PLUMBING FIXTURES

GENERAL INFORMATION

1.1 Supply to fixtures should be separately controlled by its own stops. Shower supply fixture should have screwdriver stops.

1.2 Wall hung fixtures must be securely supported on commercial grade carriers.

1.3 Fixture carrier legs should be clear of walls in chases and secured to floor construction with expansion bolts through bolt holes. Carrier feet should not extend beyond the finished face of the partition unless completely recessed in the slab.

1.4 Wall hung water closet carrier should be for syphon jet or blowout closet as required, and should include adjustable extension with gasket, studs, hardware and chrome plated cap nuts necessary to secure fixture to the support, and shall be fitted with block base support bolted to the floor so that the carrier will not depend on wall construction for support. The carrier should be used in conjunction with an approved drainage fitting with a 2-inch vent connection.

1.5 Urinals should be supported on a chair carrier with block base support bolted to the floor, top plate for supporting concealed fixture hangers and through bolts, steel pipe uprights, adjustable sleeves and alignment truss.

1.6 Lavatories except as specifically noted otherwise, should be supported on concealed chair carriers, single or double as required, with block bases bolted to floor, steel pipe uprights, adjustable arms sleeves with concealed arms, and alignment truss. Slab type lavatories should be furnished with 2-inch chrome plated escutcheon with locking device. Carrier arms should be provided with a leveling device and locking device.

1.7 Fixtures shall be low flow type and must be approved by Columbia University.

DESIGN REQUIREMENTS

2.1 Water Closet

a. P-1 Water Closets (Wall-Hung): Shall be Kohler model K-4325, high-efficiency 1.28 gpf, vitreous china wall-mounted elongated bowl with direct-fed siphon jet action, 1-1/2 in. top spud and 2-1/4 in. ball pass trapway. Water closet shall be fitted with Church Model No. 9500C open-front seatless cover with check hinge. Flush valve shall be Sloan “Solis”
DESIGN REQUIREMENTS

Model 8111-1.28 for high-efficiency, 1.28 gpf wall-hung top spud bowls. Flush valve shall be an exposed diaphragm type, chrome-plated, solar-powered with battery back-up water closet flushometer with chrome-plated escutcheon, angle stop, vacuum breaker and 1-1/2 in. outlet spud escutcheon. Color shall be white.

b. P-1A Water Closets (Wall-hung, ADA): Shall be same as (P-1) model water closet and trim accessories, except for rim height set at 17 in. above finished floor (18 in. measure to toilet seat) to be used by handicapped personnel in compliance with (ADA) American Disabilities Act. Color shall be white.

2.2 Urinal

a. P-2 Urinals: Shall be Sloan Model WEUS-1000.1201-0.13 vitreous china, wall-hung urinal, wall outlet high efficiency 0.5 gpf flushing rim washout flush action with 3/4 in. inlet top spud. Outlet connection shall be 2 in. threaded connection. Flush valve shall be Sloan "Solis’ Model 8186-0.13 for ultra high-efficiency 0.13 gpf for 3/4 in. top spud urinals. Flush valve shall be an exposed diaphragm type, chrome-plated, solar-powered with battery back-up water closet flushometer with chrome-plated escutcheon, angle stop, vacuum breaker and 3/4 in. outlet spud escutcheon. Color shall be white.

2.3 Lavatories

a. P-3 Lavatories (Undercounter-Mounted, Core Toilets): Shall be Kohler Model 2209 undercounter-mounted, oval lavatory, made of vitreous china, 15 in. x 12 in. with undercounter mounting kit and overflow. The lavatory shall be fitted with perforated grate lavatory drain, 1-1/4 in. tailpiece, commercial grade 3/8 in. chrome-plated brass supplies with loose key angle stops with set screw escutcheons, as manufactured by McGuire Manufacturing Model no. 170LK. Trap shall be one-piece chrome brass “P” trap with cleanout plug and cast brass 1-1/2 in. escutcheons with set screws as manufactured by McGuire Manufacturing Co. Faucet shall be Sloan “Optima Solis” sensor-operated, solar powered with 6 VDC Lithium battery back-up power source electronic hand-washing faucet Model No. EAF-275-ISM with 0.5 gpm aerator spray head, polished chrome finish and integral mixing valve on faucet body. Faucet shall be mounted on a single hole mount in countertop as located by the Architect. Color of lavatory shall be white.

b. P-3A Lavatories (Wall-Hung, Back-of-House): Shall be Kohler ‘Soho” Model No. K-2084-L wall-mounted lavatory, made of vitreous china, 20 in. x 18 in. with overflow and drilled for concealed arm carrier and left hand hole for soap dispenser. The lavatory shall be fitted with perforated grate lavatory drain, 1-1/4 in. tailpiece, commercial grade 3/8 in. chrome-plated brass supplies with loose key angle stops with set screw escutcheons, as manufactured by McGuire Manufacturing Model no. 170LK. Trap shall be one-piece chrome brass “P” trap with cleanout plug and cast brass 1-1/2 in. escutcheons with set screws as manufactured by McGuire Manufacturing Co. Faucet shall be Sloan “Optima
DESIGN REQUIREMENTS

Solis’ sensor-operated, solar powered with 6 VDC Lithium battery back-up power source electronic hand-washing faucet Model No. EAF-275-ISM with 0.5 gpm aerator spray head, polished chrome finish and integral mixing valve on faucet body. Faucet shall be mounted on a single center hole mount. Color of lavatory shall be white.

c. P-3B Lavatories (Above-Counter, Drop-In, Back-of-House): Shall be Kohler “Pennington” Model No. K-2196-IL drop-in above counter-mounted, oval lavatory, made of vitreous china, 20-1/4 in. x 17-1/2 in. with overflow and left hand hole for soap dispenser. The lavatory shall be fitted with perforated grate lavatory drain, 1-1/4 in. tailpiece, commercial grade 3/8 in. chrome-plated brass supplies with loose key angle stops with set screw escutcheons, as manufactured by McGuire Manufacturing Model no. 170LK. Trap shall be one-piece chrome brass “P” trap with cleanout plug and cast brass 1-1/2 in. escutcheons with set screws as manufactured by McGuire Manufacturing Co. Faucet shall be Sloan “Optima Solis” sensor-operated, solar powered with 6 VDC Lithium battery back-up power source electronic hand-washing faucet Model No. EAF-275-ISM with 0.5 gpm aerator spray head, polished chrome finish and integral mixing valve on faucet body. Faucet shall be mounted on a single center hole mount. Color of lavatory shall be white.

2.4 Service Sink

a. P-4 Mop Service Basin: Shall be Crane-Fiat Plumbing Products Model No. MSB3624, 36 in. x 24 in. molded stone, single-compartment mop receptor, one-piece design. Provide a combination dome strainer and lint basket and 3 in. trap body. Service faucet shall be Kohler “Knoxford” Model No. K-8905 rough chrome with vacuum breaker, integral stops, pail hook, level handles and 3/4 in. hose thread on spout. Faucet shall be mounted on wall with brace. Include with assembly Fiat Model 889CC mop bracket and Fiat model 832AA hose and bracket.

2.5 Showers

a. P-5 Showers: Shower base shall be tiled as per Architect’s finish plans and fitted with a 2 in. floor drain as specified on the drain schedule. Crane-Fiat Plumbing Products “Monterey” Model No. 6030 MFTR, 60 in. x 30 in. terrazzo shower floor one-piece design from precast terrazzo. Surface shall be ground and polished. Shower valve shall be Symmons Co. “Safetymix” Model No. 1-100 4-5-X-3/4 anti-scald pressure balancing and mixing valve with adjustable stop screw to limit handle turn, integral service stops and 3/4 in. inlets and outlets. The shower head shall be Delta Faucet Co. Model No. RP46384 with low-flow, 1.6 gpm, polished chrome showerhead with arm, flange and chrome-plated wall escutcheon.
DESIGN REQUIREMENTS

2.6 Domestic Water Heaters (Storage Tank)
   a. Electric domestic water heaters should be provided with storage tanks adequately sized for usage. Tanks should be interior lined with NSF 61 barrier materials. Tanks should be rated for 150 psig.
   b. Storage tanks should be furnished with:
      1. Drain valve
      2. Tank insulation
      3. Enameled steel jacket
      4. Electric, screw-in immersion type heater
      5. Adjustable thermostat
      6. ASME rated and stamped relief valve
   c. Electrical supply should be 480 or 208 volts, 3 phase, 60 hertz.

2.7 Electric Instantaneous Domestic Water Heaters
   a. Electric instantaneous domestic water heaters should comply with UL499 for tankless electric water heater appliances.
   b. Unit construction should be of copper piping or tubing complying with NSF 61 barrier materials for potable water.
   c. Units should be furnished with:
      1. 150 psig pressure rating
      2. Electric resistance heating element
      3. Flow-control fitting temperature control
      4. High-temperature-limit cutoff device
      5. Aluminum or steel jacket with enameled finish
   d. Electrical supply should be 480 or 208 Volts, 3 phase, 60 Hertz; or 120 Volts, 1 phase, 60 Hertz.
DESIGN REQUIREMENTS

2.8 Gas Domestic Water Heaters (Storage Tank)

a. Gas-fired domestic water heaters should be provided with storage tanks adequately sized for usage. Tanks should be interior lined with NSF 61 barrier materials. Tanks should be rated for 150 psig.

b. Storage tanks should be furnished with:
   1. Drain valve
   2. Tank insulation
   3. Enameled steel jacket
   4. Anode rod
   5. Adjustable thermostat
   6. ASME rated and stamped combination temperature and pressure relief valve
   7. Electric, automatic, gas-ignition system

c. Units should be provided draft hood complying with ANSI requirements.

d. Electrical supply should be 208 Volts, 3 phase, 60 Hertz or 120 Volts, 1 phase, 60 Hertz.

2.9 Steam Domestic Water Heaters

a. Steam domestic water heaters should be packaged, large capacity, hot-water, horizontal, storage tanks with heat exchanger coil, circulator, controls and specialties for heating domestic water with steam in coil.

b. Steam domestic water heaters should be provided with storage tanks adequately sized for usage. Tanks should be glass interior lined with NSF 61 barrier materials. Tanks should be rated for 150 psig.

c. Storage tanks should be furnished with:
   1. Drain valve
   2. Tank insulation
   3. Enameled steel jacket
   4. Automatic high-temperature limit cutoff device
   5. Adjustable thermostat
DESIGN REQUIREMENTS

6. ASME rated and stamped relief valve

7. All bronze circulating pump, 120 Volts, 1 phase, 60 Hertz

d. Flow pattern should be standard flow arrangement with water from bottom of storage tank circulated across heat exchanger coil and returned to tank. Include hot water outlet at top of tank and temperature sensor in tank.

e. Heat exchanger coils should be copper or copper alloy, U-tubes with tube sheet and supporting baffles.

f. Coordinate all contract documents and determine extent of miscellaneous fixtures, toilet accessories, etc., specified in other sections of the specifications and specify all material and labor required to install the items specified in other sections.

CONSTRUCTION REQUIREMENTS

3.1 Each fixture shall be separately trapped.

3.2 Protect plumbing fixtures included in these specifications against injury from the building materials, acids, tools and equipment.

3.3 Plated or polished fittings, pipes and appliances shall be protected immediately after installation and shall be polished and cleaned of all marks and foreign substances, when directed by the Architect.

3.4 Prior to buildings’ acceptance by the Owner, remove manufacturer’s labels and thoroughly clean all fixtures and make ready for use by building’s occupants.

REFERENCE

4.1 The applicable CSI Specification Sections are 22 35 00 and 22 40 00.