This section of the CPDG is currently under review and will be revised in the near future to include necessary updates.

GENERAL:

To provide minimum standards for Conveying Systems.

DESIGN GUIDELINES:

1. The design and construction of all conveying systems shall be in complete compliance with the current required Editions of the applicable codes including the ASME A17.1 Safety Code for Elevators and Escalators (hereinafter referred to as the Elevator Code) as per the Missouri Department of Public Safety, Fire Safety, Office of the State Fire Marshal, Division of Fire Safety, Elevator Safety Unit (hereinafter referred to as State of Missouri - Elevator Unit). The conveying system installer shall obtain all necessary permits required for inspection and use of the conveying systems from the State of Missouri – Elevator Unit. All conveying systems shall be inspected by State of Missouri licensed inspectors and certified by the State of Missouri before final acceptance by the University.
2. The conveyance system design shall be such that a minimum of three (3) elevator installers shall be capable of providing a bid to the general contractor for the project. The convey4 (c)4 (onve)-16 (y)20 (4 (c)4)4 (ont)-2 (r)on4 (c)4 (onvns)-1 (t)-2 (a)4 (l)-2 (l)-2 insaltai(o)2 (n)2 (o)2 (f)5 ((s)1 imilta)6 (r)5 (ic)6 (o)2 (n)2 (v)2 (e)48 (y)22 aen

21. Elevator Cab & Finishes
    - Standard Passenger Elevator: The elevator cab shall be a steel shell cab with exterior sound deadening mastic. The car sid239S

23. The following shall apply to the Vertical Platform Lifts.

    - The use of vertical platform lifts is prohibited in new construction. Possible exceptions include access to performing areas in assembly occupancies or to provide access to incidental occupiable spaces and rooms which are not open to the general public and which house no more than five persons.

8. For machine-room-less traction elevators, the machine space in the top of the elevator hoistway shall be equipped with an independent means of ventilation or air conditioning to keep the temperature between 32 degrees and 113 degrees Fahrenheit and a relative humidity below 95% for proper operation of the elevator drive machine. Where standby power is connected to the elevators, the machine space air conditioning shall be connected to the standby power source. HVAC equipment shall not be allowed within the hoistway and shall be supplied through ducts to this area.
9. The Designer shall include a hoist beam located in the top of the elevator hoistway with loading capacity applicable for the elevator installation (normally elevator hoist beam have a live load capacity range of between 5,000 and 10,000 lbs. depending on the elevator size and construction. Verify necessary capacity with elevator designer).
10. Designer shall provide a clear, plumb and substantially flush hoistway with a fire resistance rating as determined by the building code. Necessary elevator hoistway dimensions should be held with variations not to exceed 1 inch at any point. The hoistway shall be substantially flush with no ledges greater than 4 inches. Separator beams should be h no .h hoi[(be)4 (t)-2 (h)-o ([(bh00 a)4)4 ( )-10 (a)4 (s)-1 10 (e)-6 (s)uN

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28. A GFCI type duplex receptacle shall be provided in each elevator pit.
29. The elevator cabs will be provided with an ADA compliant speakerphone mounted in the car control station inside the elevator car by the elevator installer. The elevator installer will bring shielded wiring from the phone in the elevator car to the elevator control room. The designer or University is responsible for connections of the phone into the building system. Make final determination with FM.
30. When the building is high rise, the elevator cars must be provided with a fireman's phone jack and voice/alarm speaker to meet high rise requirements. The elevator installer shall provide shielded wiring from the phone jack and voice/alarm speaker in each elevator car to the elevator machine / control room. The designer shall include requirements for connections of the phone jacks and voice/alarm speakers into the building system.
31. The designer shall include providing a class ABC type fire extinguisher, of proper size for the equipment, permanently mounted in each elevator machine/control room.
32. The designer shall include a proper smoke sensor system installed for each elevator group in the respective elevator control/machine room, lobbies (and when applicable elevator hoistways) to work in conjunction with the elevator control system's fireman's phase I recall operation. When sprinklers are located in the elevator hoistway or pit a smoke sensor must also be located in the top of the elevator hoistway and also made to work in conjunction with the fireman's phase I recall. The smoke sensor system shall be provided with primary and alternate floor designations in addition to a separate signal to indicate that the smoke sensor in the elevator control room or hoistway has been activated for proper operation in conjunction with fireman's recall. Different elevator control systems require different signals and a note should be placed on the drawing assuring coordination of required components between elevator installer and electrical subcontractors.
33. **Note: Plumbing and electrical work from other sections of our CPDG's related to elevator sump pump piping and groundwater collection sump system refers to this page to provide a comprehensive description of the requirements for elevators.** Provide a sump hole and pump in all elevator pits. Design shall include a steel grating cover that is flush with the pit floor level. When pits are shared, one (1) sump hole and pump may be provided. The best location for the sump hole is one of the rear corners of the hoistway away from the counterweight and any other elevator components. Coordinate final location with elevator designer. The pit floors shall be designed with a slight slope so all water drains to the sump hole. Power for the sump shall be hard wired directly to a non-GFCI circuit on an electrical panel, or provide a single, non-GFCI electrical outlet dedicated to the sump pump within the vicinity of the sump hole. Sump pumps for hydraulic elevators shall utilize a pump that stops when sensing oil and provides an alarm to the building system. The minimum capacity *of the sump pump shall be 3000 gal/hr.* The discharge piping within the elevator pit shall be hard pipe (not PVC). This discharge piping shall be separately and directly connected to the site storm water system. Note that the MU campus requires the pump discharge to be routed to a floor drain connected to the sanitary waste system in the nearest mechanical room. The controls for the sump pump shall not be located in the pit and are discouraged from being located in the elevator machine room. The controls may be located in the elevator machine room when it is determined there is no other practical space available and it is approved by

the PM.

34. Elevator Pit waterproofing and groundwater drainage system:
    - All buildings: Install waterproofing on sides and bottom of elevator pits. Waterstop all concrete joints.
    - For buildings without an under slab drainage system: Install the bottom of the groundwater collection sump pit at least 2 feet below the bottom of the elevator sump pit.
    - For buildings with an under slab drainage system: Install the under slab drainage sump collection at an elevation below the elevator pit sump. In other words, all elevators require a second sump lower than the elevator sump pump. All under slab ground water drainage and elevator pit drainage shall be piped separately. The pump discharge lines shall be tied to the site storm drainage system and is not permitted to be tied to the storm drain system within the building. Size control and pump system to be determined based on ground conditions.
    - Gravity feed drainage is preferred where feasible.