

# FACILITIES STANDARD

---

---

NAME: Plumbing - General  
NUMBER: 15400

ORIGINAL DATE: 03-01-94  
REVISION DATE: 06-04-03

---

---

## PURPOSE:

1. The general purpose of each Facilities Standard is to provide minimal criteria for construction materials at University facilities regarding code compliance, warranty, approved products, execution and uniformity.
2. To protect the health and safety of patients, visitors, students, faculty and staff, in addition to protecting non-project UAB property, all construction must be in accordance with: NFPA 241 safeguarding construction, alteration and demolition operations; Standard Building Code, Chapter 33, regarding site work, demolition and construction; NFPA 101 Life Safety Code.
3. Construction safety is the responsibility of the contractor in accordance with the regulations and codes of the agency having jurisdiction, and according to the guidelines adapted by OSHA.
4. The **Plumbing-General Facilities Standard** establishes a series of guidelines for specifying this particular item on any construction project at the University. ***This Facilities Standard is not to be regarded as a specification.***

## GENERAL:

### THE PLUMBING ENGINEER SHALL PROVIDE:

1. A complete plumbing system that fills the needs of the program, fits the needs of the space to be served, and meets all requirements of the Standard Plumbing Code.
2. A complete plumbing system at a reasonable first cost and at a reasonable operating cost.
3. Equipment that fits in the space allotted with room for maintenance and space to service all components, such as valves, control components, compressors, pumps, traps, cleanouts, filtering systems, pure water systems, ejectors, tanks, boilers, heat exchangers, and the like.

4. A system that can be maintained by the UAB maintenance staff without specialized training dedicated to this system only, and will not require excessive maintenance or constant tuning or adjustment.
5. A system that is reasonably in keeping with other plumbing systems in use at UAB. To accomplish this the plumbing design Engineer shall meet with the UAB Resident Mechanical Engineer at the preliminary stage of the design to review the Engineer's proposed design. Such review shall be to discuss the scope, direction, and intent of the design before the design and working drawings have progressed to the completion stage. The plumbing design Engineer shall also attend design concept meetings with building users and Facilities Engineers. **The Resident Mechanical Engineer will not review design for adequate capacity, correct sizing, or other design features that are the responsibility of the design Engineer.**
6. A system well designed and detailed so that the installing contractor will be able to install the system the way the design Engineer intended and in the way shown and specified on the contract documents.
7. A clear and concise set of specifications allowing the Contractor as much freedom as possible, but confining the work and equipment to that which will properly fill the needs of the system design.
8. A clear and concise set of drawings.
9. Drawings of all equipment spaces, restroom facilities, and kitchens drawn at 1/4" scale with all equipment properly shown and identified. If space is so limited that showing all piping, equipment, etc. would be confusing, separate plans shall be shown to allow proper detailing. All equipment shall be shown in sections and elevations to show clearly the space available and that required by the equipment of this contract and related equipment included in other sections of related contractors.
10. Drawings showing all major piping and equipment to scale in double line drawings with fittings, transitions and offsets clearly shown as how they relate to other pipes, ducts, electrical, plumbing and architectural details.
11. Details at 1/4" scale in any area of the work that is crowded by crossing new or existing ducts, electrical, plumbing and architectural details to show clearly the priority and location of complete system.
12. Isometric diagrams for all piping systems.
13. Piping hook-up details for all equipment connections.

## **PRODUCTS:**

1. Isolation bases and housekeeping pads shall be shown for all rotating equipment and all water related equipment.
2. Vibrating equipment shall be mounted on vibration isolators. Where mounted on slab at grade, rubber isolators should be used. Where mounted on floor slabs, spring isolators shall be used. Where located above occupied spaces, inertia bases mounted on spring isolators shall be used.
3. Where equipment is spring isolated, all pipe connections shall be isolated with flexible connectors. Where mounted on rubber isolators, pipe shall be allowed adequate flexibility and provided with rubber or spring type hangers to prevent transmission of noise and vibration.
4. All equipment shall be provided with rotary stem ball valves so that all equipment can be removed from service without interruption to other systems in the mechanical room or other spaces. Each branch pipe to a fixture or fixture group shall be provided with ball valves and drain provisions regardless of location.
5. Insulation for piping conveying condensate drainage, rainwater, and domestic cold and hot water pipe shall be fiberglass. All chilled water piping 2" or larger shall be insulated with foamglass insulation. All insulation shall be covered with an ASJ jacket so as to withstand physical abuse. Provide protective sheet metal saddles between insulated piping and all hangers.
6. Corrosion resistant auxiliary drain pans shall be provided beneath all equipment storing or handling water.
7. Pumps shall be installed so that they can be pulled out and easily maintained.
8. All bathroom fixtures shall have accessible cleanouts above floor and flush with wall.
9. All plumbing sump pumps shall be alarmed to the UAB CAMS System or the UAB Police Station for notification of problems with pumps.

## **EXECUTION:**

1. The type of installation made by the Contractor is the responsibility of the Engineer through the specifications, details on the drawings, and review of the work in progress. The contractor shall install the work within the bounds allowed by the engineer, but the contractor is not responsible for the design of the system.

2. The Contractor is responsible for the workmanship of the installation, but it is the responsibility of the Engineer to see that the general quality of the workmanship is satisfactory, meeting the requirements set down in the specifications, and performed by qualified and trained workers. If the workmanship is not up to the standards required, the engineer shall **notify** the contractor in **writing** and notify the Owner at once in writing.
  
4. Where an Architect is the prime professional and the Engineer is in the employ of the Architect, the Engineer is to review the project at times selected by the Engineer as necessary to determine that the work is properly installed in accordance with the paragraphs above to protect the Owner from unqualified contractors and poorly installed work. The Architect shall accept this responsibility only where he has qualified and registered Engineers in his employ and where the Architect notifies the Owner that this is the case at the time of his commission to design the project.

END OF STANDARD

Prepared by: \_\_\_\_\_  
J. Bradley Gwin  
Engineer, Energy Management

Revised by: \_\_\_\_\_  
J. Bradley Gwin  
Engineer, Energy Management

Reviewed and  
Recommended by: \_\_\_\_\_  
Mark A. Goska  
Health Facilities Architect

Approved by: \_\_\_\_\_  
Brooks H. Baker III  
Associate Vice President – Facilities