USask Master Specification Directions: The master specifications are intended to be incorporated into the Consultant's final, project specific specification package. The project specific specifications are expected to include any and all sections or portions of sections (Part 1, Part 2, Part 3) that are required to create a fully executable project specification. USask Master Specs only provide information that USask **requires** be a part of the final specification package. Components or sections not included in the Master USask Specifications may still be required for a complete, well-designed project. **It is the consultant's responsibility to ensure all specifications match USask requirements. Any deviations or revisions to any section included in the master specifications requires written consent from the USask Engineering department. The consultant is liable for any omissions, errors, or incorrect equipment or components supplied to site.**
The Master Specifications shall be used in conjunction with USask's Design Guidelines. Any conflicts shall be brought to the attention of USask Engineering staff for clarification.

Part 1 General

Part 2 Products

2.1 TUBING

.1 Type L hard drawn copper tubing: to ASTM B88M.

2.2 FITTINGS

.1 Cast bronze threaded fittings: to ANSI/ASME B16.15.

.2 Wrought copper and copper alloy solder joint pressure fittings: to ANSI/ASME B16.22.

.3 Cast iron threaded fittings: to ANSI/ASME B16.4.

.4 Cast copper alloy solder joint pressure fittings: to ANSI B16.18.

2.3 FLANGES

.1 Brass or bronze: threaded.

.2 Cast iron: threaded.

.3 Orifice flanges: slip-on, raised face, 2100 kPa.

2.4 JOINTS

.1 Solder, tin-antimony, 95:5: to ASTM B32.

.2 Silver solder BCUP: to ANSI/AWS A5.8.

.3 Brazing: as indicated.

2.5 VALVES

.1 Connections:

.1 NPS 2 and smaller: ends for soldering.

.2 NPS 2 1/2 and larger: flanged ends.

.2 Ball valves:

.1 NPS 2 and under: as specified Section 23 05 23.01- Valves - Bronze.

2.6 VICTAULIC SYSTEMS

.1 Victaulic system may be used on all applications in accessible locations only, such as mechanical rooms, basements, crawl spaces, service corridors, tunnels and other accessible areas, such as above T-bar ceilings and elsewhere as approved by the Consultant. Couplings and components shall be the following Victaulic:

.1 50 mm through 300 mm: For rigid type couplings revise to only allow Victaulic Zero-Flex Style 07 on sizes 200 mm through 300 mm. Rigid couplings for sizes 50 mm through 150 mm shall be Quick-Vic Style 107.

.1 Rigid type - for all but pump connections and as noted below:

.1 For sizes 200 mm through 300 mm: Victaulic Zero-Flex Style 07.

.2 For Sizes 50 mm through 150 mm "Quick-Vic: style 107 with grade EHP high temperature gasket rated to 121 °C may be used.

.2 Flexible type- provide a minimum of four flexible couplers on suction and discharge of base mounted pumps - Victaulic Style 77.

.3 Flange component connections shall be Victaulic style 741 Vic-Flange. Use adaptor insert where directed by manufacturer.

.4 Reducing couplings style 750, outlet couplings style 72, and mechanical tees style 920 shall be used where applicable.

.2 350 mm through 600 mm: AGS series with wide. width "Flush Seal" gasket.

.1 Rigid Type - Victaulic style W07 .

.2 Flange connections: Victaulic style W741 Vic-Flange.

.3 Gaskets shall be grade E with a temperature range of -34C to 1OOC, or as recommended.

.4 All grooved joint couplings, fittings, valves, specialties and gaskets shall be the product of a single manufacturer. Grooving tools shall be those of the same manufacturer as the grooved components.

.5 Approved grooved piping system manufacturer is Victaulic. All other grooved system manufacturers to make application for equal status.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.2 PIPING INSTALLATION

.1 Connect to equipment in accordance with manufacturer's instruction unless otherwise indicated.

.2 Install concealed pipes close to building structure to keep furring space to minimum. Install to conserve headroom and space. Run exposed piping parallel to walls. Group piping wherever practical.

.3 Slope piping in direction of drainage and for positive venting.

.4 Use eccentric reducers at pipe size change installed to provide positive drainage or positive venting.

.5 Provide clearance for installation of insulation and access for maintenance of equipment, valves and fittings.

.6 Assemble piping using fittings manufactured to ANSI standards.

3.3 VALVE INSTALLATION

.1 Install ball to isolate each piece of equipment, and as indicated.

3.4 CIRCUIT BALANCING VALVES

.1 Install flow measuring stations and flow balancing valves as indicated.

.2 Remove handwheel after installation and TAB is complete.

.3 Tape joints in prefabricated insulation on valves installed in chilled water mains.

3.5 FLUSHING AND CLEANING

.1 Flush after pressure test for a minimum of 4 hours.

.2 Fill with solution of water and non-foaming, phosphate-free detergent 3% solution by weight. Circulate for minimum of 8 hours.

.3 Refill system with clean water. Circulate for at least 4 hours. Clean out strainer screens/baskets regularly. Then drain.

.4 Refill system with clean water. Circulate for at least 2 hours. Clean out strainer screens/baskets regularly. Then drain.

.5 Drainage to include drain valves, dirt pockets, strainers, low points in system.

3.6 FILLING OF SYSTEM

.1 Refill system with fluid specified.

END OF SECTION