

SECTION 22 40 00 - PLUMBING FIXTURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following conventional plumbing fixtures and related components.

1.3 SUBMITTALS

- A. Product Data: For each type of plumbing fixture indicated. Include selected fixture and trim, fittings, accessories, appliances, appurtenances, equipment, and supports. Indicate materials and finishes, dimensions, construction details, and flow-control rates.
- B. Shop Drawings: Diagram power, signal, and control wiring.
- C. Operation and Maintenance Data: For plumbing fixtures to include in emergency, operation, and maintenance manuals.
- D. Warranty: Special warranty specified in this Section.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain plumbing fixtures, faucets, and other components of each category through one source from a single manufacturer.
 - 1. Exception: If fixtures, faucets, or other components are not available from a single manufacturer, obtain similar products from other manufacturers specified for that category.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.5 WARRANTY

- A. All equipment, material and labor provided under this specification section shall be warranted for a period of one year after project completion.

1.6 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Faucet Washers and O-Rings: Equal to 10 percent of amount of each type and size installed.
2. Faucet Cartridges and O-Rings: Equal to 5 percent of amount of each type and size installed.
3. Flushometer Valve, Repair Kits: Equal to 10 percent of amount of each type installed, but no fewer than 12 of each type.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Water Closets - subject to compliance with requirements, provide products by one of the following:
1. Sloan Valve Company.
 2. Zurn Plumbing Products Group
 3. American Standard
 4. Kohler Co.
- B. Urinals - subject to compliance with requirements, provide products by one of the following:
1. Sloan Valve Company.
 2. Zurn Plumbing Products Group.
 3. American Standard
 4. Kohler Co.
- C. Lavatories: Subject to compliance with requirements, provide products by one of the following:
1. Sloan Valve Company.
 2. Zurn Plumbing Products Group.
 3. Kohler Co.
 4. American Standard
- D. Service Sinks/Mop Receptors: Subject to compliance with requirements, provide products by one of the following:
1. Zurn Plumbing Products Group.
 2. Kohler Co.
 3. Crane Plumbing, L.L.C./Fiat Products.
- E. Shower Systems and Valves: Subject to compliance with requirements, provide products by one of the following:
1. Aquarius Bathware
 2. Acorn Engineering Co.
 3. Best Bath Systems, Inc.
 4. Powers; a Watts Industries Co.
 5. Comfort Designs.
 6. Bradley Corporation.
- F. Water Coolers: Subject to compliance with requirements, provide products by one of the following:
1. Acorn Engineering Company.
 2. Oasis
 3. Halsey Taylor.

- G. Flushometers: Subject to compliance with requirements, provide products by one of the following:
1. Sloan Valve Company.
 2. Zurn Plumbing Products Group; Commercial Brass Operation.
 3. American Standard.
- H. Toilet seats: Subject to compliance with requirements, provide products by one of the following:
1. Bemis Manufacturing Company.
 2. Church Seats.
 3. Eljer.
 4. Kohler Co.
 5. Olsonite Corp.
- I. Fixture Supports: Subject to compliance with requirements, provide products by one of the following:
1. Josam Company
 2. Smith, Jay R. Mfg. Co.
 3. Tyler Pipe; Wade Div.
 4. Watts Drainage Products Inc.; a div. of Watts Industries, Inc.
 5. Zurn Plumbing Products Group; Specification Drainage Operation.
- J. Faucets: Subject to compliance with requirements, provide products by one of the following:
1. Moen Commercial
 2. Chicago Faucets
 3. Zurn Plumbing Products Group; Commercial Brass Operation.
 4. Elkay Manufacturing Co.
 5. Just Manufacturing Company.
 6. Speakman Company.
 7. T & S Brass and Bronze Works, Inc.
- K. Commercial Sinks: Subject to compliance with requirements, provide products by one of the following:
1. Advance Tabco
 2. Elkay Manufacturing Co.
 3. Just Manufacturing Company.
 4. Eagle Group.
- L. Wash fountains: Subject to compliance with requirements, provide products by one of the following:
1. Acorn Engineering Company.
 2. Bradley Corporation.
- M. Emergency Combination Eyewash: Subject to compliance with requirements, provide products by one of the following:
1. Encon Safety Products.
 2. Guardian Equipment Co.
 3. Haws Corporation.
 4. Acorn Safety.
- N. Protective Shielding Pipe Covers: Subject to compliance with requirements, provide products by one of the following:

1. TRUEBRO, Inc.
2. McGuire Manufacturing Co., Inc.
3. Plumberex Specialty Products Inc.

2.2 FIXTURES

A. F1 - Water Closet:

1. Sloan complete water closet system; WETS-2453.1010 ST2459, elongated vitreous china bowl, 1.6 gallon per flush, siphon jet, wall mounted. Color shall be white.
2. Seat: White open front solid plastic.
3. Flush Valve: Sloan 111; 1.6 gpf: manual operated.
4. Hanger: J. R. Smith.

B. F2 - Water Closet - (ADA):

1. Sloan complete water closet system; WETS-2453.1010 ST2459, elongated vitreous china bowl, 1.6 gallon per flush, siphon jet, wall mounted. Color shall be white.
2. Seat: White open front solid plastic.
3. Flush Valve: Sloan 111; 1.6 gpf: manual operated.
4. Hanger: J. R. Smith.

C. F3 - Urinal:

1. Sloan complete urinal system; WEUS-1005.1010-SU-1009, vitreous china urinal, 0.125 gallon per flush, wall mounted. Color shall be white.
2. Flush Valve: Sloan 186, 0.5 gpf: manual operated.
3. Hanger: J. R. Smith.

D. F4 - Urinal - (ADA):

1. Sloan complete urinal system; WEUS-1005.1010-SU-1009, vitreous china urinal, 0.125 gallon per flush, wall mounted. Color shall be white.
2. Flush Valve: Sloan 186, 0.5 gpf: manual operated.
3. Hanger: J. R. Smith.

E. F5 - Lavatory - (ADA):

1. Sloan wall hung lavatory model SS-3803; white vitreous china; self-draining deck; with contoured back and side splash shields; faucet ledge.
2. Faucet: American Standard chrome ADA metering; model 1340.847; 8" center-set, manual control metering faucet, 0.5 gpm max laminar flow discharge @ .25 or .20 gpc, ASSE 1070 mixing valve and integral checks.
3. Drain: chrome grid drain; chrome tailpiece and P-trap.
4. Supplies: chrome angle supplies with loose key stops.
5. Lav Guard: Truebro Lav Shield.
6. Carrier: J. R. Smith.

F. F6 - Lavatory - (ADA):

1. Sloan wall hung lavatory model SS-3803; white vitreous china; self-draining deck; with contoured back and side splash shields; faucet ledge.

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2. Faucet: American Standard chrome ADA metering; model 1340.847; 8" center-set, manual control metering faucet, 0.5 gpm max laminar flow discharge @ .25 or .20 gpc, ASSE 1070 mixing valve and integral checks.
 3. Drain: chrome grid drain; chrome tailpiece and P-trap.
 4. Supplies: chrome angle supplies with loose key stops.
 5. Lav Guard: Truebro Lav Shield.
 6. Carrier: J. R. Smith.
- G. F7 - Counter Sink:
1. Elkay single bowl model LRAD221950 type 304#18 stainless steel. 22"x19.5"x5" deep. Two faucet holes and rear offset drain. The Plumbing contractor shall make final connections and provide all required valves, drain, fittings, traps etc.
 2. Faucet; Elkay LK406GN05T4, 4" gooseneck with wrist blade handles, 1.5 gpm.
 3. Supplies: Chrome ¼ turn angle supplies – FIP x slip-joint with check stops and loose key handle.
 4. Drain: chrome grid drain; chrome tailpiece and P-trap.
- H. F8 – Countertop Sink w/ Eyewash.
1. Elkay single bowl model LRAD221950 type 304#18 stainless steel. 22"x19.5"x5" deep. Two faucet holes and rear offset drain. The Plumbing contractor shall make final connections and provide all required valves, drains, fittings, traps etc.
 2. Faucet; Elkay LK406GN05T4, 4" gooseneck with wrist blade handles, 1.5 gpm.
 3. Supplies: Chrome ¼ turn angle supplies – FIP x slip-joint with check stops and loose key handle.
 4. Guardian model G1805; Counter-top mounted polished chrome-plated brass swing-away eyewash that features twin polished chrome-plated brass anti-surge soft-flo heads. Polished chrome-plated brass flow control assembly paddle activated and polyethylene plastic dust covers. Eyewash set to deliver potable water at rate not less than 3.0 gpm for at least 15 minutes foot treadle activated. Unit shall comply with ANSI Z358.1.
 5. Thermostatic Mixing Valve: G6020, Emergency Tempering Valve rated for 5 GPM at 20 psig. Designed to provide 90 deg F tepid, potable water at emergency plumbing fixtures, to maintain temperature at plus or minus 5 deg F throughout required 15-minute test period, and in case of unit failure to continue cold-water flow, with union connections, controls, metal piping, and corrosion resistant enclosure. Comply with ANSI Z358.1-2014.
- I. F9 – Pre-Fabricated Shower (ADA):
1. Comfort Designs Asura model XST3838TR 1.125 white acrylic surface shower stall designed for on slab installation, horizontal and vertical grab bars, premium curtain, curtain rod, factory installed phenolic fold-up seat, large soap dish and integral front stainless steel trench drain.
 2. Watts ASSE 1016 thermostatic / pressure mixing valve model E707 with check-stops, lever handle with 60" hand shower system assembly and 30" slide bar.
 3. Brass drain.
 4. ADA compliant collapsible threshold.
- J. F10 - Water Closet:
1. American Standard Baby Devoro model 2282.001 vitreous china bowl, 1.6 gallon per flush, siphon jet, floor mounted. Color shall be white.
 2. Seat: White open front solid plastic.
 3. Flush Valve: Sloan 111; 1.6 gpf: Manual operated.
- K. F11 - Water Closet:

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1. Sloan WETS-2003.1010 ST-2009, elongated vitreous china bowl, 1.6 gallon per flush, siphon jet, floor mounted. Color shall be white.
 2. Seat: White open front solid plastic.
 3. Flush Valve: Sloan 111 ESS; 1.6 gpf: Manual operated.
- L. F12 - Water Closet (ADA):
1. Sloan WETS-2023.1010 ST-2009, elongated vitreous china bowl, 1.6 gallon per flush, siphon jet, floor mounted. Color shall be white.
 2. Seat: White open front solid plastic.
 3. Flush Valve: Sloan 111 ESS; 1.6 gpf: Manual operated.
- M. F13 – Split Level Water Cooler –w/ Bottle Filler:
1. Halsey Taylor ezH2O bottle filling station and Bi-level ADA cooler model EZSTL8WSSK barrier free with bottle filling station, pushbutton activated; rated for 8 gallons per hour at 50 deg F.; Brushed stainless steel finish.
 2. Supply: provide isolation valve in an accessible location on the supply pipe.
 3. Drain: provide chrome p-trap.
 4. Support: Elkay MLP200.
 5. Voltage; 120-1-60.
- N. F14 – Faucet:
1. Faucet: American Standard chrome ADA metering; model 1340.847; 8" center-set, manual control metering faucet, 0.5 gpm max laminar flow discharge @ .25 or .20 gpc, ASSE 1070 mixing valve and integral checks.
 2. Supplies: chrome angle supplies with loose key stops.
- O. F15 – Flush Valve:
1. Flush Valve: Sloan 111-1.6; 1.6 gpf: Manual operated.
- P. F16 – Washing Machine Wall Box:
1. Washer outlet box, see specification Section 22 11 10.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before plumbing fixture installation.
- B. Examine cabinets, counters, floors, and walls for suitable conditions where fixtures will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Assemble plumbing fixtures, trim, fittings, and other components according to manufacturers' written instructions.

- B. Install off-floor supports, affixed to building substrate, for wall-mounting fixtures.
- C. Use carrier supports with waste fitting and seal for back-outlet fixtures.
- D. Use carrier supports without waste fitting for fixtures with tubular waste piping.
- E. Use chair-type carrier supports with rectangular steel uprights for accessible fixtures.
- F. Install back-outlet, wall-mounting fixtures onto waste fitting seals and attach to supports.
- G. Install floor-mounting fixtures on closet flanges or other attachments to piping or building substrate.
- H. Install wall-mounting fixtures with tubular waste piping attached to supports.
- I. Install floor-mounting, back-outlet water closets attached to building floor substrate and wall bracket and onto waste fitting seals.
- J. Install counter-mounting fixtures in and attached to casework.
- K. Install fixtures level and plumb according to roughing-in drawings.
- L. Install water-supply piping with stop on each supply to each fixture to be connected to water distribution piping. Attach supplies to supports or substrate within pipe spaces behind fixtures. Install stops in locations where they can be easily reached for operation
 - 1. Exception: Use ball if supply stops are not specified with fixture. Valves are specified in Division 15 Section "Valves."
- M. Install trap and tubular waste piping on drain outlet of each fixture to be directly connected to sanitary drainage system.
- N. Install tubular waste piping on drain outlet of each fixture to be indirectly connected to drainage system.
- O. Install flushometer valves for accessible water closets and urinals with handle mounted on wide side of compartment. Install other actuators in locations that are easy for people with disabilities to reach.
- P. Install toilet seats on water closets.
- Q. Install faucet-spout fittings with specified flow rates and patterns in faucet spouts if faucets are not available with required rates and patterns. Include adapters if required.
- R. Install water-supply flow-control fittings with specified flow rates in fixture supplies at stop valves.
- S. Install faucet flow-control fittings with specified flow rates and patterns in faucet spouts if faucets are not available with required rates and patterns. Include adapters if required.
- T. Install shower flow-control fittings with specified maximum flow rates in shower arms.
- U. Install escutcheons at piping wall ceiling penetrations in exposed, finished locations and within cabinets and millwork. Use deep-pattern escutcheons if required to conceal protruding fittings.
 - 1. Seal joints between fixtures and walls, floors, and countertops using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color.

3.3 CONNECTIONS

- A. Piping installation requirements are specified in other Division 15 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.

3.4 FIELD QUALITY CONTROL

- A. Verify that installed plumbing fixtures are categories and types specified for locations where installed.
- B. Check that plumbing fixtures are complete with trim, faucets, fittings, and other specified components.
- C. Inspect installed plumbing fixtures for damage. Replace damaged fixtures and components.
- D. Test installed fixtures after water systems are pressurized for proper operation. Replace malfunctioning fixtures and components, then retest. Repeat procedure until units operate properly.
- E. Install fresh batteries in sensor-operated mechanisms.

3.5 ADJUSTING

- A. Operate and adjust faucets and controls. Replace damaged and malfunctioning fixtures, fittings, and controls.
- B. Adjust water pressure at faucets and flushometer valves to produce proper flow and stream.
- C. Replace washers and seals of leaking and dripping faucets and stops.

3.6 CLEANING

- A. Clean fixtures, faucets, and other fittings with manufacturers' recommended cleaning methods and materials. Remove faucet spouts and strainers, remove sediment and debris, and reinstall strainers and spouts. Remove sediment and debris from drains. After completing installation of exposed, factory-finished fixtures, faucets, and fittings, inspect exposed finishes and repair damaged finishes.

3.7 PROTECTION

- A. Provide protective covering for installed fixtures and fittings. Do not allow use of plumbing fixtures for temporary facilities unless approved in writing by Owner.

END OF SECTION 22 40 00