

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

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

1. Faucets for lavatories showers and sinks.
2. Flushometers.
3. Toilet seats.
4. Protective shielding guards.
5. Fixture supports.
6. Dishwasher air-gap fittings.
7. Disposers.
8. Water closets.
9. Urinals.
10. Lavatories.
11. Individual showers.
12. Kitchen sinks.
13. Service sinks.
14. Service basins.
15. Owner-furnished fixtures.

B. Related Sections include the following:

1. Division 10 Section "Toilet, Bath, and Laundry Accessories."
2. Division 22 Section "Domestic Water Piping Specialties" for backflow preventers, floor drains, and specialty fixtures not included in this Section.
3. Division 22 Section "Emergency Plumbing Fixtures."
4. Division 22 Section "Drinking Fountains and Water Coolers."

1.03 DEFINITIONS

- A. ABS: Acrylonitrile-butadiene-styrene plastic.
- B. Accessible Fixture: Plumbing fixture that can be approached, entered, and used by people with disabilities.
- C. Cast Polymer: Cast-filled-polymer-plastic material. This material includes cultured-marble and solid-surface materials.
- D. Cultured Marble: Cast-filled-polymer-plastic material with surface coating.
- E. Fitting: Device that controls the flow of water into or out of the plumbing fixture. Fittings specified in this Section include supplies and stops, faucets and spouts, shower heads

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and tub spouts, drains and tailpieces, and traps and waste pipes. Piping and general-duty valves are included where indicated.

- F. FRP: Fiberglass-reinforced plastic.
- G. PMMA: Polymethyl methacrylate (acrylic) plastic.
- H. PVC: Polyvinyl chloride plastic.
- I. Solid Surface: Nonporous, homogeneous, cast-polymer-plastic material with heat-, impact-, scratch-, and stain-resistance qualities.

1.04 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. LEED Submittal:
 - 1. Product Data for Credit WE 2, 3.1, and 3.2: Documentation indicating flow and water consumption requirements.
- C. Shop Drawings: Diagram power, signal, and control wiring.
- D. Operation and Maintenance Data: For plumbing fixtures to include in emergency, operation, and maintenance manuals.
- E. Warranty: Special warranty specified in this Section.

1.05 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.
- C. Regulatory Requirements: Comply with requirements in ICC A117.1, "Accessible and Usable Buildings and Facilities "Americans with Disabilities Act"; for plumbing fixtures for people with disabilities.
- D. Regulatory Requirements: Comply with requirements in Public Law 102-486, "Energy Policy Act," about water flow and consumption rates for plumbing fixtures.
- E. NSF Standard: Comply with NSF 61, "Drinking Water System Components--Health Effects," for fixture materials that will be in contact with potable water.

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- F. Select combinations of fixtures and trim, faucets, fittings, and other components that are compatible.
- G. Comply with the following applicable standards and other requirements specified for plumbing fixtures:
1. Enameled, Cast-Iron Fixtures: ASME A112.19.1M.
 2. Porcelain-Enameled, Formed-Steel Fixtures: ASME A112.19.4M.
 3. Solid-Surface-Material Lavatories and Sinks: ANSI/ICPA SS-1.
 4. Stainless-Steel Commercial, Handwash Sinks: NSF 2 construction.
 5. Stainless-Steel Residential Sinks: ASME A112.19.3.
 6. Vitreous-China Fixtures: ASME A112.19.2M.
 7. Water-Closet, Flush Valve, Tank Trim: ASME A112.19.5.
 8. Water-Closet, Flushometer Tank Trim: ASSE 1037.
- H. Comply with the following applicable standards and other requirements specified for lavatory and sink faucets:
1. Backflow Protection Devices for Faucets with Side Spray: ASME A112.18.3M.
 2. Backflow Protection Devices for Faucets with Hose-Thread Outlet: ASME A112.18.3M.
 3. Diverter Valves for Faucets with Hose Spray: ASSE 1025.
 4. Faucets: ASME A112.18.1.
 5. Hose-Connection Vacuum Breakers: ASSE 1011.
 6. Hose-Coupling Threads: ASME B1.20.7.
 7. Integral, Atmospheric Vacuum Breakers: ASSE 1001.
 8. NSF Potable-Water Materials: NSF 61.
 9. Pipe Threads: ASME B1.20.1.
 10. Sensor-Actuated Faucets and Electrical Devices: UL 1951.
 11. Supply Fittings: ASME A112.18.1.
 12. Brass Waste Fittings: ASME A112.18.2.
- I. Comply with the following applicable standards and other requirements specified for shower faucets:
1. Backflow Protection Devices for Hand-Held Showers: ASME A112.18.3M.
 2. Combination, Pressure-Equalizing and Thermostatic-Control Antiscald Faucets: ASSE 1016.
 3. Deck-Mounted Shower Transfer Valves: ASME 18.7.
 4. Faucets: ASME A112.18.1.
 5. Hand-Held Showers: ASSE 1014.
 6. High-Temperature-Limit Controls for Thermal-Shock-Preventing Devices: ASTM F 445.
 7. Hose-Coupling Threads: ASME B1.20.7.
 8. Manual-Control Antiscald Faucets: ASTM F 444.
 9. Pipe Threads: ASME B1.20.1.
 10. Pressure-Equalizing-Control Antiscald Faucets: ASTM F 444 and ASSE 1016.
 11. Sensor-Actuated Faucets and Electrical Devices: UL 1951.
 12. Thermostatic-Control Antiscald Faucets: ASTM F 444 and ASSE 1016.
- J. Comply with the following applicable standards and other requirements specified for miscellaneous fittings:
1. Atmospheric Vacuum Breakers: ASSE 1001.
 2. Brass and Copper Supplies: ASME A112.18.1.
 3. Dishwasher Air-Gap Fittings: ASSE 1021.

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4. Manual-Operation Flushometers: ASSE 1037.
 5. Plastic Tubular Fittings: ASTM F 409.
 6. Brass Waste Fittings: ASME A112.18.2.
 7. Sensor-Operation Flushometers: ASSE 1037 and UL 1951.
- K. Comply with the following applicable standards and other requirements specified for miscellaneous components:
1. Disposers: ASSE 1008 and UL 430.
 2. Dishwasher Air-Gap Fittings: ASSE 1021.
 3. Flexible Water Connectors: ASME A112.18.6.
 4. Floor Drains: ASME A112.6.3.
 5. Grab Bars: ASTM F 446.
 6. Hose-Coupling Threads: ASME B1.20.7.
 7. Hot-Water Dispensers: ASSE 1023 and UL 499.
 8. Off-Floor Fixture Supports: ASME A112.6.1M.
 9. Pipe Threads: ASME B1.20.1.
 10. Plastic Toilet Seats: ANSI Z124.5.
 11. Supply and Drain Protective Shielding Guards: ICC A117.1.

1.06 WARRANTY

- A. Special Warranties: Manufacturer's standard form in which manufacturer agrees to repair or replace components of whirlpools that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
 - a. Structural failures of unit shell.
 - b. Faulty operation of controls, blowers, pumps, heaters, and timers.
 - c. Deterioration of metals, metal finishes, and other materials beyond normal use.

1.07 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.
 4. Provide hinged-top wood or metal box, or individual metal boxes, with separate compartments for each type and size of extra materials listed above.
 5. Flushometer Tank, Repair Kits: Equal to 5 percent of amount of each type installed, but no fewer than 2 of each type.
 6. Water-Closet Tank, Repair Kits: Equal to 5 percent of amount of each type installed.
 7. Toilet Seats: Equal to 5 percent of amount of each type installed.
 8. Dry Urinal Trap-Seal Cartridges: Equal to 200 percent of amount of each type installed, but no fewer than 12 of each type.

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9. Dry Urinal Trap-Seal Liquid: Equal to 1 gal (3.8 L) for each urinal installed.

PART 2 - PRODUCTS

2.01 LAVATORY FAUCETS

A. Lavatory Faucets:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
3. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 - a. American Standard Companies, Inc.
 - b. Bradley Corporation.
 - c. Chicago Faucets.
 - d. Delta Faucet Company.
 - e. Eljer.
 - f. Elkay Manufacturing Co.
 - g. Fisher Manufacturing Co.
 - h. Grohe America, Inc.
 - i. Just Manufacturing Company.
 - j. Kohler Co.
 - k. Moen, Inc.
 - l. Royal Brass Mfg. Co.
 - m. Sayco; a Briggs Plumbing Products, Inc. Company.
 - n. Speakman Company.
 - o. T & S Brass and Bronze Works, Inc.
 - p. Zurn Plumbing Products Group; Commercial Brass Operation.
4. Description: Single-control mixing valve. Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture holes; coordinate outlet with spout and fixture receptor.
 - a. Body Material: Commercial, solid brass.
 - b. Finish: Polished brass
 - c. Maximum Flow Rate: 0.5 gpm (1.5 L/min.).
 - d. Centers: 4 inches (102 mm).
 - e. Mounting: Deck, exposed.
 - f. Inlet(s): NPS 3/8 (DN 10) tubing, plain end
 - g. Spout: Rigid type.
 - h. Spout Outlet: Aerato.
 - i. Operation: Sensor.
 - j. Drain: Not required.
 - k. Tempering Device: Pressure balance.

2.02 SHOWER FAUCETS

A. Shower Faucets:

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1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
3. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 - a. American Standard Companies, Inc.
 - b. Brasstech Inc.; Newport Brass Div.
 - c. Broadway Collection.
 - d. Central Brass Manufacturing Company.
 - e. Chicago Faucets.
 - f. Delta Faucet Company.
 - g. Eljer.
 - h. Gerber Plumbing Fixtures LLC.
 - i. Hansgrohe Inc.
 - j. Kohler Co.
 - k. Leonard Valve Company.
 - l. Moen, Inc.
 - m. Paul Decorative Products.
 - n. Pegler, Ltd.
 - o. Powers; a Watts Industries Co.
 - p. Price Pfister, Inc.
 - q. Rohl LLC.
 - r. Royal Brass Mfg. Co.
 - s. Sayco; a Briggs Plumbing Products, Inc. Company.
 - t. Speakman Company.
 - u. Sterling Plumbing Group, Inc.
 - v. St. Thomas Creations.
 - w. Symmons Industries, Inc.
 - x. T & S Brass and Bronze Works, Inc.
 - y. Wolverine Brass, Inc.
 - z. Zurn Plumbing Products Group; AquaSpec Commercial Faucet Operation.
 - aa. Zurn Plumbing Products Group; Wilkins Operation.
4. Description: Single-handle pressure-balance valve. Include hot- and cold-water indicators; check stops; and shower head, arm, and flange. Coordinate faucet inlets with supplies and outlet with diverter valve.
 - a. Body Material: Solid brass.
 - b. Finish: Polished chrome plate.
 - c. Maximum Flow Rate: 2.5 gpm (9.5 L/min.), unless otherwise indicated.
 - d. Diverter Valve: Not required.
 - e. Mounting: Exposed or Concealed.
 - f. Operation: Compression, manual.
 - g. Antiscald Device: Integral with mixing valve.
 - h. Check Stops: Check-valve type, integral with or attached to body; on hot- and cold-water supply connections.
 - i. Supply Connections: NPS 1/2 (DN 15).
 - j. Shower Head Type: Ball joint and head integral with mounting flange or Hand held, slide-bar mounted.
 - k. Shower Head Material: Metallic with chrome-plated finish.
 - l. Spray Pattern: Fixed.
 - m. Integral Volume Control: Required.
 - n. Shower-Arm Flow-Control Fitting: 1.5 gpm (5.7 L/min.).

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- o. Temperature Indicator: Integral with faucet.

2.03 SINK FAUCETS

A. Sink Faucets:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
3. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 - a. American Standard Companies, Inc.
 - b. Bradley Corporation.
 - c. Broadway Collection.
 - d. Chicago Faucets.
 - e. Delta Faucet Company.
 - f. Dormont Manufacturing Company.
 - g. Eljer.
 - h. Elkay Manufacturing Co.
 - i. Fisher Manufacturing Co.
 - j. Grohe America, Inc.
 - k. Just Manufacturing Company.
 - l. Kohler Co.
 - m. Moen, Inc.
 - n. Royal Brass Mfg. Co.
 - o. Sayco; a Briggs Plumbing Products, Inc. Company.
 - p. Speakman Company.
 - q. T & S Brass and Bronze Works, Inc.
 - r. Zurn Plumbing Products Group; Commercial Brass Operation.
 - s. American Standard Companies, Inc.
 - t. Bradley Corporation.
 - u. Brasstech Inc.; Newport Brass Div.
 - v. Broadway Collection.
 - w. Central Brass Manufacturing Company.
4. Description: Kitchen faucet with spray, four-hole fixture. Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture holes; coordinate outlet with spout and fixture receptor.
 - a. Body Material: Commercial, solid brass
 - b. Finish: Polished brass.
 - c. Maximum Flow Rate: 2.5 gpm (9.5 L/min.), unless otherwise indicated.
 - d. Mixing Valve: Two-lever handle.
 - e. Backflow Protection Device for Hose Outlet: Required.
 - f. Backflow Protection Device for Side Spray: Required.
 - g. Centers: 8 inches (203 mm).
 - h. Mounting: Deck.
 - i. Handle(s): Wrist blade, 4 inches (102 mm).
 - j. Inlet(s): NPS 3/8 (DN 10) plain-end tubing.
 - k. Spout Type: Rigid, Swing, round tubular.
 - l. Spout Outlet: Aerator.
 - m. Vacuum Breaker: Required.

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- n. Operation: Compression, manual.
- o. Drain: Grid.

2.04 FLUSHOMETERS

A. Flushometers:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
3. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 - a. Coyne & Delany Co.
 - b. Delta Faucet Company.
 - c. Sloan Valve Company.
 - d. Zurn Plumbing Products Group; Commercial Brass Operation.
 - e. Hydrotek International, Inc.
 - f. Sloan Valve Company.
 - g. TOTO USA, Inc.
4. Description: Flushometer for urinal and water-closet-type fixture. Include brass body with corrosion-resistant internal components, non-hold-open feature, control stop with check valve, vacuum breaker, copper or brass tubing, and polished chrome-plated finish on exposed parts.
 - a. Internal Design: Diaphragm or piston operation.
 - b. Style: Exposed.
 - c. Inlet Size: NPS 3/4 (DN 20).
 - d. Trip Mechanism: Battery-operated sensor actuator.
 - e. Consumption: As Shown.

2.05 TOILET SEATS

A. Toilet Seats:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
3. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 - a. American Standard Companies, Inc.
 - b. Bemis Manufacturing Company.
 - c. Centoco Manufacturing Corp.
 - d. Church Seats.
 - e. Eljer.
 - f. Kohler Co.
 - g. Olsonite Corp.

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- h. Sanderson Plumbing Products, Inc.; Beneke Div.
 - i. Sperzel.
4. Description: Toilet seat for water-closet-type fixture.
- a. Material: Molded, solid plastic with antimicrobial agent.
 - b. Configuration: Open front without cover.
 - c. Size: Elongated.
 - d. Hinge Type: CK, check.
 - e. Class: Standard commercial.

 - f. Color: White.

2.06 PROTECTIVE SHIELDING GUARDS

A. Protective Shielding Pipe Covers:

- 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- 2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Engineered Brass Co.
 - b. Insul-Tect Products Co.; a Subsidiary of MVG Molded Products.
 - c. McGuire Manufacturing Co., Inc.
 - d. Plumberex Specialty Products Inc.
 - e. TCI Products.
 - f. TRUEBRO, Inc.
 - g. Zurn Plumbing Products Group; Tubular Brass Plumbing Products Operation.
- 3. Description: Manufactured plastic wraps for covering plumbing fixture hot- and cold-water supplies and trap and drain piping. Comply with Americans with Disabilities Act (ADA) requirements.

B. Protective Shielding Piping Enclosures,:

- 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- 2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. TRUEBRO, Inc.
- 3. Description: Manufactured plastic enclosure for covering plumbing fixture hot- and cold-water supplies and trap and drain piping. Comply with ADA requirements.

2.07 FIXTURE SUPPORTS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Josam Company.
 - 2. MIFAB Manufacturing Inc.
 - 3. Smith, Jay R. Mfg. Co.
 - 4. Tyler Pipe; Wade Div.
 - 5. Watts Drainage Products Inc.; a div. of Watts Industries, Inc.
 - 6. Zurn Plumbing Products Group; Specification Drainage Operation.

- C. Water-Closet Support:
 - 1. Description: Combination carrier designed for accessible and standard mounting height of wall-mounting, water-closet-type fixture. Include single or double, vertical or horizontal, hub-and-spigot or hubless waste fitting as required for piping arrangement; faceplates; couplings with gaskets; feet; and fixture bolts and hardware matching fixture. Include additional extension coupling, faceplate, and feet for installation in wide pipe space.

- D. Urinal Supports:
 - 1. Description: Type I, urinal carrier with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture for wall-mounting, urinal-type fixture. Include steel uprights with feet.
 - 2. Accessible-Fixture Support: Include rectangular steel uprights.

- E. Lavatory Supports:
 - 1. Description: Type I, lavatory carrier with exposed arms and tie rods for wall-mounting, lavatory-type fixture. Include steel uprights with feet.
 - 2. Accessible-Fixture Support: Include rectangular steel uprights.

- F. Sink Supports:
 - 1. Description: Type I, sink carrier with exposed arms and tie rods for sink-type fixture. Include steel uprights with feet.

2.12 DISHWASHER AIR-GAP FITTINGS:

- A. Dishwasher Air-Gap Fittings:
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. B & K Industries, Inc.

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- b. Brass Craft Mfg. Co.; a Subsidiary of Masco Corporation.
 - c. Brasstech Inc.; Newport Brass Div.
 - d. Dearborn Brass; a div. of Moen, Inc.
 - e. Geberit Manufacturing, Inc.
 - f. JB Products; a Federal Process Corporation Company.
 - g. Sioux Chief Manufacturing Company, Inc.
 - h. Watts Brass & Tubular; a division of Watts Regulator Co.
3. Description: Fitting suitable for use with domestic dishwashers and for deck mounting; with plastic body, chrome-plated brass cover; and capacity of at least 5 gpm (0.32 L/s); and inlet pressure of at least 5 psig (35 kPa) at a temperature of at least 140 deg F (60 deg C). Include 5/8-inch- (16-mm-) ID inlet and 7/8-inch- (22-mm-) ID outlet hose connections.
 4. Hoses: Rubber and suitable for temperature of at least 140 deg F (60 deg C).
 - a. Inlet Hose: 5/8-inch (16-mm) ID and [48 inches (1219 mm)] long.
 - b. Outlet Hose: 7/8-inch (22-mm) ID and [48 inches (1219 mm)] long.

2.13 DISPOSERS

A. Disposers:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
3. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 - a. American Standard Companies, Inc.
 - b. Franke Consumer Products, Inc.; Kitchen Systems Div.
 - c. In-Sink-Erator; a div. of Emerson Electric Co.
 - d. KitchenAid.
 - e. Maytag Co.
4. Description: Batch-feed household, food-waste disposer. Include reset button; wall switch; corrosion-resistant chamber with jam-resistant, cutlery- or stainless-steel grinder or shredder; NPS 1-1/2 (DN 40) outlet; quick-mounting, stainless-steel sink flange; antisplash guard; and combination cover/stopper.
 - a. Type: Batch-feed household.
 - b. Model: Sound-insulated chamber and stainless-steel outer shell.
 - c. Motor: 115-V ac, 1725 rpm, with overload protection.

2.14 WATER CLOSETS

A. Water Closets:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

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2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
3. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 - a. Crane Plumbing, L.L.C./Fiat Products.
 - b. American Standard Companies, Inc.
 - c. American Standard Companies, Inc.
 - d. Briggs Plumbing Products, Inc.
 - e. Capizzi.
 - f. Crane Plumbing, L.L.C./Fiat Products.
 - g. Eljer.
 - h. Kohler Co.
 - i. St. Thomas Creations.
 - j. TOTO USA, Inc.
4. Description Accessible, wall-mounting, back-outlet, vitreous-china fixture designed for flushometer valve operation.
 - a. Style: One piece.
 1. Bowl Type: Elongated with siphon-jet design.
 2. Design Consumption: 1.6 gal./flush (6 L/flush).
 3. Tank: Gravity type with trim Flushometer-tank type with trim and pressurized tank. Include cover.
 4. Trip Mechanism: Lever-handle Push-button actuator.
 5. Color: White.
 - b. Style: Flushometer valve.
 1. Bowl Type: Elongated with siphon-jet or blowout design.
 2. Design Consumption: 1.6 gal./flush (6 L/flush).
 3. Color: White.
 - c. Flushometer: As Shown.
 - d. Toilet Seat: As Shown.
 - e. Fixture Support: Water-closet support combination carrier.

2.15 URINALS

- A. Urinals:
 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 3. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 - a. American Standard Companies, Inc.
 - b. Briggs Plumbing Products, Inc.

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- c. Capizzi.
 - d. Crane Plumbing, L.L.C./Fiat Products.
 - e. Duravit USA, Inc.
 - f. Eljer.
 - g. Kohler Co.
 - h. Mansfield Plumbing Products, Inc.
 - i. Peerless Pottery, Inc.
 - j. Sanitarios Azteca, S.A. de C.V.
 - k. St. Thomas Creations.
 - l. TOTO USA, Inc.
4. Description: Accessible, wall-mounting, back-outlet, vitreous-china fixture designed for flushometer valve operation.
- a. Type: Siphon jet with extended shields.
 - b. Strainer or Trapway: Integral cast strainer with integral trap.
 - c. Design Consumption: 1 gal./flush (3.8 L/flush) [1.5 gal./flush (5.7 L/flush)]
 - d. Color: White.
 - e. Supply Spud Size: NPS 3/4 (DN 20).
 - f. Outlet Size: NPS 2 (DN 50).
 - g. Flushometer: As Shown/
 - h. Fixture Support: Urinal chair carrier.

2.16 LAVATORIES

A. Lavatories:

- 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- 2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- 3. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 - a. American Standard Companies, Inc.
 - b. Barclay Products, Ltd.
 - c. Briggs Plumbing Products, Inc.
 - d. Crane Plumbing, L.L.C./Fiat Products.
 - e. Eljer.
 - f. Gerber Plumbing Fixtures LLC.
 - g. Kohler Co.
 - h. Mansfield Plumbing Products, Inc.
 - i. Peerless Pottery, Inc.
 - j. Sterling Plumbing Group, Inc.
 - k. St. Thomas Creations.
 - l. TOTO USA, Inc.
- 4. Description: Accessible, wall -mounting, vitreous-china fixture.
 - a. Type: With back.
 - b. Size: 18 by 15 inches (457 by 381 mm) rectangular- As shown.
 - c. Faucet Hole Punching: Three holes, 4-inch (102-mm) centers.
 - d. Faucet Hole Location: Top.
 - e. Pedestal: Required.

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- f. Color: White
- g. Faucet: Lavatory for separate drain.
- h. Supplies: NPS 3/8 (DN 10) chrome-plated copper with stops.
- i. Drain: Grid with offset waste.
- j. Drain Piping: NPS 1-1/4 by NPS 1-1/2 (DN 32 by DN 40) chrome-plated, cast-brass P-trap; NPS 1-1/2 (DN 40), 0.032-inch- (0.8-mm-) thick tubular brass waste to wall; and wall escutcheon.
- k. Protective Shielding Guard(s): As Shown.
- l. Fixture Support: Lavatory .As Shown.

2.17 KITCHEN SINKS

A. Kitchen Sinks:

- 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- 2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- 3. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 - a. Dayton Products, Inc.
 - b. Elkay Manufacturing Co.
 - c. Franke Consumer Products, Inc., Kitchen Systems Div.
 - d. Just Manufacturing Company.
 - e. Kohler Co.
 - f. Moen, Inc.
 - g. Revere Sink.
 - h. Sterling Plumbing Group, Inc.
 - i. Teka USA.
 - j. WhiteRock Corp.
- 4. Description: Two-bowl, residential, counter-mounting, stainless-steel kitchen sink.
 - a. Overall Dimensions: As Shown.
 - b. Metal Thickness: As Shown.
 - c. Bowl:
 - 1. Dimensions: As Shown.
 - 2. Drain: 3-1/2-inch (89-mm) grid.
 - a. Location: As Shown.
 - d. Sink Faucet:
 - e. Supplies: NPS 1/2 (DN 15) chrome-plated copper with stops.
 - f. Drain Piping: NPS 1-1/2 (DN 40) chrome-plated, cast-brass P-trap; 0.045-inch- (1.1-mm-) thick tubular brass waste to wall; continuous waste; and wall escutcheon(s).
 - g. Disposer: Not required.
 - h. Dishwasher Air-Gap Fitting: Not required.
 - i. Hot-Water Dispenser: Not required

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2.18 SERVICE BASINS

A. Service Basins:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
3. Basis-of-Design Product: Subject to compliance with requirements, provide [the product indicated on Drawings] <Insert manufacturer's name; product name or designation> or a comparable product by one of the following:
 - a. Acorn Engineering Company.
 - b. Crane Plumbing, L.L.C./Fiat Products.
 - c. Florestone Products Co., Inc.
 - d. Precast Terrazzo Enterprises, Inc.
 - e. Stern-Williams Co., Inc.
 - f. Mustee, E. L. & Sons, Inc.
 - g. Swan Corporation (The).
 - h. Zurn Plumbing Products Group; Light Commercial Operation.
4. Description: Flush-to-wall, floor-mounting,[cast-polymer fixture with rim guard.
 - a. Shape: Square.
 - b. Size: As Shown.
 - c. Height: As Shown..
 - d. Tiling Flange: As Shown.
 - e. Rim Guard: On all top surfaces.
 - f. Color: Not applicable
 - g. Faucet: Sink As Shown..
 - h. Drain: Grid with NPS 3 (DN 80) outlet.

PART 3 -EXECUTION

3.01 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.

3.02 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.

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1. Use carrier supports with waste fitting and seal for back-outlet fixtures.
 2. Use carrier supports without waste fitting for fixtures with tubular waste piping.
 3. Use chair-type carrier supports with rectangular steel uprights for accessible fixtures.
- C. Install back-outlet, wall-mounting fixtures onto waste fitting seals and attach to supports.
- D. Install floor-mounting fixtures on closet flanges or other attachments to piping or building substrate.
- E. Install wall-mounting fixtures with tubular waste piping attached to supports.
- F. Install counter-mounting fixtures in and attached to casework.
- G. Install fixtures level and plumb according to roughing-in drawings.
- H. 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, gate, or globe valves if supply stops are not specified with fixture. Valves are specified in Division 22 Section "General-Duty Valves for Plumbing Piping."
- I. Install trap and tubular waste piping on drain outlet of each fixture to be directly connected to sanitary drainage system.
- J. Install tubular waste piping on drain outlet of each fixture to be indirectly connected to drainage system.
- K. 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.
- L. Install toilet seats on water closets.
- M. 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.
- N. Install water-supply flow-control fittings with specified flow rates in fixture supplies at stop valves.
- O. 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.
- P. Install shower flow-control fittings with specified maximum flow rates in shower arms.
- Q. Install traps on fixture outlets.
1. Exception: Omit trap on fixtures with integral traps.
 2. Exception: Omit trap on indirect wastes, unless otherwise indicated.
- R. Install escutcheons at piping wall ceiling penetrations in exposed, finished locations and within cabinets and millwork. Use deep-pattern escutcheons if required to conceal

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protruding fittings. Escutcheons are specified in Division 22 Section "Escutcheons for Plumbing Piping."

- S. Set service basins in leveling bed of cement grout. Grout is specified in Division 22 Section "Common Work Results for Plumbing."
- T. Seal joints between fixtures and walls, floors, and countertops using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Sealants are specified in Division 07 Section "Joint Sealants."

3.03 CONNECTIONS

- A. Piping installation requirements are specified in other Division 22 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.
- C. Ground equipment according to Division 26 Section "Grounding and Bonding for Electrical Systems."
- D. Connect wiring according to Division 26 Section "Low-Voltage Electrical Power Conductors and Cables."

3.04 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.

3.05 ADJUSTING

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

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- E. Install fresh batteries in sensor-operated mechanisms.

3.06 CLEANING

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

3.07 PROTECTION

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

****END OF SECTION****