

**CALIFORNIA PLUMBING CODE – MATRIX ADOPTION TABLE
CHAPTER 4 - PLUMBING FIXTURES AND FIXTURE FITTINGS**

Adopting Agency	BSC	SFM	HCD			DSA			OSHPD				CSA	DPH	AGR	DWR	CA
			1	2	1/AC	AC	SS	SS/CC	1	2	3	4					
Adopt Entire Chapter																	
Adopt Entire Chapter as amended (amended sections listed below)	X		X	X			X	X	X	X	X	X		X	X		X
Adopt only those sections that are listed below					X	X							X				
Chapter/Section																	
Note Under Title						X											
402.1 & subsections			X	X													
402.2 & subsections			X	X													
402.3 & subsections			X	X													
402.3.4									X	X	X	X					
406.5			X	X													
406.5.1														X			
407.6						X											
411.6 Exception						X											
411.7 Exceptions 3						X											
412.1									X	X	X	X					
412.1.1						X											
412.3			†	†													
412.3.1									X	X	X	X					
412.5			†	†													
412.6			†	†													
412.7																	X
412.8																	X
412.9														X			
412.10														X	X		
413.0						X											
Table 4-1	X		X	X	X		X	X	X	X	X	X					X
Table A	X						X	X									
Table 4-1 Footnote 18	X		X	X		X	X	X	X	X	X	X					
Table 4-2	X								X	X	X	X					
Table 4-3	X														X		
Table 4-4	X													X			

The state agency does not adopt sections identified by the following symbol: †

CHAPTER 4

PLUMBING FIXTURES AND FIXTURE FITTINGS

Note: In addition the requirements of this chapter, which provide access to, or egress from, buildings or facilities where accessibility is required for applications listed in Section 109, of the California Building Code, regulated by the Division of the State Architect—Access Compliance shall also comply with Chapter 11A for public housing and Chapter 11B for public accommodations under authority cited by Gov. Code §4450 and in reference cited by Gov. Code §4450 through 4461, 12955.1 and H&SC §18949.1, 19952 through 19959.

401.0 Materials – General Requirements.

401.1 Quality of Fixtures. Plumbing fixtures shall be constructed of dense, durable, non-absorbent materials and shall have smooth, impervious surfaces, free from unnecessary concealed fouling surfaces. Except as permitted elsewhere in this code, fixtures shall conform in quality and design to nationally recognized applicable standards included in Table 14-1.

401.2 Lead. Sheet lead shall be not less than the following: For safe pans not less than four (4) pounds per square foot (19.5 kg/m²) or one-sixteenth (1/16) of an inch (1.6 mm) thick (See Table 14-1).

401.3 Plumbing fixture fittings covered under the scope of NSF 61, *Standard for Drinking Water System Components*, shall comply with the requirements of NSF 61, *Standard for Drinking Water System Components*.

402.0 Water-Conserving Fixtures and Fittings.

402.1 Flush volumes for low-consumption and water-saver water closets and urinals shall be in accordance with applicable standards referenced in Table 14-1. **[HCD 1 & HCD 2]** *Flow rates for shower heads and faucets shall meet the requirements of this section and applicable standards referenced in Table 14-1.*

402.1.1 Shower Heads [HCD 1 & HCD 2] *Shower heads shall be designed and installed so that they will not exceed a water supply flow rate of 2.5 gallons (9.4 liters) per minute measured at 80 psi.*

402.1.2 Faucets [HCD 1 & HCD 2] *Faucets at kitchens, lavatories, wetbars, laundry sinks, or other similar use fixtures shall be designed and manufactured so that they will not exceed a water supply flow rate of 2.2 gallons (8.3 liters) per minute measured at 60 psi.*

402.2 Water Closets. Water closets, either flush tank, flushometer tank, or flushometer valve operated, shall have an average consumption of a maximum of 1.6 gallons (6.1 liters) of water per flush.

402.2.1 Water Closets after January 1, 1994 [HCD 1 & HCD 2] *Water closets, either flush tank, flushometer tank, or flushometer valve operated sold or installed after January 1, 1994, shall use no more than an average of 1.6 gallons (6.1 liters) of water per flush. See Health and Safety Code Section 17921.3*

402.2.2 Water Closets on or after July 1, 2011 [HCD 1 & HCD 2] *Water closets, either flush tank, flushometer tank, or flushometer valve operated installed on or after*

July 1, 2011, shall have an effective flush volume in compliance with the following:

- (1) *Single Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters) when tested in accordance with ASME A112.19.2, Standard for Vitreous China Plumbing Fixtures and Hydraulic Fixtures Requirements for Water Closets and Urinals.*
- (2) *Dual Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters) when tested in accordance with ASME A112.19.2, Standard for Vitreous China Plumbing Fixtures and Hydraulic Fixtures Requirements for Water Closets and Urinals, and ASME A112.19.14, Standard for Six-Liter Water Closets Equipped with a Dual Flushing Device.*

402.2.2.1 Performance [HCD 1 & HCD 2] *Water closets installed on or after July 2, 2011, 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).*

402.2.2.2 Availability [HCD 1 & HCD 2] *Between July 1, 2011, and January 1, 2014, the requirements of Section 402.2.2 may be temporarily suspended on a case by case basis by action of the enforcing agency should such agency determine that an insufficient number of water closets are available.*

402.3 Urinals. Urinals shall have an average water consumption of a maximum of 1 gallon (3.8 liters) of water per flush.

402.3.1 Urinals after January 1, 1994 [HCD 1 & HCD 2] *Urinals and associated flushometer valves sold or installed after January 1, 1994, shall use no more than an average of one gallon (3.8 liters) per flush. See Health and Safety Code Section 17921.3*

402.3.2 Urinals on or after July 1, 2011 [HCD 1 & HCD 2] *Urinals and associated flushometer valves sold or installed on or after July 1, 2011, shall use no more than 0.5 gallons (1.9 liters) per flush and meet performance criteria as established in ASME A112.19.2, Standard for Vitreous China Plumbing Fixtures and Hydraulic Fixtures Requirements for Water Closets and Urinals.*

402.3.3 Nonwater Supplied Urinals (Waterless Urinals) [HCD 1 & HCD 2] *Waterless urinals sold or installed in this state shall comply with all of the following requirements:*

- (1) Meet performance, testing, and labeling requirements established by ASME A112.19.19-2006, Standard for Vitreous China Nonwater Urinals, for vitreous china non-water supplied urinals.
- (2) Be listed by an ANSI accredited third-party certification agency to ASME A112.19.19-2006, Standard for Vitreous China Nonwater Urinals.
- (3) Follow cleaning and maintenance procedures established by the manufacturer.
- (4) Conform to reference standards in Table 14-1 for non-vitreous ceramic or plastic urinal fixtures.
- (5) Provide water distribution and fixture supply piping, sized as required elsewhere in this code, roughed-in immediately adjacent to each waterless urinal fixture installed.

For additional information, see Health and Safety Code Section 17921.4.

402.3.4 Nonwater Urinals. [Not adopted by OSHPD 1, 2, 3, and 4] Nonwater urinals shall be listed and comply with the applicable standards referenced in Table 14-1. Nonwater urinals shall have a barrier liquid sealant to maintain a trap seal. Nonwater urinals shall permit the uninhibited flow of waste through the urinal to the sanitary drainage system. Nonwater urinals shall be cleaned and maintained in accordance with the manufacturer's instructions after installation. Where nonwater urinals are installed they shall have a water distribution line rough-in to the urinal location to allow for the installation of an approved backflow prevention device in the event of a retrofit.

402.4 Metered Faucets. Self-closing or self-closing metering faucets shall be installed on lavatories intended to serve the transient public, such as those in, but not limited to, service stations, train stations, airports, restaurants, and convention halls. Metered faucets shall deliver a maximum of 0.26 gallons (1.0 liter) of water per use.

402.5 Emergency Safety Showers. Emergency safety showers shall not be limited in their water supply flow rates.

402.6 Installation. Water-conserving fixtures shall be installed in strict accordance with the manufacturer's instructions to maintain their rated performance.

403.0 Overflows.

When any fixture is provided with an overflow, the waste shall be so arranged that the standing water in the fixture cannot rise in the overflow when the stopper is closed or remain in the overflow when the fixture is empty. The overflow pipe from a fixture shall be connected on the house or inlet side of the fixture trap, except that overflow on flush tanks shall be permitted to discharge into the water closets or urinals served by them, but it shall be unlawful to connect such overflows with any other part of the drainage system.

404.0 Strainers and Connections.

404.1 Strainers. Plumbing fixtures, other than water closets and urinals, shall be equipped with approved strainers having

an approved waterway area. Strainers serving shower drains shall have a waterway equivalent to the area of the tailpiece.

404.2 Connections. Fixtures having concealed slip joint connections shall be provided with an access panel or utility space not less than twelve (12) inches (305 mm) in its least dimension and so arranged without obstructions as to make such connections accessible for inspection and repair.

404.3 Continuous wastes and fixture tailpieces shall be constructed from the materials specified in Section 701.0 for drainage piping, provided, however, that such connections where exposed or accessible shall be permitted to be of seamless drawn brass not less than No. 20 B & S Gauge (0.032 inches) (0.8 mm). Each such tailpiece, continuous waste, or waste and overflow shall be not less than one and one-half (1½) inches (40 mm) O.D. for sinks, dishwashers, laundry tubs, bathtubs, urinals, and similar fixtures, and not less than one and one-quarter (1¼) inches (32 mm) for lavatories, drinking fountains, and similar small fixtures.

404.4 Approved wye or other directional-type branch fittings shall be installed in continuous wastes connecting or receiving the discharge from food waste disposal units, dishwashers, clothes washers, or other force discharge fixtures or appliances. No dishwasher drain shall be connected to a sink tailpiece, continuous waste, or trap on the discharge side of a food waste disposal unit.

405.0 Prohibited Fixtures.

405.1 Water closets having an invisible seal or an unventilated space or having walls which are not thoroughly washed at each discharge shall be prohibited. Any water closet that might permit siphonage of the contents of the bowl back into the tank shall be prohibited. Drinking fountains shall not be installed in public toilet rooms.

405.2 Prohibited Urinals. Trough urinals and urinals with an invisible seal shall be prohibited.

Exception: Non-water urinals.

405.3 Fixed wooden, or tile wash trays or sinks for domestic use shall not be installed in any building designed or used for human habitation. No sheet metal-lined wooden bathtub shall be installed or reconnected. No dry or chemical closet (toilet) shall be installed in any building used for human habitation, unless first approved by the Health Officer.

406.0 Special Fixtures and Specialties.

406.1 Water and Waste Connections. Baptisteries, ornamental and lily ponds, aquaria, ornamental fountain basins, and similar fixtures and specialties requiring water and/or waste connections shall be submitted for approval to the Authority Having Jurisdiction prior to installation.

406.2 Restaurant kitchen and other special use sinks shall be permitted to be made of approved-type bonderized and galvanized sheet steel of not less than No. 16 U.S. gauge (0.0625 inches) (1.6 mm). Sheet-metal plumbing fixtures shall be ade-

quately designed, constructed, and braced in an approved manner to satisfactorily accomplish their intended purpose.

406.3 Special Use Fixtures. Special use fixtures shall be made of one of the following:

- (1) Soapstone
- (2) Chemical stoneware
- (3) Copper-based alloy
- (4) Nickel-based alloy
- (5) Corrosion-resistant steel
- (6) Other materials suited for the intended use of the fixture.

406.4 Zinc Alloy Components. Zinc alloy components shall meet the applicable nationally recognized standards and shall be used in accordance with their listing.

406.5 Drinking Fountains. [HCD 1 & HCD 2] *Drinking fountains shall be installed and so regulated that a jet of water extending at least 2 inches (51 mm) in height from the water orifice shall be constantly available. The orifice shall not be accessible to the mouth of the drinker nor subject to immersion.*

- || **406.5.1 [DPH]** *Drinking fountains shall be installed and so regulated that a jet of water extending at least 2 inches (51 mm) in height from the water orifice shall be available when turned on. The orifice shall not be accessible to the mouth of the drinker nor subject to immersion.*

407.0 Installation.

407.1 Cleaning. Plumbing fixtures shall be installed in a manner to afford easy access for repairs and cleaning. Where practical, pipes from fixtures shall be run to the nearest wall.

407.2 Joints. Where a fixture comes in contact with the wall or floor, the joint between the fixture and the wall or floor shall be made water-tight.

407.3 Securing Fixtures. Floor-outlet or floor-mounted fixtures shall be rigidly secured to the drainage connection and to the floor, when so designed, by screws or bolts of copper, brass, or other equally corrosion-resistant material.

407.4 Wall-Hung Fixtures. Wall-hung fixtures shall be rigidly supported by metal supporting members so that no strain is transmitted to the connections. Flush tanks and similar appurtenances shall be secured by approved non-corrosive screws or bolts.

→ **407.5 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.

Exception: The installation of paper dispensers or accessibility grab bars shall not be considered obstructions.

407.6 Installations for Persons with Disabilities. Where facilities for persons with disabilities are required in applicable building regulations, the facilities shall be installed in accordance with those regulations. *[HCD 1-AC] For specific requirements regarding accommodations for persons with disabilities, see California Code of Regulations, Title 24, Part 2, Chapter 11A and/or Chapter 11B as applicable.*

407.7 Supply Fittings. The supply lines and fittings for every plumbing fixture shall be so installed as to prevent backflow as required in Chapter 6.

408.0 Water Closets.

408.1 Water closet bowls for public use shall be of the elongated type. In nurseries, schools, and other similar places where plumbing fixtures are provided for the use of children less than six (6) years of age, water closets shall be of a size and height suitable for children's use. Water closets shall be equipped with seats as required below.

408.2 Water Closet Seats.

408.2.1 Water closet seats shall be of smooth, non-absorbent material. Seats for public use shall conform to the applicable standard referenced in Table 14-1.

408.2.2 Water closet seats, for public use, shall be of the elongated type and either of the open front type or have an automatic seat cover dispenser.

408.2.3 Water closet seats shall be properly sized for the water closet bowl type.

408.3 Securing Floor-Mounted, Back-Outlet Water Closet Bowls. Floor-mounted, back-outlet water closet bowls shall be set level with an angle of ninety (90) degrees (1.57 rad) between the floor and wall at the centerline of the fixture outlet. The floor and wall shall have a flat mounting surface not less than five (5) inches (127 mm) to the right and left of the fixture outlet centerline. The fixture shall be secured to the wall outlet flange or drainage connection and to the floor by corrosion-resistant screws or bolts. The closet flange shall be secured to a firm base.

Where floor-mounted, back-outlet water closets are used, the soil pipe shall be not less than three (3) inches (80 mm) in diameter. Offset, eccentric, or reducing floor flanges shall not be used.

408.4 Closet Rings (Closet Flanges).

408.4.1 Closet rings (closet flanges) for water closets or similar fixtures shall be of an approved type and shall be bronze, copper, hard lead, cast-iron, galvanized malleable iron, ABS, PVC, or other approved materials. Each such closet ring (closet flange) shall be approximately seven (7) inches (178 mm) in diameter and, when installed, shall, together with the soil pipe, present a one and one-half (1½) inch (38 mm) wide flange or face to receive the fixture gasket or closet seal.

408.4.2 Caulked-on closet rings (closet flanges) shall be not less than one-fourth (¼) inch (6.4 mm) thick and not less than two (2) inches (51 mm) in overall depth.

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408.4.3 Closet rings (closet flanges) shall be burned or soldered to lead bends or stubs, shall be caulked to cast-iron soil pipe, shall be solvent cemented to ABS and PVC, and shall be screwed or fastened in an approved manner to other materials.

408.4.4 Closet rings (closet flanges) shall be adequately designed and secured to support fixtures connected thereto.

408.4.5 Closet screws, bolts, washers, and similar fasteners shall be of brass, copper, or other listed, equally corrosion-resistant materials. Screws and bolts shall be of adequate size and number to properly support the fixture installed.

409.0 Urinals.

Every water supply to a urinal shall be protected by an approved-type vacuum breaker or other approved backflow prevention device as described in Section 603.4.

410.0 Flushing Devices for Water Closets and Urinals.

410.1 Flushing Devices Required. Each water closet, urinal, clinic sink, or other plumbing fixture that depends on trap siphonage to discharge its waste contents shall be provided with a flushometer valve, flushometer tank, or flush tank designed and installed so as to supply water in sufficient quantity and rate of flow to flush the contents of the fixture to which it is connected, to cleanse the fixture, and to refill the fixture trap, without excessive water use. Flushing devices shall meet anti-siphon requirements required in Chapter 6.

410.2 Automatic Flushing Tanks. Tanks flushing more than one (1) urinal shall be automatic in operation and of sufficient capacity to provide the necessary volume to flush and properly cleanse urinals simultaneously. Automatically controlled flushometer valves shall be permitted to be substituted for flush tanks.

410.3 Flushometer Valves. No manually controlled flushometer valve shall be used to flush more than one (1) urinal, and each such urinal flushometer valve shall be an approved, self-closing type discharging a predetermined quantity of water. Flushometers shall be installed so that they will be accessible for repair. Flushometer valves shall not be used where the water pressure is insufficient to properly operate them. When the valve is operated, it shall complete the cycle of operation automatically, opening fully and closing positively under the line water pressure. Each flushometer shall be provided with a means for regulating the flow through it.

410.4 Water Supply for Flush Tanks. An adequate quantity of water shall be provided to flush and clean the fixture served. The water supply for flushing tanks and flushometer tanks equipped for manual flushing shall be controlled by a float valve or other automatic device designed to refill the tank after each discharge and to completely shut off the water flow to the tank when the tank is filled to operational capacity. Provision shall be made to automatically supply water to the fixture so as to refill the trap seal after each flushing. The water supply to flush tanks equipped for automatic flushing shall be controlled by a suitable timing device.

410.5 Overflows in Flush Tanks. Flush tanks shall be provided with overflows discharging into the water closet or urinal connected thereto. Overflows supplied as original parts with the fixture shall be of sufficient size to prevent tank flooding at the maximum rate at which the tank is supplied with water under normal operating conditions and when installed per manufacturer's instructions.

411.0 Floor Drains and Shower Stalls.

411.1 Floor drains shall be considered plumbing fixtures, and each such drain shall be provided with an approved-type strainer having a waterway equivalent to the area of the tailpiece. Floor drains, floor receptors, and shower drains shall be of an approved type, suitably flanged to provide a water-tight joint in the floor.

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

411.2.1 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.

411.2.2 Commercial kitchens and in accordance with Section 704.3.

411.2.3 Laundry rooms in commercial buildings and common laundry facilities in multi-family dwelling buildings.

411.3 Food Storage Areas. If drains are provided in storerooms, walk-in freezers, walk-in coolers, refrigerated equipment, or other locations where food is stored, such drains shall have indirect waste piping. Separate waste pipes shall be run from each food storage area, each with an indirect connection to the building sanitary drainage system. Traps shall be provided if required under Section 801.2.2 of this code and shall be vented.

Indirect drains shall be permitted to be located in freezers or other spaces where freezing temperatures are maintained, provided that traps, when supplied, are located where the seal will not freeze. Otherwise, the floor of the freezer shall be sloped to a floor drain located outside of the storage compartment.

411.4 Floor Slope. Floors shall be sloped to floor drains.

411.5 Shower receptors are plumbing fixtures and shall conform to the general requirements contained in Section 401.0. Each such shower receptor shall be constructed of vitrified china or earthenware, ceramic tile, porcelain-enameled metal, or of such other material acceptable to the Authority Having Jurisdiction. No shower receptor shall be installed unless it conforms to acceptable standards as referenced in Table 14-1 or until a specification or a prototype or both of such receptor has first been submitted to and approval obtained from the Authority Having Jurisdiction.

411.6 Each shower receptor shall be an approved type and be so constructed as to have a finished dam, curb, or threshold that is not less than one (1) inch (25.4 mm) lower than the sides and back of such receptor. In no case shall any dam or threshold be less than two (2) inches (51 mm) or exceeding nine (9) inches (229 mm) in depth when measured from the

top of the dam or threshold to the top of the drain. Each such receptor shall be provided with an integral nailing flange to be located where the receptor meets the vertical surface of the finished interior of the shower compartment. The flange shall be water-tight and extend vertically not less than one (1) inch (25.4 mm) above the top of the sides of the receptor. The finished floor of the receptor shall slope uniformly from the sides toward the drain not less than one-quarter ($\frac{1}{4}$) inch per foot (20.8 mm/m), nor more than one-half ($\frac{1}{2}$) inch per foot (41.8 mm/m). Thresholds shall be of sufficient width to accommodate a minimum twenty-two (22) inch (559 mm) door. Shower doors shall open so as to maintain not less than a twenty-two (22) inch (559 mm) unobstructed opening for egress.

Exception: Showers that are designed to comply with the accessibility standards listed in Table 14-1. *[HCD 1-AC] Specific requirements regarding accommodations for persons with disabilities are contained in California Code of Regulations, Title 24, Part 2, Chapter 11A and/or Chapter 11B as applicable. Table 14-1 does not contain the correct accessibility standards for use in California.*

411.7 Shower compartments, regardless of shape, shall have a minimum finished interior of one thousand and twenty-four (1,024) square inches (0.66 m²) 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 *Chapter 11A or 11B of the California Building Code.*
- (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.
- (3) *[HCD 1-AC] Specific requirements regarding accommodations for persons with disabilities are contained in California Code of Regulations, Title 24, Part 2, Chapter 11A and/or Chapter 11B as applicable. ICC/ANSI A117.1, Standard for Accessible and Usable Buildings and Facilities, does not contain the correct accessibility standards for use in California.*

411.8 When the construction of on-site built-up shower receptors are permitted by the Authority Having Jurisdiction, receptors built directly on the ground shall be water-tight and shall be constructed from approved-type dense, nonabsorbent and noncorrosive materials. Each such receptor shall be adequately reinforced, shall be provided with an approved flanged floor drain designed to make a water-tight joint in the floor, and shall have smooth, impervious, and durable surfaces.

Shower receptors shall have the subfloor and rough side of walls to a height of not less than three (3) inches (76 mm) above the top of the finished dam or threshold shall be first lined with sheet plastic,* lead,* or copper,* or shall be lined with other durable and water-tight materials. Showers that are provided with a built in place, permanent seat or seating area that is located within the shower enclosure, shall be first lined with sheet plastic,* lead,* copper,* or shall be lined with other durable and water-tight materials that extend not less than three (3) inches (76 mm) above horizontal surfaces of the seat or the seating area.

Lining materials shall be pitched one-quarter ($\frac{1}{4}$) inch per foot (20.8 mm/m) to weep holes in the subdrain of a smooth and solidly formed subbase. Such lining materials shall extend upward on the rough jambs of the shower opening to a point not less than three (3) inches (76 mm) above the horizontal surfaces of the seat or the seating area, the top of the finished dam or threshold and shall extend outward over the top of the permanent seat, permanent seating area, or rough threshold and be turned over and fastened on the outside face of both the permanent seat, permanent seating area, or rough threshold and the jambs.

Nonmetallic shower subpans or linings shall be permitted to be built up on the job site of not less than three (3) layers of standard, grade fifteen (15) pound (6.8 kg) asphalt-impregnated roofing felt. The bottom layer shall be fitted to the formed subbase and each succeeding layer thoroughly hot-mopped to that below. Corners shall be carefully fitted and shall be made strong and water-tight by folding or lapping, and each corner shall be reinforced with suitable webbing hot-mopped in place.

Folds, laps, and reinforcing webbing shall extend not less than four (4) inches (102 mm) in all directions from the corner, and webbing shall be of approved type and mesh, producing a tensile strength of not less than fifty (50) psi (344.7 kPa) in either direction. Nonmetallic shower subpans or linings shall be permitted to consist of multilayers of other approved equivalent materials suitably reinforced and carefully fitted in place on the job site as elsewhere required in this section.

Linings shall be properly recessed and fastened to approved backing so as not to occupy the space required for the wall covering and shall not be nailed or perforated at any point that is less than one (1) inch (25.4 mm) above the finished dam or threshold. An approved-type subdrain shall be installed with every shower subpan or lining. Each such subdrain shall be of the type that sets flush with the subbase and shall be equipped with a clamping ring or other device to make a tight connection between the lining and the drain. The subdrain shall have weep holes into the waste line. The weep holes located in the subdrain clamping ring shall be protected from clogging.

Shower lining materials shall conform to approved standards acceptable to the Authority Having Jurisdiction.

*Note: Lead and copper subpans or linings shall be insulated from conducting substances other than their connecting drain by fifteen (15) pound (6.8 kg) asphalt felt or its equivalent,

and no lead pan or liner shall be constructed of material weighing less than four (4) pounds per square foot (19.5 kg/m²). Copper pans or liners shall be not less than No. 24 B & S Gauge (0.02 inches) (0.5 mm). Joints in lead pans or liners shall be burned. Joints in copper pans or liners shall be soldered or brazed. Plastic pans shall not be coated with asphalt-based materials.

411.8.1 Tests for Shower Receptors. Shower receptors shall be tested for water-tightness by filling with water to the level of the rough threshold. The test plug shall be so placed that both upper and under sides of the subpan shall be subjected to the test at the point where it is clamped to the drain.

411.9 Floors of public shower rooms shall have a nonskid surface and shall be drained in such a manner that wastewater from one bather shall not pass over areas occupied by other bathers. Gutters in public or gang shower rooms shall have rounded corners for easy cleaning and shall be sloped not less than two (2) percent toward drains. Drains in gutters shall be spaced at a maximum of eight (8) feet (2,438 mm) from side-walls nor more than sixteen (16) feet (4,877 mm) apart.

411.10 Location of Valves and Heads. Control valves and showerheads shall be located on the sidewall of shower compartments or otherwise arranged so that the showerhead does not discharge directly at the entrance to the compartment and the bather can adjust the valves prior to stepping into the shower spray.

411.11 Water Supply Riser. Every water supply riser from the shower valve to the showerhead outlet, whether exposed or not, shall be securely attached to the structure.

412.0 Minimum Number of Required Fixtures.

412.1 Fixture Count. Plumbing fixtures shall be provided for the type of building occupancy and in the minimum number shown in Table 4-1 *[OSHPD 1, 2, 3 & 4]* and Table 4-2.

412.1.1 [DSA-AC] Effective January 1, 1990, in new construction and those existing facilities which occupancy type are listed in Tables 4-1 and 4-4 for public use, which apply for permit to undertake construction, structural alterations, repairs or improvement which exceed 50 percent of the square footage of the entire facility, shall install water closets, urinals, lavatories and drinking fountains as stipulated in Tables 4-1 and 4-4 for public use. Community and/or municipal parks with a bleacher capacity not exceeding 500 seats shall be exempt from the requirements of this section and Tables 4-1 and 4-4. Each bathroom shall comply with Part 2, Chapters 11A and 11B of the California Building Code.

412.2 Access to Fixtures.

412.2.1 In multi-story buildings, accessibility to the required fixtures shall not exceed one (1) vertical story.

412.2.2 Fixtures accessible only to private offices shall not be counted to determine compliance with this section.

412.3 Separate Facilities.

Separate toilet facilities shall be provided for each sex.

Exceptions:

- (1) Residential installations.
- (2) In occupancies serving ten (10) or fewer people, one (1) toilet facility, designed for use by no more than one (1) person at a time, shall be permitted for use by both sexes.
- (3) In business and mercantile occupancies with a total floor area of fifteen-hundred (1,500) square feet (139.4 m²) or less, one (1) toilet facility, designed for use by no more than one (1) person at a time, shall satisfy the requirements for serving customers and employees of both sexes.

412.3.1 [OSHPD 1, 2, 3 & 4] Separate toilet facilities shall be provided for the use of patients, staff personnel and visitors.

412.4 Fixture Requirements for Special Occupancies.

412.4.1 Additional fixtures may be required when unusual environmental conditions or referenced activities are encountered.

412.4.2 In food preparation areas, fixture requirements may be dictated by health codes.

412.4.3 Types of occupancy not shown in Table 4-1 shall be considered individually by the Authority Having Jurisdiction.

412.5 Facilities in Mercantile and Business Occupancies Serving Customers.

412.5.1 Requirements for customers and employees shall be permitted to be met with a single set of restrooms accessible to both groups.

The required number of fixtures shall be the greater of the required number for employees or the required number for customers.

412.5.2 Fixtures for customer use shall be permitted to be met by providing a centrally located facility accessible to several stores. The maximum distance from entry to any store to this facility shall not exceed five-hundred (500) feet (152.4 m).

412.5.3 In stores with a floor area of one-hundred and fifty (150) square feet (13.9 m²) or less, the requirement to provide facilities for employees shall be permitted to be met by providing a centrally located facility accessible to several stores. The maximum distance from entry to any store to this facility shall not exceed three-hundred (300) feet (91.4 m).

412.6 Toilet Facilities for Workers.

Suitable toilet facilities shall be provided and maintained in a sanitary condition for the use of workers during construction.

412.7 [CA] Cosmetology. Each school shall provide public toilet rooms for each sex on the licensed premises in accordance with the California Plumbing Code, Table 4-1.

412.8 [CA] Cosmetology Establishments. Each establishment where hairdressing services are performed shall provide at least one public toilet room located on the premises in accordance with the California Plumbing Code, Table 4-1.

412.9 [DPH] Commissaries Serving Mobile Food Preparation Units. Commissaries serving mobile food preparation units shall have at least one hose bibb. The hose bibb shall be supplied with hot and cold water and be provided with a single spout, a backflow-preventer device and shall be located on the premises of the establishment.

412.10 [DPH] Employee Lavatories in Food Establishments. Employee lavatories installed in food establishments shall be equipped with an approved single spout capable of providing tempered (100°F - 115°F) (37.8°C - 46.1°C) running water.

Note: This requirement applies only to commissaries serving mobile food preparation units.

413.0 Fixtures and Fixture Fittings for Persons with Disabilities.

Plumbing fixtures and fixture fittings for persons with disabilities shall conform to the appropriate standards referenced in Table 14-1 of this code. **[HCD 1-AC]** Specific requirements regarding accommodations for persons with disabilities are contained in California Code of Regulations, Title 24, Part 2, Chapter 11A and/or Chapter 11B as applicable. Table 14-1 does not contain the correct accessibility standards for use in California.

413.1 Limitation of Hot Water Temperature for Public Lavatories. Hot water delivered from public-use lavatories shall be limited to a maximum temperature of 120°F (49°C) by a device that conforms to ASSE 1070, *Standard for Water Temperature Limiting Devices*, or CSA B125.3, *Standard for Plumbing Fittings*. The water heater thermostat shall not be considered a control for meeting this provision.

414.0 Bathtubs and Whirlpool Bathtubs.

Unless otherwise listed, bathtubs and whirlpool bathtubs shall comply with the following requirements:

414.1 A removable panel shall be provided to access and remove the pump. Whirlpool pump access located in the crawl space shall be located no more than twenty (20) feet (6,096 mm) from an access door, trap door, or crawl hole.

414.2 The circulation pump shall be located above the crown weir of the trap.

414.3 The pump and the circulation piping shall be self-draining to minimize water retention in accordance with standards referenced in Table 14-1.

414.4 Suction fittings on whirlpool bathtubs shall comply with the listed standards.

414.5 Limitation of Hot Water in Bathtubs and Whirlpool Bathtubs. The maximum hot water temperature discharging from the bathtub and whirlpool bathtub filler shall be limited to 120°F (49°C) by a device that conforms to ASSE 1070, *Standard for Water Temperature Limiting Devices*, or CSA B125.3, *Standard for Plumbing Fittings*. The water heater thermostat shall not be considered a control for meeting this provision.

415.0 Installation of Fixture Fittings.

Where two (2) separate handles control the hot and cold water, the left-hand control of the faucet when facing the fixture fitting outlet shall provide the means to alter the hot water temperature from the fixture fitting.

Single-handle mixing valves shall have the flow of hot water correspond to the markings on the fitting.

416.0 Bidets.

416.1 Materials. Bidets shall conform to the standards listed in Table 14-1.

416.2 Backflow Protection. The water supply to the bidet shall be protected according to Chapter 6, which allows for an airgap or vacuum breaker.

416.3 Limitation of Water Temperature in Bidets. The maximum hot water temperature discharging from a bidet shall be limited to 110°F (43°C) by a device that conforms to ASSE 1070, *Standard for Water Temperature Limiting Devices*, or CSA B125.3, *Standard for Plumbing Fittings*. The water heater thermostat shall not be considered a control for meeting this provision.

417.0 Future Fixtures.

When provisions are made for the future installation of fixtures, those provided for shall be considered in determining the required sizes of drain pipes. Construction for future installations shall be terminated with a plugged fitting or fittings. Where the plugged fitting is at the point where the trap of a fixture is installed, the plumbing system for such fixture shall be complete and conform with the plumbing requirements of this code.

418.0 Shower and Tub-Shower Combination Control Valves.

Showers and tub-shower combinations in buildings shall be provided with individual control valves of the pressure balance, thermostatic, or combination pressure balance/thermostatic mixing valve type that provide scald and thermal shock protection. These valves shall conform to ASSE 1016, *Standard for Automatic Compensating Valves for Individual Showers and Tub/Shower Combinations*, or ASME A112.18.1/CSA B125.1, *Standard for Plumbing Supply Fittings*. Gang showers, when supplied with a single temperature-controlled water supply pipe, shall be controlled by a mixing valve that conforms to ASSE 1069, *Standard for Automatic Temperature Control Mixing Valves*. Handle position stops shall be provided on such valves and shall be adjusted per the manufacturer's instructions to deliver a maximum mixed water setting of 120°F (49°C). The water heater thermostat shall not be considered a suitable control for meeting this provision.

PLUMBING FIXTURES AND FIXTURE FITTINGS

**TABLE 4-1
MINIMUM PLUMBING FACILITIES¹**

Each building shall be provided with sanitary facilities, including provisions for persons with disabilities as prescribed by the Department Having Jurisdiction¹⁸. Table 4-1 applies to new buildings, additions to a building, and changes of occupancy or type in an existing building resulting in increased occupant load. Exception: New cafeterias used only by employees.

For requirements for persons with disabilities, Chapter 11A or 11B of the California Building Code, shall be used.

The total occupant load shall be determined in accordance with the [BSC, DSA-SS & DSA-SS/CC] Occupant Load Factor Table A. The type of building or occupancy shall be determined based on the actual use of the various spaces within the building. Building categories not shown in Table 4-1 shall be considered separately by the Authority Having Jurisdiction. The minimum number of fixtures shall be calculated at 50 percent male and 50 percent female based on the total occupant load.

Once the occupant load and uses are determined, the requirements of Section 412.0 and Table 4-1 shall be applied to determine the minimum number of plumbing fixtures required.

Exceptions:

(1) [HCD 1-AC & HCD 2] For applications listed in Sections 1.8.2.1.2 and 1.8.2.1.3 regulated by the Department of Housing and Community Development, each building shall be provided with sanitary facilities, including provisions for persons with disabilities as prescribed by the Department. Covered multi-family dwellings required to be accessible to persons with disabilities shall comply with California Code of Regulations, Title 24, Part 2, Chapter 11A. Permanent buildings in mobilehome parks and special occupancy parks required to be accessible by persons with disabilities, shall comply with California Code of Regulations, Title 24, Part 2, Chapter 11B.

(2) [HCD 1] For limited density owner-built rural dwelling sanitary facilities, the type, design and number of facilities as required and approved by the local health official shall be provided to the dwelling sites. It shall not be required that such facilities be located within the dwelling.

TYPE OF BUILDING ² OR OCCUPANCY	WATER CLOSETS ¹⁴ (FIXTURES PER PERSON)		URINALS ^{5,10} (FIXTURES PER PERSON)	LAVATORIES (FIXTURES PER PERSON)		BATHTUBS OR SHOWERS (FIXTURES PER PERSON)	DRINKING FOUNTAINS ^{3,13,17} (FIXTURES PER PERSON)
Assembly places – theatres, auditoriums, convention halls, etc.– for permanent employee use	Male 1: 1-15 2: 16-35 3: 36-55 Over 55, add 1 fixture for each additional 40 persons.	Female 1: 1-15 3: 16-35 4: 36-55	Male 0: 1-9 1: 10-50 Add one fixture for each additional 50 males.	Male 1 per 40	Female 1 per 40		
Assembly places – theatres, auditoriums, convention Halls, etc. – for public use	Male 1: 1-100 2: 101-200 3: 201-400 Over 400, add one fixture for each additional 500 males and 1 for each additional 125 females.	Female 3: 1-50 4: 51-100 8: 101-200 11: 201-400	Male 1: 1-100 2: 101-200 3: 201-400 4: 401-600 Over 600, add 1 fixture for each additional 300 males.	Male 1: 1-200 2: 201-400 3: 401-750 Over 750, add one fixture for each additional 500 persons.	Female 1: 1-200 2: 201-400 3: 401-750		1: 1-150 2: 151-400 3: 401-750 Over 750, add one fixture for each additional 500 persons.
Dormitories ⁹ – School or labor ¹⁶	Male 1 per 10 Add 1 fixture for each additional 25 males (over 10) and 1 for each additional 20 females (over 8).	Female 1 per 8	Male 1 per 25 Over 150, add 1 fixture for each additional 50 males.	Male 1 per 12 Over 12, add one fixture for each additional 20 males and 1 for each 15 additional females.	Female 1 per 12	1 per 8 For females, add 1 bathtub per 30. Over 150, add 1 bathtub per 20.	1 per 150 ¹²
Dormitories – for staff use ¹⁶	Male 1: 1-15 2: 16-35 3: 36-55 Over 55, add 1 fixture for each additional 40 persons.	Female 1: 1-15 3: 16-35 4: 36-55	Male 1 per 50	Male 1 per 40	Female 1 per 40	1 per 8	
Dwellings ⁴ Single dwelling Multiple dwelling or apartment house ¹⁶	1 per dwelling or apartment unit			1 per dwelling or apartment unit		1 per dwelling or apartment unit	
Hospital waiting rooms	1 per room			1 per room			1 per 150 ¹²
Hospitals – for employee use	Male 1: 1-15 2: 16-35 3: 36-55 Over 55, add 1 fixture for each additional 40 persons.	Female 1: 1-15 3: 16-35 4: 36-55	Male 0: 1-9 1: 10-50 Add one fixture for each additional 50 males.	Male 1 per 40	Female 1 per 40		

PLUMBING FIXTURES AND FIXTURE FITTINGS

TYPE OF BUILDING ² OR OCCUPANCY	WATER CLOSETS ¹⁴ (FIXTURES PER PERSON)	URINALS ^{5, 10} (FIXTURES PER PERSON)	LAVATORIES (FIXTURES PER PERSON)	BATHTUBS OR SHOWERS (FIXTURES PER PERSON)	DRINKING FOUNTAINS ^{3, 13, 17} (FIXTURES PER PERSON)
Hospitals Individual room Ward room	1 per room 1 per 8 patients		1 per room 1 per 10 patients	1 per room 1 per 20 patients	1 per 150 ¹²
Industrial ⁶ warehouses, workshops, foundries, and similar establishments – for employee use	Male Female 1: 1-10 1: 1-10 2: 11-25 2: 11-25 3: 26-50 3: 26-50 4: 51-75 4: 51-75 5: 76-100 5: 76-100 Over 100, add 1 fixture for each additional 30 persons.		Up to 100, 1 per 10 persons Over 100, 1 per 15 persons ^{7, 8}	1 shower for each 15 persons exposed to excessive heat or to skin contamination with poisonous, infectious, or irritating material	1 per 150 ¹²
Institutional – other than hospitals or penal institutions (on each occupied floor)	Male Female 1 per 25 1 per 20	Male 0: 1-9 1: 10-50 Add one fixture for each additional 50 males.	Male Female 1 per 10 1 per 10	1 per 8	1 per 150 ¹²
Institutional – other than hospitals or penal institutions (on each occupied floor) – for employee use	Male Female 1: 1-15 1: 1-15 2: 16-35 3: 16-35 3: 36-55 4: 36-55 Over 55, add 1 fixture for each additional 40 persons.	Male 0: 1-9 1: 10-50 Add one fixture for each additional 50 males.	Male Female 1 per 40 1 per 40	1 per 8	1 per 150 ¹²
Office or public buildings	Male Female 1: 1-100 3: 1-50 2: 101-200 4: 51-100 3: 201-400 8: 101-200 11: 201-400 Over 400, add one fixture for each additional 500 males and 1 for each additional 150 females.	Male 1: 1-100 2: 101-200 3: 201-400 4: 401-600 Over 600, add 1 fixture for each additional 300 males.	Male Female 1: 1-200 1: 1-200 2: 201-400 2: 201-400 3: 401-750 3: 401-750 Over 750, add one fixture for each additional 500 persons.		1 per 150 ¹²
Office or public buildings – for employee use	Male Female 1: 1-15 1: 1-15 2: 16-35 3: 16-35 3: 36-55 4: 36-55 Over 55, add 1 fixture for each additional 40 persons.	Male 0: 1-9 1: 10-50 Add one fixture for each additional 50 males.	Male Female 1 per 40 1 per 40		
Penal institutions – for employee use	Male Female 1: 1-15 1: 1-15 2: 16-35 3: 16-35 3: 36-55 4: 36-55 Over 55, add 1 fixture for each additional 40 persons.	Male 0: 1-9 1: 10-50 Add one fixture for each additional 50 males.	Male Female 1 per 40 1 per 40		1 per 150 ¹²
Penal institutions – for prison use Cell Exercise room Exercise Area	1 per cell 1 per exercise room 1 per 20	Male 1 per exercise room	1 per cell 1 per exercise room 1 per 20	1 per 16	1 per cell block floor 1 per exercise room Access to drinking fountain
Agriculture Buildings Milking Barns Meat and Poultry Inspection Bldgs	At least 1 Male Female 1: 1-15 1: 1-15 2: 16-35 2: 16-35 3: 36-55 3: 36-55 4: 56-80 4: 56-80 1 for each additional 30 persons in excess of 80		At least 1		
Schools of Cosmetology	Male Female *At least 1 *At least 2 *Per installation		At least 1		
Cosmetological Establishments	*At least 1 *At least 1 *Per installation				

PLUMBING FIXTURES AND FIXTURE FITTINGS

TYPE OF BUILDING² OR OCCUPANCY	WATER CLOSETS¹⁴ (FIXTURES PER PERSON)	URINALS^{5,10} (FIXTURES PER PERSON)	LAVATORIES (FIXTURES PER PERSON)	BATHTUBS OR SHOWERS (FIXTURES PER PERSON)	DRINKING FOUNTAINS^{3,13,17} (FIXTURES PER PERSON)
<i>Corrections Standards Authority Juvenile Halls Camp</i>	<i>1 per 6 1 per 10</i>		<i>1 per 10 1 per 10</i>	<i>1 per 6 1 per 7</i>	<i>Access to drinking fountain Access to drinking fountain</i>
<i>Corrections Standards Authority Local Detention Facilities Locked Sleeping Rooms¹⁹</i>	<i>1 per 8 1</i>		<i>1 per 8 1</i>	<i>1 per 20</i>	
Public or professional offices ¹⁵	Same as Office or Public Buildings for employee use ¹⁵	Same as Office or Public Buildings for employee use ¹⁵	Same as Office or Public Buildings for employee use ¹⁵		Same as Office or Public Buildings for employee use ¹⁷
Restaurants, pubs, and lounges ^{11,15}	Male 1: 1-50 2: 51-150 3: 151-300 Over 300, add 1 fixture for each additional 200 persons. Female 1: 1-50 2: 51-150 4: 151-300	Male 1: 1-150 Over 150, add 1 fixture for each additional 150 males.	Male 1: 1-150 2: 151-200 3: 201-400 Over 400, add 1 fixture for each additional 400 persons. Female 1: 1-150 2: 151-200 3: 201-400		
Retail or Wholesale Stores	Male 1:1-100 2:101-200 3:201-400 Over 400, add one fixture for each additional 500 males and one for each 150 females Female 1:1-25 2:26-100 4:101-200 6:201-300 8: 301-400	Male 0:0-25 1:26-100 2:101-200 3:201-400 4:401-600 Over 600, add one fixture for each additional 300 males	One for each two water closets		0: 1-30 ¹⁷ 1:31-150 One additional drinking fountain for each 150 persons thereafter
Schools – for staff use All schools	Male 1: 1-15 2: 16-35 3: 36-55 Over 55, add 1 fixture for each additional 40 persons. Female 1: 1-15 2: 16-35 3: 36-55	Male 1 per 50	Male 1 per 40 Female 1 per 40		
Schools – for student use Nursery	Male 1: 1-20 2: 21-50 Over 50, add 1 fixture for each additional 50 persons. Female 1: 1-20 2: 21-50		Male 1: 1-25 2: 26-50 Over 50, add 1 fixture for each additional 50 persons. Female 1: 1-25 2: 26-50		1 per 150 ¹²
Elementary	Male 1 per 30 Female 1 per 25	Male 1 per 75	Male 1 per 35 Female 1 per 35		1 per 150 ¹²
Secondary	Male 1 per 40 Female 1 per 30	Male 1 per 35	Male 1 per 40 Female 1 per 40		1 per 150 ¹²
Others (colleges, universities, adult centers, etc.)	Male 1 per 40 Female 1 per 30	Male 1 per 35	Male 1 per 40 Female 1 per 40		1 per 150 ¹²
Worship places educational and activities Unit	Male 1 per 150 Female 1 per 75	Male 1 per 150	1 per 2 water closets		1 per 150 ¹²
Worship places principal assembly place	Male 1 per 150 Female 1 per 75	Male 1 per 150	1 per 2 water closets		1 per 150 ¹²

- ¹ The figures shown are based upon one (1) fixture being the minimum required for the number of persons indicated or any fraction thereof.
- ² Building categories not shown on this table shall be considered separately by the Authority Having Jurisdiction.
- ³ Drinking fountains shall not be installed in toilet rooms.
- ⁴ Laundry trays. One (1) laundry tray or one (1) automatic washer standpipe for each dwelling unit or one (1) laundry tray or one (1) automatic washer standpipe, or combination thereof, for each twelve (12) apartments. Kitchen sinks, one (1) for each dwelling or apartment unit.
- ⁵ For each urinal added in excess of the minimum required, one water closet shall be permitted to be deducted. The number of water closets shall not be reduced to less than two-thirds ($\frac{2}{3}$) of the minimum requirement.
- ⁶ As required by PSAI Z4.1, *Sanitation in Places of Employment*.
- ⁷ Where there is exposure to skin contamination with poisonous, infectious, or irritating materials, provide one (1) lavatory for each five (5) persons.
- ⁸ Twenty-four (24) lineal inches (610 mm) of wash sink or eighteen (18) inches (457 mm) of a circular basin, when provided with water outlets for such space, shall be considered equivalent to one (1) lavatory.
- ⁹ Laundry trays, one (1) for each fifty (50) persons. Service sinks, one (1) for each hundred (100) persons.
- ¹⁰ General. In applying this schedule of facilities, consideration shall be given to the accessibility of the fixtures. Conformity purely on a numerical basis may not result in an installation suited to the needs of the individual establishment. For example, schools should be provided with toilet facilities on each floor having classrooms.
 - a. Surrounding materials, wall, and floor space to a point two (2) feet (610 mm) in front of urinal lip and four (4) feet (1,219 mm) above the floor, and not less than two (2) feet (610 mm) to each side of the urinal shall be lined with non-absorbent materials.
 - b. Trough urinals shall be prohibited.
- ¹¹ A restaurant is defined as a business that sells food to be consumed on the premises.
 - a. The number of occupants for a drive-in restaurant shall be considered as equal to the number of parking stalls.
 - b. Hand-washing facilities shall be available in the kitchen for employees.
- ¹² Where food is consumed indoors, water stations shall be permitted to be substituted for drinking fountains. Offices, or public buildings for use by more than six (6) persons shall have one (1) drinking fountain for the first one-hundred fifty (150) persons and one (1) additional fountain for each three-hundred (300) persons thereafter.
- ¹³ There shall be at least one (1) drinking fountain per occupied floor in schools, theatres, auditoriums, dormitories, offices, or public buildings.
- ¹⁴ The total number of water closets for females shall be equal to the total number of water closets and urinals required for males. This requirement shall not apply to Retail or Wholesale Stores.
- ¹⁵ For smaller-type Public and Professional Offices such as banks, dental offices, law offices, real estate offices, architectural offices, engineering offices, and similar uses. A public area in these offices shall use the requirements for Retail or Wholesale Stores.
- ¹⁶ Recreation or community room in multiple dwellings or apartment buildings, regardless of their occupant load, shall be permitted to have separate single-accommodation facilities in common-use areas within tracts or multi-family residential occupancies where the use of these areas is limited exclusively to owners, residents, and their guests. Examples are community recreation or multi-purpose areas in apartments, condos, townhouses, or tracts.
- ¹⁷ A drinking fountain shall not be required in occupancies of 30 or less. When a drinking fountain is not required, then footnotes 3, 12, and 13 are not applicable.
- ||** ¹⁸ *[BSC, DSA-AC, DSA-SS, DSA-SS/CC, HCD 1 & HCD 2 & OSHPD 1, 2, 3 & 4] In accordance with Sections 1.8.7 and 301.2, the Authority Having Jurisdiction may approve alternative design criteria when determining the minimum number of plumbing fixtures.*
- ¹⁹ *Fixtures need to not be located within the locked room provided a communication system or procedure is in effect to give the minor immediate access to a lavatory, toilet and drinking fountain.*

PLUMBING FIXTURES AND FIXTURE FITTINGS

TABLE A.
OCCUPANT LOAD FACTOR:
[BSC, DSA-SS & DSA-SS/CC]

II

OCCUPANCY*, **	OCCUPANT LOAD FACTOR (square feet) (CBC 2001, Table A-29A)
Group A	
1. Auditoriums, convention halls, dance floors, lodge rooms, stadiums, and casinos (where no fixed seating is provided) (use ½ “one-half” the number of fixed seating)	15
2. Conference rooms, dining rooms, drinking establishments, exhibit rooms, gymnasiums, lounges, stages, and similar uses, including restaurants classified as Group B occupancies	30
3. Worship places; principal assembly area, educational and activity unit (where no fixed seating is provided) (use ½ “one-half” the number of fixed seating)	30
Group B	
Office or public buildings (area accessible to the public)	200
Group E	
Schools for day care, elementary, secondary	50
Educational Facilities Other than Group E	
Colleges, universities, adult centers, etc.	50
Group F	
Workshops, foundries and similar establishments	2,000
Group H	
Hazardous materials fabrication and storage	2,000
Group I	
Hospital general use area, health care facilities	200
Group M	
Retail or wholesale stores	200
Group R	
Congregate residence, Group R-1	200
Group S	
Warehouse	5,000

* Any uses not specifically listed shall be based on similar uses listed in this table.

** For building or space with mixed occupancies, use appropriate occupancy group for each area (for example, a school may have an “A” occupancy for the gymnasium, a “B” occupancy for the office, an “E” occupancy for the classrooms, etc.). Accessory areas may be excluded (for example: hallway, restroom, stair enclosure).

TABLE 4-2
[OSHPD 1, 2, 3 & 4] MINIMUM PLUMBING FACILITIES

SPACE	HANDWASHING FIXTURE	SCRUB SINKS	TOILETS	BATHTUBS OR SHOWERS	SERVICE SINKS ¹	CLINIC SINKS
OSHPD 1						
General Acute Care Hospitals^{1, 20} and Acute Psychiatric Hospitals^{1, 20}						
Administration Space						
Lobby						
Male	1 ²		1			
Female	1 ²		1			
Airborne infection isolation rooms	2 ⁵		1 ⁵	1 ⁵		
Cardiac Catheterization						
Procedure room		1 ⁴			1	
Staff clothing changing areas	1		1	1 shower		
Central Sterile Supply	1 ¹⁵					
Cesarean/Delivery Service Space						
Labor Rooms	1		1 ⁹	1 ⁹		
Recovery Room	1					1
Drug distribution station	1					
Cesarean operating room		2 ¹⁰				
Delivery room		1 ¹⁰				
Staff clothing changing areas						
Male	1		1	1		
Female	1		1	1		
Staff lounge toilet	1		1			
LDR or LDRP room	1		1	1		
Waiting room	1 ²		1 ²⁶			
Clinical Laboratory Service Space¹¹	1					
Dietetic Service Space	1					
Toilets and lockers			1			
Emergency Service						
Standby emergency medical service						
Lobby - public toilets	1		1			
Treatment room	1					
Open plan	1:4 cubicles					
Patient toilet	1		1			
Administrative center/nurses' station	1					
Basic emergency medical service						
Public waiting			1			
Treatment areas, more than 8	1		2			
Treatment room	1					
Open plan	1:4 cubicles					
Observation units	1:4 cubicles		1:8 cubicles			
Emergency surgery, Cystoscopy, or Special procedure room	1	1 ⁷			1	
Employee Dressing Rooms						
Male	1 ²		1			
Female	1 ²		1			
Exam and treatment rooms	1					
Housekeeping room ¹					1	

PLUMBING FIXTURES AND FIXTURE FITTINGS

SPACE	HANDWASHING FIXTURE	SCRUB SINKS	TOILETS	BATHTUBS OR SHOWERS	SERVICE SINKS¹	CLINIC SINKS
Intensive Care Units⁷						1
Open plan	1:3 beds					
Patient rooms ²⁸	1					
Staff lounge	1 ²		1			
Newborn Intensive Care Unit (NICU)	1.4 bassinets ¹⁷					1
Control station	1					
Staff lounge	1 ²		1			
Laboratories	1 ¹⁵				1	
Laundry						
Soiled linen	1					
Medicine preparation rooms or station	1					
Morgue and Autopsy	1				1	
Nourishment area	1 ²				1	
Nuclear Medicine						
Procedure room	1					
Mold room	1					
Radiotherapy						
Reception/waiting area	1 ²		1			
Nursing Service Space						
Administrative center or nurse station	1		1			
Examination or treatment room	1					
Patient room	1					
Patient toilet and bath facilities ¹³	1 ²		1:4 beds	1:12 ¹⁶		
Multi-purpose rooms			1 ²			
Central bathing facility			1			
Staff toilet room	1 ²		1			
Medicine preparation room	1					
Nourishment area	1 ²				1	
Nurses' Stations²⁷ or Administration Center	1					
Nurseries						
Well Newborn	1:6 bassinets					
Exam/Workrooms	1					
Outpatient service space			1			
Outpatient surgery		1				
Endoscopy examination room	1					
Pediatric and Adolescent Unit						
Patient room	1		1			
Play areas toilet room	1		1			
Central bathing toilet room	1		1			
Pharmacy	1 ²⁵		1			
Postanesthesia care units (PACU)	1					1
Protective environment room	2 ⁵		1 ⁵	1 ⁵		
Psychiatric Nursing Unit						
Patient room	1					
Patient toilet and bath facilities ¹³	1 ²		1	1:12 ¹⁶		
Radiological/Imaging Services Space	1					
Computerized tomography (CT)	1		1 ²⁹			
Ultrasound	1		1 ^{29, 30}			
Angiography	1	1 ^{4, 31}	1 ²⁹			

SPACE	HANDWASHING FIXTURE	SCRUB SINKS	TOILETS	BATHTUBS OR SHOWERS	SERVICE SINKS ¹	CLINIC SINKS
Fluoroscopy ⁸	1		1			
Patient toilet	1 ²		1			
Staff toilets	1 ²		1 ¹⁸			
Rehabilitation Therapy Space						
Patient Waiting area						
Male toilet room	1 ²		1			
Female toilet room	1 ²		1			
Training toilet			1			
Physical therapy service space	1					
Occupational therapy service space	1					
Speech pathology	1					
Renal Dialysis Service Space	1:4 stations					1
Bloodborne Infection Isolation Room	1					
Nurses' station	1					
Medication dispensing	1					
Home training room	1					
Repair room	1				1	
Patient toilet	1		1			
Staff lounge	1		1	1 shower		
Waiting room toilet	1		1			
Surgical Service Space		2 ³				
Staff clothing change areas						
Male	1 ²		1	1 shower		
Female	1 ²		1	1 shower		
Clean-up rooms	1					
Substerile area	1					
Anesthesia workroom	1 ⁸					
Soiled workroom or soiled holding	1					1
Utility Room						
Clean ²¹	1					
Soiled ²²	1					1 ¹⁴
OSHPD 2						
Skilled Nursing or Intermediate Care Facilities						
Nurses' Station	1					
Utility room	1					
Clean	1 ²¹					
Soiled	1 ²²					1 ¹⁴
Patient beds	1:8 ³²		1:6	1:20		
Administration space - public toilets			1			
Employee lockers						
Male	1 ²		1			
Female	1 ²		1			
Outpatient waiting room toilet room	1 ²		1			
Laundry	1					
Dietetic service space						
Kitchen	1					
Food serving area	1					
Employee washroom	1					
Airborne infection isolation room ⁵	1		1 ⁵	1 ⁵		

PLUMBING FIXTURES AND FIXTURE FITTINGS

SPACE	HANDWASHING FIXTURE	SCRUB SINKS	TOILETS	BATHTUBS OR SHOWERS	SERVICE SINKS¹	CLINIC SINKS
Protective environment room ⁵	1 ⁵		1 ⁵	1 ⁵		
Medicine rooms ¹⁹	1 ⁵					
Optional services	1 ¹⁵					
Physical therapy	1		1			
Occupational therapy	1		1			
Speech pathology/Audiology	1					
Housekeeping room	1				1	
OSHPD 3						
Licensed Clinics and any freestanding building under a hospital license where outpatient clinical services are provided						
Examination and treatment rooms	1					
Primary care clinic					1	
Utility room	1 ¹⁵					
Birthing Clinic	1				1	
Clean-up room	1					
Birthing room toilet room	1 ²		1			
Shower				1		
Housekeeping room					1	
Surgery Clinic		2 ³			1	
Clean-up room	1					
Outpatient changing	1 ²		1			
Postanesthesia recovery	1					
Housekeeping room					1	
Nurses' control area	1					
Staff clothing area						
Male	1		1			
Female	1		1			
Chronic Dialysis					1	
Nurse station	1:8 patients					
Patient toilet room	1 ²		1 ²³			
Staff lockers	1 ²		1			
Bloodborne infection isolation room	2 ⁵		1 ⁵	1 ⁵		
Utility room	1			1		
Home training	1					
Rehabilitation Clinics						
Physical therapy space	1					
Occupational therapy	1					
Speech pathology/Audiology ¹	1				1	
Housekeeping room					1	
OSHPD 4²⁴						
Correctional Treatment Centers¹						
Nurses' station	1					
Utility Room	1					
Clean	1 ²¹					
Soiled	1 ²²					
Patient beds	1:8 ²		1:6	1:12		
Employee dressing rooms						
Male	1 ²		1			
Female	1 ²		1			

SPACE	HANDWASHING FIXTURE	SCRUB SINKS	TOILETS	BATHTUBS OR SHOWERS	SERVICE SINKS ¹	CLINIC SINKS
Outpatient services			1			
Airborne infection isolation room ⁶	1 ⁶		1 ⁶	1 ⁶		
Protective environment room ⁶	1 ⁶		1 ⁶	1 ⁶		
Medicine rooms ¹⁹	1 ¹⁵					
Treatment and Exam Rooms	1					
Toilets						
Patient ¹³	1:8 ²		1:6	1:12		
Staff	1 ²		1			
Employee dressing rooms and lockers						
Male	1 ²		1			
Female	1 ²		1			
Outpatient services						
Waiting area	1 ²		1			
Housekeeping room						1
Soiled utility room	1					
Pharmacy	1					

- 1 Each department or nursing unit shall be served by a housekeeping room equipped with a service sink. Departments may share service closets provided the departmental services are compatible. A dedicated housekeeping room shall be provided for the following services: ICU, NICU, nursery, dietary, renal dialysis and outpatient surgery.
- 2 Conventional spouts and controls on hot-and cold-water supplies are acceptable. Aerators are not permitted. Non-aerating laminar flow devices are permitted.
- 3 A minimum of two scrub sinks shall be provided in a surgical unit containing one operating room. Four scrub sinks shall be provided in surgical units containing two operating rooms. One additional scrub sink shall be provided per each additional operating room.
- 4 The scrub sink is in addition to the required number for surgeries.
- 5 The following fixtures shall be provided in airborne infection or protective environment rooms of hospitals only:
 - a. Within an adjoining toilet room, a lavatory, a shower containing a seat or a space for a shower chair, and toilet equipped with bedpan flushing attachment with a vacuum breaker.
 - b. A handwashing fixture within a separate anteroom.
 Exceptions: 1. Chemical dependency recovery hospitals. 2. In emergency department, separate toilet/shower not required.
- 6 The following fixtures shall be provided in isolation rooms of correctional treatment centers only:
 - a. Within an adjoining toilet area, a handwashing fixture, a shower containing a seat or a space for a shower chair, and water closet equipped with bedpan flushing attachment with a vacuum breaker.
 - b. A handwashing fixture within a separate anteroom.
- 7 Includes burn center spaces, acute respiratory-care service spaces, and coronary-care service spaces.
- 8 A toilet room with handwashing fixture shall adjoin each fluoroscopy room.
- 9 One toilet with lavatory and one shower may serve two labor rooms.
- 10 One additional scrub sink per cesarean or delivery operating room.
- 11 Provide emergency eye-wash and shower.
- 12 Handwashing fixtures shall be located in convenient locations throughout the space.
- 13 Fixtures serving individual patient rooms shall not be considered as meeting the required ratios for bedrooms not served by individual adjoining toilet or bathrooms.
- 14 The clinic sink may be deleted if all bedrooms in the nursing unit are provided with adjoining toilets with bedpan flushing devices.
- 15 Conventional controls on hot-and cold-water supplies are acceptable. The water discharge points shall be 5 inches (127 millimeters) above the fixture rim. Aerators are not permitted. Non-aerating laminar flow devices are permitted.
- 16 A minimum of one bathtub is required on each floor of an acute care or acute psychiatric hospital providing skilled nursing or intermediate care services.
- 17 In a multiple-bed room, every bed position shall be within 20 feet (6 meters) of a hands-free handwashing fixture. Where an individual room concept is used, a handwashing fixture shall be provided within each infant care room.
- 18 When three or more procedure rooms are provided.
- 19 If a separate medicine room is provided, the room shall be equipped with a sink in addition to the nurses' station handwashing fixture. Hot-water supplies are optional.
- 20 Chemical dependency recovery hospitals are only required to provide handwashing fixtures for exam rooms and kitchens. All other fixtures may be equipped per Footnote 2.
- 21 Handwashing fixtures may be deleted if room is storage and holding only.
- 22 Handwashing fixtures may be deleted if room is temporary holding of soiled materials.
- 23 Toilet shall be equipped with a bedpan flushing attachment.
- 24 Optional services approved by the licensing agency shall comply with the applicable space requirements of OSHPD 1 and 2.
- 25 Shall be provided in each separate room where open medication is handled.
- 26 Conveniently accessible throughout the unit.
- 27 Includes rooms or areas within coronary and intensive-care units and postanesthesia recovery rooms.
- 28 Modular toilet/sink combination units located within a privacy curtain may be used within each patient space or private room. The toilet fixture shall be completely contained within cabinetry when not in use.
- 29 Toilet room facilities located adjacent to or in the immediate vicinity are adequate.
- 30 Toilet room shall be accessible from the procedure room.
- 31 Scrub sink shall be located outside the staff entrance to the procedure room.
- 32 Lavatories shall be equipped with gooseneck spouts without aerators and may have conventional controls.

PLUMBING FIXTURES AND FIXTURE FITTINGS

TABLE 4-3

TYPE OF BUILDING OR OCCUPANCY	WATER CLOSETS (FIXTURES PER PERSON)		URINALS (TROUGH URINAL TO INDIVIDUAL URINAL EQUIVALENCE)		LAVATORIES (FIXTURES PER PERSON)	BATHTUBS OR SHOWERS (FIXTURES PER PERSON) ⁷	DRINKING FOUNTAINS (FIXTURES PER PERSON) ³
	MALE	FEMALE	MALE				
Nonindustrial—office buildings, public buildings and similar establishments	1 1-15	1 1-15	Length of trough urinal	Number of individual urinals	1 1-15	1:10 persons per shift required to shower	—
	2 16-35	2 16-35			2 16-35		
	3 36-55	3 36-55			3 36-60		
	4 56-80	4 56-80			4 61-90		
	5 81-110	5 81-110			5 91-125		
	6 111-150	6 111-150			1 additional for each additional 40 employees or fraction thereof		
Industrial—factories, warehouses, loft buildings and similar establishments	1 1-15	1 1-15	24" (610 mm)	1	1 to 100 employees	1:10 persons per shift required to shower	—
	2 16-35	2 16-35	36" (914 mm)	2	1 per 10		
	3 36-55	3 36-55	48" (1219 mm)	2	Over 100 employees 1 additional for each additional 15 employees or fraction thereof		
	4 56-80	4 56-80	60" (1524 mm)	3			
	5 81-110	5 81-110	72" (1829 mm)	4			
	6 111-150	6 111-150	1 additional for each additional 40 employees or fraction thereof				

- 1 The figures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction thereof.
- 2 Each water closet shall occupy a separate compartment which shall be equipped with a door, door latch and clothes hook. The door and the walls or partitions between fixtures shall be sufficient to assure privacy.
- 3 Drinking fountains shall not be located in toilet rooms.
- 4 Washing facilities shall be reasonably accessible to all employees.
- 5 Toilet facilities shall be accessible to the employees at all times. Where practicable, toilet facilities should be within 200 feet (61 m) of locations at which workers are regularly employed and should not be more than one floor-to-floor flight of stairs from working areas.
- 6 Urinals may be installed instead of water closets in toilet rooms to be used only by men provided that the number of water closets shall not be less than two thirds of the minimum number of toilet facilities specified. The length of trough urinals to the equivalent number of individual urinals shall be based on the above table.
- 7 When there are less than five employees, separate toilet rooms for each sex are not required provided toilet rooms can be locked from the inside and contain at least one water closet.
- 8 Twenty-four linear inches of wash sink or 18 inches of circular basin, when provided with water outlets for such space, shall be considered equivalent to one lavatory.
Exception: The requirements of Table 4-3 do not apply to mobile crews or to normally unattended work locations provided employees at these locations have immediately available transportation to nearby toilet facilities which meet the requirements of Table 4-3.

TABLE 4-4

TYPE OF BUILDING OR OCCUPANCY ²	WATER CLOSETS (FIXTURES PER PERSON)		URINALS (FIXTURES PER MALE)	LAVATORIES (FIXTURES PER PERSON)	BATHTUBS OR SHOWERS (FIXTURES PER PERSON)	DRINKING FOUNTAINS (FIXTURES PER PERSON)
Day Use Public Beaches ^{1,2}	Male 1 1-100 No sex designated 1 1-500 Minimum of 2	Female 1 1-100	May be substituted for up to two-thirds of the water closets required			
Picnic Areas	Male 1 1-50	Female 1 1-50				
Overnight Use Public Beaches ²	1 1-7.5 campsites ³ 1 1-7.5 campsites ³		May be substituted for up to one-third of the water closets required ³		1 1-12.5 campsites ⁴	
Organized Camps	1 1-15 ³			1 1-15	1 1-156	Minimum 1 per camp

- 1 Toilets shall be located in accordance with actual use patterns on the beach. The reasonable intent of the toilet requirements is that it should apply on the basis of average daily use during periods of peak use. The health officer may determine how many days the population standard may be exceeded.
- 2 Laundry facilities are not required, but if they are provided, must be a minimum of two laundry trays or a washing machine.
- 3 Toilet facilities shall not be farther than 400 feet from any lot or campsite.
- 4 Showers are not required, but if provided, they shall be provided on the indicated ratio. Outdoor rinse-off showers may be cold water only.
- 5 Toilets shall be located within 300 feet from the living accommodations they serve.
- 6 Showers shall be provided in the living area or in a centrally located structure.
Exception: Intermittent short-term organized camps are not required to provide shower facilities, but if provided, they shall comply with this part.