

Division 14 – Conveying Systems

- 14.1. Refer to **CPSM 6.14 VERTICAL TRANSPORTATION DESIGN STANDARDS** for requirements which must be incorporated into all projects. In the case of a conflict between these Design Standards and the CPSM, the CPSM shall take precedence.
- 14.2. Planning & Design
- a. A planning conference shall be scheduled by the A/E with the ODU Project Manager, building users and Facilities Management to determine project specific elevator requirements. For “service” or “freight” type elevators, the A/E shall verify type of freight and method of moving (i.e. pallet jack) so that the appropriate elevator size and floor load design criteria can be established. Included in that discussion should be the potential for future equipment that may be added to the building and may require special size requirements including door height, (i.e. a mass spectrometer). Based on this discussion, the A/E shall propose the elevator type(s) for approval no later than the Owner Preliminary Design Submittal.
 - b. When renovation of an existing building includes the area near an elevator, during the schematic design phase, the A/E shall prepare a written evaluation of the elevator and what steps and costs are required to bring the elevator up to the current code. The Department of Design and Construction and Facilities Management shall then make a determination as to what level of renovation can be included within the project scope.
 - c. Elevators shall access all floors of a building.
 - d. The University prefers tractionless, gearless elevators. It is the University’s intent to utilize a hole-less hydraulic elevator if necessary with eco-friendly oil. If a hydraulic elevator is used, the jack cylinder shall be installed inside a PVC pipe jacket to limit corrosion and help contain hydraulic oil leakage underground.
 - e. All elevator shafts with glass shall be designed so that the glass can be cleaned safely and inexpensively.
 - f. It is the preference of the Department of Design and Construction to have elevator shafts constructed of CMU block instead of shaft wall. This will provide the rated conditions necessary for BCOM approval.
- 14.3. Signals and Fixtures
- a. All signals, fixtures and fasteners shall be vandal-resistant.
 - b. For buildings with color coded floors such as parking decks, the elevator call buttons shall be colored to match the color of the floor.
- 14.4. Elevator Equipment (Machine) Rooms
- a. Elevator machine rooms shall be located in areas not susceptible to flood water damage.
 - b. Elevator equipment rooms shall not be used for access to roofs or other parts of the building unless elevator equipment is fenced or walled in. Electric fuse disconnect switches or circuit breakers for elevator and cab lights shall be adjacent to the door jamb of the main door to the machine room.
 - c. All machinery and equipment including that associated with machine room less type elevator machinery and controls, shall be accessible by maintenance personnel in a manner similar to the access afforded for maintenance in a typical elevator machine room.
 - d. Elevator machine and/or equipment rooms shall be acoustically treated.
 - e. Non-elevator related equipment such as piping and conduit shall not be located in or run through the elevator machine room.
 - f. Provide a sweep on the machine room door to provide for dust protection
 - g. Ensure the Unit disconnect switch is visible and clearly labeled.
 - h. Label elevator oil minder sump disconnect.
- 14.5. Elevator Pits

- a. Elevator pits for hydraulic elevators shall have sump pits for use of a portable sump pump provided by University Facilities Management personnel. Drainage from the elevator pit shall not be connected to any building drainage or sewer system. Sump pits shall be equipped with a float sensor connected to Facilities Management Systems Control. Underground hydraulic piping for elevators shall be Schedule 80.
- b. A duplex GFCI electrical receptacle is to be installed three feet above the finished pit floor for use by elevator mechanics.

14.6. Security

- a. Elevator phones should be (Talk-A-Thon) and be tied into campus system for automatic monitoring [Point of contact is Assistant Director ITS Converged Technologies, 747-683-3017]. An emergency telephone will be furnished by the Owner for field installation by the contractor.
- b. If an elevator cab has a stop that enters only into a mechanical space, the elevator shall require electronic card swipe access for that level.
- c. In some instances, an elevator in a **Residence Hall** will require an access control card swipe to allow entrance to resident only floors. Coordinate requirement, locations and connection to owner supplied equipment with the Department of Design and Construction and Residence Life.
- d. All keyed electronic switches must be able to accommodate BEST 7 pin cores (i.e. light, fans, stop/start override, etc.).
- e. Any cooling required for elevator equipment rooms shall not be connected to district chilled water/building chillers and must be serviced by an independent DX unit.

14.7. Elevator Cab

- a. University campus elevators tend to be very heavily used, therefore, both public and freight elevators should be designed with durable, vandal resistant, low maintenance finishes. Parts and components should be easy to replace in the event of damage.
- b. Cab finishes shall be specified on the room finish schedule. Floor finish shall be resilient or porcelain tile; carpet is discouraged. Doors and jambs shall be brushed finish stainless steel; painted finishes are prohibited. Wall panels shall be plastic laminate with stainless steel rails on three walls. In Residence Halls, the wall panels shall be stainless steel. The ceiling system and lighting shall be vandal resistant with no exposed lamps within reach inside the cab. An inspection certificate frame shall be mounted in the cab with tamper resistant screws. Provide protective moving blankets and associated hooks as part of the base bid.
- c. Preference in Residence Halls elevator cab floors shall be rubber floor tile with "lo-disc" raised circular design for a non-slip surface.
- d. Elevator Cab shall be assigned a room number on the first floor plan. See **APPENDIX H - ROOM NUMBERING PROCEDURES**.

14.8. Acceptable Manufacturer's

- a. Project specifications shall include 3 manufacturers that can provide elevator systems/hoistways and cars to fit within the specified requirements/shaft size.
- b. Subject to compliance with project specific requirements, the following manufacturers are acceptable to the university:
 - i. Fujitec America, Inc.
 - ii. KONE Inc.
 - iii. Otis Elevator Co.
 - iv. ThyssenKrupp Elevator.

14.9. Shop Drawings

- a. Shop Drawings are to be submitted to the ODU Project Manager, through the A/E after review, who will forward the submission for review by the appropriate parties in Facilities Management.

14.10. Pre-Installation Conference

- a. A pre-installation conference shall be scheduled with the Contractor, Elevator Subcontractor, Fire Protection contractor, HVAC contractor and Electrical contractor (and Fire Alarm subcontractor) to coordinate layout and requirements of all related systems.

14.11. Elevator Turnover & Closeout

- a. Prior to University acceptance of the installation, an inspection must be performed and acceptance tests must be witnessed by an independent elevator inspector to verify conformance of elevators and chair lifts with code requirements. ODU shall employ the services of an independent elevator inspector. Any deficiencies shall be corrected by the contractor at no cost to ODU. Notify the ODU Project Manager at least three weeks in advance of testing in order to schedule the inspector.
- b. The A/E shall specify that the General Contractor and the Elevator Contractor must turn over the elevator for use by the Owner immediately following successful inspection and prior to final payment. The Elevator will not be used during construction for transport of material or workman unless approved by the ODU Project Manager and only if adequate protective measures are taken.
- c. Final payment for the elevator will not be made until maintenance and instruction manuals are submitted and approved by the A/E. Specifically note that "project specific" wiring diagrams are required before release of final payment will be approved. Generic wiring diagrams are unacceptable.
- d. Any manufacturer's proprietary equipment, diagnostic tools and/or software shall be provided to Owner prior to final payment.

14.12. Warranty Service Requirements

- a. Immediately following elevator acceptance by the University, the elevator will be added to the University's existing service contract. Identification of warranty work will be made by the service contractor to Facilities Management who will in turn inform the ODU Project Manager who will inform the contractor. The contractor will be responsible for correcting any defects not due to ordinary wear which may develop within twelve months from the date of Substantial Completion.
- b. 30 days prior to the end of the warranty period, the elevator contractor shall readjust the elevator as required to meet all performance parameters specified. A written report shall be submitted by the elevator contractor to the Director of Facilities Management.

14.13. Wheelchair Lifts

- a. Wheelchair Lift use is discouraged. If a wheelchair lift is deemed as the only solution, the A/E should request a variance for approval by the Department of Design and Construction. Wheelchair lifts shall not require keys for operation.