SECTION 22 10 00 – PLUMBING SYSTEMS – GENERAL

1.1 PLUMBING GENERAL

A. Design systems so that all components requiring access are easy to reach for maintenance. These components include, but are not limited to valves and clean-outs. Provide appropriate size access doors for servicing of all devices. Use only screwdriver operated access latching. Keyed locks on doors are not permitted. Access doors shall be clearly marked on drawings. To the greatest extent possible, design systems so required access points do not occur in spaces intended for high design impact.

B. Domestic interior water piping shall be type "L" copper only.

C. Use only ADA approved lavatory and kitchen faucets only, no self-closing fixtures are permitted.

D. Use only poly propylene pipe for de-ionized water piping. Joints may be either fused or mechanical.

E. All eyewash stations and emergency showers shall utilize tepid water per current ANSI/ISEA Z358.1 standard. Provide with mixing valve such that mater can be maintained at 70 degrees F.

F. All Electric Water Coolers shall be equipped with water bottle fillers.

G. All valves less than 2-1/2 inch shall be ball valve type unless not appropriate for the application.

H. All Laboratory drain piping shall be acid resistant, regardless of the use of the laboratory.

I. All Laboratory service fixtures (air, gas, vacuum etc.) shall be ball valve type only.

J. Waterless Urinals are not permitted.

K. High Purity Water Systems shall be coordinated with Owner to determine current service provider.

1.2 IDENTIFICATION OF PIPING SYSTEMS

A. The Owner has instituted a common system to assist in the identification of the contents of piping systems. This system conforms to the current ANSI standard A13.1.

B. Positive identification of the contents of a piping system shall be by lettered legend giving the name of the contents in full or abbreviated form. In addition, arrows shall be used to indicate direction of flow of those contents.

C. Legends shall be brief, informative, pointed and simple for greatest effectiveness. Legends shall be applied close to valves or flanges and adjacent to changes in direction, branches and where pipes pass through walls and floors, also at intervals on straight pipe runs sufficient for identification usually not more than 25 feet.

D. Attention shall be given to visibility of the pipe markings. Where pipe lines are located above or below the normal line of vision, the lettering shall be placed below or above the horizontal center line of the pipe to facilitate a more direct line of sight.

E. Valve charts shall be posted in all Equipment Rooms. Tags shall identify each valve identifying what content they control and to what specific piece of equipment that content is supplied.

F. Piping Identification Legends with designated colors shall be as follows:

1. Piping with contents that are inherently hazardous:

a. Flammable or explosive materials: Yellow field with Black letters.
b. Chemically active or toxic materials: Yellow field with Black letters.
c. Materials with extreme temperature or pressures: Yellow field with Black letters.

2. Piping with contents that are inherently low hazard:

a. Liquid or liquid admixture: Green field with White letters.
b. Gas or gaseous admixture: Blue field with White letters.

3. Piping with contents that are fire quenching materials:

a. Water, foam, CO_2, etc.: Red field with White letters.

G. Size of Legend Letters

1. For pipes with Outside Diameters of 3/4 inch to 1-1/2 inch:

a. Length of color 8 inches, height of letters 1/2 inch.

2. For pipes with Outside Diameters of 1-1/2 inch to 2-1/2 inch:

a. Length of color 8 inches, height of letters 3/4 inch.

3. For pipes with Outside Diameter of 2-1/2 inch to 6 inch:

a. Length of color 12 inches, height of letters 1-1/4 inch.

4. For pipes with Outside Diameter of 6 inch to 10 inch:

a. Length of color 24 inches, height of letters 2-1/2 inch.

5. For pipes with Outside Diameter greater than 10 inches:

a. Length of color 32 inches, height of letters 3-1/2 inch.

1.3 PREFERRED PLUMBING FIXTURES AND EQUIPMENT MANUFACTURERS

A. Acid Waste Lines:

1. Enfield.

2. Orian.

B. Backflow Preventers:

1. Febco.
2. Watts.
3. Wilkens Zurn.

C. Valves:

1. Apollo.
2. Hammond.
3. Milwaukee.
4. Victaulic.
5. Watts.

D. High Purity Water Piping:

1. Enfield.
2. Orian.

E. Domestic Hot Water heaters:

1. A. O. Smith.
2. PVI.
3. Rudd.

F. Eyewash Stations/Emergency Showers (per ANSI.ISEA Z358.1):

1. Guardian.
2. Haws.

G. Faucets:

1. Kitchen Sinks:

a. American Standard.
b. Chicago.
c. Moen.

2. Lavatories:

a. American Standard.
b. Chicago.
c. Moen.
d. Sloan.
e. Zurn.

3. Service Sinks:

a. Chicago 445-897SRCX KCP with integral check valve to prevent crossover.

4. Laboratories:

    a. Chicago.

H. Flushometers:

1. Zurn 6000 series.

I. Shower Mixing Valves:

1. Moen, Moentrol with integral stops.

J. Sinks, Lavatories, and Water Closets:

1. American Standard.
2. Zurn.

K. Urinals:

1. Zurn, 1 pint/flush units.

L. Pumps (Domestic Hot Water pumps shall be brass or bronze):

1. Bell & Gossett.
2. Armstrong.
3. Peerless.

END OF SECTION