

# GUIDELINES FOR PROFESSIONAL SERVICES

## DIVISION 22 – PLUMBING

The following items are to be included on the drawings and in the specifications by the Design Professional:

### I. GENERAL

- A. On alteration/renovation work, all existing abandoned overhead and underground piping, septic tanks, grease traps, lift stations, etc., shall be completely removed. Items under concrete slabs to remain or built into masonry work to remain may be left in place with the written consent of the Owner.
- B. Metallic detection tape shall be installed over all underground lines and pipe outside of building.
- C. The Plumbing Engineer shall coordinate with the Civil Engineer for all utility connections, including inverts. The contract documents shall specify that final piping connections shall be made by the plumbing contractor.
- D. Gas lines shall not be installed under building slabs.
- E. Gas line solenoid valves shall be clearly located on the plans, shall be manual re-set, and shall be protected by a lockable enclosure to prevent unintended shut-offs or vandalism.

### II WATER

- A. Domestic water piping shall be run overhead whenever feasible. Domestic water piping shall not be run over any electrical or data equipment rooms or spaces. No pipe fittings shall be installed under the building slab. Shut off valves shall be readily accessible and installed at:
  - 1. All hose bibs/wall hydrants (no frost proof hydrants allowed)
  - 2. All branch lines serving fixture groups including individual toilet rooms
  - 3. At each building
  - 4. Prior to each trap primer
  - 5. Water shut off valves shall be installed at not more than 100 foot maximum intervals
- B. Water distribution shall enter the building through a riser in a mechanical or Custodial room. Water shut off valves shall be located on each riser.
- C. Domestic water distribution pipe shall be CPVC Flow Guard Gold or equal (COPPER not permitted unless directly connected to a hot water source and only within 20' of hot water outlet. Type K copper only) Ball valves shall be brass. **Domestic water shall be stubbed out of walls in copper at fixture locations. No exposed CPVC allowed.**

- D. Domestic water service pipe must be minimum Schedule 80 CPVC to five feet (5') outside the building for all permanent structures. Portables may be schedule 40 PVC.
- E. Gate valves shall not be used.
- F. Blue dot Labels shall be placed on ceilings to locate valves above the ceiling.
- G. Hose bibs with loose tee key (Woodford or equal) shall be provided on the exterior of the building at intervals no greater than 75 feet. e shall have one hose bibb per portable in an accessible location.
- H. Deep seal traps shall be used exclusively in lieu of trap primers.
- I. Hot water re-circulating pumps shall be repairable and equal to B & G NBF series Model no. W06189 series 1001B or equal. Time clock or the Trane Tracer system shall be tied to re-circulation pump. Time clock shall be Intermatic or equal.

### III. DRAINAGE

- A. Sanitary and storm drainage piping under the building slab shall be minimized to the extent practical. Piping shall be PVC schedule 40 solid core.
- B. Two-way cleanouts shall consist of two separate clean-outs connected to two wyes such that all sections of the drain are cleanable.
- C. Clean-outs and pipe terminations at grade shall be set in a 24"x 24" x 4" concrete slab with the top sloped away from the pipe. Clean out caps shall be recessed brass.
- D. The floor drain(s) required in group toilet rooms shall be 3" in diameter. All group toilet rooms shall have floor drains. All floors shall be pitched to prevent any standing water on the floor. Floor drains shall be required at all dousing shower/eye wash assemblies. Protect surrounding areas from splashing water.
- E. Do not use floor drains in kitchen areas. Use only trench drains or floor sinks. Where no trench drains are shown, use floor sinks for equipment drains and general area drains. Floor sinks shall be of stainless steel construction (no porcelain floor sinks shall be used).
- F. Exposed fixture traps shall be 17-gauge chrome-plated brass or schedule 40 PVC union hubs.
- G. Clay traps (solids interceptors) in art labs shall be all plastic with an easily removable top equal to Zurn model Z-1180. Traps must be readily accessible.
- H. Air admittance valves shall be used only where no alternative exists.
- I. All vents protruding through the roof shall be of adequate distance from exhaust and fresh air intakes.

- J. External Acid Neutralization tanks shall be located outside the building. Piping to the acid neutralization tanks shall be acid resistant. Tanks shall be readily accessible.

#### IV. EQUIPMENT & FIXTURES

- A. Where possible, gas-fired domestic water heaters shall be used for any hot water tank over forty gallons. Gas fired domestic water heaters shall be high efficiency condensing tankless type equal to Takagi t-H2 series with flushing option. Water heaters for kitchen related dish machines shall be dedicated to the dish machine and located as close as possible to the unit.
- B. Bathtubs shall be equal to American Standard “Americast” with multi-flex trip lever tub drain.
- C. Water coolers shall have stainless steel cabinets and shall have no electric solenoid valves. Water coolers shall be as follows:
1. Hi Lo unit shall be equal to Elkay model no. LZSTL8WSLP
  2. Single with bottle filler shall be equal Halsey Taylor model no. VRCHD85
  3. Fill Station shall be equal to Elkay model no. LZWSM8K
- D. Urinals shall utilize the model WEUS-1000.1001-0.13 or WEUS-1002.1001-0.25 cartridge manufactured by Sloan or equal.
- E. Individual water closets shall be floor mount type.
1. The height of accessible water closets for primary classrooms (K-3) shall be 15”.
  2. Flush valves shall be hi-low dual flush type.
- F. Wall mounted lavatories shall be china equal to Sloan SS-3103-A with cold water faucets (**no hot water**), and supported from a carrier (no wall bracket). China lavatories are acceptable in countertops.
- G. Installation detail for all fixtures shall be sealed with 100% silicone fixtures, wall penetrations, escutcheons, etc.
- H. The use of “Hands Free” or solenoid controlled flush valves or faucets is discouraged. If hands free faucets or flush valves cannot be avoided, they shall be 120V powered, not battery powered.
- I. When master mixing valves are utilized in group showers, shower valves shall be single handle on-off valves.
- J. Where delayed closing faucets are required, acceptable manufacturers are:
- T & S Model no. (1)185Z35 or B-0712 or equal
- K. Where master safety switches are required by code, quarter turn ball valves shall be installed in an accessible cabinet.

- L. All hot water heater installations other than kitchens, clinics and showers shall be pre-approved by the Director of Construction Services.