

## PART 1 – GENERAL

### 1.1 RELATED DOCUMENTS

- A. Drawings and Division 00 and 01, apply to this Section.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 23.
  - 2. Division 22.
  - 3. Division 26.

### 1.2 SUMMARY

- A. This Section includes plumbing fixtures, trim, other fittings, and related components.

### 1.3 DEFINITIONS

- A. Accessible: Plumbing fixture, building, facility, or portion thereof that can be approached, entered, and used by physically handicapped, disabled, and elderly people.
- B. Fitting: Device that controls flow of water into or out of plumbing fixture. Fittings specified in this Section include supplies and stops, faucets and spouts, showerheads and tub spouts, drains and tailpieces, traps and waste pipes. Pipe fittings, tube fittings, and general-duty valves are included where indicated.
- C. Domestic Water Piping: Piping inside building that conveys potable cold and hot water to fixtures and equipment throughout the building.
- D. Non-Potable Water Piping: Piping inside building that conveys non-potable water to fixtures and equipment throughout the building.

### 1.4 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 01 Specification Sections.
- B. Product Data for each plumbing fixture category and type specified. Include selected fixture, trim, fittings, accessories, appliances, appurtenances, equipment, and supports. Indicate materials and finishes, dimensions, construction details, and flow-control rates.
- C. Wiring diagrams from manufacturer for electrically operated units.
- D. Maintenance data for plumbing fixtures and components to include in the operation and maintenance manuals specified in Division 01.

### 1.5 CODES AND STANDARDS

- A. Codes and Standards shall be the current version adopted by the Authority Having Jurisdiction.

### 1.6 QUALITY ASSURANCE

- A. Source Limitations: Obtain plumbing fixtures, faucets, and other components of each category from one source and by a single manufacturer.
  - 1. Exception: Where fixtures, faucets, or other components are not available from a single manufacturer, obtain similar products from other manufacturers specified for this category.
- B. Regulatory Requirements: Comply with requirements of CABO A117.1, "Accessible and Usable Buildings and Facilities"; Public Law 90-480, "Architectural Barriers Act"; and Public Law 101-336, "Americans with Disabilities Act"; regarding plumbing fixtures for physically handicapped people.
- C. Energy Policy Act Requirements: Comply with requirements of Public Law 102-486, "Energy Policy Act," regarding water flow rate and water consumption of plumbing fixtures.
- D. Comply with the Reduction of Lead in Drinking Water Act of 2011. This act redefines "Lead Free" as "not containing more than 0.2 percent lead when used with respect to solder and flux and not more than a weighted average of 0.25 percent lead when used with respect to wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures". Products required to be "Lead Free" shall have NSF 61-G or NSF 372 certification.
- E. Soldered Lead Free End Connections: Copper alloys with silicone content greater than 0.005% are not allowed.
- F. Backflow Prevention Requirements: Comply with the requirements of Washington State Department of Health regulation for "Backflow Prevention Assemblies Approved for Installation in Washington State".
- G. Listing and Labeling: Provide electrically operated fixtures and components specified in this Section that are listed and labeled.
  - 1. The Terms "Listed" and "Labeled": As defined in the National Electrical Code, Article 100.
  - 2. Listing and Labeling Agency Qualifications: A "Nationally Recognized Testing Laboratory" (NRTL) as defined in OSHA Regulation 1910.7.
- H. Select combinations of fixtures and trim, faucets, fittings, and other components that are compatible.
- I. Plumbing Fixture Standards:
  - 1. Comply with applicable standards below and other requirements specified.
    - a. Electric Water Coolers: ARI 1010 and UL 399.
    - b. National Sanitation Foundation Construction: NSF 2.
    - c. Stainless-Steel Fixtures Other than Service Sinks: ASME A112.19.3M.
- J. Miscellaneous Fitting Standards:
  - 1. Comply with ASME A112.18.1M and other requirements specified for fittings, other than faucets. Include polished, chrome-plated finish, except where otherwise indicated. Coordinate fittings with other components and connectors.

- a. Atmospheric Vacuum Breakers: ASSE 1001.
- b. Automatic Flow Restrictors: ASSE 1028.
- c. Brass and Copper, Supplies and Tubular Brass: ASME A112.18.1M.
- d. Fixed Flow Restrictors: ASSE 1034.

K. Miscellaneous Component Standards:

- 1. Comply with applicable standards below and other requirements specified for components for plumbing fixtures, equipment, and appliances.
  - a. Hose-Coupling Threads: ASME B1.20.7.
  - b. Pipe Threads: ASME B1.20.1.
  - c. Supply and Drain Insulation Kits: CABO A117.1.
  - d. Supports: ASME A112.6.1M.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver plumbing fixtures in manufacturer's protective packing, crating, and covering.
- B. Store plumbing fixtures on elevated platforms in dry location.

1.8 PROJECT CONDITIONS

- A. Field Measurements: Coordinate roughing-in and final fixture locations and verify that plumbing fixtures can be installed to comply with original design and referenced standards.

PART 2 – PRODUCTS

2.1 BASIC, COMMON FEATURES

- A. Components of plumbing fixtures that come in contact with domestic water where under pressure from the distribution system shall be “lead free”.

2.2 DRINKING FOUNTAINS

A. Water Coolers:

- 1. Dual Height Water Cooler:
  - a. Dual height water cooler, round basins contoured to minimize splashing, stainless steel support arms, ADA compliant, “Lead Free”, 18-gauge stainless steel, satin finish, recessed in wall refrigeration system, vandal-resistant front push button, frame for wall mounting, HFC-134a refrigerant, 115 volt, maximum 370 watts, 5 amps.
  - b. Manufacturers: Subject to compliance with requirements provide products by one of the following:
    - 1) Elkay Manufacturing Company.
    - 2) Haws Corporation.
    - 3) Halsey Taylor.
    - 4) Or Approved Equal.

2.3 FITTINGS

- A. Fittings for Equipment Specified in Other Sections: Fittings include the following:
1. Supply Inlets: Brass pipe or copper tube, size required for final connection.
  2. Supply Stops: Chrome-plated brass, angle or straight; compression, [loose-key type][wheel-handle type]; same size as supply inlet and with outlet matching supply riser.
  3. Supply Risers: flexible copper tube with knob end. Use chrome-plated tube for exposed applications.
  4. Traps: [0.045-inch thick tubular brass][Cast Brass], slip-joint inlet, cleanout, wall flange, escutcheons, and size to match equipment. Use chrome-plated tube for exposed applications.
  5. Continuous Waste: Tubular brass with slip-joint inlet, and size to match equipment.
  6. Indirect Waste: Tubular brass size to match equipment.

### PART 3 – EXECUTION

#### 3.1 EXAMINATION

- A. Examine roughing-in for potable, hot- and cold-water supply piping systems; soil, waste, and vent piping systems; and supports. Verify that locations and sizes of piping and locations and types of supports match those indicated, before installing and connecting fixtures. Use manufacturer's roughing-in data when roughing-in data are not indicated.
- B. Examine walls, floors, and cabinets for suitable conditions where fixtures are to be installed.
- C. Do not proceed until unsatisfactory conditions have been corrected.

#### 3.2 APPLICATIONS

- A. Include supports for plumbing fixtures according to the following:
1. For wall hung drinking fountains and electric water coolers where indicated.
  2. Reinforcement: For floor-mounted recessed, box-mounted, electric water coolers.
  3. Fabricate reinforcement from 2-by-4-inch or 1/4-by-6-inch steel plates attached to studs, in wall construction, to secure fixtures to wall. Include length that will extend beyond ends of fixture mounting bracket and attach to at least 2 studs.

#### 3.3 PLUMBING FIXTURE INSTALLATION

- A. Assemble plumbing fixtures according to manufacturers' written instructions.
- B. Install fixtures level and plumb according to manufacturers' written instructions, roughing-in drawings, and referenced standards.
- C. Fasten wall-hanging plumbing fixtures securely to supports attached to building substrate when supports are specified, and to building wall construction where no support is indicated.
- D. Fasten floor-mounted fixtures to substrate. Fasten fixtures having holes for securing fixture to wall construction, to reinforcement built into walls.
- E. Fasten recessed, wall-mounted fittings to reinforcement built into walls.
- F. Fasten wall-mounted fittings to reinforcement built into walls.

- G. Secure supplies to supports or substrate within pipe space behind fixture.
- H. Install individual stop valve in each water supply to fixture. Use gate or globe valve where specific stop valve is not specified.
- I. Install water-supply stop valves in accessible locations.
- J. Install supply, flow-control fittings with specified flow rates in fixture supplies at stop valves.
- K. Install traps on fixture outlets. Omit traps on fixtures having integral traps. Omit traps on indirect wastes, except where otherwise indicated.
- L. Install escutcheons at wall, floor, and ceiling penetrations in exposed, finished locations and within cabinets and millwork. Use deep-pattern escutcheons where required to conceal protruding pipe fittings.
- M. Seal joints between fixtures and walls, floors, and counters using sanitary-type, 1-part, mildew-resistant, silicone sealant according to sealing requirements specified in Division 07. Match sealant color to fixture color.
- N. Coordinate exact location and mounting height of all fixtures with the architectural drawings.

### 3.4 CONNECTIONS

- A. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties. The following are specific connection requirements:
  - 1. Install piping connections between plumbing fixtures and piping systems and plumbing equipment specified in other Division 22 Sections.
- B. Supply and Waste Connections to Plumbing Fixtures: Refer to plumbing fixture schedule on drawings for fitting sizes and connection requirements for each plumbing fixture.
- C. Supply and Waste Connections to Equipment Specified in Other Sections: Connect equipment with supply inlets, supply stops, supply risers, and traps specified in this Section. Use fitting sizes required to match connected equipment. Connect fittings to plumbing piping.
- D. Ground equipment.
  - 1. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. Where manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
- E. Arrange for electric-power connections to fixtures and devices that require power. Electric power is specified in Division 26 Sections.

### 3.5 FIELD QUALITY CONTROL

- A. Verify that installed fixtures are categories and types specified for locations where installed.
- B. Check that fixtures are complete with trim, fittings, and other specified components.

- C. Inspect installed fixtures for damage. Replace damaged fixtures and components.
- D. Test installed fixtures after water systems are pressurized and demonstrate proper operation. Replace malfunctioning fixtures and components, then retest. Repeat procedure until units operate properly.

### 3.6 ADJUSTING AND CLEANING

- A. Operate and adjust faucets and controls. Replace damaged and malfunctioning fixtures, fittings, and controls.
- B. Operate and adjust disposers, hot-water dispensers, and controls. Replace damaged and malfunctioning units and controls.
- C. Adjust water pressure at drinking fountains, electric water coolers, faucets, shower valves, and flushometer valves having controls, to produce proper flow and stream.
- D. Replace washers and seals of leaking and dripping faucets and stops.
- E. Clean fixtures and other fittings with manufacturers' recommended cleaning methods and materials. Include the following:
  - 1. Remove sediment and debris from drains.

### 3.7 PROTECTION

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

### 3.8 PLUMBING FIXTURE SCHEDULE

- A. DF1A – Drinking Fountain:
  - 1. Fixture: Dual Height Water Cooler.

**END OF SECTION**