prerinse Spray Valve.** Commercial food service prerinse spray valves shall have a maximum flow rate of 1.6 gallons per minute (gpm) at 60 pounds-force per square inch (psi) (6.0 L/m at 414 kPa) in accordance with ASME A112.18.1/CSA B125.1 and shall be equipped with an integral automatic shutoff.

**422.0 Minimum Number of Required Fixtures.** For minimum number of plumbing fixtures required, see Building Code Chapter 29 and Table 2902.1.

**423.0 Landscape Irrigation.**

**423.1 Spray Sprinkler Body.** Spray sprinkler bodies must include an integral pressure regulator and must meet the water efficiency and performance criteria and other requirements of environmental protection agency water sense program product specification for spray sprinkler bodies.

EXCEPTION: Spray sprinkler bodies specifically excluded from the scope of the environmental protection agency water sense program product specification for spray sprinkler bodies.

Sections 422.1 through 422.5 and Table 422.1 are not adopted.

AMENDATORY SECTION (Amending WSR 23-02-057 and 23-12-110, filed 1/3/23 and 6/7/23, effective 10/29/23)

**WAC 51-56-0500 Chapter 5—Water heaters.**

**501.1 Applicability.** The regulations of this chapter shall govern the construction, location, and installation of fuel burning and other types of water heaters heating potable water. The minimum capacity for water heaters shall be in accordance with the first hour rating listed in Table 501.1(2). See the Mechanical Code for combustion air and installation of all vents and their connectors. No water heater shall be hereinafter installed that does not comply with the manufacturer's installation instructions and the type and model of each size thereof approved by the authority having jurisdiction. A list of accepted water heater appliance standards is referenced in Table ((501(2))) 501.1(1). Listed appliances shall be installed in accordance with the manufacturer's installation instructions. Unlisted water heaters shall be permitted in accordance with Section 504.3.2.

TABLE 501.1(2)<sup>1,3</sup>

Number of Bathrooms	1 to 1.5			2 to 2.5				3 to 3.5			
	1	2	3	2	3	4	5	3	4	5	6
Number of Bedrooms											
First Hour Rating <sup>2</sup> , Gallons	38	49	49	49	62	62	74	62	74	74	74

Notes: <sup>1</sup>The first hour rating is found on the "Energy Guide" label.  
<sup>2</sup>Nonstorage and solar water heaters shall be sized to meet the appropriate first hour rating as shown in the table, and shall be capable of delivering hot water at the maximum system demand flow, as calculated in Section 610.0 or Appendix A, as applicable.  
<sup>3</sup>For replacement water heaters, see Section 102.4.

**501.1.2 Consumer Electric Storage Water Heater Requirements.** Consumer electric storage water heaters must have a modular demand response communications port compliant with the March 2018 version of the ANSI/CTA-2045-A communication interface standard, or equivalent and the

March 2018 version of the ANSI/CTA-2045-A application layer requirements. The interface standard and application layer requirements required in this subsection are the versions established on March 16, 2018.

EXCEPTIONS: 1. Water heaters manufactured prior to January 1, 2021.  
2. Electric storage water heaters other than heat pump type water heaters manufactured prior to January 1, 2022.

**501.1.3 Mini-tank Electric Water Heaters.** The standby energy consumption of hot water dispensers and mini-tank electric water heaters manufactured on or after January 1, 2010, shall be not greater than 35 watts. Mini-tank electric water heaters shall be tested in accordance with the method specified in the California Code of 39 Regulations, Title 20, section 1604 in effect as of July 26, 2009.

**504.1 Location.** Water heater installation in bedrooms and bathrooms shall comply with one of the following:

(1) Fuel-burning water heaters may be installed in a closet located in the bedroom or bathroom provided the closet is equipped with a listed, gasketed door assembly and a listed self-closing device. The self-closing door assembly shall meet the requirements of Section 504.1.1. The door assembly shall be installed with a threshold and bottom door seal and shall meet the requirements of Section 504.1.2. All combustion air for such installations shall be obtained from the outdoors in accordance with the International Mechanical Code. The closet shall be for the exclusive use of the water heater.

(2) Water heater shall be of the direct vent type.

**505.2 Safety Devices.** All storage-type water heaters deriving heat from fuels or types of energy other than gas, shall be provided with, in addition to the primary temperature controls, an over-temperature safety protection device constructed, listed, and installed in accordance with nationally recognized applicable standards for such devices and a combination temperature and pressure relief valve.

**506.0 Combustion Air.** For issues relating to combustion air, see the Mechanical Code.

Sections 506.1 through 506.9 are not adopted.

Sections 507.6 through 507.9 are not adopted.

**507.2 Seismic Provisions.** Water heaters shall be anchored or strapped to resist horizontal displacement due to earthquake motion. Strappings shall be at points within the upper one-third and lower one-third of its vertical dimensions. At the lower point, a distance of not less than four (4) inches (102 mm) shall be maintained from the controls to the strapping.

**507.13 Installation in Garages.** Appliances in garages and in adjacent spaces that open to the garage and are not part of the living space of a dwelling unit shall be installed so that burners, burner-ignition devices and ignition sources are located not less than eighteen (18) inches above the floor unless listed as flammable vapor ignition resistant.

**507.16 Venting of Flue Gases - Delete entire section.**

Sections 507.18 through 507.22 are not adopted.

**509.0 Venting of Equipment.** Delete entire section.

**510.0 Sizing of Category I Venting Systems.** Delete entire section.

AMENDATORY SECTION (Amending WSR 23-02-057 and 23-12-110, filed 1/3/23 and 6/7/23, effective 10/29/23)

**WAC 51-56-0600 Chapter 6—Water supply and distribution.**

**601.1 Applicability.** This chapter shall govern the materials, design and installation of *water supply systems*, including backflow prevention devices, assemblies and methods used for backflow prevention.

**603.1 General.** Cross-connection control shall be provided in accordance with the provisions of this chapter. Devices or assemblies for protection of the public water system must be models approved by the department of health under WAC 246-290-490. The authority having jurisdiction shall coordinate with the local water purveyor where applicable in all matters concerning cross-connection control within the property lines of the premises.

No person shall install any water operated equipment or mechanism, or use any water treating chemical or substance, if it is found that such equipment, mechanism, chemical or substance may cause pollution or contamination of the domestic water supply. Such equipment or mechanism may be permitted only when equipped with an approved backflow prevention device or assembly.

**603.2 Approval of Devices or Assemblies.** Before any device or assembly is installed for the prevention of backflow, it shall have first been approved by the authority having jurisdiction. Devices or assemblies shall be tested for conformity with recognized standards or other standards acceptable to the authority having jurisdiction. Backflow prevention devices and assemblies shall comply with Table 603.2, except for specific applications and provisions as stated in Section 603.5.1 through 603.5.21.

All devices or assemblies installed in a potable water supply system for protection against backflow shall be maintained in good working condition by the person or persons having control of such devices or assemblies. Such devices or assemblies shall be tested in accordance with Section 603.4.2 and WAC 246-290-490. If found to be defective or inoperative, the device or assembly shall be replaced or repaired. No device or assembly shall be removed from use or relocated or other device or assembly substituted, without the approval of the authority having jurisdiction.

Testing shall be performed by a Washington state department of health certified backflow assembly tester.

**TABLE 603.2  
Backflow Prevention Devices, Assemblies and Methods  
The following line is deleted from the table:**

Device, Assembly or Method	Applicable Standards	Pollution (Low Hazard)		Contamination (High Hazard)		Installation
		Back Siphonage	Back Pressure	Back Siphonage	Back Pressure	
Backflow preventer for carbonated beverage dispensers (two independent check valves with a vent to the atmosphere.)	ASSE 1022	X				Installation includes carbonated beverage machines or dispensers. These devices operate under intermittent or continuous pressure conditions.

**603.4.2 Testing.** For devices and assemblies other than those regulated by the Washington department of health in conjunction with the local water purveyor for the protection of public water systems, the authority having jurisdiction shall ensure that the premise owner or responsible person shall have the backflow prevention assembly tested by a Washington state department of health certified backflow assembly tester:

- (1) At the time of installation, repair or relocation; and
- (2) At least on an annual schedule thereafter, unless more frequent testing is required by the authority having jurisdiction.

**603.5.6 Protection from Lawn Sprinklers and Irrigation Systems.** Potable water supplies to systems having no pumps or connections for pumping equipment, and no chemical injection or provisions for chemical injection, shall be protected from backflow by one of the following:

- (1) Atmospheric vacuum breaker (AVB).
- (2) Pressure vacuum breaker backflow prevention assembly (PVB).
- (3) Spill-resistant pressure vacuum breaker (SVB).
- (4) Reduced pressure principle backflow prevention assembly (RP).
- (5) A double check valve backflow prevention assembly (DC) may be allowed when approved by the water purveyor and the authority having jurisdiction.

**603.5.10 Steam or Hot Water Boilers.** Potable water connections to steam or hot water boilers shall be protected by an air gap or a reduced pressure principle backflow preventer.

**603.5.12 Beverage Dispensers.** Potable water supply to carbonators shall be protected by a listed reduced pressure principle backflow preventer as approved by the authority having jurisdiction for the specific use. The backflow preventer shall comply with Section 603.4.3. The piping downstream of the backflow preventer shall not be of copper, copper alloy, or other material that is affected by carbon dioxide.

**604.14 Plastic Pipe Termination.** Plastic water service piping may terminate within a building, provided the connection to the potable water distribution system shall be made as near as is practical to the point of entry and shall be accessible. Barbed insert fittings with hose clamps are prohibited as a transition fitting within the building.

**608.5 Discharge Piping.** The discharge piping serving a temperature relief valve, pressure relief valve or combination of both shall have no valves, obstructions or means of isolation and be provided with the following:

- (1) Not less than the size of the valve outlet and shall discharge full size to the flood level of the area receiving the discharge and pointing down.
- (2) Materials shall be rated at not less than the operating temperature of the system and approved for such use or shall comply with ASME A112.4.1. Materials shall be straight, rigid lengths only, without coils or flexes.
- (3) Discharge pipe shall discharge independently by gravity through an air gap into the drainage system or outside of the building with the end of the pipe not exceeding 2 feet (610 mm) and not less than 6 inches (152 mm) above the ground pointing downwards.
- (4) Discharge in such a manner that does not cause personal injury or structural damage.
- (5) No part of such discharge pipe shall be trapped or subject to freezing.



(6) The terminal end of the pipe shall not be threaded.

(7) Discharge from a relief valve into a water heater pan shall be prohibited.

(8) The discharge termination point shall be readily observable.

EXCEPTION: Where no drainage was provided, replacement water heating equipment shall only be required to provide a drain pointing downward from the relief valve to extend between two (2) feet (610 mm) and six (6) inches (152 mm) from the floor. No additional floor drain need be provided.

~~((609.11))~~ **609.12 Insulation of Potable Water Piping.** Domestic water piping within commercial buildings shall be insulated in accordance with ~~((Section C403.2.8 and Table C403.2.8 or))~~ Section C404.6 of the Washington State Energy Code, as applicable.

**610.4 Sizing Water Supply and Distribution Systems.** Systems within the range of Table 610.4 may be sized from that table or by the method set forth in Section 610.5.

Listed parallel water distribution systems shall be installed in accordance with their listing.

**611.1 Application.** Drinking water treatment units shall comply with NSF 42 or NSF 53. Water softeners shall comply with NSF 44. Ultraviolet water treatment systems shall comply with NSF 55. Reverse osmosis drinking water treatment systems shall comply with NSF 58. Drinking water distillation systems shall comply with NSF 62.

The owner of a building that serves potable water to twenty-five or more people at least sixty or more days per year and that installs drinking water treatment units including, but not limited to, the treatment units in Section 611.1, may be regulated (as a Group A public water system) by the Washington state department of health under chapter 246-290 WAC. See Washington state department of health publication 331-488 for guidance.

**612.1 General.** Where residential fire sprinkler systems are installed, they shall be installed in accordance with the International Building Code or International Residential Code.

Sections 612.2 through 612.7.2 are not adopted.

AMENDATORY SECTION (Amending WSR 23-02-057 and 23-12-110, filed 1/3/23 and 6/7/23, effective 10/29/23)

**WAC 51-56-0700 Chapter 7—Sanitary drainage.**

**701.2 Drainage Piping.** Materials for drainage piping shall be in accordance with one of the referenced standards in Table 701.1 except that:

1. No galvanized wrought-iron or galvanized steel pipe shall be used underground and shall be kept not less than 6 inches (152 mm) above ground.

2. ABS and PVC DWV piping installations shall be installed in accordance with applicable standards in Table 1701.1. Except for individual single family dwelling units, materials exposed within ducts or plenums shall have a maximum flame-spread index of 25 and a maximum smoke developed index of 50, when tested in accordance with ASTM E-84 and UL 723.

3. No vitrified clay pipe or fittings shall be used above ground or where pressurized by a pump or ejector. They shall be kept not less than 12 inches (305 mm) below ground.

4. Copper tube for drainage and vent piping shall have a weight of not less than that of copper drainage tube type DWV.

5. Stainless steel 304 pipe and fittings shall not be installed underground and shall be kept not less than 6 inches (152 mm) above ground.

6. Cast-iron soil pipe and fittings shall be listed and tested in accordance with standards referenced in Table ((1701.1)) 701.2. Such pipe and fittings shall be marked with country of origin and identification of the original manufacturer in addition to markings required by referenced standards.

**704.3 Commercial Sinks.** Except where specifically required to be connected indirectly to the drainage system, or when first approved by the authority having jurisdiction, all plumbing fixtures, drains, appurtenances, and appliances shall be directly connected to the drainage system of the building or premises.

**707.4 Location.** Each horizontal drainage pipe shall be provided with a cleanout at its upper terminal, and each run of piping, that is more than 100 feet (30,480 mm) in total *developed length*, shall be provided with a cleanout for each 100 feet (30,480 mm), or fraction thereof, in length of such piping. An additional cleanout shall be provided in a drainage line for each aggregate horizontal change of direction exceeding 135 degrees (2.36 rad).

EXCEPTIONS:

1. Cleanouts shall be permitted to be omitted on a horizontal *drain* line less than 5 feet (1,524 mm) in length unless such line is serving sinks or urinals.
2. Cleanouts shall be permitted to be omitted on a horizontal drainage pipe installed on a *slope* of 72 degrees (1.26 rad) or less from the vertical angle (one-fifth bend).
3. Except for the *building drain*, its *horizontal branches*, and urinals, a cleanout shall not be required on a pipe or piping that is above the floor level of the lowest floor of the *building*.
4. An *approved* type of two-way cleanout fitting, installed inside the *building* wall near the connection between the *building drain* and the *building sewer* or installed outside of a *building* at the lower end of a *building drain* and extended to *grade*, shall be permitted to be substituted for an upper terminal cleanout.

**707.9 Clearance.** Each cleanout in piping 2 inches (50 mm) or less in size shall be so installed that there is a clearance of not less than 12 inches (457 mm) in front of the cleanout. Cleanouts in piping exceeding 2 inches (50 mm) shall have a clearance of not less than 18 inches (610 mm) in front of the cleanout. Cleanouts in under-floor piping shall be extended to or above the finished floor or shall be extended outside the *building* where there is less than 18 inches (457 mm) vertical overall, allowing for obstructions such as ducts, beams, and piping, and 30 inches of (762 mm) horizontal clearance from the means of access to such cleanout. No under-floor cleanout shall be located exceeding 20 feet (1,524 mm) from an access door, trap door, or crawl hole.

CHAPTER 7, PART II—BUILDING SEWERS

**Part II Building Sewers.** Delete all of Part II (Sections 713 through 723, and Tables 717.1 and 721.1).

AMENDATORY SECTION (Amending WSR 23-02-057 and 23-12-110, filed 1/3/23 and 6/7/23, effective 10/29/23)

**WAC 51-56-1100 Chapter 11—Storm drainage.**

**1101.4 Material Uses.** Pipe, tube, and fittings conveying rainwater shall be of such materials and design as to perform their intended function to the satisfaction of the authority having jurisdiction.

Conductors within a vent or shaft shall be of cast iron, galvanized steel, wrought iron, copper, copper alloy, lead, Scheduled 40 ASB DWV, Scheduled 40 PVC DWV, stainless steel 304 or 316L (stainless steel 304 pipe and fittings shall not be installed underground and shall be kept not less than six (6) inches (152 mm) aboveground), or other approved materials, and changes in direction shall conform to the requirements of Section 706.0. ABS and PVC DWV piping installations shall be installed in accordance with IS 5 and IS 9. Except for individual single-family dwelling units, materials exposed within ducts or plenums shall have a maximum flame-spread index of 25 and a maximum smoke-developed index of 50, when tested in accordance with ASTM E-84 and UL 723.

**1101.12.2 Secondary Drainage.** Secondary (emergency) roof drainage shall be provided by one of the methods specified in Section 1101.12.2.1 or Section 1101.12.2.2.

**1101.12.2.1 Roof Scuppers or Open Side.** Secondary roof drainage shall be provided by an open-sided roof or scuppers where the roof perimeter construction extends above the roof in such a manner that water will be entrapped. An open-sided roof or scuppers shall be sized to prevent the depth of ponding water from exceeding that for which the roof was designed as determined by Section 1101.12.1. Scupper openings shall be not less than four (4) inches (102 mm) high and have a width equal to the circumference of the roof drain required for the area served, sized in accordance with Table 1103.1, based on double the rainfall rate for the local area.

EXCEPTION: Scupper openings shall be permitted to be sized for the normal rainfall rate where the structural design of the roof includes a ponding instability analysis in accordance with ASCE 7 for the additional ponding load resulting from twice the normal rainfall rate or a 15-minute duration/100-year return period storm. The analysis shall assume the primary drain system is blocked.

**1101.12.2.2 Secondary Roof Drain.** Secondary roof drains shall be provided. The secondary roof drains shall be located not less than two (2) inches (51 mm) above the roof surface. The maximum height of the roof drains shall be a height to prevent the depth of ponding water from exceeding that for which the roof was designed as determined by Section 1101.12.1. The secondary roof drains shall connect to a piping system in accordance with Section 1101.12.2.2.1 or Section 1101.12.2.2.2.

**1101.12.2.2.1 Separate Piping System.** The secondary roof drainage system shall be a separate system of piping, independent of the primary roof drainage system. The discharge shall be above grade, in a location observable by the building occupants or maintenance personnel. Secondary roof drain systems shall be sized in accordance with Section 1101.12.1 based on double the rainfall rate for the local area.

EXCEPTION: The secondary drainage system shall be permitted to be sized for the normal rainfall rate where the structural design of the roof includes a ponding instability analysis in accordance with ASCE 7 for the additional ponding load resulting from twice the normal rainfall rate or a 15-minute duration/100-year return period storm. The analysis shall assume the primary drain system is blocked.

**1101.12.2.2.2 Combined System.** The secondary roof drains shall connect to the vertical piping of the primary storm drainage conductor downstream of the last horizontal offset located below the roof. The primary storm drainage system shall connect to the building storm water that connects to an underground public storm sewer. The combined secondary and primary roof drain systems shall be sized in accordance with Section 1103.0 based on double the rainfall rate for the local area.

**1101.13 Cleanouts.** Cleanouts for building storm drains shall comply with the requirements of this section.

**1101.13.1 Locations.** Rain leaders and conductors connected to a building storm sewer shall have a cleanout installed at the base of the outside leader or outside conductor before it connects to the horizontal drain. Cleanouts shall be placed inside the building near the connection between the building drain and the building sewer or installed outside the building at the lower end of the building drain and extended to grade.

**1101.13.2 Cleaning.** Each cleanout shall be installed so that it opens to allow cleaning in the direction of flow of the soil or waste or at right angles thereto, and except in the case of wye branch and end-of-line cleanouts, shall be installed vertically above the flow line of the pipe.

**1101.13.3 Access.** Cleanouts installed under concrete or asphalt paving shall be made accessible by yard boxes, or extending flush with paving with approved materials and be adequately protected.

**1101.13.4 Manholes.** Approved manholes may be installed in lieu of cleanouts when first approved by the authority having jurisdiction. The maximum distance between manholes shall not exceed three hundred (300) feet (91.4 m).

The inlet and outlet connections shall be made by the use of a flexible compression joint no closer than twelve (12) inches (305 mm) to, and not farther than three (3) feet (914 mm) from the manhole. No flexible compression joints shall be embedded in the manhole base.

### **1103.0 Size of Leaders, Conductors, and Storm Drains.**

**1103.1 Vertical Conductors and Leaders.** Vertical conductors and leaders shall be sized by the maximum projected roof area and Table 1103.1. Vertical conductors and leaders for secondary roof drains shall be sized based on double the rainfall rate for the local area.

EXCEPTION: Vertical conductors and leaders for secondary drainage systems shall be permitted to be sized for the normal rainfall rate where the structural design of the roof includes a ponding instability analysis in accordance with ASCE 7 for the additional ponding load resulting from twice the normal rainfall rate or a 15-minute duration/100-year return period storm. The analysis shall assume the primary drain system is blocked.

**1103.2 Size of Horizontal Storm Drains and Sewers.** The size of building storm drains, or building storm sewers or their horizontal branches shall be based on the maximum projected roof or paved area to be handled and Table 1103.2. Building storm drains, building storm sewers, or their horizontal branches receiving drainage from secondary roof drain systems shall be sized based on double the rainfall rate for the local area.

EXCEPTION: Building storm drains, building storm sewers, or their horizontal branches receiving drainage from secondary drainage systems shall be permitted to be sized for the normal rainfall rate where the structural design of the roof includes a ponding instability analysis in accordance with ASCE 7 for the additional ponding load resulting from twice the normal rainfall rate or a 15-minute duration/100-year return period storm. The analysis shall assume the primary drain system is blocked.

**1103.3 Size of Roof Gutters.** The size of semi-circular gutters shall be based on the maximum projected roof area and Table 1103.3.

**1103.4 Side Walls Draining onto a Roof.** Where vertical walls project above a roof to permit storm water to drain into the roof area below, the adjacent roof area shall be permitted to be computed from Table 1103.1 as follows:

- (1) (No change to Items (1) through (~~(6)~~) (7))

Secondary drainage systems for the adjacent roof area shall be sized based on double the rainfall rate for the local area.

EXCEPTION: Secondary drainage systems for the adjacent roof area shall be permitted to be sized for the normal rainfall rate where the structural design of the roof includes a ponding instability analysis in accordance with ASCE 7 for the additional ponding load resulting from twice the normal rainfall rate or a 15-minute duration/100-year return period storm. The analysis shall assume the primary drain system is blocked.

**1105.0 Controlled-Flow Roof Drainage.** This section is not adopted.