Section 400.330 Exemptions

a) The following buildings or parts of buildings are exempted from applicability of the minimum requirements for new construction:

1) Types of Housing

A) Privately owned single and two-family residences and any sheds, storage buildings, or garages incidental thereto.

B) Privately owned apartment buildings which are not herein classified as multi-story housing units.

C) Individual dwelling units in privately owned multi-story housing units, except as required to be adaptable or accessible as defined herein.

D) Housing, owned or financed by a governmental unit, consisting of fewer than five dwelling units located on an individual site, and any sheds, storage buildings, or garages incidental thereto.

2) Elevators

Exemptions. The following areas do not have to be served by accessible passenger elevators:

A) The basement or second floor or mezzanine space of privately owned public facilities, subject to all of the following:

i) The basement functional space, second story space, or mezzanine space are each limited to 1000 net square feet or less. See definition of "functional space" (Section 400.320(b)(52)) of this Part.

ii) The exempt area must consist of the following type of space:

a. the second story of a two-story building without a basement; or

b. the mezzanine of a one-story building without a basement; or
c. the second story of a two-story building with a basement with less than 50% functional space; or

d. the mezzanine of a one-story building with a basement with less than 50% functional space; or

e. a basement with 50% or more functional space in a one-story building.

iii) For mezzanines, see also Section 400.320(l)(4) of this Part.

iv) The exemption does not apply to areas of visitor usage or common employee usage such as locker areas, toilet facilities or lunchrooms, if these facilities are the only ones in the building.

v) The exemption also does not apply to a shopping center, shopping mall, or the professional office of a health care provider. (ADAAG 4.1.3(5))

B) Temporary raised platforms; seating tiers; theater rows; stadium rows; and auditorium rows utilizing fixed seating, provided that they comply with Section 400.320(a)(1) of this Part, and further provided that the same functions and services are available on an accessible level of the space. Elevators do not have to be provided to all levels of a multi-level platform.

C) Areas served by ramps that conform to Section 400.310(e) of this Part.

D) Areas permitted to be served by platform lifts pursuant to and in conformance with Section 400.310(h) of this Part.

The elevator exemption in this subsection (a)(2) does not obviate or limit in any way the obligation to comply with the other accessibility requirements established in this Section.

3) Employee Work Areas
Areas that are used only by employees as work areas shall be designed and constructed so that individuals with disabilities can approach, enter, and exit the areas. Areas used only as work areas are not required to be constructed to permit maneuvering within the work area or to be constructed or equipped (i.e., with racks or shelves) to be accessible. (ADAAG 4.1.1(3))

4) Temporary Structures

Temporary buildings, structures, sites and equipment directly associated with the actual process of major construction, such as scaffolding, bridging, rigging, materials hoists or construction trailers are exempt. Temporary safe pedestrian passageways around a construction site are not exempt. (ADAAG 4.1.1(4))

b) General Exceptions

Accessibility is not required for:
1) observation galleries used primarily for security purposes; or

2) non-occupiable spaces accessed only by ladders, catwalks, crawl spaces, very narrow passageways, or freight (non-passenger) elevators, and frequented only by service personnel for repair purposes; such spaces include, but are not limited to, elevator pits, elevator penthouses, piping, or equipment catwalks. (ADAAG 4.1.1(5)(b))

c) Structurally Impracticable

Full compliance with the requirements for new construction is not required in those rare circumstances when the unique characteristics of terrain prevent the incorporation of all required accessibility features. If full compliance is structurally impracticable, compliance shall be provided insofar as possible. Compliance with all other accessibility requirements, in any other portion of the building or facility to the extent that it is not structurally impracticable, is required. (Adapted from: ADAAG 4.1.1(5)(a))
SUBPART D: MULTI-STORY HOUSING, NEW CONSTRUCTION

Section 400.350 Multi-Story Housing, New Construction

NOTE: New construction of multi-unit housing may also be subject to federal law, which has different accessibility requirements. See Fair Housing Amendments Act, 42 U.S.C. §3601 et seq.

a) All common use and public use spaces on all floors (levels) shall be accessible utilizing subsections of Section 400.310 as required to ensure accessibility. Entrance doors to all individual dwelling units shall comply with Section 400.310(j).

b) All site improvements shall be accessible, including an accessible route from the public sidewalk, public transportation facilities and/or parking, if provided, to and through an accessible entrance.

c) A permanent audible and visual emergency warning system complying with Section 400.310(s) shall be provided in all public use and common use areas. Permanent or portable audible and visual emergency warning systems shall be installed in all adaptable units on an as-needed basis at the request of an environmentally limited occupant. If a permanent system is provided, the visual emergency warning system shall be arranged so the flashing light beam is visible in all rooms of the dwelling unit.

d) The owner shall provide 20%, or at least one, whichever is greater, of the dwelling units as adaptable. Either the accessible or adaptable dwelling units shall be distributed throughout the building to provide a variety of sizes and locations.

e) Adaptable Dwelling Units

1) Adaptable dwelling units shall be designed and constructed so they may, upon application by initial occupant, be converted to accessible units, with a minimum of structural changes, to meet the needs of different types of environmentally limited persons and to comply with Section 400.360. Costs of conversion for the initial environmentally limited person shall be borne by the owner; subsequent conversion costs shall be paid by the occupant.
2) An accessible route complying with Section 400.310(a) shall be provided into and within all adaptable dwelling units to all rooms and spaces and shall provide maneuvering space at doors as required by Section 400.310(j)(5).

3) An accessible route conforming with Section 400.310(a) shall be provided into and within all private patios, terraces, balconies, carports and garages designated for use by adaptable dwelling units.

4) Bathrooms in adaptable dwelling units shall comply with the space requirements of Section 400.360(c). Bathrooms shall be designed to allow, when converted to accessible units, for the installation of grab bars, water closets, toilet paper dispensers, mirrors, medicine cabinets, under-lavatory cabinets, in-tub or head-end bathtub seats, faucets, controls, pipe insulation, shower seats, and shower spray units without structural changes to the walls, floors or ceilings.

5) Kitchen appliances and laundry facilities, if provided in adaptable dwelling units shall comply with Section 400.360(d) and (e).

6) Personal storage included in the initial construction of adaptable dwelling units shall comply with Section 400.310(p).

7) Dwelling units consisting of two stories are exempt from requirements for adaptability, as defined herein, if the required proportion of adaptable units, as stipulated in the Environmental Barriers Act, is met by other types of units distributed throughout the building; or, if accessibility to the second floor can be provided by the owner by the installation of a residential elevator or stairway chairlift complying with ASME A17.1-1996 when appropriate and approved by administrative authorities.
Section 400.360 Requirements for Adaptable Dwelling Units

NOTE: The illustrations and text of ANSI A-117.1-1986 are reproduced with permission from the American National Standards Institute.

a) General

Adaptable dwelling units shall comply with the requirements of this Section.

b) Adaptability

Subsections (c) and (d) specify a range of heights and clearances within which certain fixtures may be installed (for example, grab bars at bathtubs and toilets, and work surfaces and sink heights in kitchens). In the case of grab bars, provision can be made for later installation within the specified height range, as requested by the occupant of the dwelling unit. Other fixtures may be permanently installed at a height within these ranges, or the fixtures may be adjustable within the ranges. A unit in which fixtures may be added or adjusted in height is an adaptable unit. Both adaptable units and units in which fixtures are permanently installed within the heights specified in this Section are accessible dwelling units.

c) Bathrooms

Accessible bathrooms shall be on an accessible route and shall comply with the following requirements.

1) Doors. Doors may swing into the clear floor space required for any fixtures only when the bathroom provides sufficient maneuvering space (see Illustration B, Fig. 3) within the bathroom for a person using a wheelchair to enter and close the door, use the fixtures, reopen the door, and exit.

2) Water Closets

A) Clear floor space at the water closet shall be as shown in Illustration B, Fig. 28. The water closet may be located with the clear area at either the right or left side of the toilet.
B) The height of the water closet shall be at least 15 in. (380 mm) and no more than 19 in. (485 mm) measured to the top of the toilet seat.

C) Grab bars shall be installed as shown in Illustration B, Fig. 29 and shall comply with Section 400.310(q), or structural reinforcement or other provisions shall be made that will allow installation of grab bars in the locations shown.

D) The toilet paper dispenser shall be installed within reach as shown in Illustration B, Fig. 29, at a maximum distance of 36 in. (915 mm) from the face of the wall behind the water closet.

3) Lavatory, Mirrors, and Medicine Cabinets

A) The lavatory and mirrors shall comply with Section 400.310(n)(7).

B) If a cabinet is provided under the lavatory, it shall provide, or shall be removable to provide, the clearances specified in Section 400.310(n)(7)(B).

C) If a medicine cabinet is provided above the lavatory, then the bottom of the medicine cabinet shall be located with a usable shelf no higher than 44 in. (1120 mm) above the floor.

4) Bathtubs. If a bathtub is provided, it shall have the following features:

A) Floor Space. Clear floor space at bathtubs shall be as shown in Illustration B, Fig. 33.

B) Seat. An in-tub seat or a seat at the head end of the tub shall be provided as shown in Illustration B, Fig. 33 and 34. The structural strength of seats and their attachments shall comply with Section 400.310(q)(3). Seats shall be mounted securely and shall not slip during use.

C) Grab Bars. Grab bars shall be installed within the range of heights shown in Illustration B, Fig. 34 and shall comply with Section 400.310(q), or structural reinforcement or other provisions shall be made that will allow installations of grab bars meeting these requirements.
D) Controls. Faucets and other controls shall be located as shown in Illustration B, Fig. 34 and shall comply with Section 400.310(r)(4).

E) Shower Unit. A shower spray unit shall be provided with a hose at least 60 in. (1525 mm) long that can be used as a fixed shower head or as a hand-held shower. If an adjustable-height shower head mounted on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars.

5) Showers. If a shower is provided, it shall have the following features:

  A) Size and Clearances. Shower stall size and clear floor space shall comply with either Illustration B, Fig. 35(a) or (b). The shower stall in Illustration B, Fig. 35(a) shall be 36 in. by 36 in. (915 mm by 915 mm). The shower stall in Illustration B, Fig. 35(b) will fit into the same space as a standard bathtub, 60 in. (1525 mm) long.

  B) Seat. A seat shall be provided in the shower stall in Illustration B, Fig. 35(a) as shown in Illustration B, Fig. 36. The seat shall be 17 in. to 19 in. (430 mm to 485 mm) high measured from the bathroom floor and shall extend the full depth of the stall. The seat shall be on the wall opposite the controls. The structural strength of seats and their attachments shall comply with Section 400.310(q)(3). Seats shall be mounted securely and shall not slip during use.

  C) Grab Bars. Grab bars shall be installed within the range of heights shown in Illustration B, Fig. 37 and shall comply with Section 400.310(q), or structural reinforcement or other provisions shall be made that will allow installation of grab bars meeting these requirements.

  D) Controls. Faucets and other controls shall be located as shown in Illustration B, Fig. 37 and shall comply with Section 400.310(r)(4). In the shower stall in Illustration B, Fig. 35(a), all controls, faucets, and the shower unit shall be mounted on the side wall opposite the seat.

  E) Shower Unit. A shower spray unit shall be provided with a hose at least 60 in. (1525 mm) long that can be used as a fixed shower head at various heights or as a hand-held shower. If an adjustable-
height shower head mounted on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars.

6) **Bathtub and Shower Enclosures.** Enclosures for bathtubs or shower stalls shall not obstruct controls or transfer from wheelchairs onto shower or bathtub seats. Enclosures on bathtubs shall not have tracks mounted on their rims.

7) **Clear Floor Space.** Clear floor space at fixtures may overlap.

d) **Kitchens**

Accessible kitchens and their components shall be on an accessible route and shall comply with the following requirements.

1) **Clearance.** Where counters provide the knee clearances specified in Section 400.310(1)(7)(B), clearances between those counters and all opposing base cabinets, countertops, appliances, or walls in kitchens shall be 40 in. (1015 mm) minimum, except in U-shaped kitchens, where such clearances shall be 60 in. (1525 mm) minimum.

2) **Clear Floor Space.** A clear floor space at least 30 in. by 48 in. (760 mm by 1220 mm) that allows either a forward or a parallel approach by a person in a wheelchair shall be provided at all appliances in the kitchen, including the range or cooktop, oven, refrigerator, freezer, dishwasher, and trash compactor. Laundry equipment located in the kitchen shall comply with subsection (e) of this Section.

3) **Controls.** All controls in kitchens shall comply with Section 400.310(r).

4) **Work Surfaces.** At least one 30 in. (760 mm) section of counter shall provide a work surface that complies with the following requirements (see Illustration B, Fig. 50):

A) **The counter shall be adjustable or replaceable as a unit at variable heights between 28 in. and 36 in. (710 mm and 915 mm), measured from the floor to the top of the counter surface, or shall be mounted at a fixed height no greater than 34 in. (865 mm), measured from the floor to the top of the counter surface.**
B) Base cabinets, if provided shall be removable under the full 30 in. (760 mm) minimum frontage of the counter. The finished floor shall extend under the counter to the wall.

C) Counter thickness and supporting structure shall be 2 in. (51 mm) maximum over the required clear area.

D) A clear floor space of 30 in. by 48 in. (760 mm by 1220 mm) shall allow a forward approach to the counter. Nineteen inches (485 mm) maximum of the clear floor space may extend underneath the counter. The knee space shall have a minimum clear width of 30 in. (760 mm).

E) There shall be no sharp or abrasive surfaces under such counters.

5) Sink. The sink and surrounding counter shall comply with the following requirements (see Illustration B, Fig. 51):

A) The sink and surrounding counter shall be adjustable or replaceable as a unit at variable heights between 28 in. and 36 in. (710 mm and 915 mm), measured from the finished floor to the top of the counter surface or sink rim, or shall be mounted at a fixed height no greater than 34 in. (865 mm), measured from the finished floor to the top of the counter surface or sink rim.

B) Where sinks are installed to be adjustable in height, rough-in plumbing shall be located to accept connections of supply and drain pipes for sinks mounted at the height of 28 in. (710 mm).

C) The depth of a sink bowl shall be no greater than 6-1/2 in. (165 mm). Only one bowl of double-bowl or triple-bowl sinks needs to meet this requirement.

D) Faucets shall comply with Section 400.310(r)(4). Lever-operated or push-type mechanisms are two acceptable designs.

E) Base cabinets, if provided, shall be removable under the full 30 in. (760 mm) minimum frontage of the sink and surrounding counter. The finished flooring shall extend under the counter to the wall.
F) Counter thickness and supporting structure shall be 2 in. (50 mm) maximum over the required clear space.

G) A clear floor space of 30 in. by 48 in. (760 mm by 1220 mm) shall allow forward approach to the sink. Nineteen inches (485 mm) maximum of the clear floor space may extend underneath the sink. The knee space shall have a minimum clear width of 30 in. (760 mm).

H) There shall be no sharp or abrasive surfaces under sinks. Hot-water pipes and drain pipes under sinks shall be insulated or otherwise covered.

6) Ranges and Cooktops. Ranges and cooktops shall comply with subsections (d)(2) and (d)(3) of this Section. If ovens or cooktops have knee spaces underneath, then they shall be insulated or otherwise protected on the exposed contact surfaces to prevent burns, abrasions, or electrical shock. The clear floor space may overlap the knee space, if provided, by 19 in. (485 mm) maximum. The location of controls for ranges and cooktops shall not require reaching across burners.

7) Ovens. Ovens shall comply with subsections (d)(2) and (d)(3) of this Section. Ovens shall be of the self-cleaning type or be located adjacent to an adjustable height counter with knee space below (see Illustration B, Fig. 52). For side-opening ovens, the door latch side shall be next to the open counter space, and there shall be a pull-out shelf under the oven extending the full width of the oven and pulling out not less than 10 in. (255 mm) when fully extended. Ovens shall have controls on front panels; they may be located on either side of the door.

8) Refrigerator/Freezers. Refrigerator/freezers shall comply with subsection (d)(3) of this Section. Provision shall be made for refrigerator/freezers that are:

A) Of the vertical side-by-side refrigerator/freezer type; or

B) Of the over-and-under type and meet the following requirements:

i) Have at least 50% of the freezer space below 54 in. (1370 mm) above the floor.
ii) Have 100% of the refrigerator space and controls below 54 in. (1370 mm).

Freezers with less than 100 percent of the storage volume within the limits specified in Section 400.220(e) or (f) shall be the self-defrosting type.

9) **Dishwashers.** Dishwashers shall comply with subsections (d) (2) and (d) (3) of this Section. Dishwashers shall have all rack space accessible from the front of the machine for loading and unloading dishes.

10) **Kitchen Storage.** Cabinets, drawers, and shelf storage areas shall comply with Section 400.310(p) and shall have the following features:

   A) Maximum height shall be 48 in. (1220 mm) for at least one shelf of all cabinets and storage shelves mounted above work counters (see Illustration B, Fig. 50).

   B) Door pulls or handles for wall cabinets shall be mounted as close to the bottom of cabinet doors as possible. Door pulls or handles for base cabinets shall be mounted as close to the top of cabinet doors as possible.

e) **Laundry Facilities**

If laundry equipment is provided within individual accessible dwelling units, or if separate laundry facilities serve one or more accessible dwelling units, they shall meet the following requirements:

1) **Location.** Laundry facilities and laundry equipment shall be on an accessible route.

2) **Washing Machines and Clothes Dryers.** Washing machines and clothes dryers in common-use laundry rooms shall be front loading.

3) **Controls.** Laundry equipment shall comply with Section 400.310(r).
SUBPART E: PUBLIC FACILITIES - ADDITIONS

Section 400.410. Public Facilities, Additions - Minimum Requirements

All additions to public facilities are considered new construction and are subject to the applicable requirements of Section 400.310 and to the following additional requirements:

a) All spaces within any addition shall be accessible and provide the minimum elements listed in Section 400.310 to ensure accessibility.

b) Entrances

If a new addition to a public facility does not have an accessible entrance, then at least one entrance to the existing building or facility shall comply with Section 400.310(k).

c) Accessible Route

If the only accessible entrance to the new addition is located in the existing building or facility, then at least one accessible route conforming with Section 400.310(a) shall provide access through the existing building or facility to all accessible spaces in the new addition.

d) Toilet rooms and Bathing Facilities

1) Toilet rooms, existing and/or new, shall provide the "Minimum Number of Plumbing Fixtures" required by the Illinois Plumbing Code (77 Ill. Adm. Code 890), including the requirements of the addition.

2) If there are no toilet rooms, bathing facilities, or shower rooms in the addition and these facilities are provided in the existing building, then at least one toilet room, one bathing facility, or one shower room for each sex shall conform with Section 400.310(n).
Section 400.420 Exemptions

Section 400.330 exemptions for new construction are applicable to additions.
SUBPART F: PUBLIC FACILITIES - ALTERATIONS

Section 400.510 Public Facilities, Alterations - Minimum Requirements

a) General

1) Alterations (as defined in Section 400.210(b)(11)) to existing public facilities to which the Environmental Barriers Act and this Code apply shall be accessible as provided in this Section.

2) No alteration shall be undertaken that decreases or has the effect of decreasing accessibility or usability of a building or facility below the requirements for new construction at the time of alteration. (Section 5, EBA) (ADAAG 4.1.6(1)(a))

b) Scope

1) All Public Facilities - Alteration Costs 15% or Less. If the alteration costs 15% or less of the reproduction cost of the public facility, the element or space being altered shall comply with the applicable requirements for new construction (Section 5, EBA) (see Sections 400.310 and 400.320). (See also subsection (b)(6) of this Section for treatment of alterations to specific categories of public facilities.)

2) State Owned Public Facilities - Alteration Costs 15%-50%. If the alteration is to a public facility owned by the State and the alteration costs more than 15% but less than 50% of the reproduction cost of the public facility, the following shall comply with the applicable requirements for new construction (Section 5, EBA) (see Sections 400.310 and 400.320):

   A) the element or space being altered;

   B) an entrance and a means of egress intended for use by the general public;

   C) all spaces and elements necessary to provide horizontal and vertical accessible routes between an accessible entrance and means of egress and the element or space being altered;
D) at least one accessible toilet room for each sex or a unisex toilet when permitted, if toilets are provided or required (see subsection (e)(1) of this Section);

E) accessible parking spaces, where parking is provided; and

F) an accessible route from public sidewalks or from accessible parking spaces, if provided, to an accessible entrance. (Section 5, EBA).

3) All Public Facilities Other Than State-Owned - Alteration Costs 15% to 50% and Less than $100,000. If the alteration costs more than 15% but less than 50% of the reproduction cost of the public facility, and less than $100,000, the following shall comply with the applicable requirements for new construction (see Sections 400.310 and 400.320):

A) the element or space being altered; and

B) an entrance and a means of egress intended for use by the general public. (Section 5, EBA).

4) All Public Facilities Other Than State-Owned - Alteration Costs 15% to 50% and More than $100,000. If the alteration costs more than 15% but less than 50% of the reproduction cost of the public facility, and more than $100,000, the following shall comply with the applicable requirements for new construction (see Sections 400.310 and 400.320):

A) the element or space being altered;

B) an entrance and a means of egress intended for use by the general public;

C) all spaces and elements necessary to provide horizontal and vertical accessible routes between an accessible entrance and means of egress and the element or space being altered. VERTICAL ACCESS EXCEPTION: However, privately owned public facilities are not required to provide vertical access in a building with two levels of occupiable space where the cost of providing such vertical access is more than 20% of the reproduction cost of the public facility;
D) at least one accessible toilet room for each sex or a unisex toilet, when permitted, if toilets are provided or required (see subsection (e)(1) of this Section);

E) accessible parking spaces, where parking is provided; and

F) an accessible route from public sidewalks or from the accessible parking spaces, if provided, to an accessible entrance. (Section 5, EBA).

5) All Public Facilities - Alteration Costs 50% or More. If the alteration costs 50% or more of the reproduction cost of the public facility, the entire public facility shall comply with the applicable requirements for new construction (see Sections 400.310 and 400.320).

6) Alterations to Specific Categories of Public Facilities. For religious entities, private clubs, and owner-occupied transient lodging facilities of five units, compliance with the standards adopted by the Capital Development Board is not mandatory if the alteration costs 15% or less of the reproduction cost of the public facility. However, if the cost of the alteration exceeds $100,000, the element or space being altered must comply with the applicable requirements for new construction (Section 5, EBA) (see Sections 400.310 and 400.320). If the alteration costs more than 15% of the reproduction cost, subsections (b)(3), (4) and (5) above, as applicable, govern.

c) Calculation of Reproduction Cost

For the purpose of calculating percentages of reproduction cost, the cost of alteration shall be construed as the total actual combined cost of all alterations made within any period of 30 months. (Section 5, EBA).

d) Housing

1) Scope. Alterations to housing that is owned, financed or guaranteed by a governmental unit is subject to the applicable requirements of subsection (b) of this Section. Privately financed alterations to housing are not covered by the Environmental Barriers Act or this Code. NOTE: All housing, including new construction and some alterations may be subject to federal law. See Fair Housing Amendments Act, 42 U.S.C. 3601 et seq.
2) Specific Requirements

A) Toilet Rooms. With respect to the requirements for toilet rooms at subsections (b)(2)(iv) and (b)(4)(iv) of this Section, for housing units this requirement is applicable only to toilet rooms provided in public or common use areas.

B) Application of New Construction Requirements. With respect to housing alterations subject to subsection (b)(5) of this Section, the public and common use areas shall comply with the applicable requirements for new construction and the percentage of dwelling units required to be accessible or adaptable in Section 400.350 shall be provided.

e) Specific Modifications of New Construction Requirements Permitted in Alterations

1) Toilet Rooms

A) Unisex Toilet Rooms. Use of a unisex toilet room is permitted where construction of a single sex toilet room is technically infeasible or where otherwise permitted by the Illinois Plumbing Code, such as where such facilities are provided in addition to the required number of separate sex toilet rooms. Where unisex toilet rooms are provided, the following requirements shall be met:

i) At least one unisex toilet room per floor shall be installed in the same area as existing toilet facilities;

ii) At least one water closet complying with Section 400.310(n)(5)(B);

iii) At least one lavatory complying with Section 400.310(n)(7);

iv) A door complying with Section 400.310(n)(3) with a privacy latch; and

v) The room itself shall have no stalls and a clear floor space of 60 in. (1525 mm).
B) Toilet Stalls. In instances of alteration work where provision of a standard stall (Illustration B, Fig. 30(a)) is technically infeasible or where plumbing code requirements prevent combining existing stalls to provide space, either alternate stall (Illustration B, Fig. 30(b)) may be provided in lieu of the standard stall. (ADAAG 4.17.3) See Section 400.310(n)(5)(A)(ii).

C) Toilet Rooms. When existing toilet or bathing facilities are being altered and are not made accessible, signage complying with Section 400.310(u)(1) through (6) shall be provided indicating the location of the nearest accessible toilet or bathing facility within the facility. (ADAAG 4.1.6(3)(e)(iii))

2) Handrails. *Full extension of stair handrails shall not be required in alterations where such extensions would be hazardous, such as interfering with the operation of an exit door.*

3) Ramps. Curb ramps and interior or exterior ramps to be constructed on existing sites or in existing buildings or facilities where space limitations prohibit the use of a 1:12 slope or less may have slopes and rises as follows:

A) A slope between 1:10 and 1:12 is allowed for a maximum rise of 6 in.

B) A slope between 1:8 and 1:10 is allowed for a maximum rise of 3 in. A slope steeper than 1:8 is not allowed. (ADAAG 4.1.6(3)(a))

4) Platform Lifts. (See Section 400.310(h)(l)(D) and (h)(2).)

5) Patient Rooms in Medical Care Facilities. Alterations to patient bedrooms.

A) When patient bedrooms are being added or altered as part of a planned renovation of an entire wing, a department, or other discreet area of an existing medical facility, a percentage of the patient bedrooms that are being added or altered shall comply with Section 400.320(d)(3). The percentage of accessible rooms provided shall be consistent with the percentage of rooms required to be accessible by the applicable requirements of Section 400.320(d)(1)(A) through (C) and (E) until the number of accessible
patient bedrooms in the facility equals the overall number that would be required if the facility were newly constructed. (For example, if 20 patient bedrooms are being altered in the obstetrics department of a hospital, 2 of the altered rooms must be made accessible. If, within the same hospital, 20 patient bedrooms are being altered in a unit that specializes in treating mobility impairments, all of the altered rooms must be made accessible). Where toilet/bathrooms are part of patient bedrooms which are added or altered and required to be accessible, each such patient toilet/bathroom shall comply with Section 400.320(d)(4).

B) When patient bedrooms are being added or altered individually, and not as part of an alteration of the entire area, the altered patient bedrooms shall comply with Section 400.320(d)(3), unless either:

i) the number of accessible rooms provided in the department or area containing the altered patient bedroom equals the number of accessible patient bedrooms that would be required if the percentage requirements of Section 400.320(d)(1)(A) through (C) and (E) were applied to that department or area; or

ii) the number of accessible patient bedrooms in the facility equals the overall number that would be constructed. Where toilet/bathrooms are part of patient bedrooms which are added or altered and required to be accessible, each such toilet/bathroom shall comply with Section 400.320(d)(4).

(ADAAG 6.1)

6) Service Counters. In alterations where it is technically infeasible to provide an accessible counter, an auxiliary counter meeting the requirements of Section 400.320(h)(1)(A) may be provided. (ADAAG 7.2(1))

7) Check-Out Aisles. In alterations, at least one check-out aisle shall be accessible in facilities under 5000 square feet of selling space. In facilities of 5000 or more square feet of selling space, at least one of each design of check-out aisle shall be made accessible when altered until the number of accessible check-out aisles of each design equals the number required in new construction. (ADAAG 7.3(1)) (See Section 400.320(h)(2).)
8) Restaurants and Cafeterias. In alterations, where practicable, accessible fixed tables (or counters) shall be distributed throughout the space or facility. (ADAAG 5.1)

9) Tenant Work. Tenant finishing work (including, but not limited to partitions, doors, and officescapes) which is constructed subsequent to the first tenant remodeling of a building shall be considered alterations within this Code and shall comply with the requirements of this Section.

10) Site Improvements and Exterior Facilities:

A) All existing curbs which are part of any reconstruction or alteration shall be provided with accessible curb ramps along the path of travel between all public facilities and/or multi-story housing units.

B) All walks and sidewalks installed as part of a municipal improvement, or replacement walks or sidewalks within site facilities shall meet the requirements of this Code at Section 400.310(a) and (d).

C) All changes, improvements, or maintenance of existing parking lots including sealcoating, resurfacing, remarking, fencing, curbs, walks, and/or landscaping shall provide accessible parking spaces in accordance with Section 400.310(c). In addition, there shall be provided curb ramps as necessary to provide an accessible route to an accessible entrance.

D) If inaccessible elements (such as steps, curbs, ramps) occur along a site access route within the boundary of the site connecting public transportation stops, accessible parking spaces, passenger loading zones, public streets and sidewalks, and an accessible entrance to a public facility or multi-story housing unit, and such elements are to be improved or replaced, the improvement or replacement shall meet requirements of this Code at Section 400.310(a) and (d) and result in an accessible site access route.
11) Accessible Transient Lodging. Alterations to accessible units, sleeping rooms, and suites:

A) When sleeping rooms are being altered in an existing facility, or portion thereof, subject to the requirements of Section 400.320(b), at least one sleeping room or suite that complies with the requirements of Section 400.320(g)(5) shall be provided for each 25 sleeping rooms, or fraction thereof, of rooms being altered until the number of such rooms provided equals the number required to be accessible pursuant to Section 400.320(g)(2).

B) At least one sleeping room or suite that complies with the requirements of Section 400.320(g)(6) shall be provided for each 25 sleeping rooms, or fraction thereof, of rooms being altered until the number of such rooms equals the number required to be accessible by Section 400.320(g)(3). (ADAAG 9.1.5)

12) Doors.

A) In alterations, where it is technically infeasible to provide a 32 in. (815 mm) clear opening as required in Section 400.310(j)(4), the latch side stop may project up to a maximum 5/8 in. (16 mm) into the opening width. (Adapted from ADAAG 4.1.6(3)(d)(i))

B) Existing thresholds 3/4 in. (19 mm) high or less may remain if such thresholds have or are modified to have a beveled edge on each side. (Adapted from ADAAG 4.1.6(3)(d)(ii))

13) Dressing and Fitting Rooms. In alterations where technical infeasibility can be demonstrated, one dressing room for each sex on each level shall be made accessible. Where only unisex dressing rooms are provided, accessible unisex dressing rooms may be used to fulfill this requirement. (ADAAG 4.1.6(3)(h))

14) Elevators

A) In alterations where technical infeasibility prohibits strict compliance with Section 400.310(g)(9) the minimum car plan dimensions may be reduced by the minimum amount necessary, but in no case shall the inside car area be smaller than 48 in. by 48 in. (1220 mm by 1220 mm). (ADAAG 4.1.6(3)(c)(ii))
B) Equivalent facilitation may be provided with an elevator car of different dimensions when usability can be demonstrated and when all other elements required to be accessible comply with the applicable provisions of Section 400.310(g). For example, an elevator of 47 in. by 69 in. (1195 mm by 1755 mm), with a door opening on the narrow dimension, could accommodate the standard wheelchair clearances shown in Illustration B, Fig. 4. (ADAAG 4.1.6(3)(c)(iii))
Section 400.520 Exemptions to the Alterations Requirements

a) Existing privately owned multi-story housing units which are altered with private funds. When privately owned multi-story housing units are altered with financing from or guarantees by a governmental unit, the requirements of Section 400.510(d) shall be met.

b) Alterations to all buildings or parts of buildings which are exempted from the minimum requirements for new construction (Section 400.330).

c) Historic preservation work except as applicable under Section 400.610.

d) Parts of buildings which it would be technically infeasible to make conform to the strict requirements of the Code for new construction, with the approval of the administrative authority.
SUBPART G: HISTORIC PRESERVATION

Section 400.610 Historic Preservation, Scope - Minimum Requirements

Historic preservation, including historic reconstruction and historic restoration, is the alterations category applied to historic buildings or historically interpreted buildings. Every qualified historic building (as defined in Section 400.210), facility, or site open to the public shall also provide access to environmentally limited persons as required in this Section to afford them the maximum opportunity to experience their cultural heritage consistent with maintaining the historic aspects of the building or site.

a) General

1) Alterations to a qualified historic building or facility shall comply with the applicable requirements of this Code, unless it is determined pursuant to subsection (a) (2), below, that such compliance would threaten or destroy the historic significance of the building or facility in which case the alternative requirements for historic buildings, Section 400.620, may be used.

2) Where alterations are undertaken to a historic building or facility, if the entity undertaking the alterations believes that compliance with the requirements for accessible routes (exterior and interior), ramps, entrances, or toilets would threaten or destroy the historic significance of the building or facility and that the alternative requirements in Section 400.620 should be used for the element or space being altered, the entity should consult with the Illinois Historic Preservation Agency. If the Illinois Historic Preservation Agency agrees that compliance with the requirements for accessible routes (exterior and interior), ramps, entrances, or toilets would threaten or destroy the historic significance of the building or facility, the alternative requirements in Section 400.620 may be used. The determination that an alteration would threaten or destroy the historic significance of the building or facility shall be based upon the Secretary of the Interior’s Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings. Alterations not recommended by the Standards shall be considered to threaten or destroy the historic significance of the building or facility. In that case, the alternative requirements as defined in Section 400.620 for alterations to historic buildings may be used.
b) Scope

1) All Historic Buildings - Alteration Costs 15% or Less
   Where the cost of alterations to any historic building, facility or site is 15% or less of the reproduction cost of the public facility the element or space being altered must comply with this Code if the conditions of subsection (a) (2) of this Section are met. Alternative requirements for historic buildings, Section 400.620, may be substituted for the requirements of Section 400.310.

2) Historically Interpreted Buildings - Alteration Costs 15% or More.
   If "historically interpreted buildings" as defined in Section 400.210, which are owned by either a governmental unit or are privately owned, undergo alterations which cost more than 15% of the reproduction cost of the public facility, the following minimum requirements shall be met:

   A) An accessible route complying with Section 400.310(a) and (b) shall be provided to one principal level with displays open to the public.

      Exception: Where providing an accessible route would threaten or destroy the historic significance of the building or facility, fully accessible permanent interpretive exhibits which are of equivalent educational and interpretative scope as the non-accessible historic parts of the building or facility shall be provided as near to the non-accessible part of the building or facility as possible.

   B) An audible and visual information source shall be provided adjacent to the main entrance to the historic building or facility to give directions and information to persons with disabilities.

   C) Displays and written information shall be located and designed so that they may be seen by seated persons. Exhibits and signage displayed horizontally (e.g., open books) should be no higher than 44 in. (1120 mm) above the floor surface. (ADAAG 4.1.7(e))

   D) At least one accessible toilet room for each sex complying with Section 400.310(n) if toilets are required in the facility or one unisex toilet room, if permitted by the Illinois Plumbing Code, shall be provided as near the site as possible but at least within 200 feet from the main entrance of the building or facility.
E) At least one accessible drinking fountain complying with Section 400.310(l), if drinking fountains are required in the facility, shall be provided as near the site as possible but at least within 200 feet from the main entrance of the building or facility.

F) Accessible parking spaces complying with Section 400.310(c), where parking is provided.

G) An accessible route from the accessible parking spaces, if provided, to an accessible entrance.

H) Alternative requirements for historic buildings, Section 400.620, may be substituted for the requirements of Section 400.310.

3) Other Historic Buildings - Alteration Costs 15% or More.

If historic buildings other than "historically interpreted buildings" as defined in Section 400.210, which are owned by either a governmental unit or are privately owned, undergo alterations which cost more than 15% of the reproduction cost of the public facility, the following must comply with this Code:

A) The element or space being altered.

B) An entrance and a means of egress intended for use by the general public.

C) Horizontal and vertical accessible routes between an entrance or means of egress and the parts being altered.

D) At least one accessible toilet room for each sex complying with Section 400.310(n) if toilets are required in the facility or one unisex toilet room, if permitted by the Illinois Plumbing Code.

E) Accessible parking spaces complying with Section 400.310(c), where parking is provided.

F) An accessible route from the accessible parking spaces, if provided, to an accessible entrance.
G) Alternative requirements as defined in Section 400.620 may be substituted for the requirements of Section 400.310 where deemed necessary by the Illinois Historic Preservation Agency.

4) Specific Provisions.

The following provisions shall also apply to alterations to historic buildings:

A) Full extension of stair handrails shall not be required in alterations where such extensions would be hazardous or impossible due to plan configuration.

B) If safety door edge is provided in existing automatic elevators, then the automatic door protective and reopening devices as required in Section 400.310(g)(6) may be omitted.

C) Where existing shaft or structural elements prohibit strict compliance with the minimum dimensions of the elevator cars as required in Section 400.310(g)(9), then the minimum floor area dimensions may be reduced to no less than 48 in. by 48 in. (1220 mm by 1220 mm).

D) In alterations to historic buildings where it is technically infeasible to disperse seating throughout an assembly area, the seating may be located in collected areas. Seating shall adjoin an accessible route which also serves as a means of emergency egress.

c) Calculation of Reproduction Cost

For the purpose of calculating percentages of reproduction cost, the cost of alterations shall be construed as the total actual combined cost of all alterations made within any period of 30 months.
Section 400.620 Alternative Requirements for Historic Buildings

The following alternative requirements may be substituted for the requirements of Section 400.310 when a historic building undergoes alterations:

a) Changes of level may be accommodated by ramps having the following maximum slopes:

1) A slope between 1:10 and 1:12 is allowed for a maximum rise of 6 in.

2) A slope between 1:8 and 1:10 is allowed for a maximum rise of 3 in. (ADAAG 4.1.6(3)(a))

3) A slope between 1:6 and 1:8 is allowed for a maximum rise of 2 in.

4) Where access to any space in a historic building will be limited to controlled groups with assigned tour guides, changes in level as provided in this subsection (a)(1) may be accommodated by means of a detachable ramp.

b) Where access to any space in a historic building will be limited to controlled groups with assigned tour guides, requirements of the following Sections are waived for that space:

1) Section 400.310(j), Doors, except minimum widths as noted in subsection (a)(5) below, and threshold heights;

2) Section 400.310(p), Storage;

3) Section 400.310(r), Controls and Operating Mechanisms, where not intended to be operated by the general public;

4) Section 400.310(t), Detectable Warnings; and

5) Section 400.310(u), Signage.

c) Where access to any space in a historic building will be limited to controlled groups with assigned tour guides, or where a full-time door attendant or concierge is provided at the door within visual and audible communication range, there are no special requirements for door hardware or operation.
d) Door hardware. The addition of adapter lever handles that retain the existing hardware will be considered to meet the Secretary of the Interior's Standards as they do not result in the removal of any historic features from the structure.

e) Minimum clear door opening width for a single door or the single active leaf of a pair of doors shall meet the requirements of Section 400.310(j)(4). When the alteration of an existing historic door does not meet the Secretary of the Interior's Standards, a lesser dimension may be considered to be accessible if it provides the highest level of access within the limited dimensions available. (ADAAG 4.13.5) Examples of acceptable methods of providing improved access while maintaining the historic door include:

1) Maintain the door opening area free of any obstructions so that the clear opening can be measured with the door in a 180 degree position rather than the 90 degree position.

2) Reverse the swing of the door.

3) Remove or alter the side door stop(s).

4) Replace the existing hinges with offset hinges.

Example: The main entrance door on a 19th century structure used as a house museum is entered from a porch that is otherwise accessible, but the door is only 30 in. wide. Because the door, associated transom and surrounding trim are all significant features of the building, altering the opening and replacing the door does not meet the Secretary of the Interior's Standards. The installation of off-set hinges and the replacement of the door stops creates a clear opening of 29-1/2 in., but otherwise retains all of the historic features of the house. In these circumstances, the modified front entry door would be considered to be accessible.

f) For paired doors where an individual leaf does not provide the minimum clear opening, the following options provide improved access:

1) Activating the second leaf; or

2) Adding a power operator that activates both leaves.
g) If it is determined that no entrance used by the public can comply with Section 400.310(k) without threatening or destroying the historic character of the building or facility, then access at any entrance not used by the general public, but open (unlocked) with directional signage at the primary entrance may be used. The accessible entrance shall also have a notification system. Where security is a problem, remote monitoring may be used. (ADAAG 4.1.7(3)(B) Exception)

h) Accessible routes from an accessible entrance to all publicly used spaces on at least the level of the accessible entrance shall be provided. Access shall be provided to all levels of a building or facility in compliance with Section 400.310(a) whenever practical, and where such access would not threaten or destroy the historic character of the building or facility. [ADAAG 4.1.7(3)(d)].

i) Where the historic aspects of the building or facility would be destroyed, or so greatly altered as to have an adverse effect on a historic stair, the requirements of Section 400.310(f) are waived.
Section 400.630 Exemptions for Historic Preservation

a) **All buildings or parts of buildings exempted from applicability of the minimum requirements for new construction.**

b) All buildings or parts of buildings exempted from applicability of the minimum requirements for alterations.

c) **Existing privately owned multi-story housing units.**

d) **Parts of the building that it would be technically infeasible to make conform to the strict requirements of the Code for new construction.**
SUBPART H: STANDARDS FOR GOVERNMENT LEASING, RENTING
OR USE OF PUBLIC FACILITIES

Section 400.710 Standards for Government Leasing, Renting or Use of Public Facilities

Section 5 of the EBA states that no governmental unit may enter into a new or renewal agreement to lease, rent, or use, in whole or in part, any public facility which does not comply with this Code. Any governmental unit which, on the effective date of the EBA, is leasing, renting or using, in whole or in part, any public facility which does not comply with this Code shall make all reasonable efforts to terminate such lease, rental or use by January 1, 1990.
Section 400.APPENDIX A GRAPHIC CONVENTIONS AND FIGURES

Section 400.ILLUSTRATION A Graphic Conventions

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<tr>
<th>Convention</th>
<th>Description</th>
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<tr>
<td>36 915</td>
<td>Typical dimension line showing U.S. customary units (in inches) above the line and SI units (in millimeters) below.</td>
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<tr>
<td>9 230</td>
<td>Dimensions for short distances indicated on extended line.</td>
</tr>
<tr>
<td>9 36 230 915</td>
<td>Dimension line showing alternate dimensions required.</td>
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<td>max min</td>
<td>Direction of approach</td>
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<tr>
<td>.............</td>
<td>Maximum</td>
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<tr>
<td>................</td>
<td>Minimum</td>
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<tr>
<td>................</td>
<td>Boundary of clear floor area</td>
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Section 400.ILLUSTRATION B Graphic Figures

Graphic illustrations are shown in Figures 1 through 13, 15 through 46, and 50 through 57 (Figures 14, 47, 48 and 49: reserved). Dimensions that are not marked minimum or maximum are absolute, unless otherwise indicated in the text or captions. All dimensions are subject to conventional building industry tolerances for field conditions.
APPENDIX A
ILLUSTRATION B

Fig. 1
Minimum Clear Width
For Single Wheelchair

Fig. 2
Minimum Clear Width
For Two Wheelchairs

Fig. 3
Wheelchair Turning Space

T-Shaped Space For 180° Turns

60 (1525 mm) DIAMETER SPACE

60 MIN.
1525

32 MIN.
815

36 MIN.
915

24 max. depth
for min. clearance

36 min.
915

12 min.
305

12 min.
305

915

60 MIN.
1525
Clear Floor Space

Parallel Approach

Forward Approach

Note: If \( X > 24'' \) (610 mm), Then An Additional Manoeuvering Clearance Of 6'' (150 mm) Shall Be Provided As Shown

Note: If \( X > 15'' \) (380 mm), Then An Additional Manoeuvering Clearance Of 12'' (305 mm) Shall Be Provided As Shown

Additional Manoeuvering Clearances for Alcoves

Clear Floor Space In Alcoves

Fig. 4
Minimum Clear Floor Space For Wheelchairs

High Forward Reach Limit

Maximum Forward Reach Over An Obstruction

Forward Reach

Note: \( x \) shall be \( \leq 25'' \) (635 mm); \( z \) shall be \( > x \).
When \( x < 20'' \) (510 mm), then \( y \) shall be 48'' (1120 mm) maximum.
When \( x \) is 20''-25'' (510 to 635 mm), then \( y \) shall be 44'' (1120 mm) maximum.
Fig. 6
Side Reach

(a)
Clear Floor Space—Parallel Approach

(b)
High and Low Side Reach Limits

(c)
Maximum Side Reach Over an Obstruction

Fig. 7
Accessible Route

(a)
90° Turn

(b)
Turning Around an Obstruction

(c)
Changes in Level

(d)
Changes in Level
Section 400, Illustration B, Figure 8 (Continued)

Fig. 8(f)
Carpet Pile Thickness

Fig. 8(g)
Gratings

Fig. 8(h)
Grating Orientation

Fig. 8
Protruding Objects (Continued)
Section 400, Illustration B, Figures 9-10

(a) Standard IL Design

(b) Universal Parking Space Design

Fig. 9
Dimensions Of Parking Spaces
(Typical Parking Spaces for 45°, 60°, and 90° Arrangements)

Fig. 10
Access Aisle at Passenger Loading Zones
Section 400, Illustration B, Figures 11-13

Adjoining Slope Shall
Not Exceed 1:20

Walk

Street

Slope = \frac{Y}{X}
Where X is A
Level Plane

Fig. 11
Measurement Of Curb Ramp Slopes

If X is Less Than 48
Then The Slope Of The
Flared Side Shall Not
Exceed 1:12

(a)
Flared Sides

(b)
Returned Curb

Fig. 12
Sides Of Curb Ramps

Fig. 13
Built-up Curb Ramp
FIG. 15
Curb Ramps at Marked Crossings
Fig. 16
Components Of A Single Ramp And Sample Ramp Dimensions

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<td>40 ft (12 m)</td>
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Fig. 17
Examples of Edge Protection and Handrail Extensions
Section 400, Illustration B, Figures 20-21

Note: The automatic door reopening device is activated if an object passes through either line a or line b. Line a and line b represent the vertical locations of the door reopening device not requiring contact.

Fig. 20
Hoistway and Elevator Entrances

Fig. 21
Graph of Timing Equation
Fig. 22
Minimum Dimensions of Elevator Cars

5/8 numeral height
5/8 numeral height
16
10
height
control button diameter
3/4
19

(a)
Panel Detail

70 80 60
60
50

80 20

main entry floor
doors open

emergency alarm

doors closed

octagon symbol shall be raised but 'x' is not

(b) Car Control Height
Car Control Height

35 min. max.
54 1370
890
54 1370

(c) Alternate Locations of Panel with center opening door
(d) Alternate Locations of Panel with side opening door

Fig. 23
Car Controls
Section 400, Illustration B, Figures 24-25

(a) Detail

(b) Hinged Door

(c) Sliding Door

(d) Folding Door

Maximum Doorway Depth

Fig. 24
Clear Doorway Width and Depth
Section 400, Illustration B, Figure 26

(d) Front Approaches - Sliding Doors and Folding Doors

(e) Slide Side Front Approaches - Sliding Doors and Folding Doors

(f) Latch Side Front Approaches - Sliding Doors and Folding Doors

Note: All Doors In Alcoves Shall Comply With The Clearances For Front Approaches

Fig. 25 Maneuvering Clearances at Doors (Continued)
Section 400, Illustration B, Figure 27

(a) Spout Height And Knee Clearance
(b) Clear Floor Space

(c) Free Standing Fountain or Cooler
(d) Built-In Fountain or Cooler

Fig. 27
Drinking Fountains and Water Coolers
Section 400, Illustration B, Figures 30-32

Fig. 31
Lavatory Clearances

Fig. 30
Toilet Stalls

Standard Stall (end of row)

Fig. 32
Clear Floor Space At Lavatories
Section 400, Illustration B, Figures 33-34

(a) With Seat in Tub

(b) With Seat at Head of Tub

Fig. 33
Clear Floor Space at Bathtubs

Fig. 34
Grab Bars at Bathtubs
Section 400, Illustration B, Figures 35-37

Shower Size and Clearances

(a) 36-In By 36-In Stall
   (915-mm by 915-mm) Stall

(b) 30 by 60 (760 mm by 1525 mm) Stall

NOTE: Shower head and control area may be on back (long) wall (as shown) or on either side wall.

Fig. 35

Fig. 36

Full depth of stall

Fig. 37

Grab Bars at Shower Stalls

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Fig. 39
Size and Spacing of Handrails and Grab Bars
Section 400, Illustration B, Figure 40

(a) Plan of Detectable Warning Surface

36 min.
915

HAZARDOUS AREA

GROOVES IN SURFACE (Parallel or diamond mesh pattern)

APPLIED MAT

APPLIED STRIPS (May only be used indoors)

(b) Sections of Detectable Warning Surfaces

Fig. 40

Strips and Grooves Used as Detectable Warnings on Walking Surfaces

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Section 400, Illustration B, Figures 41-42

Fig. 41
Detectable Warning At Stairs

Fig. 42
Detectable Warning At Hazardous Vehicular Areas
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(a) Proportions
International Symbol of Accessibility

(b) Display Conditions
International Symbol of Accessibility

(c) International TDD Symbol

(d) International Symbol of Access for Hearing Loss

Fig. 43
International Symbols
Section 400, Illustration B, Figure 44

(a) Side Reach Possible

(*) Height to highest operable parts which are essential to basic operation of telephone

(b) Forward Reach Required

Fig. 44
Mounting Heights And Clearances For Telephones
Fig. 45
Minimum Clearances for Seating and Tables

(a) Forward or Rear Access
(b) Side Access

Fig. 46
Space Requirements for Wheelchair Seating Spaces in Series
Section 400, Illustration B, Figure 50

(a) Before Removal Of Cabinets And Base

(b) Cabinets And Base Removed: Height Alternatives

(c) Clear Floor Space Under Work Surface

Fig. 50
Counter Work Surface
Section 400, Illustration B, Figures 51-52

(a) Before Removal Of Cabinets And Base

(b) Cabinets and Base Removed: Height Alternatives

Fig. 51
Kitchen Sink

ADJUSTABLE COUNTER SEGMENT

SUGGESTED FLEXIBLE SUPPLY LINES

SUGGESTED SUP. JOINT IN TAIL PIECE

28-36

710-915

30 min.

760

30 min.

760

30 min.

760

Fig. 52
Ovens Without Self-cleaning Feature

SYMBOL KEY
1. Countertop or wall mounted oven
2. Pull-out board with side-opening door
3. Clear open space
4. Bottom-hinged door
5. Range oven
6. Preferred clear open space
Fig. 53
Food Service Lines

Fig. 54
Tableware Areas

Fig. 55
Card Catalog

Fig. 56
Stacks
Fig. 57
Roll-in Shower With Folding Seat
Section 400.ILLUSTRATION C "Parking Sign"

HANDICAPPED PARKING SIGN

Effective January 1, 1985, Public Act 83-1316 amended Sec. 11-301 of "The Illinois Vehicle Code" to require Handicapped Parking Signs (for parking lots subject to "The Illinois Vehicle Code") to comply with R 7-8 sign shown below (U.S. Department of Transportation Standard). Existing signs may remain, but their useful lives shall not be extended by other means than normal maintenance.

**Note:**

This is a standard sign and may be ordered from any traffic sign supplier by number. The arrow should be omitted where there is only one space. The arrow may also be made to point in only one direction. The arrow may also be replaced by "time" such as 9 AM - 5 PM, where a part time restriction exists. The sign must be supplemented with the Illinois Standard R7-1101 plate giving the amount of the fine for illegally parking in the reserved space(s).

**COLORS**

LEGEND AND BORDER—PANTONE 340C
WHITE SYMBOL ON PANATONE 286 BACKGROUND
BACKGROUND—WHITE

*REDUCE SPACING 80%*

**DIMENSIONS (INCHES)***

**REV. 12/95***
ILLINOIS STANDARD
R7-I101

COLOR: LEGEND AND BORDER GREEN NON-REFLECTORIZED (PANTONE 340C)
BACKGROUND WHITE REFLECTORIZED

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All Dimensions in Inches
To be used with R7-8
*S=Series 3A "s"

Where a fine in excess of $100 is established by an Municipality By Ordinance in accordance with the statutes, the actual amount of the fine should be shown.

This plate may be mounted directly below the R7-8 sign or combined with that sign on a single 12-inch by 24-inch panel.

Note: For a fine of $200, use F=4.0 and G=4.0 (reduce letter to letter spacing as necessary to fit).
APPENDIX B

CHAPTER 410
PUBLIC HEALTH

ACT 25. ENVIRONMENTAL BARRIERS ACT

Section
25/1. Short Title
25/2. Statement of Findings and Purpose
25/3. Definitions
25/4. Standards
25/5. Scope
25/6. Civil Enforcement
25/7. Penalties
25/8. Local Standards

25/1. Short Title
Section 1. Short Title. This Act shall be known and may be cited as the Environmental Barriers Act.
P.A. 84-948, Section 1, eff. Sept. 25, 1985.

Title of Act:
An Act concerning environmental barriers in public facilities and multi-story housing units and to amend and repeal certain Acts therein named.

25/2. Statement of Findings and Purpose
Section 2. Statement of Findings and Purpose. The General Assembly finds that:
(a) Public facilities and multi-story housing units which contain environmental barriers create a serious threat to the safety and welfare of all members of society both in normal conditions and in the event of fire, panic and other emergency.
(b) Environmentally limited persons are often denied access to and use of public facilities and multi-story housing units due to environmental barriers which prevent them from exercising many of their rights and privileges as citizens.
(c) The integration of environmentally limited persons into the mainstream of society furthers the goals and policies of this State to assure the right of all persons to live and work as independently as possible and to participate in the life of the community as fully as possible.
Therefore, eliminating environmental barriers is an object of serious public concern. This Act shall be liberally construed toward that end.
P.A. 84-948, Section 2, eff. Sept. 25, 1985.
25/3. Definitions

Section 3. Definitions. As used in this Act:

"Accessibility standards" or "standards" means those standards, known as the Illinois Accessibility Code, adopted by the Capital Development Board pursuant to Section 4.

"Adaptable dwelling unit" means a dwelling unit constructed and equipped so it can be converted with minimal structural change for use by persons with different types and degrees of environmental limitation.

"Addition" means an expansion, extension, or increase in the gross floor area of a public facility or multi-story housing unit.

"Alteration" means any modification or renovation that affects or could affect the usability of the building or facility or part of the building or facility. "Alteration" includes, but is not limited to remodeling, renovation, rehabilitation, reconstruction, historic preservation, historic reconstruction, historic restoration, changes or rearrangement of the structural parts or elements, extraordinary repairs, plumbing fixture changes, and changes or rearrangements in the plan configuration of walls and full-height partitions. The following work is not considered to be an alteration unless it affects the usability of the building or facility: normal maintenance, reroofing, interior or exterior redecoration, changes to mechanical and electrical systems, replacement of plumbing, piping, or valves, asbestos removal, or installation of fire sprinkler systems.

"Built environment" means those parts of the physical environment which are designed, constructed or altered by people, including all public facilities and multi-story housing units.

"Common areas" means areas which are held out for use by all tenants and owners in public facilities and multi-story housing units including, but not limited to, lobbies, elevators, hallways, laundry rooms, swimming pools, storage rooms, recreation areas, parking garages, building offices, conference rooms, patios, restrooms, telephones, drinking fountains, restaurants, cafeterias, delicatessens, and stores.

"Construction" means any erection, building, installation or reconstruction. Additions shall be deemed construction for purposes of this Act.

"Dwelling unit" means a single unit of residence which provides a kitchen or food preparation area, in addition to rooms and spaces for living, bathing, sleeping, and the like. Dwelling units are found in such housing types as townhouses and apartment buildings.

"Element" means an architectural or mechanical (including electrical and plumbing) component of a building, facility, space, or site, including but not limited to a telephone, curb ramp, door, drinking fountain, seating, or water closet.

"Entrance" means any access point to a building or portion of a building or facility or multi-story housing unit used for the purpose of entering. An entrance includes the approach walk, the vertical access leading to the entrance platform, the entrance platform itself, vestibules if provided, and the entry door or doors or gate or gates.

"Environmental barrier" means an element or space of the built environment which limits accessibility to or use of the built environment by environmentally limited persons.

"Environmentally limited person" means a person with a disability or condition who is restricted in the use of the built environment.
"Governmental unit" means the State or any political subdivision thereof, including but not limited to any county, town, township, city, village, municipality, municipal corporation, school district or other special purpose district.

"Means of egress" means a continuous and unobstructed path of travel from any point in a building or structure to a public way, consisting of 3 separate and distinct parts: the exit access, the exit, and the exit discharge. A means of egress comprises vertical and horizontal means of travel and includes intervening room spaces, doors, hallways, corridors, passageways, balconies, ramps, stairs, enclosures, lobbies, escalators, horizontal exits, courts, and yards.

"Multi-story housing unit" means any building of 4 or more stories containing 10 or more dwelling units, constructed to be held out for sale or lease by any person to the public.

"Occupiable" means a room or enclosed space designed for human occupancy in which individuals congregate for amusement, educational, or similar purposes, or in which occupants are engaged at labor, and that is equipped with means of egress, light, and ventilation.

"Owner" means the person contracting for the construction or alteration. That person may be the owner of the real property or existing facility or may be a tenant of the real property or existing facility.

"Person" means one or more individuals, partnerships, associations, unincorporated organizations, corporations, cooperatives, legal representatives, trustees, receivers, agents, any group of persons or any governmental unit.

"Planning" means the preparation of architectural or engineering designs or plans, technical or other specifications, landscaping plans or other preconstruction plans or specifications.

"Public facility" means:

(1) any building, structure, or site improvement which is:
   (i) owned by or on behalf of a governmental unit,
   (ii) leased, rented or used, in whole or in part, by a governmental unit, or
   (iii) financed, in whole or in part, by a grant or a loan made or guaranteed by a governmental unit; or

(2) any building, structure, or site improvement used or held out for use or intended for use by the public or by employees for one or more of, but not limited to, the following:
   (i) the purpose of gathering, recreation, transient lodging, education, employment, institutional care, or the purchase, rental, sale or acquisition of any goods, personal property or services;
   (ii) places of public display or collection;
   (iii) social service establishments; and
   (iv) stations used for specified public transportation.

"Public" means any group of people who are users of the building and employees of the building excluding those people who are employed by the owner of a building for construction or alteration of a building.

"Reproduction cost" means the estimated cost of constructing a new building, structure, or site improvement of like size, design and materials at the site of the original building, structure, or site improvement, assuming such site is clear. The reproduction cost shall be determined by using the recognized standards of an authoritative technical organization.

"Site improvements" means landscaping, pedestrian and vehicular pathways, steps, ramps, curb ramps, parking lots, outdoor lighting, recreational facilities, and the like, added to a site.

"Space" means a definable area, such as a toilet room, corridor, assembly area, entrance, storage room, alcove, courtyard, or lobby.
"State" means the State of Illinois and any instrumentality or agency thereof.

"Transient lodging" means a building or facility or portion of a building or facility, excluding inpatient medical care facilities and owner-occupied buildings of 4 or fewer lodging units. "Transient lodging" may include, but is not limited to, resorts, group homes, hotels and motels, including cabins and other detached units, and dormitories.


25/4. Standards

Section 4. Standards. The Capital Development Board shall adopt and publish accessibility standards. Accessibility standards for public facilities shall dictate minimum design, construction and alteration requirements to facilitate access to and use of the public facility by environmentally limited persons. Accessibility standards for multi-story housing units shall dictate minimum design and construction requirements to facilitate access to and use of the common areas by environmentally limited persons and create a number of adaptable dwelling units in accordance with Section 5.1. With respect to areas within public facilities or multi-story housing units which areas are restricted to use by the employees of businesses or concerns occupying such restricted areas, the Capital Development Board shall promulgate standards designed to ensure that such areas will be accessible to those environmentally limited persons who can reasonably be expected to perform the duties of a job therein.

The standards shall be adopted and revised in accordance with the Illinois Administrative Procedure Act.\(^2\)

The Capital Development Board may issue written interpretation of the standards adopted under Section 4 of the Act. The Capital Development Board shall issue an interpretation within 30 calendar days of receipt of a request by certified mail unless a longer period is agreed to by the parties. Interpretations issued under this Section are project specific and do not constitute precedent for future or difference circumstances.


\(^1\) 410 ILCS 25/5

\(^2\) 5 ILCS 100/1-1 et seq.

25/5. Scope

Section 5. Scope.

(a) The standards adopted by the Capital Development Board shall apply to:

(1) Public Facilities; New Construction. Any new public facility or portion thereof, the construction of which is begun after the effective date of this Act. However, any new public facility (i) for which a specific contract for the planning has been awarded prior to the effective date of this Act and (ii) construction of which is begun within 12 months of the effective date of this Act shall be exempt from compliance with the standards adopted pursuant to this Act insofar as those standards vary from standards in the Illinois Accessibility Code.

(2) Multi-Story Housing Units; New Construction. Any new multi-story housing unit or portion thereof, the construction of which is begun after the effective date of this Act. However, any new multi-story housing unit (i) for which a specific contract for the planning has been awarded prior to the effective date of this Act and (ii) construction of which is begun within 12 months of the effective date of this Act shall be exempt from compliance with the standards adopted pursuant to this Act insofar as those standards vary from standards in the Illinois Accessibility Code. Provided, however, that if the common areas comply with the standards, if 20% of the dwelling units
are adaptable and if the adaptable dwelling units include dwelling units of various sizes and locations within the multi-story housing unit, then the entire multi-story housing unit shall be deemed to comply with the standards.

(b) Alterations. Any alteration to a public facility shall provide accessibility as follows:

(1) Alterations Generally. No alteration shall be undertaken that decreases or has the effect of decreasing accessibility or usability of a building or facility below the requirements for new construction at the time of alteration.

(2) If the alteration costs 15% or less of the reproduction cost of the public facility, the element or space being altered shall comply with the applicable requirements for new construction.

(3) State Owned Public Facilities. If the alteration is to a public facility owned by the State and the alteration costs more than 15% but less than 50% of the reproduction cost of the public facility, the following shall comply with the applicable requirements for new construction:

(i) the element or space being altered,

(ii) an entrance and a means of egress intended for use by the general public,

(iii) all spaces and elements necessary to provide horizontal and vertical accessible routes between an accessible means entrance and means of egress and the element or space being altered,

(iv) at least one accessible toilet room for each sex or a unisex toilet when permitted, if toilets are provided or required,

(v) accessible parking spaces, where parking is provided, and

(vi) an accessible route from public sidewalks or from accessible parking spaces, if provided, to an accessible entrance.

(4) All Other Public Facilities. If the alteration costs more than 15% but less than 50% of the reproduction cost of the public facility, and less than $100,000, the following shall comply with the applicable requirements for new construction:

(i) the element or space being altered, and

(ii) an entrance and a means of egress intended for use by the general public.

(5) If the alteration costs more than 15% but less than 50% of the reproduction cost of the public facility, and more than $100,000, the following shall comply with the applicable requirements for new construction:

(i) the element or space being altered,

(ii) an entrance and a means of egress intended for use by the general public,

(iii) all spaces and elements necessary to provide horizontal and vertical accessible routes between an accessible entrance and means of egress and the element or space being altered; however, privately owned public facilities are not required to provide vertical access in a building with 2 levels of occupiable space where the cost of providing such vertical access is more than 20% of the reproduction cost of the public facility,

(iv) at least one accessible toilet room for each sex or a unisex toilet when permitted, if toilets are provided or required,

(v) accessible parking spaces, where parking is provided, and
(vi) an accessible route from public sidewalks or from the accessible parking
spaces, if provided, to an accessible entrance.

(6) If the alteration costs 50% or more of the reproduction cost of the public facility,
the entire public facility shall comply with the applicable requirements for new construction.

(c) Alterations to Specific Categories of Public Facilities. For religious entities, private
clubs, and owner-occupied transient lodging facilities of 5 units, compliance with the standards
adopted by the Capital Development Board is not mandatory if the alteration costs 15% or less of
the reproduction cost of the public facility. However, if the cost of the alteration exceeds $100,000,
the element or space being altered must comply with applicable requirements for new construction.
Alterations over 15% of the reproduction cost of these public facilities are governed by subdivisions
(4), (5), and (6) of subsection (b), as applicable.

(d) Calculation of Reproduction Cost. For the purpose of calculating percentages of
reproduction cost, the cost of alteration shall be construed as the total actual combined cost of all
alterations made within any period of 30 months.

(e) No governmental unit may enter into a new or renewal agreement to lease, rent or use,
in whole or in part, any building, structure or improved area which does not comply with the
standards. Any governmental unit which, on the effective date of this Act, is leasing, renting or
using, in whole or in part, any building, structure or improved area which does not comply with the
standards shall make all reasonable efforts to terminate such lease, rental or use by January 1, 1990.

(f) No public facility may be constructed or altered and no multi-story housing unit may be
constructed without the statement of an architect registered in the State of Illinois that the plans for
the work to be performed comply with the provisions of this Act and the standards promulgated
hereunder unless the cost of such construction or alteration is less than $50,000. In the case of
construction or alteration of an engineering nature, where the plans are prepared by an engineer, the
statement may be made by a professional engineer registered in the State of Illinois or a structural
engineer registered in the State of Illinois that the engineering plans comply with the provisions of
this Act and the standards promulgated hereunder. The architect's and or engineer's statement shall
be filed by the architect or engineer and maintained in the office of the governmental unit responsible
for the issuance of the building permit. In those governmental units which do not issue building
permits, the statement shall be filed and maintained in the office of the county clerk.

25/6. Civil Enforcement

Section 6. Civil Enforcement. (a) The Attorney General shall have the authority to enforce the standards. The Attorney General shall investigate any complaint or reported violation of this Act and, where necessary to ensure compliance, may bring an action for any or all of the following:

(1) mandamus;

(2) injunction to halt construction or alteration of any public facility or to require compliance with the standards by any public facility which has been or is being constructed or altered in violation of this Act;

(3) injunction to halt construction of any multi-story housing unit or to require compliance with the standards by any multi-story housing unit which has been or is being constructed in violation of this Act; or

(4) other appropriate relief.

P.A. 84-948, Section 6, eff. Sept. 25, 1985.

25/7. Penalties

Section 7. Penalties. (a) Any owner constructing or altering a public facility or constructing a multi-story housing unit in violation of this Act shall be guilty of a business offense punishable by a fine not to exceed $250 per day, and each day the owner is in violation of this Act constitutes a separate offense.

(b) Any architect or engineer negligently or intentionally stating pursuant to Section 5 of this Act that a plan is in compliance with this Act when such plan is not in compliance shall be subject to a suspension, revocation or refusal of restoration of his or her certificate of registration or license pursuant to The Illinois Architecture Practice Act of 1989, The Illinois Professional Engineering Practice Act of 1989, and The Structural Engineering Licensing Act of 1989.

(c) Any person issuing a building permit or other official authorization for the construction or alteration of a public facility or the construction of a multi-story housing unit in violation of this Act shall be guilty of a business offense punishable by a fine not to exceed $1,000.

(d) The executive director of the Capital Development Board or any other person may request the State's Attorney of the county in which the public facility or multi-story housing unit is located to initiate prosecution under this Section.


1410 ILCS 25/5

225 ILCS 305/1 et seq.

225 ILCS 325/1 et seq.

225 ILCS 340/1 et seq.
25/8. Local Standards

Section 8. Local Standards. The provisions of this Act and the regulations and standards promulgated hereunder constitute minimum requirements for all governmental units, including home rule units. Any governmental unit may prescribe more stringent requirements to increase and facilitate access to the built environment by environmentally limited persons.

P.A. 84-948, Section 8, eff. Sept. 25, 1985.
APPENDIX C

EXCERPTS FROM "ILLINOIS VEHICLE CODE"

ARTICLE III. TRAFFIC SIGNS, SIGNALS AND MARKINGS

5/11-301. Department to Adopt Sign Manual

Section 11-301. Department to Adopt Sign Manual. (a) The Department shall adopt a State manual and specifications for a uniform system of traffic-control devices consistent with this Chapter for use upon highways within this State. Such manual shall include the adoption of the R7-8 sign adopted by the United States Department of Transportation to designate the reservation of parking facilities for the handicapped. Non-conforming signs in use prior to January 1, 1985, shall not constitute a violation during their useful lives, which shall not be extended by other means than normal maintenance. The manual shall also specify insofar as practicable the minimum warrants justifying the use of the various traffic control devices. Such uniform system shall correlate with and, where not inconsistent with Illinois highway conditions, conform to the system set forth in the most recent edition of the national manual on Uniform Traffic Control Devices for Streets and Highways.

(b) Signs adopted by the Department to designate the reservation of parking facilities for the handicapped shall also exhibit, in a manner determined by the Department, the words "$50 Fine".*

Formerly Ill.Rev.Stat. 1991, ch. 95 1/2, par. 11-301.
*CHANGED TO $100 AS OF JAN. 1, 1996. SEE NEXT PAGE

5/11-301.1. Handicapped Parking Signs

Section 11-301.1. Beginning July 1, 1988, all signs erected and used to designate the reservation of parking facilities for the handicapped shall be in a form and manner prescribed under Section 11-301 of this Code, and all parking spaces reserved for the handicapped, except those reserving on-street parking areas, shall be at least 16 feet wide. Non-conforming signs or spaces in use prior to July 1, 1988, shall not constitute a violation during their useful lives, which shall not be extended by means other than normal maintenance. Beginning October 1, 1992, all parking spaces reserved for the handicapped, except those reserving on-street parking areas, shall be at least 16 feet wide.
P.A. 76-1586, Section 11-301.1, added by P.A. 85-484, Section 1, eff. Jan. 1, 1988.
Amended by P.A. 87-562, Section 1, eff. Jan. 1, 1992.

NOTE: Vertical Bars (|) in the left margin indicate revisions since May 1, 1988.
ARTICLE XIII. STOPPING, STANDING, AND PARKING

§ 11-1301.3. Unauthorized use of parking places reserved for persons with disabilities

§ 11-1301.3. Unauthorized use of parking places reserved for handicapped persons.
(a) It shall be prohibited to park any motor vehicle which is not bearing registration plates or decals issued to a handicapped person, as defined by Section 1-159.1, pursuant to Sections 3-616, 11-1301.1 or 11-1301.2, or to a disabled veteran pursuant to Section 1-609 of this Act, as evidence that the vehicle is operated by or for a handicapped person or disabled veteran, in any parking place, including any private or public offstreet parking facility, specifically reserved, by the posting of an official sign as designated under Section 11-101, for motor vehicles bearing such registration plates. Any motor vehicle bearing a handicapped license plate or a handicapped parking decal or device containing the International symbol of access issued to handicapped persons by any local authority, state, district, territory or foreign country shall be recognized by state and local authorities as a valid license plate or device and receive the same parking privileges as residents of this State.
(b) Any person or local authority owning or operating any public or private offstreet parking facility may, after notifying the police or sheriff's department, remove or cause to be removed to the nearest garage or other place of safety any vehicle parked within a stall or space reserved for use by the handicapped which does not display handicapped registration places or a special decal or device as required under this Section.
(c) Any person found guilty of violating the provisions of this Section shall be fined $100 in addition to any costs or charges connected with the removal or storage of any motor vehicle authorized under this Section, but municipalities by ordinance may impose a fine up to $200.
(d) Local authorities shall impose fines as established in subsection (c) for vehicles parked in spaces for the handicapped that do not display the registration places pursuant to Section 3-616 or a special decal or device pursuant to Section 11-1301.2.


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APPENDIX D

The landmark Americans with Disabilities Act (ADA), enacted on July 26, 1990, provides comprehensive civil rights protections to individuals with disabilities in the areas of employment (title I), State and local government services (title II), public accommodations and commercial facilities (title III), and telecommunications (title IV). Both the Department of Justice and the Department of Transportation, in adopting standards for new construction and alterations of places of public accommodation and commercial facilities covered by title III and public transportation facilities covered by title II of the ADA, have issued implementing rules that incorporate the Americans with Disabilities Act Accessibility Guidelines (ADAAG), developed by the Access Board.

U.S. Architectural and Transportation Barriers Compliance Board

BULLETIN #2: VISUAL ALARMS

Why are visual alarms required?
One American in a hundred has a severe hearing loss; nearly one in ten has a significant loss. Those who are deaf or hard-of-hearing—a growing percentage of our population, due largely to the growth in the numbers of older persons—depend upon visual cues to alert them to emergencies. A visual alarm provides persons with hearing loss the same warning delivered to hearing persons by an audible alarm.

Audible fire alarms have been a standard feature of building construction since the late 1900s. However, visible signals did not appear even in accessibility codes until 1980. Early standards required relatively dim flashing lights at exit signs—an alarm system that was effective only along an exit route. As accessibility, life safety, and building codes were revised, however, they began to incorporate alarm technology that was developed for use in schools for persons who are deaf and in factories where ambient noise levels made audible alarms ineffective.

In passing the Americans with Disabilities Act in 1990, Congress specifically directed the Access Board to provide greater guidance regarding communications accessibility. Thus the ADA Accessibility Guidelines (ADAAG) require that where emergency warning systems are provided in new or altered construction, they must include both audible and visible alarms that meet certain technical specifications.

What are visual alarms?
Visual alarms are flashing lights used as fire alarm signals. The terms visual alarm signal, visible signal device, and visible signaling appliance are used relatively interchangeably within the fire protection community; the National Fire Protection Association (NFPA) calls them visual notification appliances. There is no practical distinction between a visual signal and a visible signal. Although visual signals may be used for other purposes, the type described in this Bulletin is appropriate only for use as an emergency alarm signal. An illustration shows a type of commercially-available alarm fixture that incorporates a visual alarm.

There are two major categories of fire alarms:

- **self-contained units**, as exemplified by the single-station residential smoke detector unit—battery-operated or hard-wired to building electrical systems.
4.1.3 (14) New Construction.
If emergency warning systems are provided, then they shall include both audible and visual alarms complying with 4.28. Emergency warnings systems in medical care facilities may be modified to suit standard health care alarm design practices.

4.28 Alarms.
4.28.1 General.
Alarm systems required to be accessible by 4.1 shall comply with 4.28. At a minimum, visual signal appliances shall be provided in buildings and facilities in each of the following areas: restrooms and any other general usage areas (e.g., meeting rooms), hallways, lobbies, and any other area for common use.

3.5 Definitions.
Common Use.
Refers to those interior and exterior rooms, spaces, or elements that are made available for the use of a restricted group of people (for example, occupants of a homeless shelter, the occupants of an office building, or the guests of such occupants).

4.1.1 Application.
(3)* Areas Used Only by Employees as Work Areas.
Areas that are used only as work areas shall be designed and constructed so that individuals with disabilities can approach, enter, and exit the areas. These guidelines do not require that any areas used only

- power—which produces an alarm signal at the fixture itself when activated by an integral sensing device, and
- building-wide systems, integrated—often zoned—alarms whose local signals are remotely initiated, either automatically from detectors or manually from pull-stations spread throughout a facility.

ADAAG requires that when either type is installed, it must have a visual alarm component.

Where are visual alarms required?
Facility design is subject to state and local ordinances that may both require and specify standards for emergency alarm systems. These regulations—building codes, life safety codes, accessibility codes, technical standards—are typically based upon national model codes and standards. The requirement for an emergency alarm system in new construction will be established by the applicable State or local building, life safety, or fire protection regulation. ADAAG does not mandate an emergency alarm system; its scoping provision at 4.1.3(14) simply requires that when emergency warning systems are provided, they shall include both audible and visual alarms that comply with 4.28.

Thus the requirement for an alarm system in a facility will trigger the ADAAG technical specifications for alarms. ADAAG 4.1.3(14) Accessible Buildings: New Construction requires that visual alarms be installed if emergency warning systems are provided in a new facility. In existing buildings, the upgrading or replacement of a fire alarm system also requires compliance—see ADAAG 4.1.6(b)—with ADAAG technical provisions for alarms.

Because it is not always possible to fix the occupancy of a room or space or anticipate its use by a person with a hearing impairment, visual alarms are required in every common use room or space in facilities equipped with an emergency alarm system. This is particularly important in those common use spaces where a person may be alone. ADAAG 4.28.1 General stipulates that alarm systems required to be accessible shall provide visible signals in restrooms, in other general and common use areas, and in hallways and lobbies. Common use areas also include meeting and conference rooms, classrooms, cafeterias, fitting and photocopy rooms, employee break rooms, dressing, examination, and treatment rooms, and similar spaces that are not used solely as employee work areas.

System designers and specifiers must be particularly attentive to signal coverage issues. Where audible alarms are installed in corridors and lobbies to serve adjacent common use rooms, individual visual alarm signal appliances must be installed in those rooms, since the warning provided by a visual signal, unlike that of a bell or other annunciation system, can only be observed within the space in which it is installed. Dressing and fitting rooms, for example, can be easily protected by an audible alarm outside the room or space. However, the customer or patient who has a hearing impairment will not be alerted unless the dressing room he/she is using is protected with a visual alarm in (or above, if partitions do not extend to full height) the space. In general, it is not sufficient to install visual signals only at audible alarm locations.

Where are visual alarms not required?
ADAAG does not require that areas used only by employees as work areas be fully accessible. Thus, visual alarms are not required in individual employee offices and work stations. However, providing a visual alarm in the work area of an employee who is deaf or hard-of-hearing may be—like other elements of
as work areas be constructed to permit maneuvering within the work area or be constructed or equipped (i.e., with racks or shelves) to be accessible.

**For information on employee accommodation under Title I of the ADA, contact the Equal Employment Opportunity Commission (EEOC) ADA information line at (800) 669-3362 (voice) or (800) 800-3302 (TTY).**

4.28.3 Visual Alarms.
Visual alarm signal appliances shall be integrated into the building or facility alarm system. If single station audible alarms are provided then single station visual alarm signals shall also be provided. Visual alarm signals shall have the following minimum photometric and location features:

1. The lamp shall be a xenon strobe type or equivalent.
2. The color shall be clear or nominal white (i.e., unfiltered or clear filtered white light).
3. The maximum pulse duration shall be two-tenths of one second (0.2 sec) with a maximum duty cycle of 40 percent. The pulse duration is defined as the time between initial and final points of 10 percent of maximum signal.
4. The intensity shall be a minimum of 75 candela.
5. Workplace accessibility— a reasonable accommodation under Title I** of the ADA, which addresses employment issues. The potential for such future employee accommodations should be considered when facility wiring is planned to facilitate a later connection to the building alarm system. Mechanical, electrical and telephone closets, janitor’s closets, and similar non-occupiable spaces that are not common use areas nor assigned work areas are not required to have visual alarms.

What technical provisions apply to visual alarms?
The technical provisions of ADAAG 4.28 Alarms include minimum standards for the design and installation of single-station and building-wide visual alarm systems. They are based upon research sponsored by the Access Board and other groups, principally Underwriters Laboratories (UL).

To be effective, a visual signal—or its reflection from adjacent walls and ceiling—must be of an intensity that will raise the overall light level sharply, but not so intense as to be unsafe for direct viewing at a specified mounting height. Technical criteria for visual alarm signal appliances are established in ADAAG 4.29.3 Visual Alarms (see sidebars).

In research sponsored by the Access Board, a high-intensity xenon strobe lamp was found to be the most effective in alerting persons with hearing impairments. White light was judged to be the most discernible; colored lamps (particularly red) were not effective even at extreme intensities.

Ninety percent of the research subjects were alerted by a 75 candela (cd) signal mounted fifty feet away on the wall directly behind them, where the horizontal output of a strobe lamp is measured at 100% of its nominal rating. For this reason, 75 cd is a minimum performance criterion—not a lamp sizing or specifying standard—for all locations within the 50-foot radius of the covered area. Because most strobes are not point sources, light output falls off sharply to the sides; a lamp with a maximum output of 75 cd when measured at 0 degrees will not provide the required increase in illumination at a 45 degree angle. Lamp intensity is given in effective candela, measured in use at the source.

Like a camera flash, the strobe produces a short burst of high-intensity light. The repetition of this pulse at a regular interval is the flash rate. Pulse duration—the interval of the flash between signal buildup and decay—is limited so that the signal is not temporarily blinding. Testing indicated that flash rate cycles between one and three Hertz (flashes per second) successfully alerted subjects with hearing impairments; a 3 Hz rate appeared to be somewhat more effective. Lamps tested at 1/3 Hz were adjudged ineffective. ADAAG thus requires flash rates within the 1 to 3 Hz range.

Rates that exceed 5 flashes per second may be disturbing to persons with photosensitivity, particularly those with certain forms of epilepsy. Information received during the development of ADAAG suggests that multiple unsynchronized visual signals within a single space may produce a composite flash rate that could trigger a photoconvulsive response in such persons (for example, two strobes set at 3 Hz in a room could generate a combined flash rate of 6 Hz). Installations that may produce a composite rate in excess of 5 Hz should therefore be avoided by decreasing the number of fixtures and raising the intensity of the lamps they contain, by decreasing the flash rate of multiple lamps, or by synchronizing the flash rates of multiple fixtures. This is particularly important in schools, since children are more frequently affected by photosensitivity than are adults.
The flash rate shall be a minimum of 1 Hz and a maximum of 3 Hz.

The appliance shall be placed 80 in (2030 mm) above the highest floor level within the space or 6 in (152 mm) below the ceiling, whichever is lower.

In general, no place in any room or space required to have a visual signal appliance shall be more than 50 ft (15 m) from the signal (in the horizontal plane).

In large rooms and spaces exceeding 100 ft (30 m) across, without obstructions 6 ft (2 m) above the floor, such as auditoriums, devices may be placed around the perimeter, spaced a maximum 100 ft (30 m) apart, in lieu of suspending appliances from the ceiling.

No place in common corridors or hallways in which visual alarm signaling appliances are required shall be more than 50 ft (15 m) from the signal.

Mounting provisions were developed from NFPA signal criteria and UL smoke test findings. Strobes—whether projected from a wall or suspended from the ceiling—must be a minimum of 6 inches below the ceiling plane to avoid smoke obscuration in the event of a fire. To comply with provisions covering protruding objects, alarm devices must be at least 80 inches above the finished floor. To preclude installations that might be outside the field of view in high-ceilinged spaces such as atriums and warehouses, the guidelines require a strobe to be mounted at the lower of the two heights. However, photometric calculations of lamp intensity for mounting heights of 60 inches and of 86 inches show only nominal differences and can be practically considered to be equivalent. A single visual signal meeting ADAAG specifications could be expected to serve a large room or length of corridor if optimally located on perimeter walls or suspended below the ceiling so that the signal can spread throughout the space, unobstructed by furnishings, equipment, or room geometry.

In multipurpose facilities where bleacher seating, athletic equipment, backdrops, and other movable elements may at times be deployed or in warehouses, libraries, convention centers and other building types where devices would not be visible when installed at specified heights, optimal signal placement may require considerable study and the development of alternative intensity and placement calculations as an equivalent facilitation.

Provisions governing the spacing of visual alarms in hallways and corridors will generally require one fixture every 100 feet. In lengthy corridors, such as in shopping malls and large buildings, it is recommended that appliance spacing be maximized within the limits of the technical provision to minimize the effect of a composite flash rate on persons with photosensitivity. It is further recommended that the placement of visual signals along a corridor alternate between opposing walls to minimize the number of signals in a field of view.

What criteria affect the design of visual alarm systems?
Illustrations 2 through 4 describe general fixture placement and lamp coverage in schematic form. In general, it is recommended that visual alarm lamp intensity be maximized so as to require the minimum number of fixtures. Large, high-ceilinged spaces may best be served by suspended flash tubes of very high intensity (lamps up to 1000 candela are available for such applications). Smaller rooms, with an area that can be circumscribed by a circle 50 feet in radius, can be covered by a single, centrally located visual alarm meeting ADAAG intensity specifications. For very small rooms, such as examination, toilet, and dressing rooms, a single strobe of lesser intensity may well be sufficient as an equivalent facilitation.

When should equivalent facilitation be considered?
ADAAG technical provisions apply to normative conditions. Signal intensity and placement in very small and very large rooms and in spaces with high ceilings, irregular geometry, dark or non-reflective walls, or very high ambient lighting levels may best be determined by specialized consultants employing photometric calculation for system design rather than by a literal application of ADAAG specifications. For these reasons, ADAAG 2.2 Equivalent Facilitation permits alternative designs that achieve substantially equivalent or greater accessibility.

Lamp intensity (like sound) decreases in inverse relation to the square of its distance from the viewer. Thus, by varying lamp intensity and spacing, system designers can tailor an installation to the physical conditions of the space being served. It is impossible to provide specific guidance for the design of non-standard installations based upon the photometric calculations necessary to demonstrate equivalent facilitation. Such applications should generally be designed by
2.2 Equivalent Facilitation. Departures from particular technical and scoping requirements of this guideline by the use of other designs and technologies are permitted where the alternative designs and technologies used will provide substantially equivalent or greater access to and usability of the facility.

Illustration 3  Recommended spacing in corridors

Illustration 4  Recommended placement in irregularly-configured room

4.28.4 Auxiliary Alarms. Units and sleeping accommodations shall have a visual alarm connected to the building emergency alarm system or shall have a standard 110-volt electrical receptacle into which such an alarm can be connected and a means by which a signal from the building emergency alarm system can trigger such an auxiliary alarm.

When visual alarms are in place the signal shall be visible in all experienced electrical engineers or fire alarm consultants under performance specifications for coverage and illumination levels derived from the technical provisions of ADAAG 4.28 and ambient conditions in the space. For example, a 75 cd strobe at 50 feet raises the ambient light by 0.03 at 0 degrees in the horizontal plane. Equivalent design configurations should, therefore, result in approximately the same increase at all positions within the covered space.

As there is no process for certifying alternative methods (except in transportation facilities under DOT enforcement), the responsibility for demonstrating equivalent facilitation in the event of a challenge rests with the covered entity.

The American National Standard for Accessible and Usable Buildings and Facilities (CABO/ANSI A117.1-1992), reflecting current NFPA 72 performance recommendations for visual alarms, stipulates lamp, installation, and spacing criteria at some variance with ADAAG technical specifications for visual alarms and with this Bulletin. ANSI Table 4.26.3.2(a), Room Spacing Allocation, suggests that an alarm installation of several low-intensity lamps within a room is the practical equivalent of a single high-intensity lamp serving that space.

Given concerns for economy (lower-candela lamps are less expensive to purchase and connect) and lamp standardization within a building (lower-candela lamps are more available and simplify inventorying), specifiers may be motivated to standardize on a minimum-candela fixture, achieving coverage in large rooms by close spacing of low-intensity lamps. The Access Board strongly discourages this practice. Where a single lamp can provide the necessary intensity and coverage, multiple lamps should not be installed because of their potential effect on persons with photosensitivity.

What types of visual alarms are available?

Most major suppliers to the fire protection industry manufacture visual appliances, which are readily available to electrical contractors and others responsible for the installation of building alarm systems. Visual alarms incorporating smoke detectors and lamp-only signal appliances are supplied through standard sources, although some lamp intensities and visual alarm fixtures may not be commonly stocked. Strobe lamps are commercially available in varying intensities up to 200 candela. Higher intensities can be provided by specialized manufacture.

Although an integrated audible and visual signal is available at about the same cost as an audible or visual signal alone, more visual signals than audible signals will be necessary for most applications. Careful attention to reflection from surfaces can increase light dispersion and coverage in both new and renovated structures.

What visual alarm requirements apply to sleeping rooms in transient lodging facilities?

ADAAG 9.3.1 requires that sleeping units covered by Section 9 Accessible Transient Lodging have a visual alarm connected to the building alarm system or provide a power outlet for a portable device that can be triggered by the building emergency alarm system (such units can be activated by a signal from the central alarm control system, transmitted through the standard 110V building wiring to a receiver plugged into a power outlet at a remote location). Portable units with a standard 110 volt electrical cord are available from specialized retailers of products for persons who are deaf and hard-of-hearing. Because guest room sizes are not large in such occupancies, the technical specification of 4.28.4 Auxiliary Alarms requires only that the signal—intended to alert persons who are awakable—be visible in all areas of the room or unit.
areas of the unit or room, instructions for use of the auxiliary alarm or receptacle shall be provided.

9.3 Visual Alarms, Notification Devices and Telephones.  
9.3.1 General.  In sleeping rooms required to comply with this section, auxiliary visual alarms shall be provided and shall comply with 4.28.4. Visual notification devices shall also be provided in units, sleeping rooms and suites to alert room occupants of incoming telephone calls and a door knock or bell. Notification devices shall not be connected to auxiliary visual alarm signal appliances.  

9.3.2 Equivalent Facilitation. For purposes of this section, equivalent facilitation shall include the installation of electrical outlets (including outlets connected to a facility’s central alarm system) and telephone wiring in sleeping rooms and suites to enable persons with hearing impairments to utilize portable visual alarms and communication devices provided by the operator of the facility.

Visual alarms are not the technology of choice for awakening sleeping persons, however. A UL study concluded that a flashing light more than seven times brighter than that needed to alert office workers would be required to arouse a person who was asleep (110 cd vs. 15 cd at 20 feet, if mounted 24 inches or more from the ceiling; 177 cd if mounted less than 24 inches from the ceiling, where smoke obscuration might be a significant factor). Alarm system designers are advised to consider the UL findings if visual alarms are to be employed to warn sleeping persons of emergencies.

Although ADAAG does not establish standards for portable items or auxiliary aids, assistive devices may be required by section 36.303 of the Department of Justice title III final rule. However, technologies other than visual signalling may offer equivalent or superior warning for sleeping guests who have hearing impairments. For example, a signal-activated vibrator was found to be much more effective in alerting sleepers than were the visual signals tested in the UL research. Such devices are commonly available and may be connected to or activated by a building alarm system. Care must be taken that notification devices intended to signal a door knock or bell are separately wired.

Why is there an exception in the scoping requirements of 4.1.3(14) for “standard health care alarm design practice”?  
In medical care settings where a supervised emergency evacuation plan is in place, it is usually not desirable to install alarms in patient rooms or wards. In such occupancies, personnel responsible for ensuring the safe egress of patients will respond to an intercom message or other signal that is not intended to alert or alarm patients incapable of independent evacuation. Additionally, visual alarms may not be appropriate for use in some specialized medical facilities, such as operating rooms, where lighting levels are high and the sudden discharge of a strobe flash might adversely affect a surgical procedure. For such facilities, the requirements for visual and audible alarms may be modified to suit industry-accepted practices.