WHEELCHAIR LIFTS

General

In general, follow the guidelines below when designing Wheelchair Lift installations. Unless specifically indicated otherwise, these guidelines are not intended to restrict or replace professional judgment. These guidelines are applicable to permanent wheelchair lift installations.

Initial Determination of Suitability

In existing structures, wheelchair lifts should be provided as a means of achieving an accessible route only after all other options have been thoroughly considered and rejected. Wheelchair lift installations are difficult to successfully design and construct, and once built are prone to failure and subject to abuse by unauthorized users. The University does not permit the use of wheelchair lifts to meet accessibility requirements in new structures.

Code-Recognized Applications: Michigan Barrier Free Rules limit the use of wheelchair lifts to the following applications:

- To provide an accessible route to a performing area in an assembly occupancy.
- To comply with wheelchair viewing position line-of-sight and dispersion requirements.
- To provide access to incidental areas, not open to the general public, that are occupied by not more than 5 persons.

Exceptions to these recognized applications may be sought when existing structures make other alternatives impracticable. Inform the University Project Coordinator when an exception will be required.

Applicability To Site: Wheelchair lifts are limited by Michigan Elevator and Barrier Free laws and rules to the following:

- Total Rise: Not more than 72-inches (12 feet has been proposed by the Elevator Board).
- Number of Stops: Not more than 2.
- Through-Floor Penetrations: Not permitted.

Vertical Wheelchair Lifts

Lift Type: Generally, the University prefers vertical lifts over incline lifts.

Aesthetics: While full architectural hoistways for lifts are not required, give attention to appropriate placement of the unit and consider including screen walls or other architectural effects.

Approach: The approach path to the lift must be accessible, including the areas in front of both doors. Lifting device under-structures cause the platforms to be elevated about 3-inches above the finish floor level. Wherever practicable, depress the slab beneath the units to permit them to be accessed without a ramp at the lower landing. Where a depressed slab cannot be provided and a ramp is needed, the ramp must meet all relevant Michigan Barrier Free Rules and ADA/UFAS requirements, including those for landings at doors.

Hoistway, General: Hoistways may be either site-built architectural hoistways or manufacturer's standard hoistways that meet Michigan Barrier Free and Elevator Rules. Hoistways are required to be solid, with the lift-side smooth. If the hoistway is full height to the ceiling, a light must provided in the hoistway, along with a sprinkler head in buildings with automatic fire suppression. Lights and sprinkler heads must comply with University standards for these devices, including provision of sprinkler head shut-off valve. Lights must be fed from a night-light circuit. Additional requirements include:

- Minimum Hoistway Height (Upper Landing): 42 inches above the upper landing.
- Minimum Hoistway Height (Bottom Landing): Total rise plus 42 inches.
- Shaft Clearance At Platform Sides: 2 inches minimum.
  3 inches maximum.
- Shaft Clearance At Platform Ends: 3/8-inch min. running clearance.
  3/4-inch max. running clearance.
  3-inches max. at door.

Site-Built Architectural Hoistways: Drawbacks of site-built architectural hoistways include the coordination and code compliance problems associated with custom construction. Site-built hoistways include full or partial height doors on openings into the shaft. Highlights of code requirements and related University requirements for shaft door openings include:

- Doors must be swinging type and of solid construction. Lights in doors are permitted and the University encourages their inclusion.
- Doors must be self-closing, which may be accomplished by spring-hinges on partial height doors. On full height doors, the University encourages the inclusion of power-assisted operators. Where standard closers are included on full height doors, specify delayed-action type units.
- Door width should not be wider than the platform plus sidewalls. 36 inches is acceptable.
- The University requires push/pull type hardware.
- No hazardous protrusions are permitted. Special attention may be necessary regarding the interlock device.

Manufactured Hoistways: Manufactured hoistways have the benefit of single-source responsibility for operation and code compliance. The requirements for door openings of manufactured units are the same as those for site-built hoistways, but since manufactured units are supplied with their own

doors, the level of specification detail required is lower. Usually, inclusion of requirements to comply with the Michigan Elevator Rules is sufficient. The following is a list of University-required options for manufactured units:

- Doors must be self-closing, swinging type. The University requires doors to operate quietly. Specify some combination of sound-deadened door construction, door silencers, and hydraulic closers (as opposed to spring hinges), as necessary. Power-assisted operators are not required on light-weight doors. Lights in doors are permitted and the University encourages their inclusion.

- The University requires push/pull type hardware.

- If provided, hoistways around the tower (lifting mechanism) must be designed for easy removal for access to machinery.

Lifting Devices: The lifting device consists of a platform with guards, a lifting mechanism on one side of the platform, and various electrical devices. Platform size, gate and guardrail configuration and height, control locations and type, safety devices, and other features are regulated by the Michigan Elevator Rules. Some of the lifting devices shown in manufacturer's literature do NOT comply with the Michigan Elevator Rules, even though they may comply with ANSI requirements. The following highlights of the Michigan Elevator Rules and University requirements are intended to assist the design effort, but are not a substitute for an understanding of the Rules:

- The University accepts only roped hydraulic lift mechanisms. Screw drive type units are not acceptable.

- A safety device is required at both platform ends. The only code-approved safety device approved by the University is the electric-eye type.

- The University requires that platform guards on both sides of the platform be equipped with handrails.

- The University requires paddle-type switch controls (as opposed to push buttons) for easier use.

- The Elevator Rules require a fused safety disconnect. Locate the disconnect near the lift mechanism, but not in the shaft itself, and not in a location not accessible to the public. Locate the device as unobtrusively as possible.

- The University requires that lift platforms include a side-panel-mounted, spring-loaded seat that, in retracted position, does not impinge on the required clear width of the platform.

- The University requires that lifting device structures be securely fastened to the floor, in accordance with manufacturer's recommendations.

- The University requires a load capacity of 750 pounds.

- The University requires that the minimum platform size should be 13 square feet.

Reference Codes: The following codes and rules affect wheelchair lift installations:

- Americans with Disabilities Act, Uniform Federal Accessibility Standards (ADA/UFAS).
- Michigan Department of Labor Building Code Rules, Chapter 11 - Accessibility.
- Michigan Department of Labor Elevator Rules.

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