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An Introduction to Accessibility Standards: Minimum Requirements

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An Introduction to Accessibility Standards: Minimum Requirements

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(This publication is an **introduction** to handicapped accessibility regulations; it is not a complete or current statement of those regulations and should not be considered as such. Additionally, this publication is one of a series dealing with handicapped accessibility. As such, references may be made in one publication to provisions in another publication in the series, which means you have to have a complete set of all elements of this series in order to have access to all referenced material. **DO NOT PURCHASE THIS PUBLICATION IF THIS LIMITATION IS NOT ACCEPTABLE TO YOU.**)

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1. PURPOSE.

This publication sets standards for facility accessibility by physically handicapped persons for facilities generally in the United States. These standards are to be applied during the design, construction, and alteration of buildings and facilities to the extent required by the Architectural Barriers Act of 1968, as amended. The technical provisions of these standards are the same as those of the American National Standard Institute's document A117.1-1980, except as noted.

2. GENERAL.

2.1 AUTHORITY. These standards were jointly developed by the U.S. General Services Administration, the Department of Housing and Urban Development, the Department of Defense, and the United States Postal Service, under the authority of sections 2, 3, 4, and 4a, respectively, of the Architectural Barriers Act of 1968, as amended, Pub. L. No. 90-480, 42 U.S.C 4151-4157.

2.2 PROVISIONS FOR ADULTS. The specifications in these standards are based upon adult dimensions and anthropometrics.

3. MISCELLANEOUS INSTRUCTIONS AND DEFINITIONS.

3.1 GRAPHIC CONVENTIONS. Graphic conventions are shown in Table 1. Dimensions that are not marked "minimum" or "maximum" are absolute, unless otherwise indicated in the text or captions.

3.2 DIMENSIONAL TOLERANCES. All dimensions are subject to conventional building industry tolerances for field conditions.

3.3 NOTES. The text of these standards does not contain notes or footnotes. Additional information, explanations, and advisory materials are located in the Appendix.

3.4 GENERAL TERMINOLOGY.

- COMPLY WITH. Meet one or more specifications of this standard.
- IF, IF...THEN. Denotes a specification that applies only when the conditions described are present.
- MAY. Denotes an option or alternative.
- SHALL. Denotes a mandatory specification or requirement.
- SHOULD. Denotes an advisory specification or recommendation.

**Table 1
Graphic Conventions**

Convention	Description
	Typical dimension line showing U.S. customary units (in inches) above the line and SI units (in millimeters) below
	Dimensions for short distances indicated on extended line
	Dimension line showing alternate dimensions required
	Direction of approach
max	Maximum
min	Minimum
	Boundary of clear floor area
	Centerline

Table 1
Graphic Conventions

3.5 DEFINITIONS. The following terms shall, for the purpose of these standards, have the meaning indicated in this section.

ACCESS AISLE. An accessible pedestrian space between elements, such as parking spaces, seating, and desks, that provides clearances appropriate for use of the elements.

ACCESSIBLE. Describes a site, building, facility, or portion thereof that complies with these standards and that can be approached, entered, and used by physically disabled people.

ACCESSIBLE ELEMENT. An element specified by these standards (for example, telephone, controls, and the like).

ACCESSIBLE ROUTE. A continuous unobstructed path connecting all accessible elements and spaces in a building or facility. Interior accessible routes may include corridors, floors, ramps, elevators, lifts, and clear floor space at fixtures. Exterior accessible routes may include parking access aisles, curb ramps, walks, ramps, and lifts.

ACCESSIBLE SPACE. Space that complies with these standards.

ADAPTABILITY. The ability of certain building spaces and elements, such as kitchen counters, sinks, and grab bars, to be added or altered so as to accommodate the needs of either disabled or nondisabled persons, or to accommodate the needs of persons with different types or degrees of disability.

ADDITION. An expansion, extension, or increase in the gross floor area of a building or facility.

ADMINISTRATIVE AUTHORITY. A governmental agency that adopts or enforces regulations and standards for the design, construction, or alteration of buildings and facilities.

ALTERATION. As applied to a building or structure, means a change or rearrangement in the structural parts or elements, or in the means of egress or in moving from one location or position to another. It does not include normal maintenance, repair, reroofing, interior decoration, or changes to mechanical and electrical systems.

ASSEMBLY AREA. A room or space accommodating fifty or more individuals for religious, recreational, educational, political, social, or amusement purposes, or for the consumption of food and drink, including all connected rooms or spaces with a common means of egress and ingress. Such areas as conference rooms would have to be accessible in accordance with other parts of this standard but would not have to meet all of the criteria associated with assembly areas.

AUTOMATIC DOOR. A door equipped with a power-operated mechanism and controls that open and close the door automatically upon receipt of a momentary actuating signal. The switch that begins the automatic cycle may be a photoelectric device, floor mat, or manual switch mounted on or near the door itself (see power-assisted door).

CIRCULATION PATH. An exterior or interior way of passage from one place to another for pedestrians, including, but not limited to, walks, hallways, courtyards, stairways, and stair landings.

CLEAR. Unobstructed.

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, residents of an apartment building, the occupants of an office building, or the guests of such residents or occupants).

CROSS SLOPE. The slope that is perpendicular to the direction of travel (see running slope).

CURB RAMP. A short ramp cutting through a curb or built up to it.

DWELLING UNIT. 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. A single family home is a dwelling unit, and dwelling units are to be found in such housing types as townhouses and apartment buildings.

EGRESS, MEANS OF. An accessible route of exit that meets all applicable code specifications of the regulatory building agency having jurisdiction over the building or facility.

ELEMENT. An architectural or mechanical component of a building, facility, space, or site, e.g., telephone, curb ramp, door, drinking fountain, seating, water closet.

ENTRANCE. Any access point to a building or portion of building or facility 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, the entry door(s) or gate(s), and the hardware of the entry door(s) or gate(s). The principal entrance of a building or facility is the main door through which most people enter.

ESSENTIAL FEATURES. Those elements and spaces that make a building or facility usable by, or serve the needs of, its occupants or users. Essential features include but are not limited to entrances, toilet rooms, and accessible routes. Essential features do not include those spaces that house the major activities for which the building or facility is intended, such as classrooms and offices.

EXTRAORDINARY REPAIR. The replacement or renewal of any element of an existing building or facility for purposes other than normal maintenance.

FACILITY. All or any portion of a building, structure, or area, including the site on which such building, structure or area is located, wherein specific services are provided or activities performed.

FULL AND FAIR CASH VALUE. Full and fair cash value is calculated for the estimated date on which work will commence on a project and means:

- (1) The assessed valuation of a building or facility as recorded in the assessor's office of the municipality and as equalized at one hundred percent (100%) valuation, or
- (2) The replacement cost, or
- (3) The fair market value.

FUNCTIONAL SPACES. The rooms and spaces in a building or facility that house the major activities for which the building or facility is intended.

HOUSING. A building, facility, or portion thereof, excluding inpatient health care facilities, that contains one or more dwelling units or sleeping accommodations.

Housing may include, but is not limited to, one and two-family dwellings, apartments, group homes, hotels, motels, dormitories, and mobile homes.

MARKED CROSSING. A crosswalk or other identified path intended for pedestrian use in crossing a vehicular way.

MULTIFAMILY DWELLING. Any building containing more than two dwelling units.

OPERABLE PART. A part of a piece of equipment or appliance used to insert or withdraw objects, or to activate, deactivate, or adjust the equipment or appliance (for example, coin slot, pushbutton, handle).

PHYSICALLY HANDICAPPED. An individual who has a physical impairment, including impaired sensory, manual or speaking abilities, which results in a functional limitation in access to and use of a building or facility.

POWER-ASSISTED DOOR. A door used for human passage with a mechanism that helps to open the door, or relieve the opening resistance of a door, upon the activation of a switch or a continued force applied to the door itself. If the switch or door is released, such doors immediately begin to close or close completely within 3 to 30 seconds (see automatic door).

PUBLIC USE. Describes interior or exterior rooms or spaces that are made available to the general public. Public use may be provided at a building or facility that is privately or publicly owned.

RAMP. A walking surface in an accessible space that has a running slope greater than 1:20.

RUNNING SLOPE. The slope that is parallel to the direction of travel (see cross slope).

SERVICE ENTRANCE. An entrance intended primarily for delivery of services.

SIGNAGE. Verbal, symbolic, tactile, and pictorial information.

SITE. A parcel of land bounded by a property line or a designated portion of a public right-of-way.

SITE IMPROVEMENT. Landscaping, paving for pedestrian and vehicular ways, outdoor lighting, recreational facilities, and the like, added to a site.

SLEEPING ACCOMMODATIONS. Rooms in which people sleep, for example, dormitory and hotel or motel guest rooms.

SPACE. A definable area, e.g., toilet room, hall, assembly area, entrance, storage room, alcove, courtyard, or lobby.

STRUCTURAL IMPRACTICABILITY. Changes having little likelihood of being accomplished without removing or altering a load-bearing structural member and/or incurring an increased cost of 50 percent or more of the value of the element of the building or facility involved.

TACTILE. Describes an object that can be perceived using the sense of touch.

TACTILE WARNING. A standardized surface texture applied to or built into walking surfaces or other elements to warn visually impaired people of hazards in the path of travel.

TEMPORARY. Applies to facilities that are not of permanent construction but are extensively used or essential for public use for a given (short) period of time, for example, temporary classrooms or classroom buildings at schools and colleges, or facilities around a major construction site to make passage accessible, usable, and safe for everybody. Structures directly associated with the actual processes of major construction, such as porta-potties, scaffolding, bridging, trailers, and the like, are not included. Temporary as applied to elements means installed for less than 6 months and not required for safety reasons.

VEHICULAR WAY. A route intended for vehicular traffic, such as a street, driveway, or parking lot.

WALK. An exterior pathway with a prepared surface intended for pedestrian use, including general pedestrian areas such as plazas and courts.

4. ACCESSIBLE ELEMENTS AND SPACES: SCOPE AND TECHNICAL REQUIREMENTS.

4.1 MINIMUM REQUIREMENTS.

4.1.1 ACCESSIBLE SITES AND EXTERIOR FACILITIES: NEW CONSTRUCTION.

An accessible site shall meet the following minimum requirements:

4.1.1.1 AT LEAST ONE ACCESSIBLE ROUTE complying with 4.3 shall be provided within the boundary of the site from public transportation stops, accessible parking spaces, passenger loading zones if provided, and public streets or sidewalks to an accessible building entrance.

4.1.1.2 AT LEAST ONE ACCESSIBLE ROUTE complying with 4.3 shall connect accessible buildings, facilities, elements, and spaces that are on the same site.

4.1.1.3 ALL OBJECTS THAT PROTRUDE from surfaces or posts into circulation paths shall comply with 4.4.

4.1.1.4 GROUND SURFACES along accessible routes and in accessible spaces shall comply with 4.5.

4.1.1.5

(a) If parking spaces are provided for employees or visitors, or both, then accessible spaces, complying with 4.6, shall be provided in each such parking area in conformance with the following table:

Total Parking in Lot	Required Minimum Number of Accessible Spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	*
1001 and over	**

* 2 percent of total

** 20 plus one for each 100 over 1000

EXCEPTION: The total number of accessible parking spaces may be distributed among parking lots, if greater accessibility is achieved.

EXCEPTION: This does not apply to parking provided for official government vehicles owned or leased by the government and used exclusively for government purposes.

(b) If passenger loading zones are provided, then at least one passenger loading zone shall comply with 4.6.5.

(c) Parking spaces for side lift vans are accessible parking spaces and may be used to meet the requirements of this paragraph.

(d) Parking spaces at accessible housing complying with 4.6 shall be provided in accordance with the following:

(i) Where parking is provided for all residents, one accessible parking space shall be provided for each accessible dwelling unit; and

(ii) Where parking is provided for only a portion of the residents, an accessible parking space shall be provided on request of the occupant of an accessible dwelling unit;

(iii) Where parking is provided for visitors, 2 percent of the spaces, or at least one, shall be accessible.

(e) Parking spaces at health care facilities complying with 4.6 shall be provided in accordance with the following:

(i) General health care facilities, employee and visitor parking: Comply with Table 4.1.1(5)(a);

(ii) Outpatient facilities: 10 percent of the total number of parking spaces provided;

(iii) Spinal cord injury facilities, employee and visitor parking: 20 percent of total parking spaces provided.

4.1.1.6 IF TOILET FACILITIES ARE PROVIDED on a site, then each such public or common use toilet facility shall comply with 4.22. If bathing facilities are provided on a site, then each such public or common use bathing facility shall comply with 4.23.

EXCEPTION: These provisions are not mandatory for single user portable toilet or bathing units clustered at a single location; however, at least one toilet unit complying with 4.22 or one bathing unit complying with 4.23 should be installed at each location whenever standard units are provided.

4.1.1.7 ALL SIGNS shall comply with 4.30. Elements and spaces of accessible facilities which shall be identified by the International Symbol of Accessibility are:

(a) Parking spaces designated as reserved for physically handicapped people;

(b) passenger loading zones;

(c) accessible entrances;

(d) accessible toilet and bathing facilities.

4.1.2 ACCESSIBLE BUILDINGS: NEW CONSTRUCTION. Accessible buildings and facilities shall meet the following minimum requirements:

4.1.2.1 AT LEAST ONE ACCESSIBLE ROUTE complying with 4.3 shall connect accessible building or facility entrances with all accessible spaces and elements within the building or facility.

4.1.2.2 ALL OBJECTS THAT OVERHANG CIRCULATION PATHS shall comply with 4.4.

4.1.2.3 GROUND AND FLOOR SURFACES along accessible routes and in accessible rooms and spaces shall comply with 4.5.

4.1.2.4 STAIRS connecting levels that are not connected by an elevator shall comply with 4.9.

4.1.2.5 ONE PASSENGER ELEVATOR complying with 4.10 shall serve each level in all multi-story buildings and facilities. If more than one elevator is provided, each elevator shall comply with 4.10.

EXCEPTION: Elevator pits, elevator penthouses, mechanical rooms, piping or equipment catwalks are excepted from this requirement.

EXCEPTION: Accessible ramps complying with 4.8 or, if no other alternative is feasible, accessible platform lifts complying with 4.11 may be used in lieu of an elevator.

4.1.2.6 WINDOWS. (Reserved).

4.1.2.7 DOORS:

(a) At each accessible entrance to a building or facility, at least one door shall comply with 4.13.

(b) Within a building or facility, at least one door at each accessible space shall comply with 4.13.

(c) Each door that is an element of an accessible route shall comply with 4.13.

(d) Each door required by 4.3.10, Egress, shall comply with 4.13.

EXCEPTION: In multiple-story buildings and facilities where at-grade egress from each floor is impossible, either of the following is permitted: the provision within each story of approved fire and smoke partitions that create horizontal exits, or, the provision within each floor of areas of refuge approved by agencies having authority for safety.

4.1.2.8 AT LEAST ONE PRINCIPAL ENTRANCE at each grade floor level to a building or facility shall comply with 4.14, Entrances. When a building or facility has entrances which normally serve any of the following functions: transportation facilities, passenger loading zones, accessible parking facilities, taxi stands, public streets and sidewalks, or accessible interior vertical access, then at least one of the entrances serving each such function shall comply with 4.14, Entrances. Because entrances also serve as emergency exits, whose proximity to all parts of buildings and facilities is essential, it is preferable that all or most exits be accessible.

4.1.2.9 IF DRINKING FOUNTAINS or water coolers are provided, approximately 50 percent of those provided on each floor shall comply with 4.15 and shall be on an accessible route. If only one drinking fountain or water cooler is provided on any floor, it shall comply with 4.15.

4.1.2.10 IF TOILET FACILITIES are provided, then each public and common use toilet room shall comply with 4.22. Other toilet rooms shall be adaptable. If bathing facilities are provided, then each public and common use bathroom shall comply with 4.23. Accessible toilet rooms and bathing facilities shall be on an accessible route.

4.1.2.11 IF STORAGE FACILITIES such as cabinets, shelves, closets, and drawers are provided in accessible spaces, at least one of each type provided shall contain storage space complying with 4.25. Additional storage may be provided outside of the dimensions shown in Fig. 38.

4.1.2.12 CONTROLS AND OPERATING MECHANISMS in accessible spaces, along accessible routes, or as parts of accessible elements (for example, light switches and dispenser controls) shall comply with 4.27.

4.1.2.13 IF EMERGENCY WARNING SYSTEMS are provided, then they shall include both audible alarms complying with 4.28.2 and visual alarms complying with 4.28.3. In facilities with sleeping accommodations, the sleeping accommodations shall have an alarm system complying with 4.28.4. Emergency warning systems in health care facilities may be modified to suit standard health care alarm design practice.

4.1.2.14 TACTILE WARNINGS shall be provided at hazardous conditions as specified in 4.29.3.

4.1.2.15 IF SIGNS are provided, they shall comply with 4.30. In addition, permanent signage that identifies rooms and spaces shall also comply with 4.30.4 and 4.30.6.

EXCEPTION: The provisions of 4.30.4 are not mandatory for temporary information on room and space signage, such as current occupant's name, provided the permanent room or space identification complies with 4.30.4.

4.1.2.16 PUBLIC TELEPHONES:

(a) If public telephones are provided, then accessible public telephones shall comply with 4.31, Telephones, and the following table:

Number of public telephones provided on each floor	Number of telephones required to be accessible ^x
1 or more single unit installations	1 per floor
1 bank ^{**}	1 per floor
2 or more banks ^{**}	1 per bank. Accessible unit may be installed as a single unit in proximity (either visible or with signage) to the bank. At least one public telephone per floor shall meet the requirements for a forward reach telephone. ^{***}

* Additional public telephones may be installed at any height. Unless otherwise specified, accessible telephones may be either forward or side reach telephones.

** A bank consists of two or more adjacent public telephones, often installed as a unit.

*** EXCEPTION: For exterior installations only, if dial tone first service is not available, then a side reach telephone may be installed instead of the required forward reach telephone (i.e., one telephone in proximity to each bank shall comply with 4.31).

(b) At least one of the public telephones complying with 4.31, Telephones, shall be equipped with a volume control. The installation of additional volume controls is encouraged, and these may be installed on any public telephone provided.

4.1.2.17 IF FIXED OR BUILT-IN SEATING, tables, or work surfaces are provided in accessible spaces, at least 5 percent, but always at least one, of seating spaces, tables, or work surfaces shall comply with 4.32.

4.1.2.18 ASSEMBLY AREAS:

(a) If places of assembly are provided, they shall comply with the following table:

Capacity of seating and assembly areas	Number of required wheelchair locations
50 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	*
Over 1000	**

* 2 percent of total

** 20 plus 1 for each 100 over 1,000.

(b) Assembly areas with audio-amplification systems shall have a listening system complying with 4.33 to assist a reasonable number of people, but no fewer than two, with severe hearing loss. For assembly areas without amplification systems and for spaces used primarily as meeting and conference rooms, a permanently installed or portable listening system shall be provided. If portable systems are used for conference or meeting rooms, the system may serve more than one room.

4.1.3 ACCESSIBLE HOUSING. Accessible housing shall comply with the requirements of 4.1 and 4.34 except as noted below:

4.1.3.1 ELEVATORS. Where provided, elevators shall comply with 4.10. Elevators or other accessible means of vertical movement are not required in residential facilities when:

(a) No accessible dwelling units are located above or below the accessible grade level;
and

(b) At least one of each type of common area and amenity provided for use of residents and visitors is available at the accessible grade level.

4.1.3.2 ENTRANCES. Entrances complying with 4.14 shall be provided as necessary to achieve access to and egress from buildings and facilities.

EXCEPTION: In projects consisting of one-to-four family dwellings where accessible entrances would be extraordinarily costly due to site conditions or local code restrictions, accessible entrances are required only to those buildings containing accessible dwelling units.

4.1.3.3 COMMON AREAS. At least one of each type of common area and amenity in each project shall be accessible and shall be located on an accessible route to any accessible dwelling unit.

4.1.4 OCCUPANCY CLASSIFICATIONS. Buildings and facilities shall comply with these standards to the extent noted in this section for various occupancy classifications, unless otherwise modified by a special application section. Occupancy classifications, and the facilities covered under each category include, but are not necessarily limited to, the listing which follows:

4.1.4.1 GENERAL EXCEPTIONS. Accessibility is not required to elevator pits, elevator penthouses, mechanical rooms, piping or equipment catwalks, lookout galleries, electrical and telephone closets, and general utility rooms.

4.1.4.2 MILITARY EXCLUSIONS. The following facilities need not be designed to be accessible, but accessibility is recommended since the intended use of the facility may change with time.

(a) Unaccompanied personnel housing, closed messes, vehicle and facilities, where all work is performed by able-bodied military personnel and aircraft maintenance, in

general, all facilities which are intended for use or occupancy by able-bodied military personnel only.

(b) Those portions of Reserve and National Guard facilities which are designed and constructed primarily for use by able-bodied military personnel. This exclusion does not apply to those portions of a building or facility which may be open to the public or which may be used by the public during the conduct of normal business or which may be used by physically handicapped persons employed or seeking employment at such building or facility. These portions of the building or facility shall be accessible.

(c) Where the number of accessible spaces required is determined by the design capacity of a facility (such as parking or assembly areas), the number of able-bodied military persons used in determining the design capacity need not be counted when computing the number of accessible spaces required.

4.1.4.3 MILITARY HOUSING. In the case of military housing, which is primarily available for able-bodied military personnel and their dependents, at least 5 percent of the total but at least one unit (on an installation-by-installation basis) of all housing constructed will be designed and built to be either accessible or readily and easily modifiable to be accessible, but in any event, modification of individual units (including the making of adaptations), will be accomplished on a high priority basis when a requirement is identified. Common areas such as walks, streets, parking and play areas, and common entrances to multi-unit facilities shall be designed and built to be accessible.

4.1.4.4 ASSEMBLY. Assembly occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering together of persons for purposes such as civic, social or religious functions, recreation, food or drink consumption, or awaiting transportation. A room or space used for assembly purposes by less than fifty (50) persons and accessory to another occupancy shall be included as a part of that major occupancy. For purposes of these standards, assembly occupancies shall include the following:

Facilities	Application
Amusement arcades Amusement park structure Auditoriums Banquet halls Bleachers Bowling alleys Carnivals Churches Clubs Community halls Courtrooms (public areas) Dance halls Drive-in theaters Exhibition halls Fairs Funeral parlors Grandstands Gymnasiums Motion picture theaters Indoor & outdoor swimming pools Indoor & outdoor tennis courts Lecture halls Libraries Museums Night clubs Passenger stations Pool & billiard halls Restaurants** Skating rinks Stadiums Taverns & bars Television studios, admitting audiences Theatres	All areas for which the intended use will require public access or which may result in employment of physically handicapped persons

4.1.4.5 BUSINESS. Business occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service type transactions, including storage of records and accounts.

Facilities	Application
Animal hospitals, kennels, pounds Automobile and other motor vehicle showrooms Banks Barber shops Beauty shops Car wash Civic administration Clinic, outpatient Dry cleaning Educational above 12th grade Electronic data processing Fire stations Florists & nurseries Laboratories: testing & research Laundries Motor vehicle service stations Police stations Post offices Print shops Professional services, attorney, dentist, physician, engineer, etc. Radio & T.V. stations ³ Telephone exchanges	All areas for which the intended use will require public access or which may result in employment of physically handicapped persons

4.1.4.6 EDUCATIONAL. Educational occupancy includes, among others, the use of a building or structure, or portion thereof, by six or more persons at any time for educational purposes through the 12th grade. Schools for business or vocational training shall conform to the requirements of the trade, vocation or business taught.

Facilities	Application
Academies Kindergarten Nursery schools Schools	All areas shall comply

4.1.4.7 FACTORY INDUSTRIAL. Factory industrial occupancy includes, among others, the use of a building or structure, or portion thereof, for assembling, disassembling, fabricating, finishing, manufacturing, packaging, processing or other operations that are not classified as a Hazardous Occupancy.

Facilities	Application
Aircraft Appliances Athletic equipment Automobile and other motor vehicles Bakeries Beverages Bicycles Boats, building Brick and masonry Broom or brush Business machines Canvas or similar Cameras and photo equipment Carpets & rugs, including cleaning ³ Ceramic products Clothing Construction & agricultural machinery Disinfectants Dry cleaning & dyeing Electronics Engines, including rebuilding Film, photographic Food processing Foundries Furniture Glass products Gypsum Hemp products Ice Jute products Laundries Leather products Machinery Metal Motion pictures & television film Musical instruments Optical goods Paper products Plastic products Printing or publishing Recreational vehicles Refuse incineration Shoes Soaps & detergents Steel products: fabrication, assembly Textiles Tobacco Trailers Upholstering Wood, distribution Millwork Woodworking, cabinet Postal mail: processing facilities	All areas for which the intended use will require public access or which may result in employment of physically handicapped persons.

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4.1.4.8 HAZARDOUS. Hazardous occupancy includes, among others, the use of a building or structure, or a portion thereof, that involves the manufacturing, combustible, flammable or explosive materials that constitute a high fire or explosive hazard, including loose combustible fibers, dust and unstable materials.

Facilities	Application
Combustible dust Combustible fibers Combustible liquid Corrosive liquids Explosive material Flammable gas Flammable liquid Liquified petroleum gas Nitromethane Oxidizing materials Organic peroxide	All areas for which the intended use will require public access or which may result in employment of physically handicapped persons.

4.1.4.9 INSTITUTIONAL. Institutional occupancy includes, among others, the use of a building or structure, or any portion thereof, in which people have physical or medical treatment or care, or in which the liberty of the occupants is restricted. Institutional occupancies shall include the following subgroups:

(a) Institutional occupancies for the care of children, including:

Facilities	Application
Child care facilities	All areas for which the intended use will require public access or which may result in employment of physically handicapped persons.

(b) Institutional occupancies used for medical or other treatment or care of persons, some of whom are suffering from physical or mental illness, disease or infirmity, including:

Facilities	Application
Long Term Care Facilities: (including Skilled Nursing Facilities, Intermediate Care Facilities, Bed & Care and Nursing Homes).	At least 50 percent of patient toilets and bedrooms; all public use, common use or areas which may result in employment of physically handicapped persons
Outpatient Facilities	All patient toilets and bedrooms, all public use, common use, or areas which may result in employment of physically handicapped persons.
General Purpose Hospitals	At least 10 percent of patient toilets and bedrooms, all public use, common use, or areas which may result in employment of physically handicapped persons.
Special Purpose Hospitals (hospitals that treat conditions that affect mobility)	All patient toilets and bedrooms, all public use, common use, or areas which may result in employment of physically handicapped persons.

(c) Institutional occupancies where the occupants are under some degree of restraint or restriction for security reasons including:

(c) Institutional occupancies where the occupants are under some degree of restraint or restriction for security reasons including:

Facilities	Application
Jails, prisons, reformatories, other detention or correctional facilities	5 percent of residential units available, or at least one unit, whichever is greater; all common use, visitor use, or areas which may result in employment of physically handicapped persons.

4.1.4.10 MERCANTILE. Mercantile occupancy includes, among others, all buildings and structures or parts thereof, for the display and sale of merchandise, and involving stocks of goods, wares or merchandise incidental to such purposes and accessible to the public.

Facilities	Application
Department stores Drug stores ³ Markets Retail stores ³ Shopping centers ³ Sales rooms	All areas for which the intended use will require public access or which may result in employment of physically handicapped persons.

4.1.4.11 RESIDENTIAL. Residential occupancy includes, among others, the use of a building or structure, or portion thereof, for sleeping accommodations when not classed as an institutional occupancy. Residential occupancies shall comply with the requirements of 4.1 and 4.34 except as follows:

(a) Residential occupancies where the occupants are primarily transient in nature (less than 30 days) including:

Facilities	Application
Hotels Motels Boarding houses	5 percent of the total units, or at least one, whichever is greater, and all public use, common use, and areas which may result in employment of physically handicapped persons.

(b) Residential occupancies in multiple dwellings where the occupants are primarily permanent in nature, including:

Facilities	Application
Multi-Family Housing (Apartment Houses)	
Federally assisted	5 percent of the total, or at least one unit, whichever is greater, in projects of 15 or more dwelling units, or as determined by the appropriate Federal agency following a local needs assessment conducted by local government bodies or states under applicable regulations.
Federally owned	5 percent of the total, or at least one unit, whichever is greater.
Dormitories	5 percent of the total, or at least one unit, whichever is greater.

(c) Residential occupancies in one (1) and two (2) family dwellings where the occupancies are primarily permanent in nature and not classified as preceding residential categories or as institutional.

Facilities	Application
One- and Two-family houses	
Federally assisted, rental	5 percent of the total, or at least one unit, whichever is greater, in projects of 15 or more dwelling units, or as determined by the appropriate Federal agency following a local needs assessment conducted by local government bodies or states under applicable regulations.
Federally assisted, home ownership	To be determined by buyer
Federally owned	5 percent of the total, or at least one unit, whichever is greater.

4.1.4.12 STORAGE. Storage occupancy includes, among others, the use of a building or structure, or portion thereof, for storage that is not classified as a Hazardous Occupancy.

Facilities	Application
Metal desks Electrical coils Electrical Dry cell batteries Metal parts Empty cans Stoves Washers & Dryers Metal cabinets Glass bottles with noncombustible liquid Mirrors Foods in non-combustible containers Frozen foods Meats Fresh fruits and vegetables Dairy products Beer or wine up to 12 percent alcohol Distribution transformers Cement in bags Electrical insulators Gypsum board Inert pigments Dry insecticides	All areas for which the intended use will require public access or which may result in employment of physically handicapped persons.

4.1.4.13 UTILITY AND MISCELLANEOUS. Utility and miscellaneous occupancies include, among others, accessory buildings and structures, such as:

Facilities	Application
Fences over 6 ft Tanks Cooling towers Retaining walls Buildings of less than 1,000 sq. ft. such as: Private garages Carports Sheds Agricultural buildings	All areas for which the intended use will require public access or which may result in employment of physically handicapped persons shall comply.

4.1.5 ACCESSIBLE BUILDINGS: ADDITIONS. Each addition to an existing building shall comply with 4.1.1 to 4.1.4 of 4.1, Minimum Requirements, except as follows:

4.1.5.1 ENTRANCES. If a new addition to a building or facility does not have an entrance, then at least one entrance in the existing building or facility shall comply with 4.1.4, Entrances.

4.1.5.2 ACCESSIBLE ROUTE. If the only accessible entrance to the addition is located in the existing building or facility, then at least one accessible route shall comply with 4.3, Accessible Route, and shall provide access through the existing building or facility to all rooms, elements, and spaces in the new addition.

4.1.5.3 TOILET AND BATHING FACILITIES. If there are no toilet rooms and bathing facilities in the addition and these facilities are provided in the existing building, then at least one toilet and bathing facility in the existing building shall comply with 4.22, Toilet Rooms, or 4.23, Bathrooms, Bathing Facilities, and Shower Rooms.

4.1.5.4 ELEMENTS, SPACES, AND COMMON AREAS. If elements, spaces, or common areas are located in the existing building and they are not provided in the

addition, then consideration should be given to making those elements, spaces, and common areas accessible in the existing building.

EXCEPTIONS: Mechanical rooms, storage areas, and other such minor additions which normally are not frequented by the public or employees of the facility are excepted from 4.1.5.

4.1.5.5 HOUSING: (Reserved).

4.1.6 ACCESSIBLE BUILDINGS. ALTERATIONS.

4.1.6.1 GENERAL. Alterations to existing buildings or facilities shall comply with the following:

(a) If existing elements, spaces, essential features, or common areas are altered, then each such altered element, space, feature, or area shall comply with the applicable provisions of 4.1.1 to 4.1.4 of 4.1, Minimum Requirements.

(b) If power-driven vertical access equipment (e.g., escalator) is planned or installed where none existed previously, or if new stairs (other than stairs installed to meet emergency exit requirements) requiring major structural changes are planned or installed where none existed previously, then a means of accessible vertical access shall be provided that complies with 4.7, Curb Ramps; 4.8, Ramps; 4.10, Elevators; or 4.11, Platform Lifts; except to the extent where it is structurally impracticable in transit facilities.

(c) If alterations of single elements, when considered together, amount to an alteration of a space of a building or facility, the entire space shall be made accessible.

(d) No alteration of an existing element, space, or area of a building shall impose a requirement for greater accessibility than that which would be required for new

construction. For example, if the elevators and stairs in a building are being altered and the elevators are, in turn, being made accessible, then no accessibility modifications are required to the stairs connecting levels connected by the elevator.

(e) If the alteration work is limited solely to the electrical, mechanical, or plumbing system and does not involve the alteration of any elements and spaces required to be accessible under these standards, then 4.1.6(3) does not apply.

(f) No new accessibility alterations will be required of existing elements or spaces previously constructed or altered in compliance with earlier standards issued pursuant to the Architectural Barriers Act of 1968, as amended.

(g) Mechanical rooms and other spaces which normally are not frequented by the public or employees of the building or facility or which by nature of their use are not required by the Architectural Barriers Act to be accessible are excepted from the requirements of 4.1.6.

4.1.6.2 WHERE A BUILDING OR FACILITY IS VACATED and it is totally altered, then it shall be altered to comply with 4.1.1 to 4.1.5 of 4.1, Minimum Requirements, except to the extent where it is structurally impracticable.

4.1.6.3 WHERE SUBSTANTIAL ALTERATION OCCURS to a building or facility, then each element or space that is altered or added shall comply with the applicable provisions of 4.1.1 to 4.1.4 of 4.1, Minimum Requirements, except to the extent where it is structurally impracticable. The altered building or facility shall contain:

(a) At least one accessible route complying with 4.3, Accessible and 4.1.6(a);

(b) At least one accessible entrance complying with 4.14, Entrances. If additional entrances are altered then they shall comply with 4.1.6(a); and

(c) The following toilet facilities, whichever is greater:

(i) At least one toilet facility for each sex in the altered building complying with 4.22, Toilet Rooms, and 4.23, Bathrooms, Bathing Facilities, and Shower Rooms.

(ii) At least one toilet facility for each sex on each substantially altered floor, where such facilities are provided, complying with 4.22, Toilet Rooms; and 4.23, Bathrooms, Bathing Facilities, and Shower Rooms.

(d) In making the determination as to what constitutes "substantial alteration," the agency issuing standards for the facility shall consider the total cost of all alterations (including but not limited to electrical, mechanical, plumbing, and structural changes) for a building or facility within any twelve (12) month period. For guidance in implementing this provision, an alteration to any building or facility is to be considered substantial if the total cost for this twelve month period amounts to 50 percent or more of the full and fair cash value of the building as defined in 3.5.

EXCEPTION: If the cost of the elements and spaces required by 4.1.6(3)(a), (b), or (c) exceeds 15 percent of the total cost of all other alterations, then a schedule may be established by the standard-setting and/or funding agency to provide the required improvements within a 5-year period.

EXCEPTION: Consideration shall be given to providing accessible elements and spaces in each altered building or facility complying with:

- (i) 4.6, Parking and Passenger Loading Zones,
- (ii) 4.15, Drinking Fountains and Water Coolers,
- (iii) 4.25, Storage,
- (iv) 4.28, Alarms,
- (v) 4.31, Telephones,
- (vi) 4.32, Seating, Tables, and Work Surfaces,

(vii) 4.33, Assembly Areas.

4.1.6.4 SPECIAL TECHNICAL PROVISIONS for alterations to existing buildings or facilities:

(a) RAMPS. Curb ramps and ramps to be constructed on existing sites or in existing buildings or facilities may have slopes and rises as shown in Table 2 if space limitations prohibit the use of a 1:12 slope or less.

Slope *	Maximum Rise		Maximum Run	
	In	Mm	Ft	M
Steeper than 1:10 but no steeper than 1:8	3	75	2	0.6
Steeper than 1:12 but no steeper than 1:10	6	150	5	1.5

* A slope steeper than 1:8 not allowed

Table 2
Allowable ramp dimensions for construction in existing sites, buildings and facilities

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

(c) ELEVATORS.

(i) If a safety door edge is provided in existing automatic elevators, then the automatic door reopening devices may be omitted (see 4.10.6).

(ii) Where existing shaft or structural elements prohibit strict compliance with 4.10.9, then the minimum floor area dimensions may be reduced by the minimum amount necessary, but in no case shall they be less than 48 in by 48 in (1220 mm by 1220 mm).

(d) DOORS.

(i) Where existing elements prohibit strict compliance with the clearance requirements of 4.13.5, a projection of 5/8 in (16 mm) maximum will be permitted for the latch side door stop.

(ii) If existing thresholds measure 3/4 in (19 mm) high or less, and are beveled or modified to provide a beveled edge on each side, then they may be retained.

(e) TOILET ROOMS. Where alterations to existing facilities make strict compliance with 4.22 and 4.23 structurally impracticable, the addition of one "unisex" toilet per floor containing one water closet complying with 4.16 and one lavatory complying with 4.19, located adjacent to existing toilet facilities, will be acceptable in lieu of making existing toilet facilities for each sex accessible.

EXCEPTION: In instances of alteration work where provision of a standard stall (Fig. 30(a)) is structurally impracticable or where plumbing code requirements prevent combining existing stalls to provide space, an alternate stall (Fig. 30(b)) may be provided in lieu of the standard stall.

(f) ASSEMBLY AREAS.

(i) In alterations where it is structurally impracticable to disperse seating throughout the assembly area, seating may be located in collected areas as structurally feasible. Seating shall adjoin an accessible route that also serves as a means of emergency egress.

(ii) In alterations where it is structurally impracticable to alter all performing areas to be on an accessible route, then at least one of each type shall be made accessible.

4.1.6.5 HOUSING. (Reserved).

4.1.7 ACCESSIBLE BUILDINGS: HISTORIC PRESERVATION

4.1.7.1 APPLICABILITY

4.1.7.1.1 AS A GENERAL RULE, the accessibility provisions of shall be applied to "qualified" historic buildings and facilities. "Qualified" buildings or facilities are those buildings and facilities that are eligible for listing in the National Register of Historic Places, or such properties designated as historic under a statute of the appropriate state or local government body. Comments of the Advisory Council on Historic Preservation shall be obtained when required by Section 106 of the National Historic Preservation Act of 1966, as amended, 16 U.S.C 470 and 36 CFR Part 800, before any alteration to a qualified historic building.

4.1.7.1.2 THE ADVISORY COUNCIL shall determine, on a case-by-case basis, whether provisions required by part 4 for accessible routes (exterior and interior), ramps, entrances, toilets, parking, and displays and signage, would threaten or destroy the historic significance of the building or facility.

4.1.7.1.3 IF THE ADVISORY COUNCIL determines that any of the accessibility requirements for features listed would threaten or destroy the historic significance of a building or facility, then the special application provisions for that feature may be utilized. The special application provisions listed under may only be utilized following a written determination by the Advisory Council that application of a requirement would threaten or destroy the historic integrity of a qualified building or facility.

4.1.7.2 HISTORIC PRESERVATION: MINIMUM REQUIREMENTS

4.1.7.2.1 AT LEAST ONE ACCESSIBLE ROUTE complying with 4.3 from a site access point to an accessible entrance shall be provided.

EXCEPTION: A ramp with a slope no greater than 1:6 for a run not to exceed 2 ft (610 mm) may be used as part of an accessible route at an entrance.

4.1.7.2.2 AT LEAST ONE ACCESSIBLE ENTRANCE which is used by the public complying with 4.14 shall be provided.

EXCEPTION: If it is determined that no entrance used by the public can comply with 4.14, then access at any entrance not used by the general public but open (unlocked) with directional signs at the primary entrance may be used.

4.1.7.2.3 IF TOILETS ARE PROVIDED, then at least one toilet facility complying with 4.22 and 4.1.6 shall be provided along an accessible route that complies with 4.3. Such toilet facility may be "unisex" in design.

4.1.7.2.4 ACCESSIBLE ROUTES from an accessible entrance to all publicly used spaces on at least the level of the accessible entrance shall be provided. Access should be provided to all levels of a building or facility in compliance with 4.1 whenever practical.

4.1.7.2.5 DISPLAYS AND WRITTEN INFORMATION, documents, etc, should be located where they can be seen by a seated person. Exhibits and signage displayed horizontally, e.g., books, should be no higher than 44 in (1120 mm) above the floor surface.

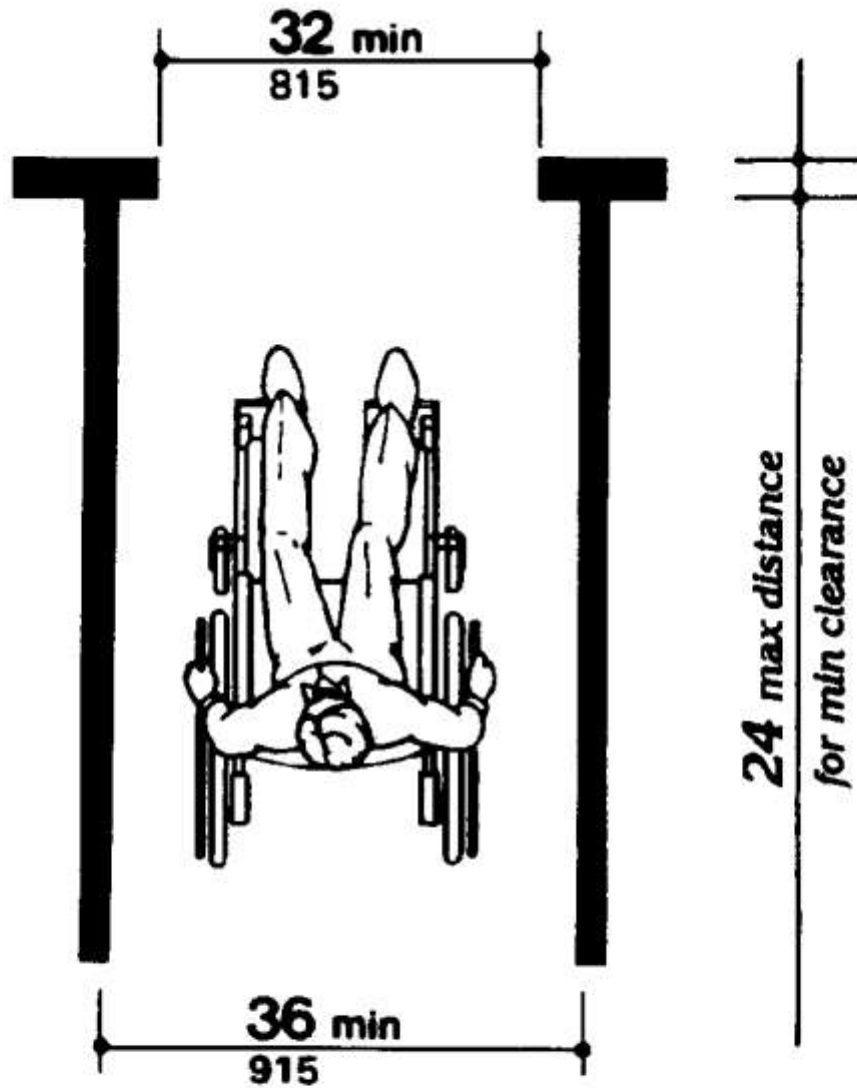


Fig. 1
Minimum Clear Width
for Single Wheelchair

APPENDIX
AN INTRODUCTION TO ACCESSIBILITY STANDARDS:
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