**Division 14 CONVEYING EQUIPMENT**

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Division 14 Conveying Equipment

This design standard is directed to the Design Professional to be incorporated into the Project specifications.

The Owner encourages improved concept, method and products by the Design Professional; however Project compatibility with existing campus systems, processes and procedures is most desirable.

14 1000 GENERAL

A. RELATED SECTIONS
   1. Division 09 – FINISHES
   2. Division 26 – ELECTRICAL

14 2000 ELEVATORS GENERAL

A. ELEVATOR TYPE PREFERENCES
   1. 1 STORY WITH BASEMENT, UP TO 2 STORY – HYDRAULIC
   2. 3 STORIES OR HIGHER – MRL OR TRACTION

B. CAR ENCLOSURE AND ENTRANCE
   1. Finish Materials: Specify durable, low maintenance finish materials inside elevator cab. Refer to Division 9 - FINISHES.
      a. Floor Finish: SDSU prefers either a rubber floor or a carpet tile depending on type and use of the elevator. For some service elevators, a painted plywood or metal floor may be appropriate. Discuss on a case by case basis.
      b. Door Finish: Frame and Doors shall be painted steel. Stainless Steel shall not be used. Do not install signage on exterior of elevator door without prior approval.
   2. Specify tamper proof hardware on rails and any other items fastened inside elevator car
   3. Specify a minimum of 3’-6” opening. A larger opening may be necessary depending on the intended use of the elevator.
   4. At least one elevator in a building shall be sized to accommodate a stretcher.
   5. Minimum vertical clearance: 8’-0”. Discuss with Facilities Services.
   6. Specify the elevator contractor shall supply protection blankets for the inside of the car.
   7. Car Lighting
      a. Specify tamper proof LED fixtures.
      b. Refer to Division 26 -ELECTRICAL for additional requirements

C. EMERGENCY PHONE & SECURITY CAMERA:
   1. Provide built-in speaker phone capable of 2-way voice communication without use of a handset. Provide appropriate safety and operational labeling.
   2. Emergency phone shall be capable of functioning in the event of power loss – central SDSU phone system is on backup power
   3. On activation, the system shall dial a pre-programmed number directly to the SDSU Police Department. Coordinate with Facilities and Services Project Manager. Verify functional prior to final acceptance of elevator.
   4. Phone shall be independent elevator manufacture’s controls – no monitoring service
   5. System shall deactivate when receiving end disconnects.
      a. Special disconnecting procedures are not acceptable.
   6. If a direct connection to mfg. for service is necessary during warranty – disconnect at end of warranty?
   7. Camera type of style to be coordinated with SDSU F&S and IT
      a. Provide network cable for camera connection

D. ACCESS TO SECURE AREAS:
   1. Locate elevators to conveniently service penthouse and basement mechanical rooms where applicable.
2. If secure access is required (i.e. direct opening to mechanical rooms, loading docks, etc.) provide card access accommodations and/or key system meeting University keying standard. The keying shall only apply to the secure floors.
   a. Refer to Division 8 - OPENINGS.
3. Lock shall be similar to Storeroom function.
4. Discuss need for Card Access Provisions on a case by case basis - ensure elevator control wiring can accommodate reader in the car – this should be the new “normal”

E. ELEVATOR SHAFT
1. ENSURE ELEVATOR SHAFT IS DESIGNED TO ACCOMDATE MULTIPLE MANUFACTURERS ASSEMBLY SIZE.

F. ELEVATOR PIT
2. Elevator pits shall be designed to prevent infiltration of ground water. Refer to Division 7.
3. A dedicated sump pump and monitoring system shall be installed in all elevator pits.
   a. Sump pump shall direct discharge to storm sewer. If hydraulic specify biodegradable oil. No floor drains
   b. Provide high level alarm interfaced to building automation system.
   c. Provide oil minder system with local audible and visual alarm. Tie to building automation system.
   d. Refer to Division 22
4. Provide a pit light with wall switch
5. Provide a pit ladder.
6. Provide elevator motor disconnect within the pit.
7. Be sure elevator pit is cleaned upon completion of construction and prior to turn over

G. ACCEPTANCE, MAINTENANCE AND WARRANTY
1. Specify a 12 month warranty starting on the date of project substantial completion.
2. Extended service contracts are not required with new installations
3. Contractor may use elevator during construction at their risk. Elevators shall be in “New” condition at time of substantial completion. Contractor’s use of elevator for construction purposes shall not change the warranty period.
   a. Hydraulic - Specify the contractor shall install a new shaft seal following substantial completion.
4. Training:
   a. Specify owner training to cover general service and operation.
   b. Specify owner training to cover emergency response requirements. Provide demonstration
5. Service during the warranty period:
   a. Response time shall not exceed 24 hours for loss of service (Dawn will provide service contract language)

H. ELEVATOR SPEED
1. Discuss with facilities and Services.
   A. Speed requirement are on application and service type.

I. SERVICE TYPES
1. Elevators are typically designed for both passenger and service functions.
2. Elevator load rating regardless of type of service shall be a minimum of 3500lb unless discussed and approved by Facilities and Services. If necessary to provide heavy service equipment (i.e. scissor lift) to upper level or lower level floors, elevator shall accommodate.
3. Limited Utility Limited Access (LULA) style elevators and chair lifts shall be pre-approved by Facilities and Services.

J. ELEVATOR CONTROLS
1. Specify non-proprietary controller similar to MCE HMC-1000 as basis of specification – verify this controller is still applicable
2. Controller shall not allow car to move if within certain range of weight limit?

K. MACHINE ROOM
1. Elevator equipment rooms must be dedicated for elevator equipment only.
2. Utilities unrelated to the elevator equipment shall not be run through the equipment room.

14 2400 HYDRAULIC ELEVATORS

A. GENERAL
1. Elevator shafts shall be designed to meet the installation requirements for at least three different manufactures of elevators.
2. Hydraulic elevators include single-acting, under-the-car, hydraulic plunger cylinder units with electric pump.
3. Pump
   a. Specify PCB free, biodegradable oil.
4. Jack-Shaft
   a. Provide Sleeve and casing
   b. Ensure hydraulic oil cannot contaminate soil or groundwater in event of a leak. Provide seal over jack-shaft sleeve.
   c. Specify a new jack-shaft seal is installed at the completion of all construction – no exceptions.
5. Acceptable Manufacturers
   a. Kone
   b. Thyssen Krup
   c. Otis
   d. Other mfg. with pre-approval of Facilities and Services

14 2500 OTHER ELEVATORS

A. GENERAL
1. The following other types of elevators will be considered by the SDSU Facilities and Services dept.
   a. Traction
   b. Machine-Room-Less (MRL)
   c. NO HOLE-LESS HYDRAULIC ALLOWED

END OF DIVISION 014 CONVEYING EQUIPMENT