



Design Standard Plumbing Fixtures

Purpose:

Plumbing fixtures are essential elements of the plumbing systems. This design standard has the purpose of creating a consistent application of plumbing fixture requirements throughout the South San Francisco Unified School District, thereby achieving a standard of quality for maintenance, water efficiency, and reliability throughout all renovation and new building projects.

Design Standard:

Design and specify work to include materials and installation of plumbing fixtures and accessories for a complete and operable system.

- Where possible, consider the use of low flow fixtures and provide means of water conservation.
- For each area under consideration for remodel or new construction, the Designer shall follow requirements to meet ADA compliance for all fixture types.
- Preferred plumbing fixtures:
 - o **Lavatories:**
 - Individual wall-hung basins with concealed arms, no troughs, white vitreous china fixtures:
 - Single-hole: Kohler “Greenwich” K-12643 (1-hole) or American Standard “Lucerne” 0356.421 (1-hole)
 - 3-hole, 4” centers: Kohler “Greenwich” K-2032; American Standard “Lucerne” 0355.012 or equal.
 - Follow California Building Code required mounting heights and clearances for adult lavatories and California Building Code recommended mounting heights and clearances for children’s lavatories. Provide required accessible clear floor and knee space.
 - o **Showers:**
 - Built up, tempering valve, low flow shower head. Ensure that shower head dispenses at a minimum 72” above finished floor.



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o Urinals:

- Individual installations (not gang), wall-mounted, white vitreous china fixtures with 3/4" top spud.
- Acceptable fixture:
 - American Standard "Washbrook" 6501.010, vitreous china urinal. Sloan Royal flush valve #186.1, 1.0 gallons per flush or equal.
- Carrier: J.R. Smith, waste 2", vent 2", CW 3/4"

o Toilets – Wall-Hung:

- White vitreous china fixture, elongated bowl, 1-1/2" top spud:
- Elementary School (K-5) Student Restrooms: (15" recommended seat height for accessible children's toilets) Zurn Z5615 or American Standard "Afwall" water saver siphon jet, elongated bowl.
- Middle Schools, High Schools, and Adult/Staff Restrooms (17"-19" required accessible seat height):
 - American Standard 2477.016 "Afwall" water saver siphon jet, elongated bowl vitreous china. 18" high seat at middle school, high school, and adult/staff restrooms
 - Zurn Z5615, 18" high seat at middle school, high school, and adult/staff restrooms.
- Exposed Flush Valve: Sloan Royal #111-1.6. Waste 4", vent 2", CW 1-1/4".
- Toilet seat: Bemis (Olsonite) 95SST solid white plastic with open front and stainless steel external check hinge, 1 1/4" high with bumper; Beamis Model 1955-C or equal.

o Toilets – Floor Mounted (Pre-Kinder Child Development Centers Only)

- White vitreous china fixture, elongated bowl, 1-1/2" top spud: Zurn Z5675, 10" high for 11 1/4" high seat or equal
- Exposed Flush Valve: Sloan Royal #111-1.6 Waste 4", vent 2", CW 1-1/4".
- Toilet seat: Bemis (Olsonite) 126CAMT solid white plastic with open front and stainless steel external check hinge, 1 1/4" thick with bumper.

o Toilets – Floor-Mounted (Accessible)

- White vitreous china fixture, elongated bowl, 1-1/2" top spud:
- Elementary School (K-5) Student Restrooms: Zurn Z5655, 14" high for 15- 1/4" high seat (15" recommended seat height for accessible children's toilets)



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- Middle Schools, High Schools, and Adult/Staff Restrooms (17"-19" required accessible seat height): American Standard 2854.016 "Madera" Mount top of seat 17-3/4" above finish floor; Zurn Z5665, 17" high for 18 1/4"-high seat at middle school, high school and adult/staff restrooms.
- Exposed Flush Valve: Sloan Royal #111-1.6. Waste 4", vent 2", CW 1-1/4" or equal.
- Toilet seat: Bemis (Olsonite) 95SST solid white plastic with open front and stainless steel external check hinge, 1 1/4" high with bumper or Beamis Model 1955-C.

o **Classroom Sinks:**

- Single bowl-double ledge 18 gauge type 304 stainless steel self-rimming, 17"x25": Elkay DRKAD 2517C or approved equal.
- Provide soap and towel dispensers at all classroom sinks.
- See Faucets section for bubbler and drain requirements at classroom sinks.

o **Service sinks:**

- Fiat MSB-2424, 24"x24"x10" molded stone, mop service basin with 3" drain.
- Faucet: with 6" spout, brace and vacuum breaker. American Standard #8344 or Kohler "Knoxford" K-8906
- Hose and bracket: Fiat #832-AA
- Mop-hanger: Fiat #889-CC, or approved
- Bumperguard: Fiat #E-77-AA, or approved

o **Hose bibbs:**

- Zurn Z1350VB encased/recessed narrow wall hydrant type keyed hose bib with vacuum breaker – install at all restrooms. Exterior shall be non-freeze type, concealed behind locked access doors.

o **Drains:**

- Jay R. Smith 2005 Floor Drain with adjustable strainer heads, vandal proof screws, nickel bronze strainer. Provide floor drains in all restrooms. Install trap primers at floor drains.

o **Emergency Showers and Eyewashes**

- Per California Education Code, provide both emergency showers and eyewashes at all middle school and high school science labs that use chemicals. Install at a central, readily accessible location. Provide floor drain at emergency showers and slope floor to drain when practical. Review each condition and proposed solution with District.



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- Emergency Shower: Combination Unit HAWS 8300-8309 with dust cover 9102 and emergency test kit 9010 provided for each shower.
- Eyewash with acid-resistant drain: HAWS 7460BT with dust cover 9102
- Emergency eyewashes and showers shall meet ANSI 358.1 requirements for permanently installed units and shall be hard-plumbed into the building drain system.
- A 3' x 3' square of floor in front of the emergency eyewash and beneath a deluge shower shall be clearly marked with contrasting flooring or paint stripes. The location shall further be marked with overhead signage.
- For retrofit combination eyewash and faucet installations only, Speakman Safety Products, SEF- 1000 Eyesaver Faucets are acceptable. www.speakmancompany.com

o **Drinking fountains:**

- Install lead-free drinking fountains complying with California Health and Safety Code 116875. See Lead-Free Plumbing Fixture Advisory later in this chapter.
- Wall-Mounted, Exterior and Interior: Haws 1117L high/low, with model 6800 floor-mounted carrier. Free-Standing: Haws 3150 pedestal fountain (adjustable height and exposed aggregate finish), with 5725 Envirogard bubbler and 6426 lead filter, or Haws 3300 pedestal fountain with powder coated finish, when no building wall surfaces are available.
- See Faucets section for bubbler requirements at classroom sinks.

o **Faucets**

- Install lead-free faucets complying with California Health and Safety Code 116875. See Lead-Free Plumbing Fixture Advisory later in this chapter.
- Plastic parts are not allowed because of bacteriostatic problems and additional maintenance costs.
- Avoid concealed-mount faucets. When replacing existing, replace with deck-mounted faucets.
- A/E should include the project specifications that the contractor shall provide spare cartridges to SSFUSD Facilities.
- Single-temperature metering (self-closing) with tempered or cold water for use with lavatories:
 - 3-hole, 4" centers, 4¾" spout (preferred): Chicago 3400-ABCP "ECAST"
 - Single-hole, 3-3/8" spout: Chicago 333-665PSHVPAABCP "ECAST"



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- Deck-mounted gooseneck:
 - Dual wrist blade handles, 2-hole (not concealed), 8" centers: Chicago Faucets 1100- GN2AE3-317ABCP "ECAST"
 - Dual wrist blade handles, single-hole: Chicago Faucets 50-317VPAABCP "ECAST" Single wrist blade handle, single-hole: Chicago Faucets 350- 317VPAABCP "ECAST"
 - Classroom sink and lavatory faucets shall be supplied with 0.5 gpm aerators.
 - Provide a bubbler mounted on each Pre-K, Kinder, and Elementary classroom sink (do not install at Middle and High Schools) except at art and science classrooms. Bubbler shall have flexible (not metal) shield to avoid children accidentally chipping their teeth:
 - Elkay LK1141A (Do not specify the 'VR' version)
 - Chicago 748-665FHCP
 - Drain: grid with 1¼" tailpiece Kohler K-7127; grid with offset 1¼" tailpiece Kohler K-7131-A. Trap: 1¼"x1½" cast brass trap. McGuire-8902. Speedway rigid 3/8" riser with ½" key angle stops Kohler K-7608 (lead-free). Carrier: Jay R. Smith floor mounted #700-E or equal Zurn model. Waste 1½", vent 1½", CW ½"
- o **Plaster Traps** (For Art Classrooms) -Zurn solid interceptor Z-1181.
- o **Gaskets** - Toilet and urinal gaskets: Use wax-coated urethane gasket with wax coating around entire outside surface.
- **Lead-Free Plumbing Fixture Advisory**
 - o California's new lead-free plumbing law, California Health and Safety Code 116875, created by Senate Bill SB 1334 and Assembly Bill AB1953 and effective January 1, 2010, requires that all plumbing fixtures that provide water for human consumption, including those for drinking or cooking, be lead-free. See Appendix F7 for the text of the law, including the limits on lead in pipes, fittings, and fixtures, as well as the solder and flux used in their fabrication and installation.
 - o For SSFUSD projects, all new faucets, including those at sinks in all classrooms, teacher's lounges, cafeterias, food service areas, etc., those at all lavatories, and all drinking fountains, including bubblers mounted on sinks, must comply with Health and Safety Code 116875, and must be certified by an independent, accredited third party as being in compliance. Fixtures shall not be accepted until compliance has been proven. Fixtures that fail testing must be replaced. Contract documents shall include language stipulating these requirements.



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- **Guidelines for Domestic Water Supply and Faucet Types By Use**
 - ***Pre-K and K student restroom lavatories:*** Single-temperature, self-metering, cold is standard.
 - ***Pre-K and K classroom sinks:*** Single-temperature, self-metering, cold with bubbler.
 - ***Elementary, Middle, and High School student restrooms:*** Single-temperature, self-metering, cold is standard.
 - ***Elementary, Middle, and High School classrooms:*** Single-temperature, single-handle, single hole, cold is standard. Provide bubbler at elementary classrooms.
 - ***Science Room – Middle and High School:*** Single-temperature, single-handle, single-hole, cold, gooseneck (no bubbler) is standard.
 - ***Adult public restrooms:*** Single-temperature, self-metering, cold is standard.
 - ***Adult staff restrooms, staff lounges, and food service:*** Single-temperature, self-metering, tempered is standard at staff lounges and restrooms. Provide either dedicated hot water supply with recirculation loop from water heater or a local mixing valve at food service.
 - ***Tempered*** is 110 degrees max, hot is 120 F (140 F FOR KITCHENS) degrees max.
 - ***Nurse Stations:*** Dual-temperature, dual-handle, hot (120 F) and cold. Provide floor pedal operating facet.

Substitutes Allowed:

- Yes, if performance and quality equivalency can be evidenced.

Associated Design Standards:

- 22 11 13 – Design Standard General Plumbing Piping Systems
- 22 00 00 – Design Standard Basic Plumbing Systems

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