B. There shall be a padded crash barrier approximately 8 inches in front of the forward edge of the seat cushion of all passenger seats that do not have another seat approximately 27 inches in front of them. There shall be a padded crash barrier or seat in front of any wheelchair position unless it is contiguous with and behind another wheelchair position. The forward-most barrier on both sides of the bus shall have a fullwidth, aluminized courtesy panel extending to the floor.

EVACUATION BLANKET (OPTIONAL)

A minimum of two fire-retardant, evacuation blankets, Tie Tech Evacuation Transporter Part # 1013, or equal, and a minimum of two storage pouches may be provided on buses equipped with a lift. The location to secure the evacuation blanket shall be easily accessible and determined by the purchaser at the time of the bid.

FIRE SUPPRESSION SYSTEM (OPTIONAL)

A. A fire suppression system is recommended for installation in the engine compartment.

B. The chassis manufacturer may provide an automatic fire extinguisher system in the engine compartment.

C. Fire suppression system nozzles shall be located in the engine compartment, under the bus, in the electrical panel or under the dash, but they shall not be located in the passenger compartment. The system must include a lamp or buzzer to alert the driver that the system has been activated.

GLAZING

Tinted glazing shall be installed in all doors, windows and windshields consistent with federal, state and local regulations.

IDENTIFICATION

Specially equipped school buses shall display the International Symbol of Accessibility below the window line. Such emblems shall be white on blue or black background, shall not exceed 12 inches square in size and shall be of a high-intensity retroreflective material meeting the requirements of Federal Highway Administration (FHWA) FP-85, *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects*.

PASSENGER CAPACITY RATING

In determining the passenger capacity of a school bus for purposes other than actual passenger load (e.g., vehicle classification or various billing/reimbursement models), any location in a school bus intended for securement of a wheelchair during vehicle operation shall be regarded as four designated seating positions, and each lift area shall count as

four designated seating positions.

POWER LIFTS

A. The power lift shall be located on the right side of the bus body.

Exception: The lift may be located on the left side of the bus if, and only if, the bus is only used to deliver students to the left side of one-way streets.

B. Vehicle lift and installation

1. General: Vehicle lifts and installations shall comply with the requirements set forth in FMVSS 403, *Platform Lift Systems for Motor Vehicles, and* FMVSS 404, *Platform Lift Installations in Motor Vehicles.*

2. Design loads: The design load of the lift shall be at least 800 pounds. Working parts, such as cables, pulleys and shafts, which can be expected to wear, and upon which the lift depends for support of the load, shall have a safety factor of at least six, based on the ultimate strength of the material. Non-working parts, such as platform, frame and attachment hardware would not be expected to wear, shall have a safety factor of at least three, based on the ultimate strength of the material.

3. Lift capacity: The lifting mechanism and platform shall be capable of operating effectively with a wheelchair and occupant mass of at least 800 pounds.

4. Controls: (See 49 CFR 571. 403, S6.7, *Control systems.*)

5. Emergency operations: (See 49 CFR 571.403, S6.9, *Backup operation.*)

6. Power or equipment failures: (See 49 CFR 571.403, S6.2.2, *Maximum platform velocity.*)

7. Platform barriers: (See 49 CFR 571. 403, S6.4.7, *Wheelchair retention.)*

8. Platform surface: (See 49 CFR 571.403, S6.4.2, S6.4.3, *Platform requirements.)* (See, also "Wheelchair or Mobility Aid Envelope" figure at the end of this subsection.)

9. Platform gaps and entrance ramps: (See 49 CFR 571.403, S6.4.4, *Gaps, transitions and openings.)*

10. Platform deflection: (See 49 CFR 571. 403, S6.4.5, *Platform deflection.)*

11. Platform movement: (See 49 CFR 571. 403, S6.2.3, *Maximum platform acceleration.)*

12. Boarding direction: The lift shall permit both inboard and outboard facing of wheelchair and mobility aid users.

13. Handrails: (See 49 CFR 571.403, S6.4.9, *Handrails*.)

14. Circuit breaker: A resettable circuit breaker shall be installed between the power source and the lift motor if electrical power is used. It shall be located as close to the power source as possible, but not within the passenger/driver compartment.

15. Excessive pressure: (See 49 CFR 571. 403, S6.8, *Jacking prevention*.)

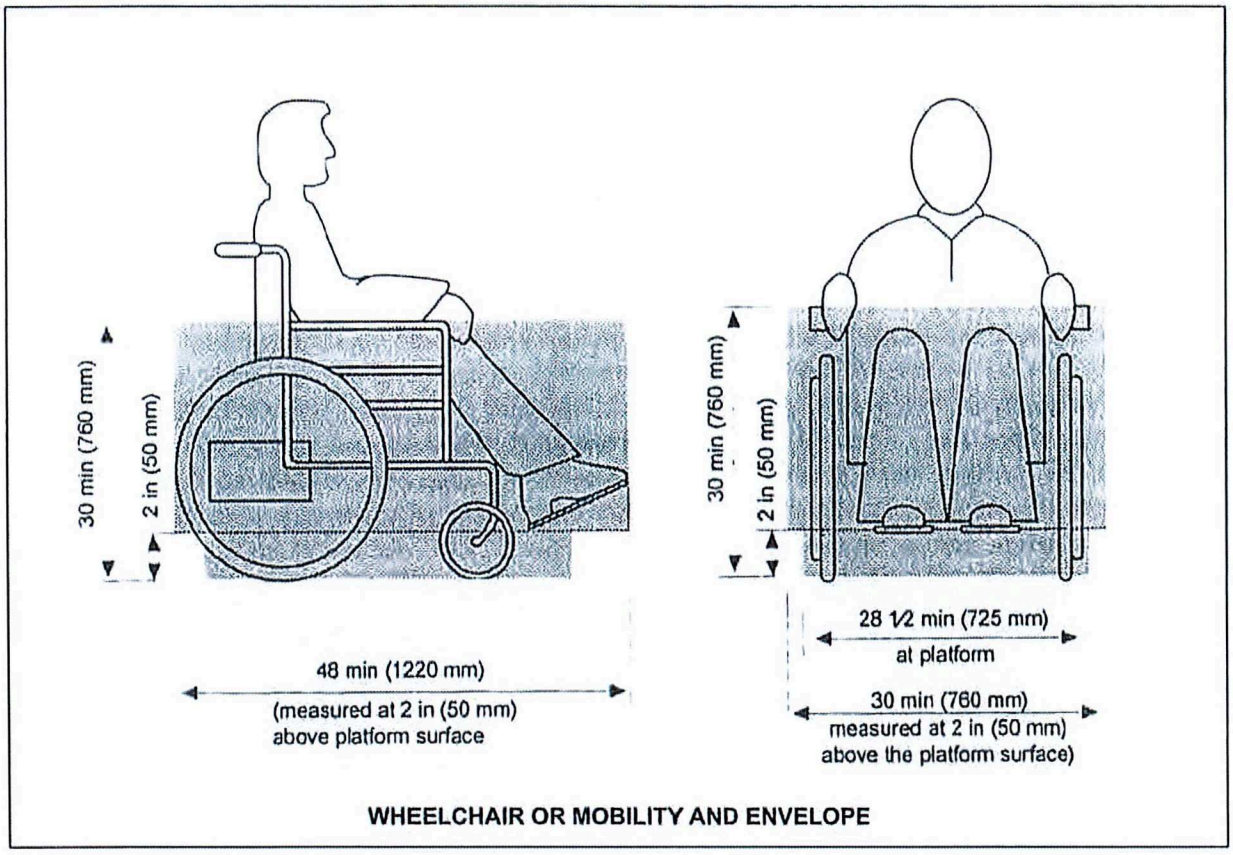
16. Documentation: The following information shall be provided with each vehicle equipped with a lift.

    a. A phone number where information can be obtained about installation, repair and parts. (Detailed written instructions and a parts list shall be available upon request.)

    b. Detailed instructions regarding use of the lift shall be readily visible when the lift door is open, including a diagram showing the proper placement and positioning of wheelchair/mobility aids on the lift.

17. Training materials: The lift manufacturer shall make training materials available to ensure the proper use and maintenance of the lift. These may include instructional videos, classroom curriculum, system test results or other related materials

18. Identification and certification: Each lift shall be permanently and legibly marked or shall incorporate a non-removable label or tag that states it conforms to all applicable requirements of the current National School Transportation Specifications and Procedures. In addition, and upon request of the original titled purchaser, the lift manufacturer or an authorized representative shall provide a notarized Certificate of Conformance, either original or photocopied, which states that the lift system meets all the applicable requirements of the current National School Transportation Specifications and Procedures.



WHEELCHAIR OR MOBILITY AND ENVELOPE

REGULAR SERVICE ENTRANCE

A. On power lift-equipped vehicles, steps shall be the full width of the step well, excluding the thickness of the doors in the open position.

B. In addition to the handrail required in the BUS BODY AND CHASSIS section, an additional handrail may be provided on all specially equipped school buses. This handrail shall be located on the opposite side of the entrance door from the handrail required in the BUS BODY AND CHASSIS section and shall meet the same requirements for handrails.

RESTRAINING DEVICES

A. On power lift-equipped school buses with a GVWR of 10,000 pounds or more, seat frames may be equipped with attachment points to which belt assemblies can be attached for use with child safety restraint systems (CSRSs) that comply with FMVSS No. 213, *Child Restraint Systems.* Any belt assembly anchorage shall comply with FMVSS No. 210, *Seat Belt Assembly Anchorages.*

B. Alternatively, a child restraint anchorage system that complies with FMVSS No. 225, *Child Restraint Anchorage Systems,* may be installed.

C. Seat belt assemblies, if installed, shall conform to FMVSS No. 209, *Seat Belt Assemblies.*

D. Child safety restraint systems, which are used to facilitate the transportation of children who in other modes of transportation would be required to use a child, infant or booster seat, shall conform to FMVSS No. 213.

SEATING ARRANGEMENTS

Flexibility in seat spacing to accommodate special devices shall be permitted to meet passenger requirements. All seating shall meet the requirements of FMVSS No. 222, *School Bus Passenger Seating and Crash Protection.*

SECUREMENT AND RESTRAINT SYSTEM FOR WHEELCHAIRS AND WHEELCHAIR- SEATED OCCUPANTS

For purposes of understanding the various aspects and components of this section, the term *securement and tiedown* and the phrases *securement system* or *tiedown system* are used exclusively in reference to the devices that anchor the wheelchair to the vehicle. The term *restraint* and the phrase *restraint system* are used exclusively in reference to the equipment that is intended to limit the movement of the wheelchair occupant in a crash or sudden maneuver. The term *wheelchair tiedown and occupant restraint system (WTORS)* is used to refer to the total system that secures the wheelchair and restrains the wheelchair occupant.

A. WTORS-general requirements:

1. The wheelchair tiedown and occupant restraint system installed in specially equipped school buses shall be designed, installed, and operated for use with forward-facing wheelchair-seated passengers and shall comply with all applicable requirements of FMVSS 222, *School Bus Passenger Seating and Crash Protection,* and SAE J2249, *Wheelchair Tiedown and Occupant Restraint Systems for Use in Motor Vehicles.* [1]

2. The WTORS, including the anchorage track, floor plates, pockets or other anchorages, shall be provided by the same manufacturer or shall be certified to be compatible by manufactures of all equipment/systems used.

3. Wheelchair securement positions shall be located such that wheelchairs and their occupants do not block access to the lift door.

4. A device for storage of the WTORS shall be provided. When the system is not in use, the storage device shall allow for clean storage of the system, shall keep the system securely contained within the passenger compartment, shall provide reasonable protection from vandalism and shall enable the system to