

14 42 16 – Vertical Wheelchair Lifts

1. General

- A. Lifts must comply with the requirements of the Elevator Safety Act of North Carolina, ASME A17.1 - 2013 Safety Code for Elevators and Escalators, the current N.C. State Building Code and the American with Disabilities Act (ADA). See the National Electrical Code, Article 620-51 for information on the proper power and fused disconnect switch.
- B. The Consultant should submit complete product information to the Project Manager for approval prior to ordering the lift and constructing the surrounding areas. The information should cover major components, lift dimensions, control diagrams, surrounding construction configurations and electrical connections.
- C. The Consultant shall submit to the Owner a certificate indicating that the lift complies with the Elevator Safety Act of North Carolina. This includes all associated items provided by the manufacturer.
- D. Vertical wheelchair lifts shall be manufactured by vendors approved by the Owner.
- E. Lift finishes shall be selected by the Consultant from the manufacturer's standard colors.
- F. Lifts shall have a minimum 450-pound capacity and accommodate a lifting height as called for in the project plans.
- G. Lifts shall be powered by an electric motor.
- H. Self-closing gates and associated items at top and bottom levels, along with all electromagnetic and mechanical hardware, shall comply with the Elevator Safety Act of North Carolina and the ASME A17.1 - 2013 Safety Code for Elevators and Escalators.
- I. Lifts shall carry a warranty of one year for labor and parts. Damages not related to defective parts shall not be the responsibility of the Contractor.
- J. Full service maintenance by trained employees shall be provided for a period of one year to run concurrently with the warranty.
- K. The lift's rated speed shall not exceed 40 feet per minute.
- L. The following guidelines for platforms and ramps shall be observed:
 - 1. Platforms shall be at least 36 inches wide and have an inside area of not more than 12 square feet.
 - 2. Platform surfaces shall be constructed of material that is relatively smooth and skid-proof.
 - 3. Ramps shall be provided as required for access to platforms.

4. Ramps shall be designed and constructed as required by the Elevator Safety Act of North Carolina and the ASME A17.1 - 2013 Safety Code for Elevators and Escalators.
 5. Platforms shall be designed and constructed to prevent wheelchairs from leaving the platforms prematurely.
- M. The following guidelines for supports shall be observed:
1. Assembled units shall be supported and maintained in place to prevent any part from becoming loose or displaced.
 2. Adequate support shall be provided to maintain platforms in a level position at all times.
 3. Framework shall be securely anchored to a foundation.
 4. Frames and platforms shall be constructed of metal capable of withstanding stresses five times greater than the rated load of the lifts. This safety factor shall be certified by a registered professional engineer who shall affix his or her signature and seal to the certification.
- N. The following guidelines for guarding shall be observed:
1. The area around the top and bottom landings of a lift will be protected by a barrier at least 42 inches high and should be equipped with an entrance door or gate.
 2. Entrance doors or gates will be self-closing, self-locking and will be equipped with an electric contact that will stop the device if the gate is opened.
 3. The underside of the platform will be equipped with safety obstruction sensor(s) that will automatically shut off the equipment should an obstruction interfere with its downward travel. Entrance doors or gates shall be at least 42 inches in height. The maximum pressure required to open the doors or gates should not exceed 8 pounds.
- O. The following controls and electrical equipment shall be provided:
1. An upper and lower stopping switch to stop a device at the terminal landings.
 2. Control switches shall be of a constant-pressure type, arranged to return to the off position when released.
 3. The lift subcontractor shall obtain a permit to install the unit from the N.C. Department of Labor, Elevator Division and shall pay all inspection fees. The Contractor shall coordinate all aspects of the lift installation and any special needs related to the manufacturer's requirements, submit two copies of maintenance manuals and parts lists too the Owner and provide the Owner with at least six keys that operate the controls of the lift, if required for operation.

- P. Wheelchair lifts require ongoing maintenance and inspection. Due to operational considerations, the specification of wheelchair lifts is subject to Owner approval. Lifts will only be approved in cases where there is no viable alternative. Duke University generally prefers to provide wheelchair accessibility through good architectural design, by minimizing unnecessary floor elevation/grade changes and by using well-designed ramps and conventional elevators to negotiate any required changes in elevation. In the spirit of the ADA, this approach provides a more inclusive and barrier-free environment for all users. Consultants should seek design solutions that minimize or eliminate the need for wheelchair lifts.