

5.01.00 - GENERAL SYSTEM DESIGN

DESIGN AND CONSTRUCTION STANDARD

PART 1: GENERAL

1.01 General Requirements

- A. This section of the design and construction standard outlines general requirements for designs to be performed for the University of Texas at Austin. This standard is intended to provide useful information to the Professional Service Provider (PSP) to establish a basis of design. The responsibility of the engineer is to apply the principles of this section and the ones that follow such that the University may achieve a level of quality and consistency in the design and construction of their facilities. Deviations from these guidelines must be justified through LCC analysis and submitted to the University for approval.
- B. Every effort shall be made during design to ensure that the systems meet the following criteria:
 - 1. The systems shall be safe.
 - 3. The systems shall be reliable.
 - 4. The systems shall be maintainable.
 - 5. The systems shall be energy efficient.
 - 6. The systems shall be sustainable.

1.02 General Building Criteria:

A. General

- 1. Layout building structure and space utilization to preserve dedicated straight avenues for large duct runs at locations separate from electric runs and plumbing runs. On buildings which may in the future be used for scientific research, provide organized space for future ductwork in the ceilings and chases.
- 2. New structures shall be designed so that penetrations may be made throughout except at structural components such as beams, or webs at pan joists, etc. This will allow maximum flexibility for future unforeseen uses and requirements for the building.
- 3. Structural components shall in general be of uniform depth throughout a floor, allowing maximum space for routing of ducts, pipes, etc. above ceiling.
- 4. Frame in the building chase with a ring beam above, not below, the floor to minimize bottlenecking the air ducts and to minimize floor-to-floor spacing. Include open steel grating at each floor inside chases.

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5. The contractor will hire a Registered Professional Land Surveyor to replace all campus control brass monuments that are destroyed or altered as a result of the project. Information regarding existing UT-Austin campus control monuments, Texas State Plane Survey Network, may be obtained from Mr. Bobby Cisneros, Utilities Drafting Section, tel. 512-471-3757.
6. Paint bright stripe on the treads of machine-room steps, to benefit workers with limited sight. Add visually-contrasting nosing to steps, particularly steps made of exposed aggregate.
7. Protect stair treads during remodel projects, and repair or replace any damaged.
8. Coat floors of mechanical rooms. Coating selected shall remain pliant to span structural settling cracks and shall produce a seamless membrane resistant to puncture or damage. Floor coating shall extend up perimeter walls and floor penetrations a minimum of 12 inches. Exterior of tunnel walls and floors shall be sealed and drained in accordance with standard subsurface exterior structural building walls. Coating system shall consist of 2 coats with a non-slip abrasive applied between first and second coat.

END OF STANDARD