

22 **05.03.00 - SUBMITTALS FOR PLUMBING**

Submittals in accordance with the Contract Documents shall be submitted in accordance with the following instructions. The Contractor is advised to review and comply with the requirements articulated within each Division and within each section of the Contract Documents.

Some Divisions may include a Division-specific "Submittal Requirements for" section. Where this section exists, it articulates additional requirements for submittals that are not articulated in the Division's general requirements.

The following requirements help to identify track, keep and keep the project organized for all parties involved. They are necessary to ensure that the submittal process is efficient and that the appropriate technical review. Submittals that do not conform to the administrative requirements are rejected and returned, without technical review.

Submittals that are not in accordance with the requirements shall be supplied on a section-by-section and type-by-type basis. For example, independent product data submittals shall be submitted for each section and type of equipment, independent submittals. Independent shop drawing submittals shall be furnished for each section that requires shop drawings.

The submittal process shall be as follows: (1) For each section, for each submittal type. Each PDF shall represent a single standalone submittal.

Include a transmittal. Transmittals shall enumerate each submittal, including the section, type and location. Include cover sheet / title page. The cover sheet shall include the information identified in the contract documents.

The submittal shall be submitted in electronic form of each electronic and/or hardcopy document-based submittal. An editable and printable PDF form created with editable fields shall be submitted. The submittal shall be submitted from KHLH upon request. It may also be downloaded from the KHLH website at www.khlhngs.com.

Include an index. The index shall enumerate the contents of the submittal.

Include checklists. Where checklists are included with the specifications, complete and include them within the submittal. Where checklists are not included, complete the submittal for each type are required. Partial submittals will be rejected. Where a section requires a submittal, the submittal shall be provided for that section shall be supplied together at one time as one complete submittal. When resubmission is required (e.g. Revise and Resubmit) the revised submittal shall be more complete, and shall be submitted in accordance with the requirements of the predecessor. The submittal number (for each section and type) shall increment for each subsequent submittal.

Resubmission, 02 – Second Resubmission, etc.

22 05 23.00 GENERAL DUTY VALVES
Subtotal **Requirements**
 Product Description For each type of product indicated.
GENERAL
 Provide stops or isolation valves on domestic water supply and isolation of cold and hot water to each fixture including all equipment and equipment provided by others. Access shall be provided to all valves. Provide fire-rated (1/2" panel) to maintain full access to concealed valves.
 Ball valves - 2 inch and smaller: Lead-Free, 150 psi up to 100°F, 1/2" NPT, brass, stainless steel, cast bronze body, cast bronze, drop-proof stem.
 Butterfly Valves - 3" and up: Ductile Iron Butterfly Valve, 150 WOG, Lug Body, Level Disc, 150 psi up to 100°F, Approved Manufacturer: Milwaukee Valve, NIBCO, and Watts Water Technologies Co.
 Valves to conform to: MSS SP-110 Type 1 / MSS-SP-67
 Check valves - to same size as system piping it accompanies. Lead-free, bronze body, 250 WOG, non-spring loaded, drop-proof stem.
 Approved Manufacturer: Milwaukee Valve, NIBCO, Watts Water Technologies Co.
 Valves to conform to: MSS-SP-110 / ANSI/NFPA-61/372

Hanger and support types:
Hangers: Provide adjustable, Steel Clevis Hangers (MSS Type 1) for suspension of noninsulated or insulated, stationary pipes.
Horizontal-Pipe Clamps: Provide Carbon- or Alloy-Steel, Double-Bolt Pipe Clamps (MSS Type 3) for suspension of pipes requiring clamp flexibility and up to 4 inches of insulation.
Vertical-Pipe Clamps: Provide extension pipe or Risser Clamps (MSS Type 8) for support of pipe risers.

Hanger and support types:
Hangers: Provide adjustable, Steel Clevis Hangers (MSS Type 1) for suspension of noninsulated or insulated, stationary pipes.
Horizontal-Pipe Clamps: Provide Carbon- or Alloy-Steel, Double-Bolt Pipe Clamps (MSS Type 3) for suspension of pipes requiring clamp flexibility and up to 4 inches of insulation.
Vertical-Pipe Clamps: Provide extension pipe or Risser Clamps (MSS Type 8) for support of pipe risers.

Horizontal-Pipe Clamps: Provide Carbon- or Alloy-Steel, Double-Bolt Pipe Clamps (MSS Type 3) for suspension of pipes requiring clamp flexibility and up to 4 inches of insulation.

Vertical-Pipe Clamps: Provide extension pipe or Risser Clamps (MSS Type 8) for support of pipe risers.

22 07 19-0 PLUMBING SYSTEM INSULATION
GENERAL

Insulation shall be listed and labeled per ASTM E 84 for noncombustible assemblies employing slip on techniques.

Provide insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of piping including fittings, valves, and elbows.

Surface Preparation: Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application.

WORKING CONDITIONS REQUIRING INSULATION

Insulate domestic cold water piping, associated fittings and valves with flexible elastomeric 1/2" thick insulation.

Insulate domestic hot water piping, associated fittings and valves with 1" thick flexible elastomeric, 1-1/2" thick fiberglass insulation or per local energy code, whichever is more restrictive.

Insulate domestic hot water return piping, associated fittings and valves with 1" thick insulation or per local energy code, whichever greater.

Insulate water heaters with 1" thick insulation to receive condensate with 1/2" thick fiberglass insulation.

22.11 16.00 – DOMESTIC WATER PIPING
Submittals – Submittals required.
Product Data: For each type of product indicated.

GENERAL
 Install piping concealed from view unless noted otherwise, or put piping in sight. Do not enclose, cover, or paint piping into operation until it has been inspected and approved by authorities having jurisdiction. Clean and flush piping before use. Do not use unapproved procedures by authorities having jurisdiction or AWWA C605, whichever is more rigorous.

Installation – Piping and fittings are prohibited unless otherwise shown. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal. Install all piping with all other trades.

Provide water piping with the following, as necessary to limit the incoming water pressure to 80 psi inside the building:

- 1. Type 1, domestic water piping above ground:
- Hard copper tube, ASTM B 88. Type L; wrought-copper, solder-joint fittings; and soldered joints.
- 2. Rigid plastic pipe and solvent-welded fittings.
- 3. Type 1, 1/2" and 3/4" copper-free alloys.
- Flu: ASTM B 813, water flushable.
- Type 1, 1/2" copper pressure-seal joint, and pressure-seal fittings.

CATHODIC PROTECTION
 Provide dielectric isolation at points where copper or wrought-copper piping is in contact with ferrous piping, reinforcing steel or other dissimilar metal in structure.

22 13 16.00 - SANITARY, WASTE AND VENT PIPING SYSTEM
Submittal Requirements
 Provide a list of materials as indicated on the drawings and as specified herein.
 Provide a complete soil, waste and vent system in the building and connect to the main sewer as indicated on the drawings and as specified herein.
 Above ground soil, waste and vent piping within buildings including soil stacks, vents, stacks, horizontal branches, horizontal and vertical risers, and cleanouts shall be cast iron. Underground building drain piping including drains, branches, traps, connections to fixtures and drains, and cleanouts shall be cast iron terminating at connection to existing sanitary sewer.
INTERIOR PIPING ABOVE GRADE
 Non-Hi-ach cast iron soil, waste, and vent piping and fittings shall conform to ASTM D 2685 (ASTM D 3888). Pipe couplings shall conform to ASTM C 1277 and CSIP 310. Piping alignment shall be as indicated on the drawings and shall be installed in accordance with the manufacturer's changes and shall be surely supported or secured to maintain such alignment.
 Soil, waste and vent piping shall conform to smaller than 1-1/2" shall be installed in accordance with the manufacturer's changes and shall be surely supported or secured to maintain such alignment.
BELOW GRADE PIPING
 Schedule 40 welded 40 PVC pipe and fittings 2" and larger shall conform to ASTM D 2685 (ASTM D 1785 DWV). Fittings shall conform to ASTM D 2665, 40 PVC pipe and fittings 2" and larger shall conform to ASTM D 2665. Piping alignment shall be as indicated on the drawings and shall be installed in accordance with the manufacturer's changes and shall be surely set and buried to maintain such alignment.
 Soil, waste and vent piping smaller than 1-1/2" and smaller below grade shall not be permitted.
Slope piping according to local codes.
 Protection shall be provided for piping and other structural elements during underground work adjacent to such items. Refer to architectural and/or structural drawings for locations.
 Install all underground branch vents to main vent pipes at least six inches above floor rim of fixtures. Pitch vent lines back to soil or waste pipe, free of drops and sags. Cleanouts shall be installed at intervals of 100 feet for larger sizes. For underground and concealed lines, provide cleanouts in accessible positions at each right angle turn and at intervals not to exceed fifty feet. In basements, flush with finish floor with extension pipe from cleanout eye.

22 33 00 00 - COMMERCIAL ELECTRIC, DOMESTIC WATER HEATERS

Product Data: For each type of product indicated.

TANK TYPE

Provide commercial electric tank type water heater as scheduled. Comply with UL 1453 Standard.

Provide corrosion resistant metal drain pan with raised curb at the base of the water heater and include drain outlet.

Provide field fabricated piping heat trap arrangement complying with ASME Section III, Division 1, Part 30.1.

Provide combination temperature and pressure relief valve, ASME rated and stamped with relieving capacity at least equal to the rated capacity of the tank setting less than water heater's rated operating pressure.

Provide water heater stands or mounting brackets with manufacturer's factory fabricated steel cable of equal strength supporting.

Provide steel pressure-rated thermal expansion tank constructed with welded joints and factory-installed safety valves, ASME rated and stamped with minimum system operating pressure at tank.

Manufacturers: Subject to compliance with requirements, manufacturers of equipment proposed for purchase may be incorporated into the work include, and are limited to, the following:

Boiler Water Heaters, Bradford White Corp., Lochwiner Corp., State Industries.

project sheet

DOLLAR TREE

166 S. LIBERTY DRIVE - DEAL #13216 / STORE #2573

STONY POINT, NY 10980

drawing

PLUMBING SPECIFICATION

P-401

KLH PROJECT 242111