# CHAPTER 29

# PLUMBING SYSTEMS

**User note:**

***About this chapter:*** *Plumbing systems are another key element of any building. Chapter 29 provides the necessary number of plumbing fixtures, including water closets, lavatories, bathtubs and showers. The quality and design of each fixture must be in accordance with the* Uniform Plumbing Code*.*

## SECTION 2901
## GENERAL

**[S][P] 2901.1 Scope.** The provisions of this chapter and the ((~~*International*~~)) *Uniform Plumbing Code* shall govern the design, construction, erection and installation of plumbing components, appliances, equipment and systems used in *buildings* and structures covered by this code. Toilet and bathing rooms shall be constructed in accordance with Section 1209. ((~~Private sewage disposal systems shall conform to the *International Private Sewage Disposal Code*.~~)) The *International Fire Code*, the *International Property Maintenance Code* and the ((~~*International*~~)) *Uniform Plumbing Code* shall govern the use and maintenance of plumbing components, appliances, equipment and systems. The *International Existing Building Code* and the ((~~*International*~~)) *Uniform Plumbing Code* shall govern the *alteration*, *repair*, relocation, replacement and *addition* of plumbing components, *appliances*, *equipment* and systems.

**Note:** The Director of Public Health—Seattle and King County is authorized to enforce this chapter.

**[S] 2901.2 Health codes.** In food preparation, serving and related storage areas, additional fixture requirements may be dictated by state and local health codes.

**[W] 2901.3 Fixed guideway transit and passenger rail systems.** In construction of a fixed guideway and passenger rail system, subject to Section 3114, public plumbing fixtures are not required.

## SECTION 2902
## MINIMUM PLUMBING FACILITIES

**[S][P] 2902.1 Minimum number of fixtures.** Plumbing fixtures shall be provided in the minimum number as shown in Table 2902.1 based on the actual use of the building or space. Uses not shown in Table 2902.1 shall be ((~~considered~~)) determined individually by the ((~~code~~)) *building official* based on the classification and description which most nearly resemble the proposed use. The number of occupants shall be determined by this code.

**Exception:** Plumbing fixtures need not be provided for the following:

1. Buildings or facilities that are not normally occupied.
2. Storage, mechanical, electrical, and other similar spaces that are not normally occupied and are ancillary to the main occupancy of the building.
3. Building entry lobbies accessory to and used only for circulation in Group B office and Group R-2 residential occupancies.

**[W][S][P] TABLE 2902.1**
**MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES[a]**
**(See Sections 2902.1.1 and 2902.2)**

| No. | CLASSIFICATION | OCCUPANCY | DESCRIPTION | WATER CLOSETS (((~~URINALS SEE SECTION 424.2 OF THE INTERNATIONAL PLUMBING CODE~~))) | | LAVATORIES | | BATHTUBS/ SHOWERS | ((~~DRINKING FOUNTAINS (SEE SECTION 410 OF THE INTERNATIONAL PLUMBING CODE~~) | ~~OTHER~~)) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Male | Female | Male | Female | | | |
| 1 | Assembly | A-1[d] | Theaters and other buildings for the performing arts and motion pictures[d] | 1 per 125 | 1 per 65 | 1 per 200 | | — | ((~~1 per 500~~ | ~~1 service sink~~)) |
| | | A-2[d] | Nightclubs, bars, taverns, dance halls and buildings for similar purposes[d] | 1 per 40 | 1 per 40 | 1 per 75 | | — | ((~~1 per 500~~ | ~~1 service sink~~)) |
| | | | Restaurants, banquet halls and food courts[d] | 1 per 75 | 1 per 75 | 1 per 200 | | — | ((~~1 per 500~~ | ~~1 service sink~~)) |
| | | | ((~~Casino gaming areas~~ | ~~1 per 100 for the first 400 and 1 per 250 for the remainder exceeding 400~~ | ~~1 per 50 for the first 400 and 1 per 150 for the remainder exceeding 400~~ | ~~1 per 250 for the first 750 and 1 per 500 for the remainder exceeding 750~~ | | — | ~~1 per 1,000~~ | ~~1 service sink~~)) |
| | | A-3[d] | Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades and gymnasiums[d] | 1 per 125 | 1 per 65 | 1 per 200 | | — | ((~~1 per 500~~ | ~~1 service sink~~)) |
| | | | Passenger terminals and transportation facilities[d] | 1 per 500 | 1 per 500 | 1 per 750 | | — | ((~~1 per 1,000~~ | ~~1 service sink~~)) |
| | | | Places of worship and other religious services[d] | 1 per 150 | 1 per 75 | 1 per 200 | | — | ((~~1 per 1,000~~ | ~~1 service sink~~)) |
| | | A-4 | Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activities | 1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500 | 1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520 | 1 per 200 | 1 per 150 | — | ((~~1 per 1,000~~ | ~~1 service sink~~)) |
| | | A-5 | Stadiums, amusement parks, bleachers and grandstands for outdoor sporting events and activities[f] | 1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500 | 1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520 | 1 per 200 | 1 per 150 | — | ((~~1 per 1,000~~ | ~~1 service sink~~)) |

*This page has been revised to include errata corrections effective July 6, 2021.*

**[W][S][P] TABLE 2902.1—continued**
**MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES[a]**
**(See Sections 2902.1.1 and 2902.2)**

| No. | CLASSIFICATION | OCCUPANCY | DESCRIPTION | WATER CLOSETS (((URINALS SEE SECTION 424.2 OF THE INTERNATIONAL PLUMBING CODE))) | | LAVATORIES | | BATHTUBS/ SHOWERS | ((DRINKING FOUNTAINS (SEE SECTION 410 OF THE INTERNATIONAL PLUMBING CODE)) | OTHER)) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Male | Female | Male | Female | | | |
| 2 | Business | B | Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial, ((ambulatory care)) and similar uses | 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50 | | 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80 | | — | ((1 per 100 | 1 service sink[e])) |
| 3 | Educational | E[e] | Educational facilities | 1 per ((50)) 35 | 1 per 25 | 1 per 85 | 1 per 50 | — | ((1 per 100 | 1 service sink)) |
| 4 | Factory and industrial | F-1 and F-2 | Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials | 1 per 100 | | 1 per 100 | | ((—)) See footnote g | ((1 per 400 | 1 service sink)) |
| 5 | Institutional | I-1 | ((Custodial)) Residential care facilities | 1 per 10 | | 1 per 10 | | 1 per 8 | ((1 per 100 | 1 service sink)) |
| | | I-2 | ((Medical care recipients in hospitals and nursing homes)) Hospitals, ambulatory nursing home care recipient[b] | 1 per room[c] | | 1 per room[c] | | 1 per 15 | ((1 per 100 | 1 service sink)) |
| | | | Employees ((in hospitals and nursing homes)) other than residential care[b] | 1 per 25 | | 1 per 35 | | — | ((1 per 100 | —)) |
| | | | Visitors ((in hospitals and nursing homes)) other than residential care | 1 per 75 | | 1 per 100 | | — | ((1 per 500 | —)) |
| | | I-3 | Prisons[b] | 1 per cell | | 1 per cell | | 1 per 15 | ((1 per 100 | 1 service sink)) |
| | | | Reformatories, detention centers and correctional centers[b] | 1 per 15 | | 1 per 15 | | 1 per 15 | ((1 per 100 | 1 service sink)) |
| | | | Employees in ((reformitories)) reformatories, detention centers and correctional centers[b] | 1 per 25 | | 1 per 35 | | — | ((1 per 100 | —)) |
| | | I-4 | Adult day care and child day care | 1 per 15 | | 1 per 15 | | 1 | ((1 per 100 | 1 service sink)) |

**[W][S][P] TABLE 2902.1—continued**
**MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES[a]**
**(See Sections 2902.1.1 and 2902.2)**

| No. | CLASSIFICATION | OCCUPANCY | DESCRIPTION | WATER CLOSETS (((~~URINALS SEE SECTION 424.2 OF THE INTERNATIONAL PLUMBING CODE~~))) | | LAVATORIES | | BATHTUBS/ SHOWERS | ((~~DRINKING FOUNTAINS (SEE SECTION 410 OF THE INTERNATIONAL PLUMBING CODE~~) | ~~OTHER~~)) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Male | Female | Male | Female | | | |
| 6 | Mercantile | M | Retail stores, service stations, shops, salesrooms, markets and shopping centers | 1 per 500 | | 1 per 750 | | — | ((~~1 per 1,000~~ | ~~1 service sink[e]~~)) |
| 7 | Residential | R-1 | Hotels, motels, boarding houses (transient) | 1 per sleeping unit | | 1 per sleeping unit | | 1 per sleeping unit | ((— | ~~1 service sink~~)) |
| | | R-2 | Dormitories, fraternities, sororities and boarding houses (not transient) | 1 per 10 | | 1 per 10 | | 1 per 8 | ((~~1 per 100~~ | ~~1 service sink~~)) |
| | | | Apartment house | 1 per dwelling unit | | 1 per dwelling unit | | 1 per dwelling unit | ((— | ~~1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units~~)) |
| | | R-3 | One- and two-family dwellings and lodging houses with five or fewer guestrooms | 1 per dwelling unit | | 1 per 10 | | 1 per dwelling unit | ((— | ~~1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per dwelling unit~~)) |
| | | | Congregate living facilities with 16 or fewer persons | 1 per 10 | | 1 per 10 | | 1 per 8 | ((~~1 per 100~~ | ~~1 service sink~~)) |
| 8 | Storage | S-1 S-2 | Structures for the storage of goods, warehouses, storehouses and freight depots, low and moderate hazard | 1 per 100 | | 1 per 100 | | ((—)) See footnote g | ((~~1 per 1,000~~ | ~~1 service sink~~)) |

a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by this code, except with respect to Group E occupancies the provisions of note "e" shall apply.

b. Toilet facilities for employees shall be separate from facilities for inmates or care recipients.

c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted, provided that each patient sleeping unit has direct access to the toilet room and provisions for privacy for the toilet room user are provided.

d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.

e. ((~~For business and mercantile classifications with an occupant load of 15 or fewer, a service sink shall not be required.~~)) For Group E occupancies the number of occupants shall be determined by using a calculation of 100 square feet gross building area per student for the minimum number of plumbing fixtures.

f. The required number and type of plumbing fixtures for outdoor swimming pools shall be in accordance with Section 609 of the *International Swimming Pool and Spa Code*.

g. See *Uniform Plumbing Code* Section 416.0 for installation requirements for emergency shower and eyewash equipment.

**[P] 2902.1.1 Fixture calculations.** To determine the *occupant load* of each sex, 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 in accordance with Table 2902.1. Fractional numbers resulting from applying the fixture ratios of Table

2902.1 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:** The total *occupant load* shall not be required to be divided in half where *approved* statistical data indicate a distribution of the sexes of other than 50 percent of each sex.

**[S] 2902.1.1.1 Private offices.** Fixtures only accessible to private offices shall not be counted to determine compliance with this section.

**[W] 2902.1.1.2 Urinals in men's facilities.** Where urinals in men's facilities are provided, one water closet less than the number specified may be provided for each urinal installed, except the number of water closets in such cases shall not be reduced to less than one quarter (25%) of the minimum specified. For men's facilities serving 26 or more persons, not less than one urinal shall be provided.

**[W] 2902.1.1.3 Urinals.** Where urinals are provided in gender-neutral facilities, one water closet less than the number specified may be provided for each urinal installed, except the number of water closets in such cases shall not be reduced less than one quarter (25 percent) of the minimum specified. Facilities serving 26 or more persons, not less than one urinal shall be provided.

**[P] 2902.1.2 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, 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 for use by either sex.

**[P] 2902.1.3 Lavatory distribution.** Where two or more toilet rooms are provided for each sex, the required number of lavatories shall be distributed proportionately to the required number of water closets.

**[W] 2902.1.4 Family or assisted-use toilet and bath fixtures.** Fixtures located within family or assisted-use toilet and bathing rooms required by Section 1109.2.1 are permitted to be included in the number of required fixtures for either the male or female occupants in assembly and mercantile occupancies.

**[W][S][P] 2902.2 Separate facilities.** Where plumbing fixtures are required, separate facilities shall be provided for each sex.

**Exceptions:**

1. Separate facilities shall not be required for *dwelling units* and *sleeping units.*
2. Separate facilities shall not be required in structures or tenant spaces with a total *occupant load*, including both employees and customers, of 15 or fewer.
3. Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is 100 or fewer.
4. Separate facilities shall not be required in business occupancies in which the maximum occupant load is 25 or fewer.
5. Separate facilities shall not be required in spaces primarily used for drinking or dining with a total occupant load, including both employees and customers, of 30 or fewer.
6. Single-occupant restrooms shall not be restricted to a specific sex or gender identity and shall use appropriate signage to indicate such facilities are designated for use by any person, regardless of sex or gender identity. See SMC 14.07.
7. Separate facilities shall not be required when gender-neutral facilities are provided in accordance with Section 2902.2.2.

**[P] 2902.2.1 Family or assisted-use toilet facilities serving as separate facilities.** Where a building or tenant space requires a separate toilet facility for each sex 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 as required by Section 2902.4.

**[W] 2902.2.2 Gender-neutral facilities.** Gender-neutral toilet facilities, when provided, shall be in accordance with the following:

1. There is no reduction in the number of fixtures required to be provided for male and female in the type of occupancy and in the minimum number shown in Table 2902.1.
2. Gender-neutral multiuser toilet rooms shall have water closets and urinals located in toilet compartments in accordance with ICC A117.1.
3. Gender-neutral multiuser toilet room water closet and urinal compartments shall have full-height walls and a door enclosing the fixture to ensure privacy.
4. Gender-neutral toilet room water closet and urinal compartment doors shall be securable from within the compartment.
5. Gender-neutral toilet rooms provided for the use of multiple occupants, the egress door from the room shall not be lockable from the inside of the room.
6. Compartments shall not be required in a single-occupant toilet room with a lockable door.

**[P] 2902.3 Employee and public toilet facilities.** For structures and tenant spaces intended for public utilization, customers, patrons and visitors shall be provided with public toilet facilities. Employees associated with structures and tenant spaces shall be provided with toilet facilities. The number of plumbing fixtures located within the required toilet facilities shall be provided

in accordance with Section 2902 for all users. Employee toilet facilities shall be either separate or combined employee and public toilet facilities.

**Exception:** Public toilet facilities shall not be required for:

1. Parking garages where operated without parking attendants.
2. Structures and tenant spaces intended for quick transactions, including takeout, pickup and drop-off, having a public access area less than or equal to 300 square feet (28 $m^2$).

**[S][P] 2902.3.1 Access.** The route to the public toilet facilities required by Section 2902.3 shall not pass through kitchens, food preparation areas, unpackaged food storage areas, storage rooms or closets. Access to the required facilities shall be from within the building or from the exterior of the building. Access to toilets serving multiple tenants shall be through a common use area and not through an area controlled by a tenant. Routes shall comply with the accessibility requirements of this code. The public shall have access to the required toilet facilities at all times that the building is occupied. For other requirements for plumbing facilities, see Chapter 11.

**[P] 2902.3.2 Prohibited toilet room location.** Toilet rooms shall not open directly into a room used for the preparation of food for service to the public.

**[W][P] 2902.3.3 Location of toilet facilities in occupancies other than malls.** In occupancies other than covered and open mall buildings, the required public and employee toilet facilities shall be located in each building not more than one *story* above or below the space required to be provided with toilet facilities, or conveniently in a building adjacent thereto on the same property, and the path of travel to such facilities shall not exceed a distance of 500 feet (152 m).

**Exception:** The location and maximum distances of travel to required employee facilities in factory and industrial occupancies are permitted to exceed that required by this section, provided that the location and maximum distance of travel are *approved*.

**[S][P] 2902.3.4 Location of toilet facilities in malls.** In covered and open mall buildings, the required public and employee toilet facilities shall be located not more than one story above or below the space required to be provided with toilet facilities, and the path of travel to such facilities shall not exceed a distance of 300 feet (91 ((~~mm~~)) m). In mall buildings, the required facilities shall be based on total square footage ($m^2$) within a covered mall building or within the perimeter line of an open mall building, and facilities shall be installed in each individual store or in a central toilet area located in accordance with this section. The maximum distance of travel to central toilet facilities in mall buildings shall be measured from the main entrance of any store or tenant space. In mall buildings, where employees' toilet facilities are not provided in the individual store, the maximum distance of travel shall be measured from the employees' work area of the store or tenant space.

**[P] 2902.3.5 Pay facilities.** Where pay facilities are installed, such facilities shall be in excess of the required minimum facilities. Required facilities shall be free of charge.

**[P] 2902.3.6 Door locking.** Where a toilet room is provided for the use of multiple occupants, the egress door for the room shall not be lockable from the inside of the room. This section does not apply to family or assisted-use toilet rooms.

**[W][P] 2902.4 Signage.** Required public facilities shall be provided with signs that designate the sex as ((~~required by Section 2902.2~~)) for separate facilities or indicate gender-neutral facilities. Signs shall be readily visible and located near the entrance to each toilet facility. Signs for accessible toilet facilities shall comply with Section 1111.

**[P] 2902.4.1 Directional signage.** Directional signage indicating the route to the required public toilet facilities shall be posted in a lobby, corridor, aisle or similar space, such that the sign can be readily seen from the main entrance to the building or tenant space.

**[W][P] 2902.5 Drinking fountain location.** Drinking fountains shall not be required to be located in individual tenant spaces provided that public drinking fountains are located within a distance of travel of 500 feet (152 m) of the most remote location in the tenant space and not more than one story above or below the tenant space. Where the tenant space is in a covered or open mall, such distance shall not exceed 300 feet (91 440 mm). Drinking fountains shall be located on an accessible route. Drinking fountains shall not be located in toilet rooms.

**2902.5.1 Drinking fountain number.** Occupant loads over 30 shall have one drinking fountain for the first 150 occupants, then one per each additional 500 occupants.

**Exceptions:**

1. Sporting facilities with concessions serving drinks shall have one drinking fountain for each 1,000 occupants.
2. A drinking fountain need not be provided in a drinking or dining establishment.

**2902.5.2 Multistory buildings.** Drinking fountains shall be provided on each floor having more than 30 occupants in schools, dormitories, auditoriums, theaters, offices and public buildings.

**2902.5.3 Penal institutions.** Penal institutions shall have one drinking fountain on each cell block floor and one on each exercise floor.

**2902.5.4 Bottle filling stations.** *Bottle filling stations* shall be provided in accordance with Sections 2902.5.4.1 through 2902.5.4.3.

**2902.5.4.1 Group E occupancies.** In Group E occupancies with an occupant load over 30, a minimum of one *bottle filling station* shall be provided on each floor. This *bottle filling station* may be integral to a drinking fountain.

**2902.5.4.2 Substitution.** In all occupancies that require more than two drinking fountains per floor or secured area, *bottle filling stations* shall be permitted to be substituted for up to 50 percent of the required number of drinking fountains.

**2902.5.4.3 Accessibility.** At least one of the required *bottle filling stations* shall be located in accordance with Section 309 of ICC A117.1.

**[W] 2902.6 Dwelling units.** Dwelling units shall be provided with a kitchen sink.

**[S] 2902.7 Water closet space requirements.** The water closet stool in all occupancies shall be located in a clear space not less than 30 inches (762 mm) in width, with a clear space in front of the stool of not less than 24 inches (610 mm).

**[W] 2902.8 Water.** Each required sink, lavatory, bathtub and shower stall shall be equipped with hot and cold running water necessary for its normal operation.

**[P] ((~~2902.6~~)) 2902.9 Small occupancies.** Drinking fountains shall not be required for an occupant load of 15 or fewer.