SECTION 22 40 00
PLUMBING FIXTURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Water closets.
B. Dual flush water closets.
C. Bidets.
D. Urinals.
E. Waterless urinals.
F. Lavatories.
G. All-in-one lavatory system.
H. Sinks.
I. Service sinks.
J. Electric water coolers.
K. Drinking fountains.
L. Bathtubs.
M. Showers.
N. Wash fountains.
O. Eye and face wash fountains.
P. Emergency showers.

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary: Owner-furnished fixtures.
B. Section 06 41 00 - Architectural Wood Casework: Preparation of counters for sinks and lavatories.
C. Section 07 92 00 - Joint Sealants: Sealing joints between fixtures and walls and floors.
D. Section _____: Product requirements for integral lavatory counter tops for placement by this section.
E. Section 11 40 00 - Foodservice Equipment: Food service sinks.
F. Section 11 53 00 - Laboratory Equipment: Laboratory sinks.
G. Section 12 36 00 - Countertops: Preparation of counters for sinks and lavatories.
H. Section 22 10 05 - Plumbing Piping.
I. Section 22 10 06 - Plumbing Piping Specialties.
J. Section 22 30 00 - Plumbing Equipment.
K. Section 26 27 17 - Equipment Wiring: Electrical characteristics and wiring connections.
L. Section _____: Execution requirements for terrazzo service sinks.

1.03 REFERENCE STANDARDS

A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
B. ANSI Z124.1.2 - American National Standard for Plastic Bathtub and Shower Units; 2005.
C. ANSI Z358.1 - American National Standard for Emergency Eyewash and Shower Equipment; 2014.
D. ASHRAE Std 18 - Methods of Testing for Rating Drinking-Water Coolers with Self-Contained Mechanical Refrigeration; 2008.

Sample

E. ASME A112.6.1M - Supports for Off-the-Floor Plumbing Fixtures for Public Use; 1997 (Reaffirmed 2002).

F. ASME A112.18.1 - Plumbing Supply Fittings; 2012.

G. ASME A112.19.1 - Enamelled Cast Iron and Enamelled Steel Plumbing Fixtures; 2013.

H. ASME A112.19.2 - Ceramic Plumbing Fixtures; 2013.

I. ASME A112.19.3 - Stainless Steel Plumbing Fixtures; 2008 (R2013).

J. ASME A112.19.4M - Porcelain Enameled Formed Steel Plumbing Fixtures; 1994 (R2004).

K. ASME A112.19.5 - Flush Valves and Spuds for Water Closets, Urinals, and Tanks; 2011.

L. ASME A112.19.14 - Six Liter Water Closets Equipped with Dual Flushing Device; 2013.

M. ASME A112.19.15 - Bathtub/Whirlpool Bathtubs with Pressure Sealed Doors; 2012.

N. ASSE 1070 - Performance Requirements for Water Temperature Limiting Devices; 2004.

O. ASTM D570 - Standard Test Method for Water Absorption of Plastics; 1998 (Reapproved 2010).

P. ASTM D638 - Standard Test Method for Tensile Properties of Plastics; 2014.

Q. ASTM D696 - Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between - 30 C and 30 C with a Vitreous Silica Dilatometer; 2008e1.

R. ASTM D785 - Standard Test Method for Rockwell Hardness of Plastics and Electrical Insulating Materials; 2008.

S. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

T. IAPMO Z124 - Plastic Plumbing Fixtures; 2012.

U. ISFA 2-01 - Classification and Standards for Solid Surfacing Material; 2013.

V. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

W. NSF 61 - Drinking Water System Components - Health Effects; 2014 (Errata 2015).

X. NSF 372 - Drinking Water System Components - Lead Content; 2011.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.

C. Samples: Submit two lavatory supply fittings.

D. Manufacturer's Instructions: Indicate installation methods and procedures.

E. Sustainable Design Documentation: Submit appropriate evidence that materials used in potable water systems comply with the specified requirements.

F. Maintenance Data: Include fixture trim exploded view and replacement parts lists.

G. Waterless Urinals: Submit recommended frequency of maintenance and parts replacement, methods of cleaning, sources of replacement supplies and parts.

H. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

I. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 60 00 - Product Requirements, for additional provisions.
   2. Extra Faucet Washers: One set of each type and size.
   3. Extra Lavatory Supply Fittings: One set of each type and size.
   4. Extra Shower Heads: One of each type and size.
   5. Extra Toilet Seats: One of each type and size.
   6. Flush Valve Service Kits: One for each type and size.

sample

7. Extra Waterless Urinal Trap Seals/Supplies: Provide one year's worth of replacement trap seal parts or supplies, based on normal, expected use of facility of this type.
8. Extra Waterless Urinal Trap Seals/Supplies: One year's worth, based on normal, expected use of facility of this type.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

B. Codes and Standards:
1. ASME A112.19.1 Enameled Cast Iron Fixtures.
2. ASME A112.19.2 Vitreous China Plumbing Fixtures.
3. ASME A112.19.3 Stainless Steel Plumbing Fixtures.
4. ASME A112.19.5 Trim for Water Closet Bowls, Tanks and Urinals.
5. ASME A112.18.1 Plumbing Supply Fittings.
6. 2015 Enterprise Green Communities Criteria 4.1, 4.2, 4.3
7. NextGeneration NYCHA Sustainablity Agenda Strategy S3 & S5
8. ASME A112.6.1 Supports for off the floor plumbing fixture for public use,

C. All fixture trimmings, including faucets, strainers, escutcheons, water closet supplies, stops, waste trap, visible hanger shall be made of brass and shall be thoroughly and evenly chrome plated applied and guaranteed not to strip or peel. All chromium plating on plumbing fixture trim shall be in accordance with Federal Spec. WW-P-54 lb for grade R plating. Manufacturer shall submit certification that all chrome plating on finished trim meets aforementioned Federal Specification. All plated work shall be highly buffed. Plastic, zinc or white metal will not be approved.

D. Expect for kitchen sinks, all fixtures shall be white, free from imperfections, true as to line, angles, curves and color, smooth, watertight, nameplate in every respect and practically noiseless in operation. Fixtures as specified are given as a typical standard and they or other approved fixtures shall be furnished, set and connected in good substantial, neat and workmanlike manner.

E. Fixtures: Vitreous china ware of the best quality, non-absorbent and manufactured so that the whole mass is thoroughly fused and vitrified, producing a material white in color which, when fractured, will show a homogenous mass, close grained and free from pores. The glazing and vitreous china fixtures shall be thoroughly fused and united to the body, without discoloration, chips, or flaws, and shall be free from craze. Warped or otherwise imperfect fixtures will no be acceptable.

F. Each supply fixture, casework fixture and equipment, shall be separately controlled by its own stops. Locate as required on wall, above floor or as directed.

G. All faucets shall have metal handles.

H. All trim shall be permanently stamped with manufacturer’s identification and visible after installation.

I.

1.06 REGULATORY REQUIREMENTS

A. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

1.07 MOCK-UP

A. Provide mock-up of typical bathroom group.

B. Mock-up may remain as part of the Work.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Accept fixtures on site in factory packaging. Inspect for damage.

sample

B. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

1.09 EXTRA MATERIALS

A. Provide additional five (5) % of all kitchen and Bathroom faucets, showerheads and shower controls.

1.10 WARRANTY

A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

B. Provide five year manufacturer warranty for electric water cooler.

PART 2 PRODUCTS

2.01 GENERAL

A. Potable Water Systems: Provide plumbing fittings and faucets that comply with NSF 61 and NSF 372 for maximum lead content; label pipe and fittings.

B. Water Efficiency: EPA WaterSense label is required for all water closets, urinals, lavatory faucets, and showerheads.

2.02 FLUSH VALVE WATER CLOSETS

A. Water Closets: Vitreous china, ASME A112.19.2, floor mounted, siphon jet flush action, china bolt caps.
   1. Bowl: ASME A112.19.2; 16.5 inches high with elongated rim.
   2. Flush Valve: Exposed (top spud).
   3. Flush Operation: Manual, oscillating handle.
   4. Handle Height: 44 inches or less.
   5. Supply Size: 1-1/2 inches.
   6. Outlet Size: 2 inches.
   7. Color: White.
   8. Manufacturers:
      a. American Standard, Inc; _____: www.americanstandard-us.com.
      b. Gerber Plumbing Fixtures LLC; _____: www.gerberonline.com.
      c. Kohler Company; _____: www.kohler.com.
      d. Zurn Industries, Inc; _____: www.zurn.com.
      e. _____.
      f. Substitutions: See Section 01 60 00 - Product Requirements.

B. Flush Valves: ASME A112.18.1, diaphragm type, complete with vacuum breaker stops and accessories.
   1. Sensor-Operated Type: Solenoid operator, low voltage hard-wired, infrared sensor and over-ride push button.
   2. Concealed Type: Rough brass, exposed parts chrome plated, wall escutcheon, wheel handle stop.
   3. Exposed Type: Chrome plated, escutcheon, integral screwdriver stop.
   4. Metering Type: Easily accessible adjustment nut.
   5. Manufacturers:
      a. American Standard, Inc; _____: www.americanstandard-us.com.
      b. Delany Products; _____: www.delanyvalve.com.
      c. Sloan Valve Company; _____: www.sloanvalve.com.
      d. Zurn Industries, Inc; _____: www.zurn.com.
      e. _____.
      f. Substitutions: See Section 01 60 00 - Product Requirements.

C. Seats:
   1. Manufacturers:
      a. American Standard, Inc; _____: www.americanstandard-us.com.

Sample

b. Bemis Manufacturing Company; _____: www.bemismfg.com.
c. Church Seat Company; _____: www.churchseats.com.
d. Olsonite; _____: www.olsonite.com.
e. Zurn Industries, Inc; _____: www.zurn.com.
f. _____.
g. Substitutions: See Section 01 60 00 - Product Requirements.

2. Solid black plastic, open front, extended back, self-sustaining hinge, brass bolts, with cover.

D. Water Closet Carriers:
1. Manufacturers:
a. JOSAM Company; _____: www.josam.com.
b. Zurn Industries, Inc; _____: www.zurn.com.
c. _____.
d. Substitutions: See Section 01 60 00 - Product Requirements.
2. ASME A112.6.1M; adjustable cast iron frame, integral drain hub and vent, adjustable spud, lugs for floor and wall attachment, threaded fixture studs with nuts and washers.

E. WATER CLOSET (SPECIFIC):
1. White vitreous china, high efficiency, operate on 1.28 gallons per flush, elongated floor mount, manual flushometer valve, top spud, power full direct-fed siphon jet action.
2. Bowl: American Standard MADERA FLOWISE model 3461.001 or equal.
3. Water closet shall have “Water Sense” label.
4. Flushometer: manual flush valve American Standard Model 6047.121 or equal. Self -cleaning brass piston with integral wiper spring prevent clogging and reduce maintenance. ADA compliant non-hold open handle provide automatic shut-off after each flush. Durable chrome-plated cast brass construction.
5. Seat: Solid plastic, American Standard # 5901.100 or equal heavy duty open front less cover.

2.03 TANK TYPE WATER CLOSETS

A. Tank Type Water Closet Manufacturers:
1. American Standard, Inc; _____: www.americanstandard-us.com.
2. Gerber Plumbing Fixtures LLC; _____: www.gerberonline.com.
3. Kohler Company; _____: www.kohler.com.
4. Zurn Industries, Inc; _____: www.zurn.com.
5. _____.
6. Substitutions: See Section 01 60 00 - Product Requirements.

B. Bowl: ASME A112.19.2; wall hung, vitreous china, reverse trap, whirlpool action close-coupled closet combination with regular rim, insulated vitreous china closet tank with fittings and lever flushing valve, chrome plated bolt caps.
1. Water Consumption: Maximum 1.6 gallons per flush.

C. Bowl: ASME A112.19.2; floor mounted, siphon jet, vitreous china, 16.5 inches high, close-coupled closet combination with elongated rim, insulated vitreous china closet tank with fittings and lever flushing valve, bolt caps, vandalproof cover locking device.
1. Water Consumption: Maximum 1.6 gallons per flush.

D. Bowl: ASME A112.19.2; floor mounted, vitreous china reverse trap, close-coupled closet combination with regular rim, insulated vitreous china closet tank with fittings and lever flushing valve, bolt caps.
1. Water Consumption: Maximum 1.6 gallons per flush.

E. Seat Manufacturers:
1. American Standard, Inc; _____: www.americanstandard-us.com.
2. Bemis Manufacturing Company; _____: www.bemismfg.com.
3. Church Seat Company; _____: www.churchseats.com.

sample

4. Olsonite; _____: www.olsonite.com.
5. _____.
6. Substitutions: See Section 01 60 00 - Product Requirements.

F. Seat: Solid white plastic, open front, brass bolts, with cover.

G. Seat: Solid white plastic, open front, extended back, less cover, complete with self-sustaining hinge.

H. Handle Height: 44 inches or less.

I. Electric Washlet Seat:
1. Solid white plastic, open front, electronic hinge, retractable washing arm, grounded electrical cord.
2. Manufacturers:
a. Brondell; _____: www.brondell.com.
b. Toto; _____: www.totousa.com.
c. _____.
d. Substitutions: See Section 01 60 00 - Product Requirements.

J. Water Closet Carrier:
1. Manufacturers:
a. JOSAM Company; _____: www.josam.com.
b. Zurn Industries, Inc; _____: www.zurn.com.
c. _____.
d. Substitutions: See Section 01 60 00 - Product Requirements.
2. ASME A112.6.1M; adjustable cast iron frame, integral drain hub and vent, adjustable spud, lugs for floor and wall attachment, threaded fixture studs with nuts and washers.

K. WATER CLOSET (SPECIFIC):
1. Water closets shall be in accordance with Federal Specifications paragraph 10.5. New water closets shall be of the gravity flush high efficiency type (HET - max. 1.28 gal. per flush) and shall be vitreous china round front bowl and close coupled tank. Water closet to have a “MaP” flush performance score of 600 or greater. Water closet shall have “Water Sense” label. Federal Specifications Outfit No. VW5 (Fig. 10.02). Water closet shall be:
a. American Standard "Cadet Pro" model 215DA.104,
b. Kohler "Wellworth" model K-3577,
c. Mansfield "Alto" model 4130-3121,
d. Toto “Eco Drake” model CST743E,
1) or equal.
2. Water closet seat shall be black closed front type with cover, in accordance with Housing Authority Specifications No. 15.05S. Seat and cover shall be constructed of seamless molded solid plastic material that is smooth surfaced, waterproof, non-absorbent, flame-retarding, colorfast, and resistant to damage by acid or alkaline solutions. Seat and cover, without fasteners, shall weigh at least 3 pounds 8 ounces. Seat and cover shall be:
a. Beneke model No. 420TM,
b. Church model No. 100TT,
c. Centoco model No. 440TM,
d. Kohler model K-4658-7,
e. Olsonite model No. 40TM,
f. or equal
3. Floor flange shall be NYC approved no-hub cast iron flange with neoprene gasket that is torque set by stainless steel bolts.
4. New closet bend shall be 4" diameter no-hub cast iron of a length as required to fit soil stack.

2.04 DUAL FLUSH WATER CLOSETS

A. Dual Flush Water Closet Manufacturers:

Sample

1. American Standard, Inc; _____: www.americanstandard-us.com.
2. Caroma USA, Inc; _____: www.caromausa.com.
3. Gerber Plumbing Fixtures LLC; _____: www.gerberonline.com.
4. Toto USA; _____: www.totousa.com.
5. Zurn Industries, Inc; _____: www.zurn.com.
6. _____.
7. Substitutions: See Section 01 60 00 - Product Requirements.

B. Dual Flush Water Closets: ASME A112.19.14; high efficiency and low consumption, vitreous china, dual flush, tank type.
1. Flush System: Pressure-assisted, wash down with a half-flush consumption of 1.1 GPF.
2. Flush System: Gravity feed, wash down with a half-flush consumption of 0.8 GPF.
3. Bowl: Elongated.
4. Flush Actuator: Manufacturer's standard.
5. Handle Height: 44 inches or less.
6. Trapway: 3 1/8 inch.
7. Rough in: 12 inch.
8. Seat: Manufacturer's standard or recommended elongated closed front seat with lid.
   a. Seat and lid gently close with a touch of a hand.
9. Color: White.
10. Accessory: Vandal resistant tank lid lock.

C. WATER CLOSET (SPECIFIC):
1. White vitreous china, high efficiency, operate on 1.28 gallons per flush, elongated floor mount, manual flushometer valve, top spud, power full direct-fed siphon jet action.
2. Bowl: American Standard MADERA FLOWISE model 3461.001 or equal.
3. Water closet shall have “Water Sense” label.
4. Flushometer: manual flush valve American Standard Model 6047.121 or equal. Self -cleaning brass piston with integral wiper spring prevent clogging and reduce maintenance. ADA compliant non-hold open handle provide automatic shut-off after each flush. Durable chrome-plated cast brass construction.
5. Seat: Solid plastic, American Standard # 5901.100 or equal heavy duty open front less cover.

2.05 BIDETS

A. Bidet Manufacturers:
1. American Standard, Inc; _____: www.americanstandard-us.com.
2. Kohler Company; _____: www.kohler.com.
3. _____.
4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Bowl: ASME A112.19.2; floor mounted, vitreous china bidet with integral overflow, flushing rim, extended back shelf, 1-1/4 inch tailpiece.

C. Supply Fitting Manufacturer:
1. American Standard, Inc; _____: www.americanstandard-us.com.
2. Kohler Company; _____: www.kohler.com.
3. _____.
4. Substitutions: See Section 01 60 00 - Product Requirements.

D. Supply Fitting: ASME A112.18.1; exposed chrome plated, two valve fitting with backflow preventer, transfer valve, spray, pop-up waste, indexed acrylic handles.

E. Supply Fitting: ASME A112.18.1; chrome plated supply fitting with chain and plug, water economy aerator, indexed handles.

2.06 WATERLESS URINALS

A. Manufacturers:
1. American Standard, Inc; _____: www.americanstandard-us.com.

sample

2. Falcon Waterfree Technologies; _____: www.falconwaterfree.com.
3. Kohler Company; _____: www.kohler.com.
4. Sloan Valve; _____: www.sloanvalve.com.
5. Waterless Co; _____: www.waterless.com.
6. Zero Flush; _____: www.zeroflush.com.
7. Zurn Industries, Inc; _____: www.zurn.com.
8. _____.
9. Substitutions: See Section 01 60 00 - Product Requirements.

B. Urinal UR-____: Wall-hung, vitreous china, complying with ASME A112.19.2; one piece bowl and shields, with integral trap, back outlet, carrier, and all necessary fittings.
1. Trap Assembly: Siphon trap type not requiring additional water for drainage of urine; liquid trap seal that is lower specific gravity than water or urine and is biodegradable; completely enclosed cartridge intended to be replaced periodically or refillable liquid trap seal; tamperproof but removable for cleaning and replacement.
2. Projection From Wall: Approximately 14 inches.
3. Width: Approximately 19 inches.
4. Retrofit Units: Rough-in dimensions and carrier location positioned to fit existing installations.
5. Color: White.

2.07 WALL HUNG URINALS

A. Wall Hung Urinal Manufacturers:
1. American Standard, Inc; _____: www.americanstandard-us.com.
2. Gerber Plumbing Fixtures LLC; _____: www.gerberonline.com.
3. Kohler Company; _____: www.kohler.com.
4. Zurn Industries, Inc; EcoVantage Z5798 High-Efficiency Urinal System: www.zurn.com.
5. Substitutions: See Section 01 60 00 - Product Requirements.

B. Urinals: Vitreous china, ASME A112.19.2, wall hung with side shields and concealed carrier.
1. Flush Volume: 1.0 gallons, maximum.
2. Flush Style: Washout.
3. Flush Valve: Exposed (top spud).
4. Flush Operation: Sensor operated.
5. Trap: Integral.
6. Removable stainless steel strainer.
7. Supply Size: 3/4 inch.
8. Outlet Size: 2 inches.

C. Flush Valves: ASME A112.18.1, diaphragm type, complete with vacuum breaker stops and accessories.
1. Sensor-Operated Type: Solenoid operator, low voltage hard-wired, infrared sensor and over-ride push button.
2. Concealed Type: Rough brass, exposed parts chrome plated, wall escutcheon, wheel handle stop.
3. Exposed Type: Chrome plated, escutcheon, integral screwdriver stop.
4. Metering Type: Easily accessible adjustment nut.
5. Manufacturers:
a. American Standard, Inc; _____: www.americanstandard-us.com.
b. Delany Products; _____: www.delaneyvalve.com.
c. Sloan Valve Company; _____: www.sloanvalve.com.
d. Zurn Industries, Inc; _____: www.zurn.com.
e. _____.
f. Substitutions: See Section 01 60 00 - Product Requirements.

D. Carriers:
1. Manufacturers:

sample

a. JOSAM Company; _____: www.josam.com.
b. Zurn Industries, Inc; _____: www.zurn.com.
c. _____.
d. Substitutions: See Section 01 60 00 - Product Requirements.

2. ASME A112.6.1M; cast iron and steel frame with tubular legs, lugs for floor and wall attachment, threaded fixture studs for fixture hanger, bearing studs.

E. URINAL (SPECIFIC):
1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
a. American Standard Companies, Inc.
b. Eljer.
c. Kohler Co.
d. Mansfield Plumbing Products, Inc.
e. Peerless Pottery, Inc.
2. Description: Accessible, wall-mounting, back-outlet, vitreous-china fixture designed for flushometer valve operation.
a. Type: Washout with extended shields.
b. Strainer or Trapway: Separate removable strainer with integral trap.
c. Design Consumption: 0.5 gal./flush.
d. Color: White.
e. Supply Spud Size: NPS 3/4.
f. Outlet Size: NPS 2.
g. Fixture Support: hanger.

2.08 STALL URINALS

A. Stall Urinal Manufacturers:
1. American Standard, Inc; _____: www.americanstandard-us.com.
2. Kohler Company; _____: www.kohler.com.
3. Zurn Industries, Inc; _____: www.zurn.com.
4. _____.
5. Substitutions: See Section 01 60 00 - Product Requirements.

B. Urinal: ASME A112.19.2; vitreous china slope front stall urinal with integral flushing rim, removable stainless steel strainer 3/4 inch top spud.

C. Flush Valve Manufacturers:
1. American Standard, Inc; _____: www.americanstandard-us.com.
2. Delany Products; _____: www.delanyvalve.com.
3. Sloan Valve Company; _____: www.sloanvalve.com.
4. Zurn Industries, Inc; _____: www.zurn.com.
5. _____.
6. Substitutions: See Section 01 60 00 - Product Requirements.

D. Exposed Flush Valve: ASME A112.18.1; exposed chrome plated, diaphragm type with oscillating handle, escutcheon, integral screwdriver stop, vacuum breaker; maximum 1.0 gallon flush volume.

E. Concealed Flush Valve: ASME A112.18.1; concealed rough brass, diaphragm type with exposed chrome plated push button and escutcheon, wheel handle stop and vacuum breaker; maximum 1.0 gallon flush volume.

F. Sensor Operated Flush Valve: ASME A112.18.1; concealed rough brass, diaphragm type with low voltage operated solenoid operator, infrared sensor and over-ride button in chrome plated plate, wheel handle stop and vacuum breaker; maximum 1.0 gallon flush volume.

G. Flush Tank: ASME A112.19.5; vitreous china insulated tank with concealed cover, bottom supply, siphon valve.

Sample

2.09 LAVATORIES

A. Lavatory Manufacturers:
   1. American Standard, Inc; _____: www.americanstandard-us.com.
   2. Gerber Plumbing Fixtures LLC; _____: www.gerberonline.com.
   3. Kohler Company; _____: www.kohler.com.
   4. Zurn Industries, Inc; _____: www.zurn.com.
   5. _____.
   6. Substitutions: See Section 01 60 00 - Product Requirements.

B. Vitreous China Wall Hung Basin: ASME A112.19.2; vitreous china wall hung lavatory, ___ by ___ inch minimum, with 4 inch high back, rectangular basin with splash lip, front overflow, and soap depression.
   1. Drilling Centers: 4 inch.
   2. Drilling Centers: 8 inch.

C. Cast Iron Wall Hung Basin: ASME A112.19.1; porcelain enamelled cast iron wall-hung lavatory, ___ by ___ inch minimum, with 4 inch high back, drillings on 4 inch centers, rectangular basin with splash lip, front overflow, and soap depression.

D. Steel Counter Top Basin: ASME A112.19.4M; porcelain on steel self-rimming counter top lavatory, ___ by ___ inch with drillings on 4 inch centers, front overflow, soap depression, seal of putty, calking, or concealed vinyl gasket.

E. Vitreous China Counter Top Basin: ASME A112.19.2; vitreous china self-rimming counter top lavatory, _____ with drillings on 4 inch centers, front overflow, soap depression, seal of putty, calking, or concealed vinyl gasket.

F. Vitreous China Under-Mount Basin: ASME A112.19.2; vitreous china under-mount lavatory, front overflow, mounting kit and template by manufacturer.
   1. Bowl size: ___ by ___ inch (___ by ___ mm)

G. Pedestal Basin: ASME A112.19.2; vitreous china pedestal lavatory with integral rear splash rim, ___ by ___ by ___ inches with drillings on 8 inch centers, front overflow, steel hanger.

H. Supply Faucet Manufacturers:
   1. American Standard, Inc; _____: www.americanstandard-us.com.
   2. Kohler Company; _____: www.kohler.com.
   3. Zurn Industries, Inc; _____: www.zurn.com.
   4. _____.
   5. Substitutions: See Section 01 60 00 - Product Requirements.

I. Supply Faucet: ASME A112.18.1; chrome plated combination supply fitting with pop-up waste, water economy aerator with maximum flow of 2.2 gallons per minute, indexed handles.

J. Metered Faucet: ASME A112.18.1; chrome plated metered mixing faucet with low voltage operated solenoid operator and infrared sensor, aerator and cover plate, open grid strainer.

K. Sensor Operated Faucet: Cast brass, chrome plated, deck mounted with sensor located on neck of spout.
   1. Spout Style: Standard.
   2. Power Supply: Battery, easily replaceable, alkaline or lithium, minimum 200,000 cycles.
      a. Low battery indicator warning light at 30 days remaining life and continuous light a 2 weeks.
   3. Power Supply: 24 VAC.
      a. Cord and plug.
      b. For 24V applications, provide transformer.
   4. Power Supply: Self-generating, hydro-powered turbine charging rechargeable battery.
   5. Power Supply: Self-generating, solar powered charge that transforms both sunlight and artificial light into electrical energy with backup battery supply.
   6. Mixing Valve: None, single line for tempered water.

sample

7. Water Supply: 3/8 inch compression connections.
8. Aerator: Vandal resistant, 0.5 GPM, laminar flow device.
9. Automatic Shut-off: 30 seconds.
10. Sensor range: Factory set at a minimum of 3 inch adjustable up to 24 inch.
11. Sensor range: Automatically adjusts.
    a. Accessory: Optional remote reprogrammer module to adjust pre-set factory functions.
12. Finish: Polished chrome.
13. Accessory: 4 inch deck plate.
14. Lead Content: Extra low; maximum 0.25 percent by weighed average.
15. Sensor Operated Faucet Manufacturers:
    a. Advanced Modern Technologies Corporation; _____: www.amtcorporation.com.
    b. American Standard, Inc; _____: www.americanstandard-us.com.
    c. Gerber Plumbing Fixtures LLC; _____: www.gerberonline.com.
    d. The Chicago Faucet Company; _____: www.chicagofaucets.com.
    e. Moen Incorporated; _____: www.moen.com.
    f. Powers Controls; _____: www.powerscontrols.com.
    g. Sloan Valve Company; _____: www.sloanvalve.com.
    h. Toto USA; _____: www.totousa.com.
    i. Watts; _____: www.watts.com.
    j. Zurn Industries, Inc; AquaSense Z6913: www.zurn.com.
    k. _____.
    l. Substitutions: See Section 01 60 00 - Product Requirements.

L. Accessories:
1. Chrome plated 17 gage, 0.0538 inch brass P-trap with clean-out plug and arm with escutcheon.
2. Offset waste with perforated open strainer.
3. Wheel handle stops.
4. Rigid supplies.
5. Carrier:
    a. Manufacturers:
        1) JOSAM Company; _____: www.josam.com.
        2) Zurn Industries, Inc; _____: www.zurn.com.
        3) _____.
        4) Substitutions: See Section 01 60 00 - Product Requirements.
    b. ASME A112.6.1M; cast iron and steel frame with tubular legs, lugs for floor and wall attachment, threaded studs for fixture hanger, bearing plate and studs.

M. LAVATORY (SPECIFIC)
1. Lavatories shall be 20 x 18 inches acid resisting enameled cast iron straight front type with back in accordance with Federal Specification Paragraph 11.6 Fig. 11.02, with trimmings, fittings and supports as herein specified. Lavatories for handicap usable apartments shall be similar to lavatories as specified above except that they shall comply with ANSI A117.1 and ADA handicap requirements. Lavatory shall be:
2. Kohler "Hudson" model K-2867
3. CECO model 551
4. Zurn model Z5844
5. Or approved equal
6. Faucet shall be two handle faucet for top mounting 4" center set, with chain and stopper, chrome plated blade brass handles, (ABS plastic handles are acceptable) 1/2" I.P.S. male threaded inlet shanks and chrome finished metal body. Hot and cold stem units shall be interchangeable. All operating parts shall be replaceable from above the deck. Valves shall be equipped with replaceable seats. All faucets shall limit the flow to a maximum of 1.0 gal. per minute at a constant pressure of 60 psi. Faucets shall be:

sample

a. Delta 2500LF
b. Kohler K-15631-4-CP with #53190 aerator
c. Moen 64922
d. Symmons S-240-LWG
e. Or approved equal.

7. Faucet shall be single handle faucet for top mounting 4" center set, with chain and stopper, chrome plated blade brass handle, 1/2" I.P.S. male threaded inlets, flex connections, or 3/8" integral PEX supply tubing and chrome finished metal body. All operating parts shall be replaceable from above the deck. Valves shall be equipped with replaceable seats. All faucets shall limit the flow to a maximum of 1.0 gal. per minute at a constant pressure of 60 psi. Faucets shall be:
   a. Delta 501-DST (PEX supplies)
   b. Kohler "Coralais" K-15182 (flex connections)
   c. Moen "Chateau" L4601 (threaded adapter)
   d. Symmons "Symmetrix" S-20-2-G
   e. Or approved equal.
   f. Waste outlet (P.O. plug) and tailpiece shall be in accordance with ASME A112.18.2 / CSA B125.2. Tailpiece shall be of solid brass construction and have pop-up clicker drain with overflow. Waste tubing shall be minimum 0.040 inches thick. Waste outlet shall be:
      1) Kohler K-7124
      2) or approved equal
   g. Trap shall be New York City approved 1-1/2" cast brass, P trap in accordance with Federal Specification Paragraph 17.33, Type 106 manufactured by Matco-Norca or Visionary Solutions. New trap shall weigh at least one pound fourteen ounces. Provide new washer on the trap inlet side.

2.10 WALL-HUNG MULTI-STATION LAVATORY UNITS:

A. Description: Rectilinear, level-surface deck, seamless and integral elongated basin, with stainless steel enclosed pedestal cabinet.

B. Deck and Bowl Material: Fabricate from molded engineered stone material consisting of natural quartz, granite, and other minerals in a matrix of thermoset acrylic modified bio-based polyester resin and meeting requirements of IAPMO Z124.

C. Surface Burning Characteristics: Smoke developed index less than 450, and flame spread index less than 25, Class A, when tested in accordance with ASTM E84.

D. Number of Wash Stations: Two.

E. Unit Length: _____ inches.

F. Soap Dispenser:
   1. Deck-mounted, sensor-operated, chrome-plated plastic, with LED battery and soap level indicators, battery box and batteries and 27 ounce (798 ml) bottle of 1000 shot soap.
   2. Deck-mounted, 16 ounce (473 mL) plastic globe, with 4 inch spout.
   3. Deck-mounted, 16 ounce plastic globe, with 3-1/2 inch spout.

G. Water Supply: Thermostatic mixing valve assembly.

H. Color: As selected by Architect from manufacturer's full line.

I. Faucet Drilling: 4 inch (100 mm) centerset drilling.

J. Sensor-Operated Faucets:
   1. High profile metering faucet with infrared and external temperature control.
   2. Vandal-resistant meeting requirements of ASME A112.18.1 and ADA Standards compliant.
   3. Body: Polished chrome plated commercial solid cast brass, with 4 inch (102 mm) centerset mounting with anti-rotation trim plate.
   4. Tempered Water Supply: ADA Standards compliant lever on faucet body.

sample

5. Aerator: Flow rate of 0.5 gal/min at an operating range of 20 to 80 psi.
6. Sensor Module: Water conserving, vandal-resistant adjustable sensor unit with timing turn-off delay and stationary object automatic timed cutoff, with battery diagnostic light, serviceable from above deck.
7. Power Supply: Battery-operated single faucet with 6V lithium battery and single 115 VAC plug-in adapter.
8. Thermostatic Mixing Valve: Thermostatic missing valve, ASSE 1070 listed, with stop/strainer/check valves, and flexible stainless steel connectors.

K. Access Panel: Stainless steel.

L. Support Frame: Wall mounted, heavy gage, stainless steel.

M. Manufacturers:
1. Bradley Corporation; VergeLVLD1: www.bradleycrp.com.
2. Bradley Corporation; VergeLVLD2: www.bradleycorp.com.
3. Bradley Corporation; VergeLVLD3: www.bradleycorp.com.
4. Bradley Corporation; Express Lavatory System - ELX-2: www.bradleycorp.com.
5. Bradley Corporation; Express Lavatory System - ELX-3: www.bradleycorp.com.
6. _____.
7. Substitutions: See Section 01 60 00 - Product Requirements.

2.11 ALL-IN-ONE LAVATORY SYSTEM

A. Manufacturers:
1. Bradley Corporation; Advocate Lavatory System AV30: www.bradleycorp.com.
2. _____.
3. Substitutions: See Section 01 60 00 - Product Requirements.

B. Wall-Mounted Integrated Lavatory Unit: Formed from molded solid surface material with integral bowl, wall mounting frame, built-in faucet, built-in soap dispenser, and hand dryer.

C. Bowl and Deck Material:
1. Fabricate from bio-based resin and preconsumer recycled granules with minimum 25 percent preconsumer recycled content and 8 percent bio-based resins, solid surface material, certified by an approved independent testing agency and meeting requirements of IAPMO Z124.
2. Minimum Properties:
   a. Liquid Absorption: 25 percent in 24 hours per ASTM D570.
   b. Tensile Strength: 5000 psi, minimum, per ASTM D638.
   c. Thermal Expansion: 2.30, per ASTM D696.
   d. Hardness: 55 to 60, per ASTM D785.

D. Cabinet Construction: Type 300 stainless steel end panels with No. 3 finish, with high impact polymer front enclosure, mounted to wall with stainless steel mounting frame and basin support.

E. Fittings: Includes drain, P-trap, and flexible stainless steel supply connections.

F. Faucet:
1. Built-in vandal-resistant, low profile faucet, formed from composite fiberglass-reinforced polymer with painted, clear-coat finish, with low-voltage sensor using a zone-focused, hand-detecting, infrared, transmitting beam and timed, turn-off delay.
2. Flow Rate: Not greater than 0.38 gal/min.
3. Solenoid Valve: 24 V, 50/60 Hz, electronically-activated, equipped with flow regulator and plug-in transformer.
4. Thermostatic Mixing Valve: ASSE 1070 listed and NSF 372 compliant, with stop/check valves, and flexible, stainless steel connectors.

G. Hand Dryer:

sample

1. Energy-efficient UL listed dryer unit with low-voltage, hand-detecting infrared sensor, integrated into lavatory deck, with LED-illuminated dryer cavity and anti-microbial dryer nozzles.
2. Noise Level: 80 db at 69 to 70 cu ft/min.
3. Run Time: Variable.
4. Typical Drying Time: 15 seconds.
5. Power Supply: 120/60 volts, 1150 watts, 12 amps with 36 inch power cord with plug end.

H. Liquid Soap Dispenser:
1. Built-in vandal-resistant, low profile electronic dispenser formed from composite fiberglass-reinforced polymer with painted, clear-coat finish, with low-voltage hand-detecting infrared sensor, activation rate control, and overflow fill protection.
2. Top filled from tamper-resistant cover.
3. Capacity: 64 ounce.

2.12 SINKS

A. Sink Manufacturers:
1. American Standard, Inc; _____: www.americanstandard-us.com.
2. Kohler Company; _____: www.kohler.com.
3. _____.
4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Single Compartment Bowl: ASME A112.19.3; _____ by _____ by _____ inch outside dimensions 20 gage, 0.0359 inch thick, Type 302 stainless steel, self rimming and undercoated, with ledge back drilled for trim.
1. Drain: 1-1/2 inch chromed brass drain.
2. Drain: 3-1/2 inch crumb cup and tailpiece.

C. Double Compartment Bowl: ASME A112.19.3; _____ by _____ by _____ inch outside dimensions 20 gage, 0.0359 inch thick, Type 302 stainless steel, self rimming and undercoated, with ledge back drilled for trim.
1. Drain: 1-1/2 inch chromed brass drain.
2. Drain: 3-1/2 inch crumb cup and tailpiece.

D. Enamelled Bowl: ASME A112.19.4M; steel, porcelain enamelled, single compartment, _____ by _____ by _____ inch outside dimensions, self-rimming and undercoated, with 3-1/2 inch diameter crumb cup and chromed brass tailpiece, ledge back drilled for trim.

2.13 KITCHEN SINKS

A. Sink to be double bowl sink and tub combination, stainless steel type 304 with soft satin finish, self-rimming for 3 hole mounting of faucet, 33" x 22" overall with 7-1/2" deep sink and 11" deep tub. Sink shall have a minimum thickness of 0.048 inches at the rim and 0.037 inches at the bottom of the bowl (adjacent to drain opening). Sink, including all metal parts, shall be stainless steel. Provide sink with water based undercoating to deaden sound. Undercoating shall be Daubert Chemical Company, Inc. - coating 366 or approved equal.

B. Sinks for handicapped usable kitchens shall be identical to aforementioned sink and tub combination except:
1. The depth of both bowls shall be 6".
a. The drains shall be located at the rear of the bowls.
b. iii. Where single sinks are specified, they shall be 25" x 22" overall.

C. Faucet shall be single lever type with threaded inlet shanks. All faucets shall limit the flow to a maximum of 1.5 gal. per minute at a constant pressure of 60 psi. Faucet shall be:
1. American Standard 4175.200 (threaded shanks)
2. Delta 120 (threaded shanks)
3. or equal.

D. Waste outlets shall be minimum 0.040 inches thick brass. Strainer for sink compartment shall be cup type in accordance with Housing Authority Specification No. 15.05A Type 6A (Visionary

Sample

Solutions model DSNM400, Garvin model 1120, or equal) and strainer for tub compartment shall be flat type in accordance with Housing Authority Specification No. 15.05A Type 6B (Visionary Solutions model FSNM400 or equal). Provide minimum 0.040 inches thick brass continuous waste in accordance with Federal Specification paragraph 17.39 Type 125.

E. Apartment washing machine connections shall be 1/2" hot and cold water supply, each with check valve and hose bibb. In apartments without washing machines, cap the hose bibb. Hoses shall be 60 inch long, 1/2 inch diameter, minimum 10 year warranty; either
   1. "Floodchek" rubber hose with braided rayon reinforcement, rubber jacket, rubber cover, and brass couplings as made by the Floodchek Corporation (800-845-9089), or
   2. "No-Burst" braided stainless steel hose with polymer core as made by Fluidmaster (800-631-2011).

F. Trap to be 2" X 1-1/2" X 1-1/2" rough brass L.A. type.

G. Sink-tub combinations shall be:
   1. Elkay Gourmet “Lustertone” model STLR3322
   2. Just model LTC-2233-A-GR-R
   3. Moen model 22122 or 22123

H. Handicap double sink combinations shall be:
   1. Elkay Gourmet “Lustertone” model LRAD3322,
   2. Just model DL-ADA-2233-A-GR-R

I. Handicap single bowl sink shall be:
   1. Elkay Gourmet “Lustertone” model LRAD2521,
   2. Just model SL-ADA-2225-A-GR-R

2.14 BATHTUBS AND SHOWERS

A. Bathtub Manufacturers:
   1. American Standard, Inc; _____: www.americanstandard-us.com.
   2. Kohler Company; _____: www.kohler.com.
   3. _____
   4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Bathtub: ASME A112.19.1 enamelled cast iron bathtub with slip resistant surface, contoured front apron, 60 inches long, _____ color.

C. Bathtub:
   1. ANSI Z124.1.2; molded glass fiber reinforced polyester, with slip-resistant bottom surface, contoured shape, _____ color.
   2. Length: 60 inches.
   3. Width: 30 inches.

D. Bath Trim: ASME A112.18.1; concealed over rim supply with spout and indexed handles, lever operated pop-up waste and overflow.

E. Bath and Shower Trim: ASME A112.18.1; concealed shower and over rim supply with diverter spout, indexed handles, bent shower arm with adjustable spray ball joint showerhead with maximum 2.5 gallons per minute flow and escutcheon, lever operated pop-up waste and overflow.

F. Bath and Shower Trim: ASME A112.18.1; concealed shower and over rim supply with diverter spout, pressure balanced mixing valve, bent shower arm with adjustable spray ball joint showerhead with maximum 2.5 gallons per minute flow and escutcheon, lever operated pop-up waste and overflow.

G. BATHTUB (SPECIFIC):
   1. New bathtub shall be 60" x 30" x 14" high recessed type with non-skid bottom and bench rim, otherwise in accordance with Federal Specifications Par. 11.11 SPN CI 121 or CI 122 as required (Fig. 1). Bathtub to be acid resistant porcelain enameled cast iron complying with ANSI A112.19.1M or acid resistant porcelain enameled steel chemically bonded to a

sample

molded polyester, formulated to include structural and flame retardant fillers which meet ANSI A112.19.4M and ANSI Z124.1. Bathtub shall be:
   a. Kohler "Villager"
   b. American-Standard "Princeton Americast"
   c. Bootz "Bootzcast", model 011-7000/1
   d. Briggs "UltraTUFF"
   e. Crane "San Marcos"
   f. Or approved equal.
2. Shower and tub supply fixture shall be single handle control, pressure balancing mixer type valve with adjustable handle turn limit stop. All operating parts must be separately replaceable from outside the wall. Valve shall be provided with integral screw driver stops and threaded inlets. Trim shall have metal vandal resistant, ADA compliant level handle, red and blue cover indicator, ½" IPS metal pull up diverter spout. New bath supply fixture shall be:
   a. American-Standard "Colony Soft" model T675.500 with R125SS
      1) cartridge.
   b. Delta R10000-IPWS with T13020
   c. Moen 2590 with TL181
   d. Symmons Temptrol II BP-46-2-IPS-L-X
   e. Or approved equal.
3. Shower and tub supply fixture shall be single handle control, pressure balancing Shower head to be water-saving type limiting the flow to a maximum of 1.5 gal. per minute (1.5 GPM) at a constant pressure of 60 psi and providing a minimum of 1.5 gal. per minute (1.5 GPM) at a constant pressure of 15 psi. Shower head to be:
   a. American-Standard "FloWise" model #1660.710
   b. Delta "H2OKinetics" model #54752
   c. Jetstream model #E-222
   d. Symmons "Clear Flo 2000" model #4-226F-1.5
   e. Or approved equal.
4. Bathtub waste and overflow shall be brass in accordance with Federal Specifications Paragraph 17.37, Type 120 except tubing and waste tee outlet connection shall be minimum 0.040 inches thick tubing. Drain to be arranged to properly align with existing drainage system. Provide brass or neoprene washers for waste fittings. Drain outlet shoe shall be cast brass having cast cross bars or single bar with removable perforated chrome plated brass or stainless steel strainer resting on the bar. Strainer to be 24 USSG with perforations of 1/4" diameter minimum.
5. Trap shall be New York City approved 1-1/2" cast brass P Trap with clean out in accordance with Federal Specification Paragraph 17.33, Type 106 or Paragraph 17.34 Type 108 without clean out, except Type 106 trap shall weigh at least one pound fourteen ounces and Type 108 trap shall weigh at least two pounds. Provide new rubber washer on the trap inlet side.
6. In handicap usable apartments provide a brass shower arm diverter and personal hand held shower in addition to the fixed shower head. Install diverter between shower arm and shower head. Personal hand held shower shall come with vacuum breaker, 60 inch hose and two (2) wall hangers. Modify shower supply piping to install hand held shower. Hand held shower to be:
   a. Delta Model 59410-B-PK
   b. Moen Model 3865EP
   c. Teledyne Water Pik Model SM653CG
   d. Diverter to be Delta model 50650, Moen CL703
   e. Or Approved equal.

2.15 WALK-IN SOAKING TUB

A. Walk-in Soaking Tub Manufacturers:
   1. American Standard, Inc; _____: www.americanstandard-us.com.

sample

2. _____
3. Substitutions: See Section 01600 - Product Requirements.

B. Walk-in Soaking Bathtub: Acrylic with fiberglass reinforcement; textured floor and contoured shape with built-in grab bar and seat; complying with ASME A112.19.15.
1. Door: Aluminum with powder coated finish; gasket seals.
2. Drain: Fast draining.
3. Whirlpool System: 12 adjustable massage jets; one horsepower variable flow pump with electronic timer.
4. Air Spa System: Multiple seat and floor air injectors; one horsepower variable flow heater blower with electronic timer.

2.16 SHOWER RECEPTORS

A. Solid Surfacing Shower Receptors: Solid plastic resin casting, self-supporting, for installation over conventional subfloor; complying with ANSI Z124.1.2.
1. Material: Complying with ISFA 2-01 and NEMA LD 3; acrylic or polyester resin, renewable material filler, and pigments; homogenous, non-porous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.
2. Surface Burning Characteristics: Flame spread index of 25 or less, and smoke developed index of 450 or less, Class A, when tested in accordance with ASTM E84.
3. Finish on Exposed Surfaces: Provide satin or matte, gloss rating of 3 to 20.
4. Color/Pattern Family: Solid color, light colors.
5. Color and Pattern: As indicated on drawings.
6. Color and Pattern: As selected by Architect from manufacturer's full line.
7. Manufacturers:
a. American Standard, Inc; _____: www.americanstandard-us.com.
b. InPro; _____: www.inprocorp.com.
c. Transolid, Inc; _____: www.transolid.com.
d. _____.
e. Substitutions: See Section 01 60 00 - Product Requirements.

B. Drain Trim: Removable chrome plated strainer and tail piece.

2.17 SHOWERS

A. Shower Manufacturers:
1. American Standard, Inc; _____: www.americanstandard-us.com.
2. Aqua Glass Corporation; _____: www.aquaglass.com.
3. Jacuzzi; _____: www.jacuzzi.com.
4. Kohler Company; _____: www.kohler.com.
5. _____
6. Substitutions: See Section 01 60 00 - Product Requirements.

B. Cabinet: ASME A112.19.4M; porcelain enamelled steel, 32 by 32 by 75 inches with stone texture receptor, soap dish, removable chrome plated strainer, tail piece, _____ color.

C. Cabinet: ANSI Z124.1.2 reinforced glass fiber, 32 by 32 by 75 inches with stone texture, integral receptor, soap dish, integral seat, removable chrome plated strainer, tail piece, _____ color.

D. Trim: ASME A112.18.1; concealed shower supply with indexed handles, bent shower arm with adjustable spray ball joint showerhead with maximum 2.5 gallons per minute flow, and escutcheon.

E. Trim: ASME A112.18.1; concealed straight way pattern valve with indexed cross handle.

F. Trim: ASME A112.18.1; concealed rough brass metering valve with closed fluid metering system adjustable from 5 to 120 seconds, chrome plated push button and escutcheon, wheel handle stop.

sample

G. Trim: ASME A112.18.1; concealed shower supply with pressure balanced mixing valves, integral service stops, bent shower arm with adjustable spray ball joint shower head with maximum flow, and escutcheon.

H. Shower Head:
   1. ASME A112.18.1; chrome plated vandal-proof institutional head with integral wall bracket, built-in 2.5 gpm flow control.

I. Low-Flow Shower Head:
   1. ASME A112.18.1; chrome plated vandal-proof institutional head with integral wall bracket, built-in 1.5 gpm flow control.

J. Ultra-Low-Flow Shower Head:
   1. ASME A112.18.1; chrome plated vandal-proof institutional head with integral wall bracket, built-in 0.8 gpm flow control.

K. SHOWER (SPECIFIC):
   1. Shower : Pre-fab 32" x 32" metal shower cabinet.
   2. Walls: double wall construction of 20 gauge bonderized galvanized steel, with rounded corners inside, insulated with water resistant, sound-deadening core. Core shall be of water-impervious, double-faced honeycomb insulation, permanently bonded with water-impervious adhesive. All field-assembled joints shall be double-faced honeycomb insulation, permanently bonded with water-impervious adhesive. All field-assembled joints shall be double barrier type for watertight connections and shall be easily removable for access to adjacent piping baked on enamel, color as selected by Engineer. Panels shall be reinforced for mixing valve and shower head, provide 1.5 gpm flow control.
   3. Receptor: precast one place terrazzo 6" high, made of white cement with black and white marble chips, with wide threshold shoulders. flange integrally-cast and made of galvanized-bonderized steel, which shall extend a minimum of 1" above the receptor shoulder. Stainless steel drain cast integrally and provide for a caulked lead connection, not less than 1" deep to a 2" pipe. Removable stainless steel strainer plate.
   4. Handicapped Shower: Showers for handicapped shall be as above except unit shall be 48' x 36' and panels shall be reinforced for mixing valve, showerhead, hand shower bar, grab bars and hinged seat. Entrance openings 36" for handicapped. Mixing valves for handicapped showers, concealed pressure balancing valve shower head and "Nu-Arm" bracket, hand spray with 24" long bar and 5 ft. of flexible metal hose color as selected by Engineer.

2.18 DRINKING FOUNTAINS

A. Drinking Fountain Manufacturers:
   1. Elkay Manufacturing Company; _____: www.elkay.com.
   2. Halsey Taylor; _____: www.halseytaylor.com.
   3. Haws Corporation; _____: www.hawsco.com.
   4. _____.
   5. Substitutions: See Section 01 60 00 - Product Requirements.

B. Fountain: Molded white reinforced glass fiber with underside vandal proof cowling, hooded elevated anti-squirt bubbler with stream guard, automatic stream regulator, cross handle, mounting bracket, screwdriver stop.

C. Fountain: White reinforced glass fiber, semi-recessed, with elevated anti-squirt bubbler with stream guard, automatic stream regulator, cross handle, access cover plate, mounting bracket, screwdriver stop.

2.19 ELECTRIC WATER COOLERS

A. Electric Water Cooler Manufacturers:
   1. Elkay Manufacturing Company; _____: www.elkay.com.
   2. Haws Corporation; _____: www.hawsco.com.
   3. Oasis, a Lynn Tilton Company; _____: www.oasiscoolers.com

Sample

4. _____.
5. Substitutions: See Section 01 60 00 - Product Requirements.

B. Water Cooler: Electric, mechanically refrigerated; surface handicapped mounted; stainless steel top, vinyl on steel body, elevated anti-squirt bubbler with stream guard, automatic stream regulator, push button, mounting bracket; integral air cooled condenser and stainless steel grille.
1. Capacity: 8 gallons per hour of 50 degrees F water with inlet at 80 degrees F and room temperature of 90 degrees F, when tested in accordance with ASHRAE Std 18.
2. Electrical: 115 V, 60 Hertz compressor, 6 foot cord and plug for connection to electric wiring system including grounding connector.

2.20 WASH FOUNTAINS

A. Freestanding Wash Fountains:
1. Bowl: Circular, 36 inch diameter, precast stone.
2. Accessories: Foot controlled self-closing valve, spray head, liquid soap dispenser, manual mixing valve, supporting tube, spud and strainer, operating mechanism, foot levers and rail, combination stop, strainer and check valves.
3. Manufacturers:
a. Acorn Engineering Company; _____: www.acorneng.com.
b. Bradley Corporation; _____: www.bradleycorp.com.
c. Intersan Manufacturing Company; _____: www.intersanus.com.
d. _____.
e. Substitutions: See Section 01 60 00 - Product Requirements.

2.21 SERVICE SINKS

A. Service Sink Manufacturers:
1. American Standard, Inc; _____: www.americanstandard-us.com.
2. Commercial Enameling Company; _____: www.cecosinks.com.
3. Elkay Manufacturing Company; _____: www.elkay.com.
4. Gerber Plumbing Fixtures LLC; _____: www.gerberonline.com.
5. Just Manufacturing Company; _____: www.justmfg.com.
6. Zurn Industries, Inc; _____: www.zurn.com.
7. _____.
8. Substitutions: See Section 01 60 00 - Product Requirements.

B. Bowl: ASME A112.19.1; 22 by 18 by 12 inch deep, porcelain enamelled (inside only) cast iron roll-rim sink, with 12 inch high back, concealed hanger, chrome plated strainer, stainless steel rim guard, cast iron P-trap with adjustable floor flange.

C. Bowl: 36 by 24 by 10 inch high white molded stone, floor mounted, with one inch wide shoulders, vinyl bumper guard, stainless steel strainer.

D. Trim: ASME A112.18.1 exposed wall type supply with cross handles, spout wall brace, vacuum breaker, hose end spout, strainers, eccentric adjustable inlets, integral screwdriver stops with covering caps and adjustable threaded wall flanges.

E. Accessories:
1. 5 feet of 1/2 inch diameter plain end reinforced plastic hose.
2. Hose clamp hanger.
3. Mop hanger.

F. SERVICE SINK (SPECIFIC):
1. Service Sink: Wall Hung, enameled cast iron, stainless steel rim guard, 3 inch waste outlet, rim guard, 3 inch waste outlet and trap standard.

2.22 EMERGENCY EYE AND FACE WASH

A. Emergency Wash Manufacturers:
1. Haws Corporation; _____: www.hawsco.com.

Sample

2. Therm-Omega-Tech, Inc; _____: www.thermomegatech.com.
3. _____.
4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Emergency Wash: ANSI Z358.1; wall-mounted, self-cleaning, non-clogging eye and face wash with quick opening, full-flow valves, stainless steel eye and face wash receptor, twin eye wash heads and face spray ring, stainless steel dust cover, copper alloy control valve and fittings.

2.23 EMERGENCY SHOWERS

A. Emergency Shower Manufacturers:
1. Haws Corporation; _____: www.hawsco.com.
2. Therm-Omega-Tech, Inc; _____: www.thermomegatech.com.
3. _____.
4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Emergency Shower: ANSI Z358.1; wall-mounted, self- cleaning, non-clogging 8 inch diameter stainless steel deluge shower head with elbow, one inch full flow valve with pull chain and 8 inch diameter ring, one inch interconnecting fittings.

PART 3 EXECUTION

3.01 GENERAL

A. Verify all roughing dimensions. Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.

B. As soon as installed, all metal fixture trimming shall be thoroughly covered with non-corrosive grease which shall be maintained until all construction work is completed. All plated or polished fittings, pipes and appliances shall be coated with vaseline, immediately after installation, and shall be finally polished and free from all marks and foreign substances

C. Protect all plumbing fixtures and equipment against injury from the building materials, acids, tools and equipment.

3.02 EXAMINATION

A. Verify that walls and floor finishes are prepared and ready for installation of fixtures.

B. Verify that electric power is available and of the correct characteristics.

C. Confirm that millwork is constructed with adequate provision for the installation of counter top lavatories and sinks.

3.03 PREPARATION

A. Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.

3.04 INSTALLATION

A. Install each fixture with trap, easily removable for servicing and cleaning.

B. Provide chrome plated rigid or flexible supplies to fixtures with loose key stops, wheel handle stops, reducers, and escutcheons. Where concealed from view in cabinets, or millwork they may be rough brass. All fixture supplies shall have stops.

C. Install components level and plumb.

D. Install and secure fixtures in place with wall supports and bolts.

E. Solidly attach water closets to floor with lag screws. Lead flashing is not intended hold fixture in place.

F. Install and secure fixtures in place with wall supports and bolts.

G. Equipment and all connections shall be in accordance with the rules relative to submerged inlets, and shall be provided with all necessary vacuum breakers and check valves, in accordance with the applicable codes.

sample

H. Each fixture requiring hot and cold water shall have the cold water on the right hand side of the fixture and the hot water on the left hand side of fixture.

I. No slip joints will be permitted on water piping.

J. Seal joints between fixtures and walls, floors, and countertops using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color.

K. Clean existing drainage piping up to vertical stack with a drain pipe snake before new drainage piping is installed.

L. Bathtub:
   1. Removal
      a. Through the bathroom door, in one piece, or in sections.
      b. Through adjacent bedroom or living room by breaking open lath and plaster partitions at the end of tub away from plumbing.
      c. Remove sufficient backboard, floor tiles, base tiles and all other items as necessary for proper replacement of the tub. Similarly, bring in new tub through bathroom or through opening from bedroom or living room. Contractor shall assume full responsibility for maintaining the structural adequacy of all related work during removals and reconstruction. Prior to proceeding with the job, submit to the Authority for approval, the method proposed to remove the tubs. Demonstrate on the sample installation as specified elsewhere in this Contract, the technique of tub replacement
      d. Disconnect and turn over to resident of apartment, any existing sliding shower doors or other bathtub closure as required for replacement work. Contractor shall not be required to reinstall doors/enclosure.
   2. New or reinstalled existing tubs shall be set in place, using mortar or steel wedges and epoxy cement to set them level as required. Compressible material will not be permitted under the tubs. Shim or lower tub as required to properly fit with wall covering. Install all drainage plumbing and install new soft patch around new drainage tailpiece. Remove existing grout or concrete on floor for proper fit as required.
   3. Provide all new piping between shower and tub supply fixture, tub spout, and shower head. Provide support strap for piping. Make all piping modifications and provide all new piping and fitting as required to install new supply fixture and make all connection to the 1/2" hot and cold water supplies.
   4. Except in ( ) locations, replace wall nipple and all drainage pipe and fittings from trap up to the existing cast iron "vent and drainage arm". New drainage shall be 1-1/2" galvanized steel pipe with threaded galvanized cast iron drainage fittings. Provide brass escutcheons where exposed waste or drainage pipes pass through floor, wall or ceiling.

M. Lavatory
   1. Secure hanger to new fishplate with six (6) galvanized or cadmium plated threaded fasteners installed in the three (3) outermost positions on each side of hanger. Use approved sleeves or other spacers to permit tightening of hangers without crushing the plaster or wall panel. Locate hanger so as to permit top of lavatory rim to be 30" to 32" from finished floor.
   2. Fishplate is specified in Section 09 20 00 - Gypsum Wallboard System.
   3. In instances where lavatories are installed on masonry partitions, install the new basin hangers with toggle bolts or other means approved by the Authority.
   4. Mount all new lavatories rigid and level.
   5. Disconnect and remove any existing cabinet under lavatory as required for replacement of lavatory and piping. At completion of lavatory replacement, reinstall cabinet.
   6. Replace all water supply piping from and including stop valve up to faucet. Replace wall escutcheon.
   7. Replace all waste piping, including lavatory waste outlet, tailpiece, trap and all drainage piping up to cast iron plumbing vent and drainage fitting. Replacement wall nipple shall be 1-1/2" galvanized steel, installed with brass tube cover and new wall escutcheons. Wall nipple shall be of such length as to align the trap with the brass tailpiece.

Sample

N. Water Closet
   1. Connect water closet to new floor flange with new brass bolts, brass nuts and brass or stainless steel washers such as Hercules "Johni-bolt" or equal and with new gasket. Gasket to be N.Y.C. approved wax or felt type. Mastic or compound will not be permitted. Between water closet and floor provide a watertight seal of either Keene's cement, Plaster of Paris, or sanitary-type, one-part, mildew-resistant silicone sealant and finish smooth. Match sealant color to fixture color.
   2. Shut-off the water and drain water closet as required.
   3. Replace all supply piping from and including stop valve up to the tank connection. Supply piping flexible connectors shall be copper or braided flexible connector such as BrassCraft "Speedi Plumb Plus" and as approved by the Department of Buildings, the City of New York. Copper connectors shall have a washer made of fiber on the top, and a brass ferrule with coupling on the bottom. Replace wall escutcheon. Supply piping and valves shall be chrome plated.
   4. Install soft nylon or leather washers between tank and metal nut on water closet handles. Nylon or metal sleeve with metal or nylon nut is acceptable. Exercise care so that sleeve nut is not made too tight, which might cause cracking of the tank.
   5. Provide a rubber (or similar) spacer or support between the back of all close coupled water closet tanks and the wall to prevent possible movement of tanks. Glue spacer to the wall with adhesive.
   6. Adjust tank water filling level as required for proper flushing of water closet with minimum usage of water.

O. Water Closet Bend Replacement
   1. Saw cut brass ferrule connected to hub of existing cast iron piping and remove closet bend. Ferrule is to be wrapped with tape prior to cutting.
   2. Remove cut ferrule and lead joint from hub (do not melt the lead). Connect closet bend into hub using an extra heavy gasket with adhesive (sealant type) lubricant. As an alternate, Contractor may, after obtaining Building Dept. approval, leave cut ferrule in place and connect closet bend to ferrule with approved coupling.

P. Kitchen Sink
   1. Connect sink and tub drain with new waste piping. Piping shall include tailpieces, elbows, offsets, trap, 2" galvanized drainage elbow, galvanized nipples, or combination thereof as required.
   2. Make all drain connections as close to the wall as possible.
   3. Replace all supply piping from and including stop valve up to the faucet. Supply connectors shall be copper or braided flexible steel connector.
   4. In apartments with washing machines, turn over to the tenant existing washing machine connections which are removed. Renew washer in each hot and cold water washing machine hose connection at new hose bibbs, reconnect washing machine, and correct all water leaks.
   5. In apartments without washing machines, cap hose bibbs in supply piping for future connections to washing machines.

3.05 INTERFACE WITH WORK OF OTHER SECTIONS

A. Review millwork shop drawings. Confirm location and size of fixtures and openings before rough-in and installation.

3.06 ADJUSTING

A. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

B. Upon completion of work, test fixtures and faucets for leaks or drips and adjust same for quiet and uniform operation.

sample

3.07 CLEANING

A. Upon completion of work, all fixtures, trimmings and equipment shall be thoroughly cleaned and polished and free from all marks and left in first- class condition. All fixtures shall be thoroughly clean.

B. See Section 01 74 19 - Construction Waste Management and Disposal, for additional requirements.

C. Temporary sinks shall be thoroughly cleaned before being re-used in apartments.

3.08 PROTECTION

A. Protect installed products from damage due to subsequent construction operations.

B. Do not permit use of fixtures by construction personnel.

C. Repair or replace damaged products before Date of Substantial Completion.

3.09 SCHEDULES

A. Fixture Heights: Install fixtures to heights above finished floor as indicated.
   1. Water Closet:
      a. Standard: 15 inches to top of bowl rim.
      b. Accessible: 18 inches to top of seat.
   2. Water Closet Flush Valves:
      a. Standard: 11 inches min. above bowl rim.
      b. Recessed: 10 inches min. above bowl rim.
   3. Urinal:
      a. Standard: 22 inches to top of bowl rim.
      b. Accessible: 17 inches to top of bowl rim.
   4. Lavatory:
      a. Standard: 31 inches to top of basin rim.
      b. Accessible: 34 inches to top of basin rim.
   5. Drinking Fountain:
      a. Child: 30 inches to top of basin rim.
      b. Standard Adult: 40 inches to top of basin rim.
      c. Accessible: 36 inches to top of spout.
   6. Shower Heads:
      a. Adult Male: 69.5 inches to bottom of head.
      b. Adult Female: 64.5 inches to bottom of head.
      c. Child: 58.5 inches to bottom of head.
   7. Emergency Eye and Face Wash:
      a. Standard: 38 inches to receptor rim.
   8. Emergency Shower:
      a. Standard: 84 inches to bottom of head.

B. Fixture Rough-In
   1. Water Closet (Flush Valve Type):
      a. Cold Water: 1 Inch.
      b. Waste: 4 Inch.
      c. Vent: 2 Inch.
   2. Water Closet (Tank Type):
      a. Cold Water: 1/2 Inch.
      b. Waste: 4 Inch.
      c. Vent: 2 Inch.
   3. Bidet:
      a. Hot Water: 1/2 Inch.
      b. Cold Water: 1/2 Inch.
      c. Waste: 1-1/2 Inch.

Sample

d. Vent: 1-1/4 Inch.

4. Urinal, Waterless:
   a. Waste: 2 Inch.
   b. Vent: 1-1/2 Inch.
5. Urinal (Flush Valve Type):
   a. Cold Water: 3/4 Inch.
   b. Waste: 2 Inch.
   c. Vent: 1-1/2 Inch.
6. Urinal (Tank Type):
   a. Cold Water: 1/2 Inch.
   b. Waste: 2 Inch.
   c. Vent: 1-1/2 Inch.
7. Lavatory:
   a. Hot Water: 1/2 Inch.
   b. Cold Water: 1/2 Inch.
   c. Waste: 1-1/2 Inch.
   d. Vent: 1-1/4 Inch.
8. Sink:
   a. Hot Water: 1/2 Inch.
   b. Cold Water: 1/2 Inch.
   c. Waste: 1-1/2 Inch.
   d. Vent: 1-1/4 Inch.
9. Service Sink:
   a. Hot Water: 1/2 Inch.
   b. Cold Water: 1/2 Inch.
   c. Waste: 2 Inch.
   d. Vent: 1-1/2 Inch.
10. Service Sink:
    a. Hot Water: 1/2 Inch.
    b. Cold Water: 1/2 Inch.
    c. Waste: 3 Inch.
    d. Vent: 1-1/2 Inch.
11. Drinking Fountain:
    a. Cold Water: 1/2 Inch.
    b. Waste: 1-1/4 Inch.
    c. Vent: 1-1/4 Inch.
12. Bathtub:
    a. Hot Water: 1/2 Inch.
    b. Cold Water: 1/2 Inch.
    c. Waste: 1-1/2 Inch.
    d. Vent: 1-1/4 Inch.
13. Shower:
    a. Hot Water: 1/2 Inch.
    b. Cold Water: 1/2 Inch.
    c. Waste: 1-1/2 Inch.
    d. Vent: 1-1/4 Inch.

END OF SECTION

sample