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## SECTION 224300 - HEALTHCARE PLUMBING FIXTURES

### **TIPS:**

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## PART 1 - GENERAL

### 1.1 SUMMARY

#### A. Section Includes:

1. Healthcare water closets.
2. Flushometer valves.
3. Toilet seats.
4. Patient care units.
5. Healthcare showers.
6. Healthcare shower valves.
7. Healthcare bathing units.
8. Bedpan washers.

9. Bedpan washing equipment.
10. Clinic sinks.
11. Plaster sinks.
12. Scrub sinks.
13. Infection prevention sinks.
14. Wash-up sinks.
15. Sink faucets.
16. Laminar-flow, faucet-spout outlets.
17. Hydrotherapy whirlpools.
18. Outlet boxes.
19. Morgue equipment.
20. Supports.
21. Supply fittings.
22. Waste fittings.
23. Grout.

B. Related Requirements:

1. Section 224100 "Residential Plumbing Fixtures" for residential plumbing fixtures for use in healthcare facilities, but not requiring special healthcare fixture attributes.
2. Section 224213.13 "Commercial Water Closets" for conventional water closets, flushometer valves, carriers, and seats for use in healthcare facilities, but not requiring special healthcare fixture attributes.
3. Section 224213.16 "Commercial Urinals" for urinals for use in healthcare facilities.
4. Section 224216.13 "Commercial Lavatories" for lavatories for use in healthcare facilities, but not requiring special healthcare fixture attributes.
5. Section 224216.16 "Commercial Sinks" for sinks for use in healthcare facilities, but not requiring special healthcare fixture attributes.
6. Section 224223 "Commercial Showers" for showers for use in healthcare facilities, but not requiring special healthcare fixture attributes.
7. Section 224500 "Emergency Plumbing Fixtures" for emergency showers and eye-wash units.

## 1.2 ACTION SUBMITTALS

A. Product Data:

1. Construction details, material descriptions, dimensions of individual components and profiles, and finishes for fixtures.
2. Rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

B. Shop Drawings: Diagrams for power, signal, and control wiring.

C. Sustainable Design Submittals:

1. Product Data: For water consumption.
2. Plumbing Fixtures: Provide the following:

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- a. Manufacturer cut sheet indicating water consumption.
- b. WaterSense certification for residential fixtures, commercial water closets, commercial urinals, and commercial showers.

## 1.3 CLOSEOUT SUBMITTALS

## A. Operation and Maintenance Data: For plumbing fixtures and faucets.

1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:
  - a. Servicing and adjustments of [**flushometer valves**] [**electronic sensors**] [**healthcare bathing units**] [**bedpan washer/sanitizers**] [**hydrotherapy whirlpools**] [**and**] [**morgue equipment**].

## 1.4 MAINTENANCE MATERIAL SUBMITTALS

## A. Extra Stock Material: Furnish extra materials to Owner 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**] <Insert number> percent of amount of each type and size installed.
2. Faucet Cartridges and O-Rings: Equal to [**5**] <Insert number> percent of amount of each type and size installed.
3. Flushometer-Valve Repair Kits: Equal to [**10**] <Insert number> percent of amount of each type installed, but no fewer than [**one**] [**six**] <Insert number> of each type.
4. Toilet Seats: Equal to [**5**] <Insert number> percent of amount of each type installed.

## PART 2 - PRODUCTS

## 2.1 SOURCE LIMITATIONS

- A. Obtain each product type from single manufacturer.

## 2.2 PERFORMANCE REQUIREMENTS

- A. Comply with ASME A112.19.2/CSA B45.1 for vitreous-china plumbing fixtures.
- B. Comply with ASME A112.19.3/CSA B45.4 for stainless steel plumbing fixtures.
- C. Comply with ASSE 1037/ASME A112.1037/CSA B125.37 for flush valves.
- D. Comply with ASME A112.19.5/CSA B45.15 for flush valves and spuds for water closets.
- E. Comply with ASME A112.18.1/CSA B125.1 for plumbing supply fittings.

- F. Comply with ASME A112.18.2/CSA B125.2 for plumbing waste fittings.
- G. Comply with IAPMO Z124.5 for water-closet (toilet) seats.
- H. Comply with ASME A112.6.1M for plumbing fixture supports.
- I. Comply with ASSE 1016/ASME A112.1016/CSA B125.16 for shower valves.
- J. Comply with ICC A117.1 for ADA-compliant, accessible plumbing fixtures and installation.
- K. Comply with ASTM A1045 for flexible PVC gaskets used in connection of vitreous-china water closets to sanitary drainage systems.
- L. Comply with ASME A112.4.3 for plastic fittings used in connection of vitreous-china water closets to sanitary drainage systems.
- M. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.
- N. Faucets and bubblers intended to convey or dispense water for human consumption are to comply with the U.S. Safe Drinking Water Act (SDWA), with requirements of the Authority Having Jurisdiction (AHJ), and with NSF 61/NSF 372 or are certified in compliance with NSF 61/NSF 372 by an ANSI-accredited third-party certification body, that the weighted average lead content at wetted surfaces is less than or equal to 0.25 percent.

## 2.3 HEALTHCARE WATER CLOSETS

- A. Healthcare Water Closets, Vitreous China, Wall Mounted, [Top] [Back] Spud[, Accessible]: <Insert drawing designation>.
  - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; <Insert product name or designation> or comparable product by one of the following:
    - a. American Standard.
    - b. Crane Plumbing, LLC; a division of American Standard.
    - c. Kohler Co.
    - d. Sloan Valve Company.
    - e. TOTO USA, INC.
    - f. Zurn Industries, LLC.
    - g. <Insert manufacturer's name>.
  - 2. Bowl:
    - a. Material: Vitreous china.
    - b. Type: Siphon jet.
    - c. Style: [Flushometer valve] [Tank type].
    - d. Height: Standard.
    - e. Rim Contour: Elongated with bedpan lugs or slots.

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- f. Water Consumption: [**1.28 gal. (4.8 L)**] [**1.6 gal. (6.0 L)**] [**1.6/1.1 gal (7.2/5.0 L) dual flush**] per flush.
  - g. Spud Size: **NPS 1-1/2 (DN 40)**.
3. Flushometer Valve: **<Insert flushometer-valve designation>**.
  4. Toilet Seat: **<Insert toilet-seat designation>**.
  5. Water-Closet Support: [**Water-closet carrier**] **<Insert carrier>**.
  6. Water-Closet Mounting Height: [**Standard**] [**Child**] [**ADA compliant**].
- B. Healthcare Water Closets, Vitreous China, Floor Mounted, [**Floor**] [**Back**] Outlet, [**Top**] [**Back**] Spud[, **Accessible**]: **<Insert drawing designation>**.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. American Standard.
    - b. Crane Plumbing, LLC; a division of American Standard.
    - c. Kohler Co.
    - d. Sloan Valve Company.
    - e. TOTO USA, INC.
    - f. **<Insert manufacturer's name>**.
  2. Bowl:
    - a. Material: Vitreous china.
    - b. Type: Siphon jet.
    - c. Style: [**Flushometer valve**] [**Tank type**].
    - d. Height: [**Standard**] [**ADA compliant**].
    - e. Rim Contour: Elongated with bedpan lugs or slots.
    - f. Water Consumption: [**1.28 gal (4.8 L)**] [**1.6 gal (6.0 L)**] [**1.6/1.1 gal (7.2/5.0 L) dual flush**] per flush.
    - g. Spud Size: **NPS 1-1/2 (DN 40)**.
  3. Flushometer Valve: **<Insert flushometer-valve designation>**.
  4. Toilet Seat: **<Insert toilet-seat designation>**.
- C. Healthcare Water Closets, Vitreous China, Wall Mounted, Back Outlet, [**Top**] [**Back**] Spud[, **Accessible**]: **<Insert drawing designation>**.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. American Standard.
    - b. Crane Plumbing, LLC; a division of American Standard.
    - c. Sloan Valve Company.
    - d. **<Insert manufacturer's name>**.
  2. Bowl:
    - a. Material: Vitreous china.

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- b. Type: Siphon jet.
  - c. Style: [Flushometer valve] [Tank type] [Dual flush].
  - d. Height: [Standard] [ADA compliant].
  - e. Rim Contour: Elongated with bedpan lugs or slots.
  - f. Water Consumption: [1.28 gal (4.8 L)] [Dual flush] [1.6/1.1 gal (7.2/5.0 L) dual flush] <Insert drawing designation> per flush.
  - g. Spud Size: NPS 1-1/2 (DN 40).
- 3. Flushometer Valve: <Insert flushometer-valve designation>.
  - 4. Toilet Seat: <Insert toilet-seat designation>.
- D. Healthcare Bariatric Water Closets, Stainless Steel, [Floor] [Wall] Mounted, [Wall] [Floor] Outlet, [Top] [Wall] Spud[, Accessible]: <Insert drawing designation>.
- 1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing; Morris Group International, Bariatric Toilet model WH2125-A; <Insert drawing designation for product > or comparable product by one of the following:
    - a. Willoughby Industries.
    - b. Zurn Industries, LLC
    - c. <Insert manufacturer's name>.
  - 2. Water Closet:
    - a. Applicable Standards:
      - 1) ASME A112.19.3/CSA B45.4.
      - 2) Cal Green.
      - 3) EPA WaterSense Specifications for High Efficiency Flushometer Water Closets.
    - b. Bowl:
      - 1) Material: 14 gauge minimum-thickness, Type 304 stainless steel.
      - 2) Finish: [No. 4 satin finish on exposed surfaces] [Powder coated finish on exterior exposed surfaces] <Insert color from manufacturer's color chart>.
      - 3) Toilet Seat: [Big John brand plastic hinged toilet seat, open front, less cover] [Big John brand plastic hinged toilet seat, open front, with cover] [Less punch for toilet seat].
      - 4) Type: Blowout jet, integral trap.
      - 5) Rim Height: 15 inches (381 mm) above finished floor.
      - 6) Rim Height for ADA-Compliant Installation: 18 inches (457 mm) above finished floor.
    - c. Floor Outlet Waste Connection: [7-1/2 inch (191 mm) water-closet gasket waste flange] [NPS 2 (DN 50) extended 3 inches (76 mm) beyond back of unit].
    - d. Water Consumption: [1.28 gal (4.8 L)] [1.6 gal (6 L)] per flush.
    - e. Spud Size and Location: NPS 1-1/2 (DN 40); top.
    - f. Supply Pressure: 25 psig (172 kPa), minimum.

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- g. Cabinet Mounting: [**On-**] [**Off-**] floor.
  - h. Fixture Mounting: Install from fixture side to reinforced wall and to floor with floor anchors.
  - i. Load Rating: **1000 lb.** **455 kg.**
- 1. Flushometer Valve: [**Mechanical**] [**Field-furnished flush valve**] [**Hydraulic (ADA)**] [**ADA lever handle (wall supply)**] [**Time-trol flush valve (N/A for top supply)**] <Insert flushometer-valve designation>.
  - 2. Accessories:
    - a. Bedpan lugs.
    - b. Flood-trol.
    - c. Flood-trol, auto-reset.
    - d. Flood-trol, electronic.
    - e. Flush thru wall connector.
    - f. Plain end toilet waste.
    - g. Toilet shipping cover.
    - h. Transformer: 120 V ac to 24 V ac.
    - i. 2-3/8 P-trap with 3" plain end waste outlet (Rear mount only)
    - j. Wall sleeve.
- E. Healthcare Bariatric Water Closets, Stainless Steel, Wall Mounted, Wall Outlet, [**Top**] [**Wall**] Spud[, **Accessible**]: <Insert drawing designation>.
- 1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing; Morris Group International, Bariatric Toilet model 2105BAR; <Insert drawing designation for product > or comparable product by one of the following:
    - a. Willoughby Industries.
    - b. Zurn Industries, LLC.
    - c. <Insert manufacturer's name>.
  - 2. Water Closet:
    - a. Applicable Standards:
      - 1) ASME A112.19.3/CSA B45.4.
      - 2) Cal Green.
      - 3) EPA WaterSense Specifications for High Efficiency Flushometer Water Closets.
    - b. Bowl:
      - 1) Material: 14 gauge minimum-thickness, Type 304 stainless steel.
      - 2) Finish: [**No. 4 satin finish on exposed surfaces**] [**Powder coated finish on exterior exposed surfaces**] <Insert color from manufacturer's color chart>.
      - 3) Type: Siphon jet, elongated, integral trap.

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- 1) Toilet Seat: [**Big John brand plastic hinged toilet seat, open front, less cover**] [**Big John brand plastic hinged toilet seat, open front, with cover**] [**Punched for field-installed toilet seat**].
  - 2) Rim Height: **15 inches (381 mm)** above finished floor.
  - 3) Rim Height for ADA-Compliant Installation: **18 inches (457 mm)** above finished floor.
- c. Wall Outlet Waste Connection: [**Gasket waste flange.**] [**NPS 2 (DN 50)** extended **3 inches (76 mm)**] beyond back of unit].
  - d. Water Consumption: [**1.28 gal (4.8 L)**] [**1.6 gal (6 L)**] [**3.5 gal (13.2 L)**] per flush.
  - e. Spud Size and Location: **NPS 1-1/2 (DN 40)**.
  - f. Supply Pressure: **25 psig (172 kPa)**, minimum.
  - g. Cabinet Mounting: Off-floor.
  - h. Fixture Mounting: Install from fixture side to reinforced wall or bariatric rated mounting carrier by others
  - i. Load rating: 1,000 lbs.
3. Flushometer Valve: [**Mechanical**] [**Field-furnished flush valve**] [**Hydraulic (ADA)**] [**ADA lever handle (wall supply)**] [**Time-trol flush valve (N/A for top supply)**]**<Insert flushometer-valve designation>**.
4. Accessories:
    - a. Bedpan lugs.
    - b. Flood-trol.
    - c. Flood-trol, auto-reset.
    - d. Flood-trol, electronic.
    - e. Flush thru wall connector.
    - f. High efficiency toilet design.
    - g. Transformer: 120 V ac to 24 V ac.
    - h. Blind cap nuts.
    - i. Cap nuts.
    - j. Toilet shipping cover.
    - k. Transformer: 120 V ac to 24 V ac.
    - l. Vacuum flush system.
- F. Healthcare Ligature-Resistant Water Closets, Stainless Steel, Wall Mounted, [**Wall**] [**Floor**] Outlet, [**Top**] [**Wall**] Spud, [**Standard**] [**Accessible**]: **<Insert drawing designation>**.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing; Morris Group International, Bariatric Toilet model [**WH2142-W**] [**WH2142-ADA-W**] [**WH2142-T**] [**WH2142-ADA-T**]; **<Insert drawing designation for product >** or comparable product by one of the following:
    - a. Willoughby Industries.
    - b. Bradley.
    - c. **<Insert manufacturer's name>**.
  2. Water Closet:



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- a. Applicable Standards:
    - 1) ASME A112.19.3/CSA B45.4.
    - 2) Cal Green.
    - 3) EPA WaterSense Specifications for High Efficiency Flushometer Water Closets.
  - b. Bowl:
    - 1) Material: 16 gauge minimum-thickness, Type 304 stainless steel.
    - 2) Finish: [No. 4 satin finish on exposed surfaces] [Powder coated finish on exterior exposed surfaces] <Insert color from manufacturer's color chart>.
    - 3) Toilet Seat: Affixed [gray] [dignity blue] [white] [black], ligature-resistant, ABS plastic.
    - 4) Rim Height: 15 inches (381 mm) above finished floor.
    - 5) Rim Height for ADA-Compliant Installation: 18 inches (457 mm) above finished floor.
  - c. Floor Outlet Waste Connection (Siphon-Jet): [5-1/2 inch (140 mm) gasket waste flange.] [7-1/2 inch (191 mm) gasket waste flange.] [10 inch (254 mm) gasket waste flange.] [12 inch (305 mm) gasket waste flange.] [NPS 2 (DN 50) extended 3 inches (76 mm)] beyond back of unit].
  - d. Wall Outlet Waste Connection (Siphon-Jet): 5-1/2 inch (140 mm) Gasket waste flange.
  - e. Water Consumption: [1.28 gal (4.8 L)] [1.6 gal (6 L)] per flush.
  - f. Spud Size and Location: NPS 1-1/2 (DN 40).
  - g. Supply Pressure: 25 psig (172 kPa), minimum.
  - h. Fixture Mounting: Install from fixture side to reinforced wall or bariatric rated mounting carrier by others
  - i. Load rating: 1,000 lbs.
3. Flushometer Valve: [Mechanical] [Hydraulic (ADA)] <Insert flushometer-valve designation>.
- G. Healthcare Ligature-Resistant Tank Style Water Closets, Stainless Steel, Wall Mounted, Wall Outlet, Accessible: <Insert drawing designation>.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing; Morris Group International, Bariatric Toilet model WH2145; <Insert drawing designation > or comparable product by one of the following:
    - a. Willoughby Industries.
    - b. Zurn Industries, LLC.
    - c. <Insert manufacturer's name>.
  2. Water Closet:
    - a. Applicable Standards:

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- 1) ASME A112.19.3/CSA B45.4.
  - 2) Cal Green.
- b. Bowl:
- 1) Material: 16 gauge minimum-thickness, Type 304 stainless steel.
  - 2) Finish: Powder coated finish on exterior exposed surfaces <Insert color from manufacturer's color chart>.
  - 3) Type: Siphon jet, elongated, integral trap, self-draining flushing rim.
  - 4) Toilet Seat: Affixed [white] [gray] [white] [black], ligature-resistant, ABS plastic.
  - 5) Rim Height: 15 inches (381 mm) above finished floor.
  - 6) Rim Height for ADA-Compliant Installation: 18 inches (457 mm) above finished floor.
- c. Floor Outlet Waste Connection (Siphon-Jet): [10 inch (254 mm) gasket waste flange] [12 inch (305 mm) gasket waste flange].
- d. Wall Outlet Waste Connection (Siphon-Jet): 7-1/2 inch (191 mm) Gasket waste flange.
- e. Water Consumption: [1.28 gal (4.8 L)] [1.6 gal (6 L)] per flush.
- f. Spud Size and Location: NPS 1-1/2 (DN 40).
- g. Supply Pressure: 25 psig (172 kPa), minimum.
- h. Cabinet Mounting: On-floor.
- i. Fixture Mounting: Install from fixture side to reinforced wall.
- j. Load rating: 5000 lbs.
3. Toilet Tank: polyethylene inner liner, flushes with conventional Fluidmaster float/flapper mechanism.

## 2.4 FLUSHOMETER VALVES

### A. Lever-Handle, Diaphragm Flushometer Valves: <Insert drawing designation>.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. American Standard.
  - b. Delany Products.
  - c. Sloan Valve Company.
  - d. Wolverine Brass, Inc.
  - e. Zurn Industries, LLC.
  - f. <Insert manufacturer's name>.
2. Minimum Pressure Rating: 125 psig (860 kPa).
3. Features: Integral check stop, backflow-prevention device, and outlet-tube-mounted bedpan washer.
4. Material: Brass body with corrosion-resistant components.
5. Exposed Flushometer-Valve Finish: Chrome plated.
6. Style: Exposed.

7. Consumption: [1.28 gal. (4.8 L)] [1.6 gal. (6 L)] [3.5 gal. (13.2 L)] [1.6/1.1 gal (7.2/5.0 L) dual flush] <Insert value> per flush.
8. Minimum Inlet: NPS 1 (DN 25).
9. Minimum Outlet: NPS 1-1/4 (DN 32), extended length.

## 2.5 TOILET SEATS

### A. Toilet Seats, Ligature-Resistant: <Insert designation>.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing; Morris Group International, Bariatric Toilet model WH-LRSC; <Insert drawing designation> or comparable product by one of the following:
  - a. American Standard.
  - b. Centoco Manufacturing Corporation.
  - c. Church Seats; Bemis Manufacturing Company.
  - d. Kohler Co.
  - e. Olsonite; Bemis Manufacturing Company.
  - f. TOTO USA, INC.
  - g. Zurn Industries, LLC.
  - h. <Insert manufacturer's name>.
2. Material: ABS plastic with antimicrobial agent.
3. Type: Commercial, heavy duty.
4. Shape: Elongated rim, closed front.
5. Affixed with #10-24 set screw and 1/4-20 carriage bolts and nuts.
6. Hinge Material: Noncorroding metal.
7. Color: [White] [Gray] [Blue] [Black].

## 2.6 PATIENT CARE UNITS

### A. Patient Care Units, Factory Fabricated, Combination, Swing-Away, Water Closet and Lavatory Healthcare Plumbing Fixture: <Insert drawing designation>.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model [4010] [4010BIS] [4012] [4012BIS] [4015] [4015BIS] [4020] [4022] [4025] [4030] [4030BIS] [4032] [4032BIS] [4035] [4035BIS]; <Insert product name or designation> or comparable product by one of the following:
  - a. Metcraft Industries, Inc.
  - b. Willoughby Industries.
  - c. <Insert manufacturer's name>.
2. Cabinet: Fixed installation with storage space and toilet paper holder.
  - a. Material: Welded stainless steel frame, stainless steel interior surfaces, with [high-pressure laminate] [polyethylene] exterior panels.

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- b. Color: **<Insert color>**.
  - c. Mounting: On floor.
3. Water Closet: Swivel, floor mounted, **[back wall]** **[sidewall]** **[floor]** outlet.
- a. Toilet Material: Type 304 stainless steel, 14 GA.
  - b. Swivel Assembly Material: Cast iron with white powder-coat finish.
  - c. Orientation: **[Left]** **[Right]** hand.
  - d. Flushometer: **[1.28 gal. (4.8 L)]** **[1.6 gal. (6 L)]** **[3.5 gal. (13.2 L)]** **<Insert value>** per flush; concealed flushometer valve with ADA-compliant hydraulically actuated push-button flush.
  - e. Toilet Seat: White, solid plastic.
  - f. Support: Floor plate.
4. Lavatory: Counter mounted.
- a. Material: **[Stainless steel]** **[Solid-surface material]** **[Less countertop]** **[High-pressure laminate]** **<Insert material>**.
  - b. Color: **<Insert color>**.
  - c. Backsplash: **[Back wall]** **[Right-hand corner]** **[Left-hand corner]** **[Alcove]**.
  - d. Provide anti-microbial additive to exposed surfaces.
  - e. Basin: **[Embedded]** **[Factory-installed]** stainless steel.
  - f. Faucet: **[Gooseneck type with wrist-blade handles]** **[Sensor operated]** **[Hot and cold, foot pedal-operated air control valve]** **[Lavatory hose spray]** **[Laminar flow nozzle]** **<Insert type>**.
  - g. Waste Fittings: Grid strainer, with **NPS 1-1/4 (DN 32)** tailpiece and chrome-plated, tubular-brass P-trap waste to wall; and wall flange complying with ASME A112.18.2/CSA B125.2.
5. Accessories:
- a. Toilet Paper Holder: **[Exposed]** **[Enclosed]**.
  - b. Built-in bed pan washer.
  - c. Hemodialysis Box: **[Single]** **[Dual]** valve.
  - d. Storage shelf.
  - e. Bedpan lugs.
  - f. Infectious control flush.
  - g. Swing-up grab bar.
- B. Patient Care Units, Factory Fabricated, Combination, Fixed Position, Water Closet and Lavatory Healthcare Fixture: **<Insert drawing designation>**.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model **[4040]** **[4042]** **[4044]** **[4047]** **[4048]** **[4049]** **[4050]** **[4055]**; **<Insert product name or designation>** or comparable product by one of the following:
- a. Metcraft Industries, Inc.
  - b. Willoughby Industries.
  - c. **<Insert manufacturer's name>**.

2. **[Fixed installation]** **[Swing-away]** water-closet cover design with storage space and toilet paper holder.
  - a. Material: Stainless steel frame with **[high-pressure laminate]** **[polyethylene]** exterior panels.
  - b. Color: **<Insert color>**.
3. Water Closet: **[Floor]** **[Wall]**-mounted, **[back wall]** **[floor]** outlet.
  - a. Toilet Material: Type 304 stainless steel, 14 GA.
  - b. Orientation: **[Left]** **[Right]** hand.
  - c. Flushometer: **[1.28 gal. (4.8 L)]** **[1.6 gal. (6 L)]** **[3.5 gal. (13.2 L)]** **<Insert value>** per flush; concealed flushometer valve with ADA-compliant hydraulically actuated push-button flush.
  - d. Toilet Seat: White, solid plastic.
4. Lavatory: Counter mounted.
  - a. Material: **[Stainless steel]** **[Solid-surface material]** **[Less countertop]** **[High-pressure laminate]** **<Insert material>**.
  - b. Color: **<Insert color>**.
  - c. Backsplash: **[Back wall]** **[Right-hand corner]** **[Left-hand corner]** **[Alcove]**.
  - d. Provide anti-microbial additive to exposed surfaces.
  - e. Basin: **[Embedded]** **[Factory-installed]** stainless steel.
  - f. Faucet: **[Gooseneck type with wrist-blade handles]** **[Sensor operated]** **[Hot and cold, foot pedal-operated air control valve]** **[Lavatory hose spray]** **[Laminar flow nozzle]** **<Insert type>**.
  - g. Waste Fittings: Grid strainer, with **NPS 1-1/4 (DN 32)** tailpiece and chrome-plated, tubular-brass P-trap waste to wall; and wall flange complying with ASME A112.18.2/CSA B125.2.
5. Accessories:
  - a. Built-in bed pan washer.
  - b. Hemodialysis box: **[Single]** **[Dual]** valve.
  - c. Bedpan lugs.
  - d. Infectious control flush.
  - e. Swing-up grab bar.

## 2.7 HEALTHCARE SHOWERS

### A. Healthcare Solid Surface Accessible Shower Basin **<Insert drawing designation>**.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model **[WHCSB3636ADA]** **[WHCSB6030ADA]**; **<Insert product name or designation>** or comparable product by one of the following:
  - a. Willoughby Industries.

- b. Intersan.
  - c. Acorn Engineering; A Division of Morris Group International.
  - d. **<Insert manufacturer's name>**.
2. Nominal Size: [**38-1/4 by 37-1/8 inches (972 by 943 mm)**] [**62-1/4 by 30 inches (1581 by 762 mm)**] **<Insert dimensions>**.
  3. Surround: One piece.
  4. Bathing Surface: Slip-resistant.
  5. Color: [**White**] [**Select color from Manufacturer's color chart**].
  6. Drain Location: [**Left side**] [**Center**] [**Right side**].
  7. Drain: [**Ligature and vandal-resistant stainless steel round drain**] [**Ligature and vandal-resistant stainless steel trench drain**].
  8. Drain connection: **NPS 2 (DN 50)** no-caulk drain with ligature-resistant strainer.
  9. Certifications: Greenguard Gold Listed, cUPC, ASTM F462.
  10. Accessories: Anti-microbial treatment.
- B. Healthcare Solid Surface Standard Shower Basin **<Insert drawing designation>**.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model [**WHCSB3636**] [**WHCSB6030**]; **<Insert product name or designation>** or comparable product by one of the following:
    - a. Willoughby Industries.
    - b. Intersan.
    - c. Acorn Engineering; A Division of Morris Group International.
    - d. **<Insert manufacturer's name>**.
  2. Nominal Size: [**36 by 36 inches (914 by 914 mm)**] [**60 by 30 inches (1524 by 762 mm)**] **<Insert dimensions>**.
  3. Surround: One piece.
  4. Bathing Surface: Slip-resistant.
  5. Color: [**White**] [**Select color from Manufacturer's color chart**].
  6. Drain Location: [**Left side**] [**Center**] [**Right side**].
  7. Drain: [**Ligature and vandal-resistant stainless steel round drain**] [**Ligature and vandal-resistant stainless steel trench drain**].
  8. Drain connection: **NPS 2 (DN 50)** no-caulk drain with ligature-resistant strainer.
  9. Certifications: Greenguard Gold Listed, cUPC, ASTM F462.
  10. Accessories: Anti-microbial treatment.

## 2.8 HEALTHCARE SHOWER VALVES

- A. Healthcare Ligature-Resistant Shower Valves, Thermostatic Mixing Valve: **<Insert drawing designation>**.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; Model [**WHSV16**]; **<Insert product name or designation>** or comparable product by one of the following:
    - a. Acorn Engineering Company; a Division of Morris Group International.

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- b. Behavioral Safety Products.
  - c. Bradley Corporation
  - d. Willoughby Industries
  - e. **<Insert manufacturer's name>**.
2. Mixing Valve:
- a. Applicable Standards:
    - 1) ASSE 1016 T/P.
  - b. Body Material: Lead-Free certified, DZR solid brass.
  - c. Finish: Polished chrome plate.
  - d. Connections: Combination 1/2 NPT and 1/2 NPS solder inlet. **[Editorial: No metric equivalent here]**
  - e. Stem: Non-rising.
  - f. Riser Connection: 1/2 NPT **[Editorial: No metric equivalent here]**
  - g. Maximum Flow Rate: **4 gpm (15.1 lpm)** at **45 psig (310 kPa)** **<Insert value>** unless otherwise indicated.
  - h. Certified Minimum Flow: **1.25 gpm (4.7 lpm)**.
  - i. Maximum Pressure: **125 psig (862 kPa)**.
  - j. Temperature Range: **85 to 115 deg F (43 to 46 deg C)**.
  - k. Hot Water Supply Temperature: **110 to 180 deg F (29 to 82 deg C)**.
  - l. Cold Water Supply Temperature: **35 to 80 deg F (2 to 27 deg C)**.
  - m. Approach Temperature: **5 deg F (2.8 deg C)** above set point
  - n. Mounting: Surface, concealed hardware.
  - o. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant
  - p. Antiscald Device: Integral with mixing valve
  - q. Sensor: Paraffin
  - r. Check Stops: Check-valve type, integral with body; on hot and cold watersupply connections.
  - s. Stop: Adjustable for hot water supply
- B. Healthcare Ligature-Resistant Diverter Valve: **<Insert drawing designation>**.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; Model **[WHDIV]**; **<Insert product name or designation>** or comparable product by one of the following:
    - a. Acorn Engineering Company; a Division of Morris Group International.
    - b. Oddball
    - c. Willoughby Industries
    - d. **<Insert manufacturer's name>**.
  2. Valve:
    - a. Body Material: Bronze valve body.
    - b. Finish: High polished chrome plate.
    - c. Connections: 1/2 NCT inlet and outlet port.

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- d. Stem- Non-rising.
- e. Mounting: Surface, concealed hardware.
- f. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant.

C. Healthcare Ligature-Resistant Conical Tub Spout: **<Insert drawing designation>**.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; Model [WHCTS]; **<Insert product name or designation>** or comparable product by one of the following:
  - a. Acorn Engineering Company; a Division of Morris Group International.
  - b. Oddball
  - c. **<Insert manufacturer's name>**.
2. Spout:
  - a. Material: Brass spout body, stainless steel escutcheon.
  - b. Finish: White powder coated escutcheon.
  - c. Spray Pattern: Non-adjustable multi-stream style.
  - d. Connections: 1/2 NPT x O-ring adapter, inlet connection.
  - e. Mounting: Surface mounted.
  - f. Fasteners: Tamper-resistant.

D. Healthcare Ligature-Resistant Conical Shower Head: **<Insert drawing designation>**.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; Model [WHCSH]; **<Insert product name or designation>** or comparable product by one of the following:
  - a. Acorn Engineering Company; a Division of Morris Group International.
  - b. Bradley
  - c. Intersan
  - d. Oddball
  - e. **<Insert manufacturer's name>**.
2. Shower Head:
  - a. Material: Heavy-duty chrome plated brass, stainless steel escutcheon
  - b. Finish: White powder coated escutcheon.
  - c. Spray Pattern: Non-Adjustable multi-stream style
  - d. Flow Rate: [**1.5 gpm (5.7 L/min)**] [**2.5 gpm (9.5 L/min)**].
  - e. Connections: 1/2 NPT x O-ring adapter, inlet connection.
  - f. Mounting: Surface mounted.
  - g. Fasteners: Tamper-resistant.

E. Healthcare Ligature-Resistant Conical Shower Head: **<Insert drawing designation>**.



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1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; Model **[WHD-SHD-W]** **[WHSHD-C]**; **<Insert product name or designation>** or comparable product by one of the following:
    - a. Acorn Engineering Company; a Division of Morris Group International.
    - b. Bradley
    - c. Intersan
    - d. Oddball
    - e. **<Insert manufacturer's name>**.
  
  2. Shower Head:
    - a. Material: Heavy-duty chrome plated brass.
    - b. Finish: Type 303 stainless steel polished to mirror finish.
    - c. Spray Pattern: Non-Adjustable multi-stream style.
    - d. Flow Rate: **1.5 gpm (5.7 L/min)**.
    - e. Connections: O-ring adapter with 1/2-13 NPTE threads.
    - f. Mounting: **[Wall mounted]** **[Ceiling mounted]**.
- F. Healthcare Ligature-Resistant Quick Disconnect Handheld Shower: **<Insert drawing designation>**.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model **[WHCHS]**; **<Insert product name or designation>** or comparable product by one of the following:
    - a. Acorn Engineering Company; a Division of Morris Group International.
    - b. Oddball
    - c. Intersan
    - d. Bradley
    - e. **<Insert manufacturer's name>**.
  
  2. Handheld Shower:
    - a. Applicable Standards:
      - 1) ADA/CBC 1115B.4.4.5, when mounted at maximum **48 inches (1219 mm)** above floor
    - b. Material: Solid, lead-free brass, stainless steel.
    - c. Finish: **[Type 303 stainless steel polished to mirror finish, white powder coated escutcheon]** **[Polished chrome plated]**.
    - d. Flow Rate: **[1.5 gpm (5.7 L/min)]** **[2.5 gpm (9.5 L/min)]**.
    - e. Pushbutton: Non-Positive shutoff.
    - f. Provide **60 inch (1524 mm)** stainless steel, removable flexible hose.
    - g. Quick Disconnect: Expansion plug with vacuum breaker.
    - h. Connections: 1/2 NPT supply.
    - i. Mounting: Front surface mounted.
    - j. Fasteners: 1/4 inch-20 UNC tamper-resistant screws

3. Handheld Shower Mounting bracket:
  - a. Material: Solid lead-free brass, stainless steel
  - b. Finish: **[Type 303 stainless steel polished to mirror finish, white powder coated escutcheon] [Polished chrome plated]**.
  - c. Mounting: Front mounted (surface)
  - d. Fasteners: 1/4 inch-20 UNC tamper-resistant screws
  - e. Ligature-Resistant Hook: Adjustable, releasing range of **0-25 lb. (11.4 kg)**. Factory set release at **10 lbs (4.5 kg)**.

G. Healthcare Shower Valves, Pressure-Balance Mixing Valve: **<Insert drawing designation>**.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Acorn Engineering Company; a Division of Morris Group International.
  - b. American Standard.
  - c. Chicago Faucets; Geberit Company.
  - d. Kohler Co.
  - e. Lawler Manufacturing Company, Inc.
  - f. Leonard Valve Company.
  - g. Matco-Norca.
  - h. Moen Incorporated.
  - i. POWERS; A WATTS Brand.
  - j. Speakman Company.
  - k. Symmons Industries, Inc.
  - l. Zurn Industries, LLC.
  - m. **<Insert manufacturer's name>**.
2. Valve:
  - a. Body Material: Solid brass.
  - b. Finish: Polished chrome plate.
  - c. Maximum Flow Rate: **[1.25 gpm (4.7 L/min)] [1.5 gpm (5.7 L/min)] [2.0 gpm (7.6 L/min)] [2.5 gpm (9.5 L/min)]** **<Insert value>** unless otherwise indicated.
  - d. Mounting: **[Concealed] [Exposed]**.
  - e. Operation: Single-handle, **[push-pull] [or] [twist or rotate]** control.
  - f. Antiscald Device: **[Integral with mixing valve] [Separate unit] [Not required]**.
  - g. Check Stops: Check-valve type, integral with or attached to body; on hot- and cold-water-supply connections.
  - h. Indicators: For hot and cold water.
3. Shower Head:
  - a. Type: **[Ball joint with arm and flange] [Without ball joint, but with arm and flange] [Ball joint and head integral with mounting flange] [Integral with mounting flange] [Handheld, slide bar mounted] [Handheld, hook mounted]** **<Insert type>**.
  - b. Shower Head Material: Metallic with chrome-plated finish.
  - c. Spray Pattern: **[Adjustable] [Fixed]**.

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- d. Integral Volume Control: [**Not required**] [**Required**].
  - e. Shower-Arm, Flow-Control Fitting: [**Not required**] [**1.5 gpm (5.7 L/min)**] [**2.0 gpm (7.6 L/min)**].
  - f. Temperature Indicator: [**Integral with faucet**] [**Not required**].
- H. Healthcare Shower Valves, Thermostatic Mixing Valve: <**Insert drawing designation**>.
- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Acorn Engineering Company; a Division of Morris Group International.
    - b. Chicago Faucets; Geberit Company.
    - c. Lawler Manufacturing Company, Inc.
    - d. Leonard Valve Company.
    - e. POWERS; A WATTS Brand.
    - f. Symmons Industries, Inc.
    - g. <**Insert manufacturer's name**>.
  - 2. Valve:
    - a. Body Material: Solid brass.
    - b. Finish: Polished chrome plate.
    - c. Maximum Flow Rate: [**1.25 gpm (4.7 L/min)**] [**1.5 gpm (5.7 L/min)**] [**2.0 gpm (7.6 L/min)**] [**2.5 gpm (9.5 L/min)**] <**Insert value**> unless otherwise indicated.
    - d. Mounting: [**Concealed**] [**Exposed**].
    - e. Operation: Single-handle, [**push-pull**] [**or**] [**twist or rotate**] control.
    - f. Antiscald Device: [**Integral with mixing valve**] [**Separate unit**] [**Not required**].
    - g. Check Stops: Check-valve type, integral with or attached to body; on hot- and cold-water-supply connections.
    - h. Indicators: For hot and cold water.
  - 3. Shower Head:
    - a. Type: [**Ball joint with arm and flange**] [**Without ball joint, but with arm and flange**] [**Ball joint and head integral with mounting flange**] [**Integral with mounting flange**] [**Handheld, slide bar mounted**] [**Handheld, hook mounted**] <**Insert type**>.
    - b. Material: Metallic with chrome-plated finish.
    - c. Spray Pattern: [**Adjustable**] [**Fixed**].
    - d. Integral Volume Control: [**Not required**] [**Required**].
    - e. Shower-Arm, Flow-Control Fitting: [**Not required**] [**1.5 gpm (5.7 L/min)**] [**2.0 gpm (7.6 L/min)**].
    - f. Temperature Indicator: [**Integral with faucet**] [**Not required**].
- I. Healthcare Ligature-Resistant Conical Shower Heads, Thermostatic Mixing Valve, Diverter Valve <**Insert drawing designation**>.
- 1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model WH538-FH-CSH-SRCH; <**Insert product name or designation**> or comparable product by one of the following:

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- a. Acorn Engineering; A Division of Morris Group International.
  - b. Behavioral Safety Products.
  - c. Bradley Corporation.
  - d. Willoughby Industries.
  - e. <Insert manufacturer's name>.
2. Mixing Valve:
- a. Applicable Standards:
    - 1) ASSE 1016T/P.
    - 2) NSF 61, Section 9.
  - b. Body Material: Lead-Free certified, DZR solid brass.
  - c. Finish: Polished chrome plate.
  - d. Connections: Combination 1/2 NPT and 1/2 NPS solder inlet. [Editorial: No metric equivalent here]
  - e. Stem: Non-rising.
  - f. Riser Connection: 1/2 NPT [Editorial: No metric equivalent here]
  - g. Maximum Flow Rate: 4 gpm (15.1 lpm) at 45 psig (310 kPa) <Insert value> unless otherwise indicated.
  - h. Certified Minimum Flow: 1.25 gpm (4.7 lpm).
  - i. Maximum Pressure: 125 psig (862 kPa).
  - j. Temperature Range: 85 to 115 deg F (43 to 46 deg C).
  - k. Hot Water Supply Temperature: 110 to 180 deg F (29 to 82 deg C).
  - l. Cold Water Supply Temperature: 35 to 80 deg F (2 to 27 deg C).
  - m. Approach Temperature: 5 deg F (2.8 deg C) above set point
  - n. Mounting: Surface, concealed hardware.
  - o. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant
  - p. Antiscald Device: Integral with mixing valve
  - q. Sensor: Paraffin
  - r. Check Stops: Check-valve type, integral with body; on hot and cold watersupply connections.
  - s. Stop: Adjustable for hot water supply
3. Diverter Valve:
- a. Body Material: Bronze valve body.
  - b. Finish: High polished chrome plate.
  - c. Connections: 1/2 NCT inlet and outlet port.
  - d. Stem- Non-rising.
  - e. Mounting: Surface, concealed hardware.
  - f. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant
4. Shower Head:
- a. Material: Heavy-duty chrome plated brass, stainless steel escutcheon.
  - b. Finish: White powder coated escutcheon.

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- c. Number of Shower Heads: Two.
  - d. Spray Pattern: Non-Adjustable multi-stream style.
  - e. Flow Rate: **1.5 gpm (5.7 L/min)**.
  - f. Connections: 1/2 NPT x O-ring adapter, inlet connection.
  - g. Mounting: Surface mounted.
  - h. Fasteners: Tamper-resistant.
- J. Healthcare Ligature-Resistant Conical Shower Head, Thermostatic Mixing Valve<Insert drawing designation>.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model **WH538-CSH-SRCH**; <Insert product name or designation> or comparable product by one of the following:
    - a. Acorn Engineering; A Division of Morris Group International.
    - b. Behavioral Safety Products.
    - c. Bradley Corporation.
    - d. Willoughby Industries.
    - e. <Insert manufacturer's name>.
  2. Mixing Valve:
    - a. Applicable Standards:
      - 1) ASSE 1016T/P.
      - 2) NSF 61, Section 9.
    - b. Body Material: Lead-free certified, DZR solid brass.
    - c. Finish: Polished chrome plate.
    - d. Connections: Combination 1/2 NPT and 1/2 NPS solder inlet. [Editorial: No metric equivalent here]
    - e. Stem: Non-rising.
    - f. Riser Connection: 1/2 NPT [Editorial: No metric equivalent here]
    - g. Maximum Flow Rate: **4 gpm (15.1 lpm)** at **45 psig (310 kPa)** <Insert value> unless otherwise indicated.
    - h. Certified Minimum Flow: **1.25 gpm (4.7 lpm)**.
    - i. Maximum Pressure: **125 psig (862 kPa)**.
    - j. Temperature Range: **85 to 115 deg F (43 to 46 deg C)**.
    - k. Hot Water Supply Temperature: **110 to 180 deg F (29 to 82 deg C)**.
    - l. Cold Water Supply Temperature: **35 to 80 deg F (2 to 27 deg C)**.
    - m. Approach Temperature: **5 deg F (2.8 deg C)** above set point
    - n. Mounting: Surface, concealed hardware.
    - o. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant
    - p. Antiscald Device: Integral with mixing valve
    - q. Sensor: Paraffin
    - r. Check Stops: Check-valve type, integral with body; on hot and cold watersupply connections.
    - s. Stop: Adjustable for hot water supply

## 3. Shower Head:

- a. Material: Heavy-duty chrome plated brass, stainless steel escutcheon.
- b. Finish: White powder coated escutcheon.
- c. Number of Shower Heads: One.
- d. Spray Pattern: Non-Adjustable multi-stream style.
- e. Flow Rate: **1.5 gpm (5.7 L/min)**.
- f. Connections: 1/2 NPT x O-ring adapter, inlet connection.
- g. Mounting: Surface mounted.
- h. Fasteners: Tamper-resistant.

## K. Healthcare Ligature-Resistant Conical Shower Head, Tub Spout, Thermostatic Mixing Valve with Diverter Valve&lt;Insert drawing designation&gt;.

## 1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model WH538-CSH-SRCH-CTS; &lt;Insert product name or designation&gt; or comparable product by one of the following:

- a. Acorn Engineering; A Division of Morris Group International.
- b. Behavioral Safety Products.
- c. Bradley Corporation.
- d. Willoughby Industries.
- e. <Insert manufacturer's name>.

## 2. Mixing Valve:

- a. Applicable Standards:
  - 1) ASSE 1016T/P.
  - 2) NSF 61, Section 9.
- b. Body Material: Lead-free certified, DZR solid brass.
- c. Finish: Polished chrome plate.
- d. Connections: Combination 1/2 NPT and 1/2 NPS solder inlet. [Editorial: No metric equivalent here]
- e. Stem: Non-rising.
- f. Riser Connection: 1/2 NPT [Editorial: No metric equivalent here]
- g. Maximum Flow Rate: **4 gpm (15.1 lpm)** at **45 psig (310 kPa)** <Insert value> unless otherwise indicated.
- h. Certified Minimum Flow: **1.25 gpm (4.7 lpm)**.
- i. Maximum Pressure: **125 psig (862 kPa)**.
- j. Temperature Range: **85 to 115 deg F (43 to 46 deg C)**.
- k. Hot Water Supply Temperature: **110 to 180 deg F (29 to 82 deg C)**.
- l. Cold Water Supply Temperature: **35 to 80 deg F (2 to 27 deg C)**.
- m. Approach Temperature: **5 deg F (2.8 deg C)** above set point
- n. Mounting: Surface, concealed hardware.
- o. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant
- p. Antiscald Device: Integral with mixing valve
- q. Sensor: Paraffin

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- r. Check Stops: Check-valve type, integral with body; on hot and cold water supply connections.
  - s. Stop: Adjustable for hot water supply
3. Diverter Valve:
- a. Body Material: Bronze valve body.
  - b. Finish: High polished chrome plate.
  - c. Connections: 1/2 NCT inlet and outlet port.
  - d. Stem- Non-rising.
  - e. Mounting: Surface, concealed hardware.
  - f. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant
4. Shower Head:
- a. Material: Heavy-duty chrome plated brass, stainless steel escutcheon.
  - b. Finish: White powder coated escutcheon.
  - c. Number of Shower Heads: One.
  - d. Spray Pattern: Non-Adjustable multi-stream style.
  - e. Flow Rate: **1.5 gpm (5.7 L/min)**.
  - f. Connections: 1/2 NPT x O-ring adapter, inlet connection.
  - g. Mounting: Surface mounted.
  - h. Fasteners: Tamper-resistant.
5. Tub Spout:
- a. Material: Brass spout body, stainless steel escutcheon.
  - b. Finish: White powder coated escutcheon.
  - c. Spray Pattern: Non-Adjustable multi-stream style.
  - d. Connections: 1/2 NPT x O-ring adapter, inlet connection.
  - e. Mounting: Surface mounted.
  - f. Fasteners: Tamper-resistant.
- L. Healthcare Ligature-Resistant Wall Mount Shower, Conical Shower Head, Thermostatic Mixing Valve with Diverter Valve<**Insert drawing designation**>.
- 1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model WH458-FH-CSH; <**Insert product name or designation**> or comparable product by one of the following:
    - a. Acorn Engineering; A Division of Morris Group International.
    - b. Behavioral Safety Products.
    - c. Bradley Corporation.
    - d. Willoughby Industries.
    - e. <**Insert manufacturer's name**>.
  - 2. Mixing Valve:
    - a. Applicable Standards:

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- 1) ASSE 1016T/P.
  - 2) NSF 61, Section 9.
  - 3) CHSC 116875.
- b. Body Material: Lead-free certified, DZR solid brass.
  - c. Finish: Polished chrome plate.
  - d. Connections: Combination 1/2 NPT and 1/2 NPS solder inlet. [Editorial: No metric equivalent here]
  - e. Stem: Non-rising.
  - f. Riser Connection: 1/2 NPT [Editorial: No metric equivalent here]
  - g. Maximum Flow Rate: 4 gpm (15.1 lpm) at 45 psig (310 kPa) <Insert value> unless otherwise indicated.
  - h. Certified Minimum Flow: 1.25 gpm (4.7 lpm).
  - i. Maximum Pressure: 125 psig (862 kPa).
  - j. Temperature Range: 85 to 115 deg F (43 to 46 deg C).
  - k. Hot Water Supply Temperature: 110 to 180 deg F (29 to 82 deg C).
  - l. Cold Water Supply Temperature: 35 to 80 deg F (2 to 27 deg C).
  - m. Approach Temperature: 5 deg F (2.8 deg C) above set point
  - n. Mounting: On shroud, concealed hardware.
  - o. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant
  - p. Antiscald Device: Integral with mixing valve
  - q. Sensor: Paraffin
  - r. Check Stops: Check-valve type, integral with body; on hot and cold water supply connections.
  - s. Stop: Adjustable for hot water supply
3. Diverter Valve:
    - a. Body Material: Bronze valve body.
    - b. Finish: High polished chrome plate.
    - c. Connections: 1/2 NCT inlet and outlet port.
    - d. Stem- Non-rising.
    - e. Mounting: On shroud, concealed hardware.
    - f. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant
4. Shower Head:
    - a. Material: Heavy-duty chrome plated brass, stainless steel escutcheon.
    - b. Finish: White powder coated escutcheon.
    - c. Number of Shower Heads: Two.
    - d. Spray Pattern: Non-Adjustable multi-stream style.
    - e. Flow Rate: 1.5 gpm (5.7 L/min).
    - f. Connections: 1/2 NPT x O-ring adapter, inlet connection.
    - g. Mounting: On shroud, concealed hardware.
5. Housing:
    - a. Material: 18 gauge type 304 stainless steel.



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- b. Finish: White powder coated.
  - c. Dimensions: 8 inches (203 mm) wide, 3 inches (76 mm) deep, 42-5/8 inches (1083 mm) high.
  - d. Slope: 30 degrees top and bottom.
  - e. Connections: 1/2 NPT x O-ring adapter, inlet connection.
  - f. Mounting: Surface mounted.
  - g. Mounting Channel: 18 gauge, type 304 stainless steel.
  - h. Fasteners: Tamper-resistant.
- M. Healthcare Ligature-Resistant Wall Mount Shower, Conical Shower Head, Thermostatic Mixing Valve <Insert drawing designation>.
- 1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model WH458-CSH; <Insert product name or designation> or comparable product by one of the following:
    - a. Acorn Engineering; A Division of Morris Group International.
    - b. Behavioral Safety Products.
    - c. Bradley Corporation.
    - d. Willoughby Industries.
    - e. <Insert manufacturer's name>.
  - 2. Mixing Valve:
    - a. Applicable Standards:
      - 1) ASSE 1016T/P.
      - 2) NSF 61, Section 9.
      - 3) CHSC 116875.
    - b. Body Material: Lead-free certified, DZR solid brass.
    - c. Finish: Polished chrome plate.
    - d. Connections: Combination 1/2 NPT and 1/2 NPS solder inlet. [Editorial: No metric equivalent here]
    - e. Stem: Non-rising.
    - f. Riser Connection: 1/2 NPT [Editorial: No metric equivalent here]
    - g. Maximum Flow Rate: 4 gpm (15.1 lpm) at 45 psig (310 kPa) <Insert value> unless otherwise indicated.
    - h. Certified Minimum Flow: 1.25 gpm (4.7 lpm).
    - i. Maximum Pressure: 125 psig (862 kPa).
    - j. Temperature Range: 85 to 115 deg F (43 to 46 deg C).
    - k. Hot Water Supply Temperature: 110 to 180 deg F (29 to 82 deg C).
    - l. Cold Water Supply Temperature: 35 to 80 deg F (2 to 27 deg C).
    - m. Approach Temperature: 5 deg F (2.8 deg C) above set point
    - n. Mounting: On shroud, concealed hardware.
    - o. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant
    - p. Antiscald Device: Integral with mixing valve
    - q. Sensor: Paraffin

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- r. Check Stops: Check-valve type, integral with body; on hot and cold water supply connections.
  - s. Stop: Adjustable for hot water supply
3. Shower Head:
- a. Material: Heavy-duty chrome plated brass, stainless steel escutcheon.
  - b. Finish: White powder coated escutcheon.
  - c. Number of Shower Heads: Two.
  - d. Spray Pattern: Non-Adjustable multi-stream style.
  - e. Flow Rate: **1.5 gpm (5.7 L/min)**.
  - f. Connections: 1/2 NPT x O-ring adapter, inlet connection.
  - g. Mounting: On shroud, concealed hardware.
4. Housing:
- a. Material: 18 gauge type 304 stainless steel.
  - b. Finish: White powder coated.
  - c. Dimensions: **7-1/2 inches (191 mm)** wide, **3 inches (76 mm)** deep, **24 inches (610 mm)** high.
  - d. Slope: 30 degrees, top and bottom.
  - e. Mounting: Surface mounted.
  - f. Mounting Channel: 18 gauge, type 304 stainless steel.
  - g. Fasteners: Tamper-resistant.
- N. Healthcare Ligature-Resistant Flush Mount Wall Shower, Conical Shower Head, Thermostatic Mixing Valve, with Diverter Valve<**Insert drawing designation**>.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model WH418-FH-CSH; <**Insert product name or designation**> or comparable product by one of the following:
- a. Acorn Engineering; A Division of Morris Group International.
  - b. Behavioral Safety Products.
  - c. Bradley Corporation.
  - d. Willoughby Industries.
  - e. <**Insert manufacturer's name**>.
2. Mixing Valve:
- a. Applicable Standards:
    - 1) ASSE 1016T/P.
    - 2) NSF 61, Section 9.
    - 3) CHSC 116875.
  - b. Body Material: Lead-free certified, DZR solid brass.
  - c. Finish: Polished chrome plate.
  - d. Connections: Combination 1/2 NPT and 1/2 NPS solder inlet. **[Editorial: No metric equivalent here]**

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- e. Stem: Non-rising.
  - f. Riser Connection: 1/2 NPT [Editorial: No metric equivalent here]
  - g. Maximum Flow Rate: 4 gpm (15.1 lpm) at 45 psig (310 kPa) <Insert value> unless otherwise indicated.
  - h. Certified Minimum Flow: 1.25 gpm (4.7 lpm).
  - i. Maximum Pressure: 125 psig (862 kPa).
  - j. Temperature Range: 85 to 115 deg F (43 to 46 deg C).
  - k. Hot Water Supply Temperature: 110 to 180 deg F (29 to 82 deg C).
  - l. Cold Water Supply Temperature: 35 to 80 deg F (2 to 27 deg C).
  - m. Approach Temperature: 5 deg F (2.8 deg C) above set point
  - n. Mounting: On shroud, concealed hardware.
  - o. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant.
  - p. Antiscald Device: Integral with mixing valve.
  - q. Sensor: Paraffin.
  - r. Check Stops: Check-valve type, integral with body; on hot and cold water supply connections.
  - s. Stop: Adjustable for hot water supply
3. Diverter Valve:
- a. Body Material: Bronze valve body.
  - b. Finish: High polished chrome plate.
  - c. Connections: 1/2 NCT inlet and outlet port.
  - d. Stem- Non-rising.
  - e. Mounting: On shroud, concealed hardware.
  - f. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant
4. Shower Head:
- a. Material: Heavy-duty chrome plated brass, stainless steel escutcheon.
  - b. Finish: White powder coated escutcheon.
  - c. Number of Shower Heads: Two.
  - d. Spray Pattern: Non-Adjustable multi-stream style.
  - e. Flow Rate: 1.5 gpm (5.7 L/min).
  - f. Connections: 1/2 NPT x O-ring adapter, inlet connection.
  - g. Mounting: On shroud, concealed hardware.
5. Housing:
- a. Material: 18 gauge, type 304 stainless steel.
  - b. Finish: White powder coated.
  - c. Dimensions: 9 inches (229 mm) wide, 3 inches (76 mm) deep, 43 inches (1092 mm) high.
  - d. Connections: 1/2 NPT x O-ring adapter, inlet connection.
  - e. Mounting: On shroud, concealed hardware.
  - f. Mounting Channel: 16 gauge, type 304 stainless steel and 18 gauge, type 304 stainless steel tiling flanges.
  - g. Fasteners: Tamper-resistant.

- O. Healthcare Ligature-Resistant Flush Mount Wall Shower, Conical Shower Head, Thermostatic Mixing Valve <Insert drawing designation>.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model WH418-CSH; <Insert product name or designation> or comparable product by one of the following:
    - a. Acorn Engineering; A Division of Morris Group International.
    - b. Behavioral Safety Products.
    - c. Bradley Corporation.
    - d. Willoughby Industries.
    - e. <Insert manufacturer's name>.
  2. Mixing Valve:
    - a. Applicable Standards:
      - 1) ASSE 1016T/P.
      - 2) NSF 61, Section 9.
      - 3) CHSC 116875.
    - b. Body Material: Lead-free certified, DZR solid brass.
    - c. Finish: Polished chrome plate.
    - d. Connections: Combination 1/2 NPT and 1/2 NPS solder inlet. [Editorial: No metric equivalent here]
    - e. Stem: Non-rising.
    - f. Riser Connection: 1/2 NPT [Editorial: No metric equivalent here]
    - g. Maximum Flow Rate: 4 gpm (15.1 lpm) at 45 psig (310 kPa) <Insert value> unless otherwise indicated.
    - h. Certified Minimum Flow: 1.25 gpm (4.7 lpm).
    - i. Maximum Pressure: 125 psig (862 kPa).
    - j. Temperature Range: 85 to 115 deg F (43 to 46 deg C).
    - k. Hot Water Supply Temperature: 110 to 180 deg F (29 to 82 deg C).
    - l. Cold Water Supply Temperature: 35 to 80 deg F (2 to 27 deg C).
    - m. Approach Temperature: 5 deg F (2.8 deg C) above set point
    - n. Mounting: On shroud, concealed hardware.
    - o. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant.
    - p. Antiscald Device: Integral with mixing valve.
    - q. Sensor: Paraffin.
    - r. Check Stops: Check-valve type, integral with body; on hot and cold water supply connections.
    - s. Stop: Adjustable for hot water supply
  3. Shower Head:
    - a. Material: Heavy-duty chrome plated brass, stainless steel escutcheon.
    - b. Finish: White powder coated escutcheon.
    - c. Number of Shower Heads: One.
    - d. Spray Pattern: Non-Adjustable multi-stream style.

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- e. Flow Rate: 1.5 gpm (5.7 lpm).
  - f. Connections: 1/2 NPT x O-ring adapter, inlet connection.
  - g. Mounting: On shroud, concealed hardware.
4. Housing:
- a. Material: 18 gauge type 304 stainless steel.
  - b. Finish: White powder coated.
  - c. Dimensions: 9 inches (229 mm) wide, 4-1/2 inches (114 mm) deep, 25 inches (635 mm) high.
  - d. Mounting: Front mounted.
  - e. Mounting Channel: 16 gauge, type 304 stainless steel and 18 gauge, type 304 stainless steel tiling flanges.
  - f. Fasteners: Tamper-resistant.
- P. Healthcare Ligature-Resistant Flush Mount Wall Shower, Conical Shower Head, Hand-Held Shower, Thermostatic Mixing Valve, with Diverter Valve<Insert drawing designation>.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model WH418ADA-WHCSHS; <Insert product name or designation> or comparable product by one of the following:
    - a. Acorn Engineering; A Division of Morris Group International.
    - b. Behavioral Safety Products.
    - c. Bradley Corporation.
    - d. Willoughby Industries.
    - e. <Insert manufacturer's name>.
  2. Mixing Valve:
    - a. Applicable Standards:
      - 1) ASSE 1016T/P.
      - 2) NSF 61, Section 9.
      - 3) CHSC 116875.
    - b. Body Material: Lead-free certified, DZR solid brass.
    - c. Finish: Polished chrome plate.
    - d. Connections: Combination 1/2 NPT and 1/2 NPS solder inlet. [Editorial: No metric equivalent here]
    - e. Stem: Non-rising.
    - f. Valve Location: [Left] [Right] hand side.
    - g. Riser Connection: 1/2 NPT [Editorial: No metric equivalent here]
    - h. Maximum Flow Rate: 4 gpm (15.1 lpm) at 45 psig (310 kPa) <Insert value> unless otherwise indicated.
    - i. Certified Minimum Flow: 1.25 gpm (4.7 lpm).
    - j. Maximum Pressure: 125 psig (862 kPa).
    - k. Temperature Range: 85 to 115 deg F (43 to 46 deg C).
    - l. Hot Water Supply Temperature: 110 to 180 deg F (29 to 82 deg C).
    - m. Cold Water Supply Temperature: 35 to 80 deg F (2 to 27 deg C).

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- n. Approach Temperature: **5 deg F (2.8 deg C)** above set point
  - o. Mounting: On shroud, concealed hardware.
  - p. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant.
  - q. Antiscald Device: Integral with mixing valve.
  - r. Sensor: Paraffin.
  - s. Check Stops: Check-valve type, integral with body; on hot and cold water supply connections.
  - t. Stop: Adjustable for hot water supply
3. Diverter Valve:
- a. Body Material: Bronze valve body.
  - b. Finish: High polished chrome plate.
  - c. Connections: 1/2 NCT inlet and outlet port.
  - d. Stem- Non-rising.
  - e. Valve Location: [**Left**] [**Right**] hand side.
  - f. Mounting: On shroud, concealed hardware.
  - g. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant
4. Shower Head:
- a. Material: Heavy-duty chrome plated brass, stainless steel escutcheon.
  - b. Finish: White powder coated escutcheon.
  - c. Number of Shower Heads: One.
  - d. Spray Pattern: Non-Adjustable multi-stream style.
  - e. Flow Rate: **1.5 gpm (5.7 L/min)**.
  - f. Connections: 1/2 NPT x O-ring adapter, inlet connection.
  - g. Mounting: On shroud, concealed hardware.
5. Panel:
- a. Applicable Standards:
    - 1) ADA.
    - 2) CBC 11B: 608.5, 608.5.2, 608.5.3.
  - b. Material: 18 gauge type 304 stainless steel.
  - c. Finish: White powder coated.
  - d. Dimensions: **16 inches (406 mm)** wide, **3-1/2 inches (89 mm)** deep, **38 inches (965 mm)** high.
  - e. Mounting: Front mounted.
  - f. Mounting Frame: 16 gauge, type 304 stainless steel and 18 gauge, type 304 stainless steel tiling flanges.
  - g. Fasteners: Tamper-resistant.
  - h. Soap Dish: Provide CBC 11B-607.10-compliant soap dish.
6. Handheld Shower:

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- a. Material: Solid lead-free brass, stainless steel.
  - b. Finish: **[Type 303 stainless steel polished to mirror finish, white powder coated escutcheon] [Polished chrome plated]**.
  - c. Flow Rate: **1.5 gpm (5.7 L/min)**.
  - d. Pushbutton: Non-positive shutoff.
  - e. Provide **60 inch (1524 mm)** stainless steel, removable flexible hose.
  - f. Quick Disconnect: Expansion plug with a vacuum breaker.
  - g. Connections: 1/2 NPT supply.
  - h. Mounting: On shroud, concealed hardware.
  - i. Fasteners: ¼ inch-20 UNC tamper resistant screws.
7. Handheld Shower Mounting bracket:
- a. Material: Solid lead-free brass, stainless steel
  - b. Finish: **[Type 303 stainless steel polished to mirror finish, white powder coated escutcheon] [Polished chrome plated]**.
  - c. Mounting: On shroud, concealed hardware.
  - d. Fasteners: 1/4 inch-20 UNC tamper resistant screws.
  - e. Ligature-Resistant Hook: Adjustable, releasing range of **0-25 lb. (11.4 kg)**. Factory set release at **10 lbs (4.5 kg)**.
- Q. Healthcare Ligature-Resistant Flush Mount Wall Shower, Conical Shower Head with Adjustable Swivel, Thermostatic Mixing Valve, with Diverter Valve<**Insert drawing designation**>.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model WH418ADA-WHCHS; <**Insert product name or designation**> or comparable product by one of the following:
    - a. Acorn Engineering; A Division of Morris Group International.
    - b. Willoughby Industries.
    - c. <**Insert manufacturer's name**>.
  2. Mixing Valve:
    - a. Applicable Standards:
      - 1) ASSE 1016T/P.
      - 2) NSF 61, Section 9.
      - 3) CHSC 116875.
    - b. Body Material: Lead-free certified, DZR solid brass.
    - c. Finish: Polished chrome plate.
    - d. Connections: Combination 1/2 NPT and 1/2 NPS solder inlet. **[Editorial: No metric equivalent here]**
    - e. Stem: Non-rising.
    - f. Valve Location: **[Left] [Right]** hand side.
    - g. Riser Connection: 1/2 NPT **[Editorial: No metric equivalent here]**
    - h. Maximum Flow Rate: **4 gpm (15.1 lpm)** at **45 psig (310 kPa)** <Insert value> unless otherwise indicated.

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- i. Certified Minimum Flow: 1.25 gpm (4.7 lpm).
  - j. Maximum Pressure: 125 psig (862 kPa).
  - k. Temperature Range: 85 to 115 deg F (43 to 46 deg C).
  - l. Hot Water Supply Temperature: 110 to 180 deg F (29 to 82 deg C).
  - m. Cold Water Supply Temperature: 35 to 80 deg F (2 to 27 deg C).
  - n. Approach Temperature: 5 deg F (2.8 deg C) above set point
  - o. Mounting: On shroud, concealed hardware.
  - p. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant.
  - q. Antiscald Device: Integral with mixing valve.
  - r. Sensor: Paraffin.
  - s. Check Stops: Check-valve type, integral with body; on hot and cold water supply connections.
  - t. Stop: Adjustable for hot water supply
3. Diverter Valve:
- a. Applicable Standards: CBC 11B.608.6.
  - b. Body Material: Bronze valve body.
  - c. Finish: High polished chrome plate.
  - d. Connections: 1/2 NCT inlet and outlet port.
  - e. Stem- Non-rising.
  - f. Valve Location: [Left] [Right] hand side.
  - g. Mounting: On shroud, concealed hardware.
  - h. Operation: Single Tri-Lever Ligature-Resistant handle, twist or rotate control, ADA compliant
4. Shower Head:
- a. Applicable Standards: CBC 608.3.6, Exception.
  - b. Material: Heavy-duty chrome plated brass, stainless steel escutcheon.
  - c. Finish: White powder coated escutcheon.
  - d. Number of Shower Heads: Two.
  - e. Spray Pattern: Non-Adjustable multi-stream style.
  - f. Flow Rate: 1.5 gpm (5.7 L/min).
  - g. Connections: 1/2 NPT x O-ring adapter, inlet connection.
5. Panel:
- a. Applicable Standards:
    - 1) ADA.
    - 2) CBC 11B: 608.5, 608.5.2, 608.5.3.
  - b. Material: 18 gauge type 304 stainless steel.
  - c. Finish: White powder coated.
  - d. Dimensions: 16 inches (406 mm) wide, 3-1/2 inches (89 mm) deep, 39 inches (991 mm) high.
  - e. Mounting: Front mounted.



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- f. Mounting Frame: 16 gauge, type 304 stainless steel and 18 gauge, type 304 stainless steel tiling flanges.
- g. Fasteners: Tamper-resistant.
- h. Soap Dish: Provide CBC 11B-607.10-compliant soap dish.

## 2.9 HEALTHCARE BATHING UNITS

A. Healthcare Bathing Units, Side-Entry[, **Whirlpool**]: <Insert drawing designation>.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. ARJO, Inc.
  - b. Invacare Continuing Care Group.
  - c. <Insert manufacturer's name>.
2. Fixture: Plastic-tub, institutional bath fixture with integral controls.
  - a. Standard: UL 1795.
  - b. Tub Size: [**60 by 30 inches (1524 by 762 mm)**] <Insert dimensions>.
  - c. Controls: Vacuum breakers on supplies, thermostatic mixing valve, tub fill spout, and handheld shower head.
3. Supply Connections: [**NPS 3/4 (DN 20)**] [**NPS 1 (DN 25)**] with shutoff valve.
4. Drain: Manufacturer's standard [**NPS 1-1/2 (DN 40)**] [**NPS 2 (DN 50)**] with tailpiece.
5. Drain Piping: [**NPS 1-1/2 (DN 40)**] [**NPS 2 (DN 50)**] cast-brass P-trap, waste to wall, and wall flange complying with ASME A112.18.2/CSA B125.2. Include combined drain piping if two drains.
6. Unit Electrical Characteristics:
  - a. Volts: [**120**] [**240**] [**277**] [**480**] <Insert number>.
  - b. Phase(s): [**One**] [**Three**].
  - c. Hertz: [**60**] <Insert number>.
  - d. Full-Load Amperes: <Insert value>.
  - e. Minimum Circuit Ampacity: <Insert value>.
  - f. Maximum Overcurrent Protection: <Insert amperage>.

B. Healthcare Bathing Units, [**Side**] [**Transfer-Lift**] [**Slide-on**] Entry, [**Adjustable**] [**Fixed**] Height: <Insert drawing designation>.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. ARJO, Inc.
  - b. Clarion Bathware.
  - c. Invacare Continuing Care Group.
  - d. <Insert manufacturer's name>.
2. Fixture: Plastic-tub, institutional bath fixture with integral controls.

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- a. Tub Size: **[60 by 30 inches (1524 by 762 mm)]** <Insert dimensions>.
  - b. Controls: Vacuum breakers on supplies, thermostatic mixing valve, tub fill spout, and handheld shower head.
3. Supply Connections: **[NPS 3/4 (DN 20)]** **[NPS 1 (DN 25)]** with shutoff valve.
  4. Drain: Manufacturer's standard **[NPS 1-1/2 (DN 40)]** **[NPS 2 (DN 50)]** with tailpiece.
  5. Drain Piping: **[NPS 1-1/2 (DN 40)]** **[NPS 2 (DN 50)]** cast-brass P-trap, waste to wall, and wall flange complying with ASME A112.18.2/CSA B125.2. Include combined drain piping if two drains.
  6. Lift System: **[Not required]** <Insert description>.
  7. Unit Electrical Characteristics:
    - a. Volts: **[120]** **[240]** **[277]** **[480]** <Insert number>.
    - b. Phase(s): **[One]** **[Three]**.
    - c. Hertz: **[60]** <Insert number>.
    - d. Full-Load Amperes: <Insert value>.
    - e. Minimum Circuit Ampacity: <Insert value>.
    - f. Maximum Overcurrent Protection: <Insert amperage>.
- C. Healthcare Bathing Units, Front-Entry Shower: <Insert drawing designation>.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. ARJO, Inc.
    - b. Invacare Continuing Care Group.
    - c. <Insert manufacturer's name>.
  2. Fixture: Plastic-tub, institutional fixture with integral controls.
    - a. Cabinet Size: **[35 by 41 inches (889 by 1041 mm)]** <Insert dimensions>.
    - b. Controls: Vacuum breakers on supplies, thermostatic mixing valve, tub fill spout, and handheld shower head.
  3. Supply Connections: **[NPS 3/4 (DN 20)]** **[NPS 1 (DN 25)]** with shutoff valve.
  4. Drain: Manufacturer's standard **NPS 2 (DN 50)** with tailpiece.
  5. Drain Piping: **NPS 2 (DN 50)** P-trap, waste to wall, and wall flange complying with ASME A112.18.2/CSA B125.2. Include combined drain piping if two drains.
  6. Unit Electrical Characteristics:
    - a. Volts: **[120]** **[240]** **[277]** **[480]** <Insert number>.
    - b. Phase(s): **[One]** **[Three]**.
    - c. Hertz: **[60]** <Insert number>.
    - d. Full-Load Amperes: <Insert value>.
    - e. Minimum Circuit Ampacity: <Insert value>.
    - f. Maximum Overcurrent Protection: <Insert amperage>.

## 2.10 BEDPAN WASHERS

- A. Bedpan Washers, Recessed in Wall: **<Insert drawing designation>**.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model 2899 **<Insert product name or designation>** or comparable product by one of the following:
    - a. Zurn Industries, LLC.
    - b. **<Insert manufacturer's name>**.
  2. Material: 14 gauge, Type 304 stainless steel; No. 4 satin finish.
  3. Hose Assembly: [**60-inch- (1525-mm-)**] **<Insert dimension>** long, stainless steel clad hose.
  4. Vacuum Breaker: Pressure type.
  5. Shutoff Valve: Hand spray valve, positive shutoff.
  6. Connecting Piping: Concealed.
  7. Finish: Polished chrome-plated finish on exposed metal parts.
  8. Supply Connection: **NPT 1/2 (DN 15)**.
- B. Bedpan Washers, Wall-Mounted Assembly with [**Floor**] [**Wall**]-Mounted, [**Single-Pedal**] [**Double-Pedal, Hot- and Cold-Water**] Foot Control: **<Insert drawing designation>**.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; **<Insert product name or designation>** or comparable product by one of the following:
    - a. Kohler Co.
    - b. T&S Brass and Bronze Works, Inc.
    - c. Zurn Industries, LLC.
    - d. **<Insert manufacturer's name>**.
  2. Hose: [**48-inch- (1220-mm-)**] **<Insert dimension>** long, rubber or vinyl hose with self-closing, handheld spray nozzle, wall bracket, and hook.
  3. Vacuum Breaker: ASSE 1001, atmospheric, wall mounted.
  4. Shutoff Valve: Wall-mounted, [**cross-handle**] **<Insert type>** supply stop between foot control and vacuum breaker.
  5. Connecting Piping: Concealed.
  6. Finish: Polished chrome-plated finish on exposed metal parts.
  7. Control Mounting: [**Floor**] [**Wall**].
  8. Supply Connection(s): [**NPS 1/2 (DN 15)**] **<Insert size>**.

## 2.11 BEDPAN WASHING EQUIPMENT

- A. Bedpan Washers/Sanitizers, [**Recessed**] [**Wall**] Mounted: **<Insert drawing designation>**.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

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- a. MEIKO.
  - b. Rhima.
  - c. Steelco S.p.A.
  - d. STERIS Corporation.
  - e. <Insert manufacturer's name>.
2. Fixture:
- a. Construction: Cast-iron chamber and P-trap waste assembly with spray nozzles and [enameled-steel] [stainless steel] front panel and cover box.
  - b. Controls: Electric, 120 V ac, automatic operation with timer, solenoid valves, and circuit breaker.
  - c. Door Mechanism: Foot-pedal operation.
3. Supply Connections: NPS 1 (DN 25) cold water and NPS 3/8 (DN 10) [hot water] [steam].
4. Drain Piping: NPS 3 (DN 80) P-trap and soil pipe.
5. Atmospheric Vent Connection: NPS 2 (DN 50).
6. Mounting Hardware: Matching fixture-mounting arrangement.
7. Accessories:
- a. Bedpan Rack(s): [One] [Two] <Insert number>.
  - b. Urinal Rack(s): [One] [Two] <Insert number>.
  - c. Drain Tray(s): [One] [Two] <Insert number>.
- B. Bedpan Washers/Disinfectors, [Freestanding] [Wall Mounted] [Undercounter Mounted] : <Insert drawing designation>.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. ARJO, Inc.
    - b. MEIKO.
    - c. Rhima.
    - d. Steelco S.p.A.
    - e. <Insert manufacturer's name>.
  2. Fixture:
    - a. Controls: Electric, automatic operation.
    - b. Cabinet: Stainless steel.
    - c. Wash Chamber: Stainless steel.
  3. Supply Connections: NPS 1/2 (DN 15) cold water and NPS 1/2 (DN 15) hot water.
  4. Drain Piping: NPS 4 ((DN 100) P-trap and soil pipe.
  5. Mounting Hardware: Matching fixture-mounting arrangement.
  6. Unit Electrical Characteristics:
    - a. Volts: [208] [240] <Insert number>.
    - b. Phase(s): [One] [Three].

- c. Hertz: [60] <Insert number>.
- d. Full-Load Amperes: <Insert value>.
- e. Minimum Circuit Ampacity: <Insert value>.
- f. Maximum Overcurrent Protection: <Insert amperage>.

## 2.12 CLINIC SINKS

### A. Clinic Sinks, Wall Mounted: <Insert drawing designation>.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. American Standard.
  - b. Crane Plumbing, LLC; a division of American Standard.
  - c. Kohler Co.
  - d. Zurn Industries, LLC.
  - e. <Insert manufacturer's name>.
2. Fixture: Back-outlet, vitreous-china, blowout-type, flushing-rim, service sink.
  - a. Nominal Size: [25 by 20 inches (635 by 510 mm)] <Insert dimensions>.
  - b. Outlet Size: [NPS 4 (DN 100)] [or] [NPS 3 (DN 80)].
  - c. Color: White.
  - d. Rim Guard: Stainless steel, on front.
3. Flushometer Valve: <Insert flushometer-valve designation>.
4. Faucet: [Not required] <Insert sink-faucet designation>.
5. Support: [Type IV sink carrier] <Insert carrier>.
6. Sink Mounting Height: [Standard] [ADA compliant].

### B. Clinic Sinks, Floor Mounted: <Insert drawing designation>.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. American Standard.
  - b. Crane Plumbing, LLC; a division of American Standard.
  - c. Kohler Co.
  - d. Zurn Industries, LLC.
  - e. <Insert manufacturer's name>.
2. Fixture: Bottom-outlet, vitreous-china, siphon-jet, flushing-rim, service sink.
  - a. Nominal Size: [27 by 20 inches (685 by 510 mm)] <Insert dimensions>.
  - b. Color: White.
  - c. Rim Guards: Stainless steel on front.
3. Sink Base: [10 inches (254 mm)] <Insert dimension> high; cast terrazzo if required.
4. Flushometer Valve: <Insert flushometer-valve designation>.
5. Faucet: <Insert sink-faucet designation>.

6. Supply Fittings: Comply with requirements in "Supply Fittings" Article.

## 2.13 PLASTER SINKS

- A. Plaster Sinks, Wall Mounted, [**Vitreous China**] [**and**] [**or**] [**Stainless Steel**]: **<Insert drawing designation>**.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. American Standard.
- b. Crane Plumbing, LLC; a division of American Standard.
- c. Franke.
- d. Kohler Co.
- e. **<Insert manufacturer's name>**.

2. Fixture:

- a. Type: Utility sink.
- b. Nominal Size: [**24 by 22 inches (610 by 560 mm)**] [**30 by 22 inches (762 by 560 mm)**] **<Insert dimensions>** with back.
- c. Color: White.
- d. Faucet Holes: [**One**] [**Two**] in back.
- e. Drain: Grid, **NPS 1-1/2 (DN 40)**[ **with NPS 1-1/2 (DN 40) to NPS 2 (DN 50) adaptor**].

3. Faucet: **<Insert sink-faucet designation>**.

4. Supply Fittings: Comply with requirements in "Supply Fittings" Article.

5. Drain Piping: [**NPS 1-1/2 (DN 40)**] [**NPS 2 (DN 50)**] chrome-plated brass; **0.045-inch-(1.1-mm-)** thick waste to interceptor; interceptor to wall; and wall flange complying with ASME A112.18.2/CSA B125.2.

6. Plaster Interceptor:

- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- 1) Jay R. Smith Mfg Co; a division of Morris Group International.
- 2) Josam Company.
- 3) MIFAB, Inc.
- 4) WATTS.
- 5) Zurn Industries, LLC.
- 6) **<Insert manufacturer's name>**.

- b. Description: [**Cast iron**] [**or**] [**steel body**] [**or**] [**ABS plastic**] [**PE resin**] and removable cover with acid-resistant-enameled interior lining and outside coating; removable, corrosion-resistant metal screens or strainer; and [**NPS 1-1/2 (DN 40)**] [**NPS 2 (DN 50)**] inlet and outlet.

7. Support: [**Type III sink carrier with white-enameled-steel brackets**] **<Insert carrier>**.

8. Sink Mounting Height: **[Standard]** **[ADA compliant]**.

## 2.14 SCRUB SINKS

- A. Scrub Sinks, Stainless Steel, Wall Mounted: **<Insert drawing designation>**.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model **[4101]** **[4102]** **[4103]** **[4111]** **[4112]** **[4113]** **[4121ADA]** **[4122ADA]** **[4123ADA]** **[4171]** **[4172]** **[4173]**; **<Insert product name or designation>** or comparable product by one of the following:

- a. Elkay.
- b. Franke.
- c. Just Manufacturing.
- d. Sloan Valve Company.
- e. Willoughby Industries.
- f. **<Insert manufacturer's name>**.

2. Fixture:

- a. Standard: ADA, ASME A112.19.3/CSA B45.4.
- b. Material: **[Type 304]** **[Type 316]** stainless steel.
- c. Nominal Size: **[32 by 27 inches (813 by 686 mm)]** **[63-1/2 by 27 inches (1613 by 686 mm)]** **[94 by 27 inches (2388 by 686 mm)]** **[30 by 23 inches (762 by 584 mm)]** **[60 by 23 inches (1524 by 584 mm)]** **[90 by 23 inches (2286 by 584 mm)]** **[36 by 23-7/8 inches (914 by 606 mm)]** **[72 by 23-3/4 inches (1829 by 603 mm)]** **[108 by 23-3/4 inches (2743 by 603 mm)]** **[30 by 22 inches (762 by 559 mm)]** **[72 by 22 inches (1829 by 559 mm)]** **<Insert dimensions>**.
- d. Drain: **[Grid]** **<Insert type>**, **3-inch (76-mm)** drain with **1-1/2-inch (38-mm)** OD tailpiece.
- e. Wash Stations: **[One]** **[Two]** **[Three]** **<Insert number>** Drain: **[Grid]** **<Insert type>**, **NPS 1-1/2 (DN 40)**.

3. Valve: Adjustable thermostatic controlled pressure mixing valve, one per station.
4. Faucet: **[Provided separately]** **[Gooseneck spout assembly, rigid]** **[Gooseneck spout assembly, swivel]** **[Knee operated]** **[Sensor-operated spout]** **[Sensor operated]** **[Deck-mounted spout, battery powered]** **<Insert sink-faucet designation>**.
5. Waste Fittings: Comply with requirements in "Waste Fittings" Article.
6. Support: **[Mounting carrier]** **[Pedestal base]** **<Insert carrier>**.
7. Sink Mounting Height: **[Standard]** **[ADA compliant]**.
8. Accessories:

- a. Digital time display.
- b. Electronic timing controller.
- c. Eye/face wash.
- d. Laminar flow nozzle.
- e. Light module.
- f. Metering liquid soap dispenser.
- g. Soap flush system.

- h. Storage shelf.
- i. ASSE 1070-compliant hot- and cold-water mixing valve.

B. Scrub Sinks <Insert drawing designation>: Solid surface, wall mounted.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model [4150] [4151]; <Insert product name or designation> or comparable product by one of the following:
  - a. Intersan.
  - b. Willoughby.
  - c. <Insert manufacturer's name>.
2. Fixture:
  - a. Standard: IAPMO IGC 156, CSA B45 Series, ASME A112.18.1/CSA B125.1.
  - b. Nominal Size: [21-1/4 by 15 inches (540 by 381 mm)] [21-1/4 by 22-1/8 inches (540 by 562 mm)] <Insert dimensions> with back or ledge with [one] [three] faucet hole(s).
  - c. Color: White.
  - d. Drain: [Grid] <Insert type>, NPS 1-1/4 (DN 32) dome strainer with close elbow and 1-1/4-inch (32-mm) OD tailpiece.
3. Faucet: [Provided separately] [Centerset gooseneck spout with wristblade handles and laminar flow spout] [Sensor-operated, deck-mounted spout], [Sensor-operated, deck-mounted spout, battery powered] [Foot controlled] <Insert sink-faucet designation>.
4. Supply Fittings: Comply with requirements in "Supply Fittings" Article.
5. Waste Fittings: Comply with requirements in "Waste Fittings" Article.
6. Support: [Mounting carrier] <Insert carrier>.
7. Sink Mounting Height: [Standard] [ADA compliant].
8. Accessories:
  - a. Trap enclosure.
  - b. Mounting carrier.
  - c. Mixing valve.
  - d. Tubular P-trap.
  - e. Instantaneous water heater.

C. Scrub Sinks, Vitreous China, Wall Mounted: <Insert drawing designation>.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; <Insert product name or designation> or comparable product by one of the following:
  - a. Kohler Co.
  - b. Zurn Industries, LLC.
  - c. <Insert manufacturer's name>.
2. Fixture:



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- a. Nominal Size: **[28 by 22 inches (710 by 560 mm)] [30 by 22 inches (762 by 560 mm)]** <Insert dimensions> with back or ledge with one faucet hole.
  - b. Color: White.
  - c. Drain: **[Grid]** <Insert type>, **NPS 1-1/2 (DN 40)**.
3. Faucet: Gooseneck-spout, **[knee-action]** [or] **[sensor-operated]** [or] **[foot-operated]** water and soap dispenser; laminar-flow spout outlet. <Insert sink-faucet designation>.
  4. Supply Fittings: Comply with requirements in "Supply Fittings" Article.
  5. Waste Fittings: Comply with requirements in "Waste Fittings" Article.
  6. Support: **[Type I sink carrier]** **[Type II sink carrier]** **[Type III sink carrier]** <Insert carrier>.
  7. Sink Mounting Height: **[Standard]** **[ADA compliant]**.

## 2.15 INFECTION PREVENTION SINKS

### A. Infection Prevention Sinks <Insert drawing designation>: Corterra solid surface.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model **[4150]** **[4151]**; <Insert product name or designation> or comparable product by one of the following:
  - a. Intersan.
  - b. Willoughby.
  - c. <Insert manufacturer's name>.
2. Fixture:
  - a. Standard: ADA, IAPMO IGC 156, CSA B45 Series, ASME A112.18.1/CSA B125.1.
  - b. Nominal Size: **[21-1/4 by 15 inches (540 by 381 mm)] [21-1/4 by 22-1/8 inches (540 by 562 mm)]** <Insert dimensions> with back or ledge with **[one]** **[three]** faucet hole(s).
  - c. Color: White.
  - d. Drain: **[Grid]** <Insert type>, **NPS 1-1/4 (DN 32)** dome strainer with close elbow and **1-1/4-inch (32-mm)** OD tailpiece.
3. Faucet: **[Provided separately]** **[Centerset gooseneck spout with wristblade handles and laminar flow spout]** **[Sensor-operated, deck-mounted spout]** **[Sensor-operated, deck-mounted spout, battery powered]** **[Foot controlled]** <Insert sink-faucet designation>.
4. Supply Fittings: Comply with requirements in "Supply Fittings" Article.
5. Waste Fittings: Comply with requirements in "Waste Fittings" Article.
6. Support: **[Mounting carrier]** <Insert carrier>.
7. Sink Mounting Height: **[Standard]** **[ADA compliant]**.
8. Accessories:
  - a. Trap enclosure.
  - b. Mounting carrier.
  - c. Mixing valve.
  - d. Tubular P-trap.

- e. Instantaneous water heater.

## 2.16 WASH-UP SINKS

### A. Wash-up Sinks <Insert drawing designation>: Stainless steel, wall mounted:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model [4171] [4172] [4173]; <Insert product name or designation> or comparable product by one of the following:
  - a. CSI Industries Inc.
  - b. Elkay Manufacturing Co.
  - c. Just Manufacturing.
  - d. Sloan Valve Company.
  - e. Willoughby Industries.
  - f. <Insert manufacturer's name>.
2. Fixture:
  - a. Standard: ADA, ASME A112.19.3/CSA B45.4.
  - b. Material: [Type 304] [Type 316] stainless steel.
  - c. Nominal Size: [30 by 22 inches (762 by 560 mm)] [72 by 22 inches (1830 by 560 mm)] [96 by 22 inches (2438 by 560 mm)] <Insert size> with back with one faucet hole.
  - d. Wash Stations: [One] [Two] [Three] <Insert number>.
  - e. Drain: [Grid] [3-inch (76-mm) flat strainer with 1-1/2-inch (38-mm) OD tailpiece] <Insert type>.
3. Faucet: [Sensor-operated, deck-mounted spout] [Sensor-operated, deck-mounted spout, battery powered] [Provided separately] <Insert sink-faucet designation>.
4. Waste Fittings: Comply with requirements in "Waste Fittings" Article.
5. Support: Mounting carrier.
6. Sink Mounting Height: [Standard] [ADA compliant].
7. Accessories:
  - a. Eye/face wash.
  - b. Mixing valve.
  - c. Instantaneous water heater.

## 2.17 SINK FAUCETS

### A. Sink Faucets, Manual-Operation Mixing Valve: <Insert drawing designation>.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. American Standard.
  - b. Bradley Corporation.
  - c. Chicago Faucets; Geberit Company.

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- d. Delta Faucet Company.
  - e. Elkay.
  - f. Fisher Manufacturing Co.
  - g. GROHE America, Inc.
  - h. Just Manufacturing.
  - i. Kohler Co.
  - j. Moen Incorporated.
  - k. Speakman Company.
  - l. T&S Brass and Bronze Works, Inc.
  - m. Zurn Industries, LLC.
  - n. **<Insert manufacturer's name>**.
2. Configuration: Hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and sink receptor.
  3. Body Type: [**Centerset**] [**Widespread**] [**Single hole**] **<Insert type>**.
  4. Body Material: Solid brass.
  5. Finish: [**Chrome plated**] [**Polished chrome plate**] **<Insert finish>**.
  6. Maximum Flow Rate: [**2.2 gpm (8.3 L/min)**] [**2.5 gpm (9.5 L/min)**] **<Insert value>**.
  7. Control:
    - a. [**Lever**] [**Cross, four-arm**] [**Wrist-blade, 4 inch (102 mm)**] [**Elbow, 6 inch (152 mm)**] **<Insert type>** handle(s).
    - b. [**Foot pedal**] [**Knee action**] **<Insert type>**.
  8. Mounting Type: [**Deck, concealed**] [**Deck, exposed**] [**Back/wall, exposed**] **<Insert type>**.
  9. Spout Type: [**Rigid**] [**Swivel**], [**low profile**] [**gooseneck**] **<Insert type>**.
  10. Vacuum Breaker: [**Required**] [**Not required**] for hose outlet.
  11. Spout Outlet: [**Laminar flow**] [**Hose thread**] [**Plain end**] [**Spray**] **<Insert type>**.
- B. Sink Faucets, Automatic, [**Battery-Powered**] [**Hard-Wired**], Electronic-Sensor-Operated Mixing Valve: **<Insert drawing designation>**.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. American Standard.
    - b. Chicago Faucets; Geberit Company.
    - c. Hydrotek International, Inc.
    - d. Kohler Co.
    - e. Moen Incorporated.
    - f. Sloan Valve Company.
    - g. Speakman Company.
    - h. T&S Brass and Bronze Works, Inc.
    - i. Zurn Industries, LLC.
    - j. **<Insert manufacturer's name>**.
  2. Configuration: Hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and fixture receptor.
  3. Body Type: [**Centerset**] [**Widespread**] [**Single hole**] **<Insert type>**.

4. Body Material: Solid brass.
5. Finish: [**Polished chrome plate**] <Insert finish>.
6. Maximum Flow Rate: [**2.2 gpm (8.3 L/min)**] [**2.5 gpm (9.5 L/min)**] <Insert value> unless otherwise indicated.
7. Mounting Type: [**Deck, concealed**] [**Deck, exposed**] [**Back/wall, exposed**].
8. Spout Type: [**Rigid**] [**Swivel**], [**low profile**] [**gooseneck**] <Insert type>.
9. Vacuum Breaker: [**Required**] [**Not required**] for hose outlet.
10. Spout Outlet: [**Laminar flow**] [**Hose thread**] [**Plain end**] [**Spray**] <Insert type>.

## 2.18 LAMINAR-FLOW, FAUCET-SPOUT OUTLETS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. American Standard.
2. Chicago Faucets; Geberit Company.
3. Delta Faucet Company.
4. Elkay.
5. GROHE America, Inc.
6. Just Manufacturing.
7. Kohler Co.
8. Moen Incorporated.
9. Speakman Company.
10. T&S Brass and Bronze Works, Inc.
11. Zurn Industries, LLC.
12. <Insert manufacturer's name>.

- B. Description: Chrome-plated brass, faucet-spout outlet that produces non-aerating, laminar stream. Include external or internal thread that mates with faucet outlet for attachment to faucets where indicated and flow-rate range that includes faucet flow.

## 2.19 HYDROTHERAPY WHIRLPOOLS

- A. Hydrotherapy Whirlpools, Podiatry: <Insert drawing designation>.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model [**P-10-S**] [**P-15-S**] [**P-22-S**]; <Insert product name or designation> or comparable product by one of the following:
  - a. Ferno Ille.
  - b. <Insert manufacturer's name>.
2. Description: Stationary stainless steel tank for feet, ankles, and lower legs.
  - a. Standard: CE IEC 60601-1.
  - b. Material: 14 gauge Type 304 stainless steel.
  - c. Finish: [**No. 4, satin finish.**] [**Powder coat exposed surfaces. Select color from manufacturer's color chart.**]

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- d. Water Capacity: [**10 gal. (37 L)**] [**15 gal. (57 L)**] [**22 gal. (83 L)**].
- e. Drain: **2-inch (51-mm)** OD, **5-inch- (127-mm-)** long tailpiece.
- f. One filler spout.
- g. Controls: ON/OFF switch.
- h. Thermometer: Dual-scale, tank mounted.
- i. One **1/2 hp (375 W)** electric turbine ejector.
- j. Turbine Unit Electrical Characteristics:
  - 1) Volts: [**115**] [**230**] **<Insert number>** V.
  - 2) Phase: One.
  - 3) Hertz: [**50**] [**60**] **<Insert number>**.
  - 4) Full-Load Amperes: [**6.9/6/2**] [**3.5/3.1**] **<Insert value>** A.
- k. Accessories:
  - 1) Mixing Valve: **15 gpm (57 lpm)**.
  - 2) Separate drain and overflow assembly.
  - 3) Ground-fault circuit interrupter.

B. Hydrotherapy Whirlpools, Upper Extremity: **<Insert drawing designation>**.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model [**E-15-S**] [**E-22-S**] [**E-22-SP**] [**E-27-S**] [**E-45-S**]; **<Insert product name or designation>** or comparable product by one of the following:
  - a. Ferno Ille.
  - b. **<Insert manufacturer's name>**.
2. Description: Stationary, [**pedestal-mounted,**] stainless steel tank for arms, hands, and elbows.
  - a. Standard: CE IEC 60601-1.
  - b. Material: 14 gauge Type 304 stainless steel.
  - c. Finish: [**No. 4, satin finish.**] [**Powder coat exposed surfaces. Select color from manufacturer's color chart.**]
  - d. Water Capacity: [**15 gal. (57 L)**] [**22 gal. (83 L)**] [**27 gal. (102 L)**] [**45 gal. (170 L)**].
  - e. Drain: **2-inch (51-mm)** OD, **5-inch- (127-mm-)** long tailpiece.
  - f. One filler spout.
  - g. Controls: ON/OFF switch.
  - h. Thermometer: Dual-scale, tank mounted.
  - i. One electric turbine ejector, **1/2 hp (375 W)**.
  - j. Turbine Unit Electrical Characteristics:
    - 1) Volts: [**115**] [**230**] **<Insert number>** V.
    - 2) Phase: One.
    - 3) Hertz: [**50**] [**60**] **<Insert number>**.
    - 4) Full-Load Amperes: [**6.9/6/2**] [**3.5/3.1**] **<Insert value>** A.

## k. Accessories:

- 1) Mixing Valve: 15 gpm (57 lpm).
- 2) Separate drain and overflow assembly.
- 3) Ground-fault circuit interrupter.

## C. Hydrotherapy Whirlpools, Sports Tank, Body: &lt;Insert drawing designation&gt;.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model [S-85-S] [S-85-SL] [S-90-S] [S-90-SL] [S-110-S] [S-110-SL]; <Insert product name or designation> or comparable product by one of the following:
  - a. Ferno Ille.
  - b. <Insert manufacturer's name>.
2. Description: Stationary, stainless steel tank [with legs, ]for legs, hips, and back.
  - a. Standard: CE IEC 60601-1.
  - b. Material: 14 gauge Type 304 stainless steel.
  - c. Finish: [No. 4, satin finish.] [Powder coat exposed surfaces. Select color from manufacturer's color chart.]
  - d. Water Capacity: [85 gal. (322 L)] [90 gal. (341 L)] [110 gal. (416 L)].
  - e. Drain: 2-inch (51-mm) OD, 5-inch- (127-mm-) long tailpiece.
  - f. One filler spout.
  - g. Controls: ON/OFF switch.
  - h. Thermometer: Dual-scale, tank mounted.
  - i. One electric turbine ejector, 1/2 hp (375 W).
  - j. Turbine Unit Electrical Characteristics:
    - 1) Volts: [115] [230] <Insert number> V.
    - 2) Phase: One.
    - 3) Hertz: [50] [60] <Insert number>.
    - 4) Full-Load Amperes: [6.9/6/2] [3.5/3.1] <Insert value> A.
- k. Accessories:
  - 1) Mixing Valve: 15 gpm (57 lpm).
  - 2) Separate drain and overflow assembly.
  - 3) Ground-fault circuit interrupter.
  - 4) Reclining seat.

## D. Hydrotherapy Whirlpools &lt;Insert drawing designation&gt;: High tank, body.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model [H-60-S] [H-75-S] [H-90-S] [H-105-S]; <Insert product name or designation> or comparable product by one of the following:
  - a. Ferno Ille.

- b. <Insert manufacturer's name>.
2. Description: Stationary, extended-length, stainless steel tank for legs, hips, and back.
- a. Standard: CE IEC 60601-1.
  - b. Material: 14 gauge Type 304 stainless steel.
  - c. Finish: [No. 4, satin finish.] [Powder coat exposed surfaces. Select color from manufacturer's color chart.]
  - d. Water Capacity: [60 gal. (227 L)] [75 gal. (284 L)] [90 gal. (341 L)] [105 gal. (397 L)].
  - e. Drain: NPS 2 (DN 50) combination drain and overflow.
  - f. One filler spout.
  - g. Controls: ON/OFF switch.
  - h. Thermometer: Dual-scale, tank mounted.
  - i. One electric turbine ejector, 1/2 hp (375 W).
  - j. Turbine Unit Electrical Characteristics:
    - 1) Volts: [115] [230] <Insert number> V.
    - 2) Phase: One.
    - 3) Hertz: [50] [60] <Insert number>.
    - 4) Full-Load Amperes: [6.9/6/2] [3.5/3.1] <Insert value> A.
  - k. Accessories:
    - 1) Mixing Valve: 15 gpm (57 lpm).
    - 2) Separate drain and overflow assembly.
    - 3) Ground-fault circuit interrupter.
    - 4) Reclining seat.
- E. Hydrotherapy Whirlpools, Low Tank, Body: <Insert drawing designation>.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model [L-75-S] [L-90-S] [L-105-S] [L-105-SL]; <Insert product name or designation> or comparable product by one of the following:
    - a. Ferno Ille.
    - b. <Insert manufacturer's name>.
  2. Description: Stationary, extended-length, stainless steel tank for legs, hips, and lower back.
    - a. Standard: CE IEC 60601-1.
    - b. Material: 14 gauge Type 304 stainless steel.
    - c. Finish: [No. 4, satin finish.] [Powder coat exposed surfaces. Select color from manufacturer's color chart.]
    - d. Water Capacity: [75 gal. (284 L)] [90 gal. (341 L)] [105 gal. (397 L)].
    - e. Drain: NPS 2 (DN 50) combination drain and overflow.
    - f. One filler spout.
    - g. Controls: ON/OFF switch.

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- h. Thermometer: Dual-scale, tank mounted.
  - i. One electric turbine ejector, 1/2 hp (375 W).
  - j. Turbine Unit Electrical Characteristics:
    - 1) Volts: [115] [230] <Insert number> V.
    - 2) Phase: One.
    - 3) Hertz: [50] [60] <Insert number>.
    - 4) Full-Load Amperes: [6.9/6/2] [3.5/3.1] <Insert value> A.
  - k. Accessories:
    - 1) Mixing Valve: 15 gpm (57 lpm).
    - 2) Separate drain and overflow assembly.
    - 3) Ground fault circuit interrupter.
    - 4) Reclining seat.
- F. Hydrotherapy Whirlpools, Small Hubbard Immersion Tank: <Insert drawing designation>.
- 1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model F-270-S <Insert product name or designation> or comparable product by one of the following
    - a. Ferno Ille.
    - b. <Insert manufacturer's name>.
  - 2. Description: Stationary, butterfly-shaped, stainless steel tank for full-body massage.
    - a. Standard: CE IEC 60601-1.
    - b. Tank Dimensions: 93 by 64 by 22 inches (2362 by 1626 by 560 mm).
    - c. Overall Height: 34 inches (864 mm).
    - d. Material: 14 gauge Type 304 stainless steel.
    - e. Finish: No. 4, satin finish.
    - f. Water Capacity: 270 gal. (1022 L).
    - g. Supports: Adjustable legs.
    - h. Controls: ON/OFF switch.
    - i. Thermometer: Dual-scale, tank mounted.
    - j. Drain: Two 1-1/4-inch (32-mm) OD overflows.
    - k. Supply: NPS 1-1/4 (DN 32) over-the-rim fill spout.
    - l. Electric Turbine Ejectors: Two turbines at 1/2 hp (375 W) each, one turbine mounted on rail on each side.
    - m. Turbine Unit Electrical Characteristics:
      - 1) Volts: [115] [230] <Insert number> V.
      - 2) Phase: One.
      - 3) Hertz: [50] [60] <Insert number>.
      - 4) Full-Load Amperes: [6.9/6/2] [3.5/3.1] <Insert value> A.
    - n. Accessories:
      - 1) Mixing Valve: 15 gpm (57 lpm).



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- 2) Wash-out hose assembly for each mixing valve.
- 3) Ground-fault circuit interrupter.
- 4) Bath stretcher lift.
- 5) Bath chair lift.
- 6) Combination chair and stretcher lift.
- 7) Adjustable suspension seat.

G. Hydrotherapy Whirlpools, Medium Hubbard Immersion Tank: **<Insert drawing designation>**.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:
  - a. ARJO, Inc.
  - b. **<Insert manufacturer's name>**.
2. Description: Stationary, butterfly-shaped tank for full-body massage.
  - a. Tank Dimensions: **[100 by 73 by 24 inches (2540 by 1854 by 610 mm)] <Insert dimensions>**.
  - b. Overall Height: **[34 to 38 inches (864 to 965 mm)] <Insert dimensions>**.
  - c. Water Capacity: **[377 gal. (1468 L)] <Insert value>**.
  - d. Material: Stainless steel.
  - e. Supports: Legs or base.
  - f. Controls.
  - g. Thermometer: Control panel or tank rim mounted.
  - h. Supply: Over-the-rim fill spout.
  - i. Drain: One waste connection.
  - j. Electric Turbine Ejector: One; panel mounted.
  - k. Thermostatic, mixing-valve assembly.
  - l. Unit Electrical Characteristics:
    - 1) Volts: **[120] [240] [277] [480] <Insert number>**.
    - 2) Phase(s): **[One] [Three]**.
    - 3) Hertz: **[60] <Insert number>**.
    - 4) Full-Load Amperes: **<Insert value>**.
    - 5) Minimum Circuit Ampacity: **<Insert value>**.
    - 6) Maximum Overcurrent Protection: **<Insert amperage>**.
  - m. Hose and handheld shower.
  - n. Wash-out-hose assembly.
  - o. Stretcher lift.
  - p. Overhead[ **electric**] hoist.
  - q. **<Insert option>**.

H. Hydrotherapy Whirlpools, Large Hubbard Immersion Tank: **<Insert drawing designation>**.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model F-425-S **<Insert product name or designation>** or comparable product by one of the following:

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- a. Ferno Ille.
  - b. <Insert manufacturer's name>.
2. Description: Stationary, butterfly-shaped, stainless steel tank for full-body massage.
- a. Standard: CE IEC 60601-1.
  - b. Tank Dimensions: 106 by 77 by 22 inches (2692 by 1956 by 560 mm).
  - c. Overall Height: 34 inches (864 mm).
  - d. Water Capacity: [425 gal. (1609 L)] <Insert value>.
  - e. Material: 145 gauge Type 304 stainless steel.
  - f. Finish: No. 4, satin finish.
  - g. Water Capacity: 425 gal. (1609 L).
  - h. Supports: Adjustable legs.
  - i. Controls: ON/OFF switch.
  - j. Thermometer: Dual-scale, tank mounted.
  - k. Drain: Two 1-1/4-inch (32-mm) OD overflows.
  - l. Supply: NPS 1-1/4 (DN 32) over-the-rim fill spout.
  - m. Electric Turbine Ejectors: Two turbines at 1/2 hp (375 W) each, one turbine mounted on rail on each side.
  - n. Turbine Unit Electrical Characteristics:
    - 1) Volts: [115] [230] <Insert number> V.
    - 2) Phase: One.
    - 3) Hertz: [50] [60] <Insert number>.
    - 4) Full-Load Amperes: [6.9/6/2] [3.5/3.1] <Insert value> A.
  - o. Accessories:
    - 1) Mixing Valve: 15 gpm (57 lpm).
    - 2) Wash-out hose assembly for each mixing valve.
    - 3) Ground-fault circuit interrupter.
    - 4) Bath stretcher lift.
    - 5) Bath chair lift.
    - 6) Combination chair and stretcher lift.
    - 7) Adjustable suspension seat.
- I. Hydrotherapy Whirlpools, Full-Body Immersion Tank: <Insert drawing designation>.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model [F-260-S] [F-300-S]; <Insert product name or designation> or comparable product by one of the following:
    - a. Ferno Ille.
    - b. <Insert manufacturer's name>.
  2. Description: Stationary rectangular, stainless steel tank for full-body massage.
    - a. Tank Dimensions: 95 by 41 by 22 inches (2413 by 1041 by 560 mm).
    - b. Overall Height: 32 inches (813 mm).
    - c. Material: 14 gauge Type 304 stainless steel.

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- d. Finish: No. 4, satin finish.
- e. Water Capacity: **260 gal. (984 L)**.
- f. Supports: Adjustable legs.
- g. Controls: ON/OFF switch.
- h. Thermometer: Dual-scale, tank mounted.
- i. Drain: **Two 1-1/4-inch (32-mm)** OD overflows.
- j. **Supply: NPS 1-1/4 (DN 32) over-the-rim fill** spout.
- k. Electric Turbine Ejector: One turbine, **1/2 hp (375 W)**, mounted at end of tank.
- l. Turbine Unit Electrical Characteristics:
  - 1) Volts: **[115] [230] <Insert number> V**.
  - 2) Phase: One.
  - 3) Hertz: **[50] [60] <Insert number>**.
  - 4) Full-Load Amperes: **[6.9/6/2] [3.5/3.1] <Insert value> A**.
- m. Accessories:
  - 1) Mixing Valve: **15 gpm (57 lpm)**.
  - 2) Wash-out hose assembly for each mixing valve.
  - 3) Ground-fault circuit interrupter.
  - 4) Bath stretcher lift.
  - 5) Bath chair lift.
  - 6) Combination chair and stretcher lift.
  - 7) Adjustable suspension seat.

## 2.20 OUTLET BOXES

### A. Outlet Boxes, for Dialysis Equipment: **<Insert drawing designation>**.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model **[8190] [8191] [8195] [8196]**; **<Insert product name or designation>** or comparable product by one of the following:
  - a. Acorn Engineering Company; a Division of Morris Group International.
  - b. Metcraft Industries, Inc.
  - c. Willoughby Industries.
  - d. **<Insert manufacturer's name>**.
2. Description: Recessed-mounted outlet box with water-supply and drain connections.
  - a. Box: Stainless steel.
    - 1) Door: Stainless steel, with hinge and keyed lock.
    - 2) Discharge Hose Bracket: Stainless steel with rubber grommets.
  - b. Supply Fitting(s): **[One] [Two]** NPT 1/2 PVC ball valve(s) and adapter with 3/4-inch male hose-thread connection.
  - c. Drain: **2-3/8-inch (60-mm)** OD waste outlet.

3. Accessories:
  - a. Less manufacturer's logo.
  - b. Satin finish interior.
  - c. Stainless steel ball valve in lieu of PVC.

B. Outlet Boxes <Insert drawing designation>: With backflow preventer, trap primer, and waste connection; for dialysis equipment.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Whitehall Manufacturing, Morris Group International; model [8193] [8194]; <Insert product name or designation> or comparable product by one of the following:
  - a. <Insert manufacturer's name>.
2. Description: Recessed-mounted dialysis box with backflow preventer, trap primer, and waste connections.
  - a. Box: 18 gauge, Type 304 stainless steel, exposed surfaces No. 4 satin finish.
    - 1) Door: Stainless steel, with concealed 180-degree hinge and knurled knob actuator to open.
    - 2) Discharge Hose Bracket: Stainless steel with rubber grommets.
    - 3) Drip tray: Fold down.
    - 4) Thermostatic mixing valve.
  - b. Supply Fitting(s): [One] [Two] NPT 1/2 PVC ball valve(s) and adapter with 3/4-inch male hose-thread connection.
  - c. Drain: NPS 2 drain outlet.
3. Accessories:
  - a. Less manufacturer's logo.
  - b. Satin finish interior.
  - c. Stainless steel ball valve in lieu of PVC.

## 2.21 MORGUE EQUIPMENT

A. Autopsy Table: <Insert drawing designation>.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. CSI Industries Inc.
  - b. LEEC.
  - c. Mopec.
  - d. <Insert manufacturer's name>.
2. Description: Pedestal, stainless steel table with sink; designed for downdraft ventilation.

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- a. Material: Stainless steel.
- b. Nominal Size: **[88 by 30 inches (2250 by 762 mm)]** <Insert dimensions> with deck faucet holes.
- c. Faucet: Manufacturer's standard, deck mounted with wrist- or elbow-blade handles.
- d. Aspirator: Deck mounted.
- e. Removable body supports.
- f. Rinse Assembly: Deck-mounted faucet with hose.
- g. Disposer: **[Not required] [Required, in accordance with UL 430]**.
- h. Receptacle: Duplex, hospital grade with ground-fault interruption.
- i. Supplies: With atmospheric vacuum breakers, in accordance with ASSE 1001, and stops.
- j. Drain: **[Grid]** <Insert type> with **NPS 1-1/2 (DN 40)** tailpiece.
- k. Waste piping.
- l. Unit Electrical Characteristics:
  - 1) Volts: **[120] [240] [277] [480]** <Insert number>.
  - 2) Phase(s): **[One] [Three]**.
  - 3) Hertz: **[60]** <Insert number>.
  - 4) Full-Load Amperes: <Insert value>.
  - 5) Minimum Circuit Ampacity: <Insert value>.
  - 6) Maximum Overcurrent Protection: <Insert amperage>.

**B. Dissecting Sink: <Insert drawing designation>.**

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. CSI Industries Inc.
  - b. LEEC.
  - c. Mopec.
  - d. <Insert manufacturer's name>.
2. Description: Wall-mounted sink with backsplash.
  - a. Material: Stainless steel.
  - b. Nominal Size:
    - 1) **[84 by 28 inches (2130 by 710 mm)]** <Insert dimensions> with back faucet holes.
    - 2) Approximately **30 inches (760 mm)** wide.
  - c. Equipment drawer.
  - d. Faucet: <Insert faucet designation>.
  - e. Aspirator: Back mounted.
  - f. Rinse Assembly: One back-mounted faucet with hose.
  - g. Disposer: **[Not required] [Required, in accordance with UL 430]**.
  - h. Support: ASME A112.6.1M, **[Type I sink carrier] [Type III sink carrier]** <Insert carrier>.

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- i. Supplies: With atmospheric vacuum breakers, in accordance with ASSE 1001, and stops.
- j. Drain: **[Grid]** <Insert type> with **NPS 1-1/2 (DN 40)** tailpiece.
- k. Waste Piping: Comply with requirements in "Waste Fittings" Article.
- l. Back-mounted, handheld eye wash.
- m. Unit Electrical Characteristics:
  - 1) Volts: **[120] [240] [277] [480]** <Insert number>.
  - 2) Phase(s): **[One] [Three]**.
  - 3) Hertz: **[60]** <Insert number>.
  - 4) Full-Load Amperes: <Insert value>.
  - 5) Minimum Circuit Ampacity: <Insert value>.
  - 6) Maximum Overcurrent Protection: <Insert amperage>.

## 2.22 SUPPORTS

### A. Water-Closet Carrier: <Insert carrier type>.

- 1. Description: Waste-fitting assembly as required to match drainage piping material and arrangement with faceplates, couplings gaskets, and feet; bolts and hardware matching fixture. **[ Include additional extension coupling, faceplate, and feet for installation in wide pipe space.]**
- 2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Jay R. Smith Mfg Co; a division of Morris Group International.
  - b. Josam Company.
  - c. MIFAB, Inc.
  - d. Wade Drains.
  - e. WATTS.
  - f. Zurn Industries, LLC.
  - g. <Insert manufacturer's name>.

### B. Type I Sink Carrier: <Insert sink designation>.

- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Jay R. Smith Mfg Co; a division of Morris Group International.
  - b. Josam Company.
  - c. MIFAB, Inc.
  - d. Wade Drains.
  - e. WATTS.
  - f. Zurn Industries, LLC.
  - g. <Insert manufacturer's name>.

### C. Type II Sink Carrier: <Insert sink designation>.

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1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Jay R. Smith Mfg Co; a division of Morris Group International.
  - b. Josam Company.
  - c. MIFAB, Inc.
  - d. Wade Drains.
  - e. WATTS.
  - f. Zurn Industries, LLC.
  - g. **<Insert manufacturer's name>**.

D. Type III Sink Carrier[, **with White-Enameled-Steel Brackets**]: **<Insert sink designation>**.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Jay R. Smith Mfg Co; a division of Morris Group International.
  - b. Josam Company.
  - c. MIFAB, Inc.
  - d. Wade Drains.
  - e. WATTS.
  - f. Zurn Industries, LLC.
  - g. **<Insert manufacturer's name>**.

E. Type IV Sink Carrier: **<Insert sink designation>**.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Jay R. Smith Mfg Co; a division of Morris Group International.
  - b. Josam Company.
  - c. MIFAB, Inc.
  - d. Wade Drains.
  - e. WATTS.
  - f. Zurn Industries, LLC.
  - g. **<Insert manufacturer's name>**.

## 2.23 SUPPLY FITTINGS

- A. Supply Piping: Chrome-plated brass pipe or chrome-plated copper tube matching water-supply piping size. Include chrome-plated brass or stainless steel wall flange.
- B. Supply Stops: Chrome-plated brass, one-quarter-turn, ball-type or compression valve with inlet connection matching supply piping.
- C. Operation: [**Loose key**] [**Wheel handle**] **<Insert type>**.

- D. Risers: **NPS 1/2 (DN 15)** [**chrome-plated, rigid-copper pipe and brass straight or offset tailpieces**] [**chrome-plated, soft-copper flexible tube**] [ASME A112.18.6, braided or corrugated stainless steel, flexible hose].

## 2.24 WASTE FITTINGS

- A. Drain: [**Grid**] <Insert type> with **NPS 1-1/2 (DN 40)** tailpiece.
- B. Trap:
1. Size: **NPS 1-1/2 (DN 40)**.
  2. Material:
    - a. Chrome-plated, [**two-piece, cast-brass trap and swivel elbow with 0.032-inch- (0.83-mm-) thick, brass tube to wall**] [**two-piece, cast-brass trap and ground-joint swivel elbow with 0.032-inch- (0.83-mm-) thick, brass tube to wall**] [**one-piece, cast-brass trap with swivel 0.029-inch- (73-mm-) thick, tubular brass wall bend**] <Insert trap type>; and chrome-plated brass or steel wall flange.
    - b. Stainless steel, two-piece trap and swivel elbow with **0.012-inch- (0.30-mm-) thick, stainless steel tube to wall**; and stainless steel wall flange.

## 2.25 GROUT

- A. Characteristics: Nonshrink; recommended for interior and exterior applications.
- B. Design Mix: **5000 psi (34.5 MPa)**, 28-day compressive strength.
- C. Packaging: Premixed and factory packaged.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

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

### 3.2 INSTALLATION

- A. Install healthcare plumbing fixtures level and plumb in accordance with rough-in drawings.
- B. Install supports, affixed to building substrate, for wall-mounted 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 floor-mounted healthcare water closets on bowl-to-drain, connecting fitting attachments to piping or building substrate.
- D. Install counter-mounted fixtures in, and attached to, casework.
- E. 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 for use of ball or gate valve if supply stops are not specified with fixture. Comply with valve requirements specified in Section 220523.12 "Ball Valves for Plumbing Piping" and Section 220523.15 "Gate Valves for Plumbing Piping."
- F. Install flushometer valves on healthcare water closets.
- G. Install flushometer valves for accessible healthcare water closets, with lever handle mounted on wide side of compartment.
- H. Install toilet seats on healthcare water closets.
- I. 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.
- J. Install laminar-flow, faucet-spout fittings in faucet spouts where laminar-flow fittings are specified.
- K. Install shower flow-control fittings with specified maximum flow rates in shower arms.
- L. Install traps on fixture outlets.
1. Exception for omission of trap on fixtures with integral traps.
- M. Set healthcare showers in leveling bed of cement grout.
- N. Install protective shielding pipe covers and enclosures on exposed supplies and waste piping of accessible sinks. Comply with requirements in Section 220719 "Plumbing Piping Insulation."
- O. Seal joints between healthcare plumbing fixtures, counters, floors, and walls using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 079200 "Joint Sealants."
- P. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons if required to conceal protruding fittings. Comply with escutcheon requirements specified in Section 220518 "Escutcheons for Plumbing Piping."

### 3.3 PIPING CONNECTIONS

- A. Connect fixtures with water supplies, stops, and risers and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.
- B. Comply with requirements for water piping specified in Section 221116 "Domestic Water Piping."
- C. Comply with requirements for soil and waste drainage piping[ **and vent piping**] specified in Section 221316 "Sanitary Waste and Vent Piping."
- D. Comply with requirements for atmospheric vent piping specified in Section 221316 "Sanitary Waste and Vent Piping."
- E. Install protective shielding pipe covers and enclosures on exposed supplies and waste piping of accessible sinks. Comply with requirements in Section 220719 "Plumbing Piping Insulation."

### 3.4 ELECTRICAL CONNECTIONS

- A. Connect wiring in accordance with Section 260519 "Low-Voltage Electrical Power Conductors and Cables."
- B. Ground equipment in accordance with Section 260526 "Grounding and Bonding for Electrical Systems."
- C. Install electrical devices furnished by manufacturer, but not factory mounted in accordance with NFPA 70.
- D. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.
  - 1. Nameplate to be laminated acrylic or melamine plastic signs, as specified in Section 260553 "Identification for Electrical Systems."
  - 2. Nameplate to be laminated acrylic or melamine plastic signs with a black background and engraved white letters at least [1/2 inch (13 mm)] <Insert dimension> high.

### 3.5 ADJUSTING

- A. Operate and adjust faucets and controls. Replace damaged and malfunctioning healthcare plumbing fixtures, fittings, and controls.
- B. Adjust water pressure at [**faucets**] [**and**] [**flushometer valves**] to produce proper flow.
- C. Install fresh batteries in battery-powered, electronic-sensor mechanisms.

### 3.6 CLEANING AND PROTECTION

- A. After installing healthcare plumbing fixtures, inspect and repair damaged finishes.

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- B. Clean healthcare plumbing fixtures, faucets, and other fittings with manufacturers' recommended cleaning methods and materials.
- C. Provide protective covering for installed fixtures and fittings.
- D. Do not allow use of healthcare plumbing fixtures for temporary facilities unless approved in writing by Owner.

END OF SECTION 224300