

b. Pier foundations shall be placed below the frost line on level and undisturbed soil, or on controlled fill, which is free of grass and organic materials. (A small amount of sand may be of use to provide a level surface.) All pier foundations shall be set level and piers must be installed plumb. The pier foundation shall be at least a 16" × 16" × 4" solid concrete pad, precast or poured in place, or other approved material. Two nominal 4" × 8" × 16" solid concrete blocks may be used provided the joint between the blocks is parallel to the main frame longitudinal beam. Concrete used in foundations shall have a 28-day compressive strength of not less than 3,000 pounds per square inch (3000 P.S.I.).

EXCEPTION: Pier foundations may be exempt from extending below the frost line on manufactured home installations, only if the owner agrees to be responsible for the loosening of the anchor system on or about November 1 to prevent frost heave damage to the unit, and to retighten the anchors each spring. A statement to this effect is on the installation certificates and a space is provided for the owner's signature.

c. Unless otherwise directed by the owner of the site the soil bearing capacity of the site may be assumed to be 2,000 pounds per square foot. The acceptable construction under this subrule is based upon a soil bearing capacity of 2,000 pounds per square foot. Soils with less capacity will require increased size footings.

EXPLANATION: The permissible footing sizes and pier spacing given in this code are based upon a combined live and dead load of 65 pounds per square foot of unit. This assumes that the full snow and internal live load will not be present at the same time.

d. Piers may be constructed of concrete or undamaged nominal 8" × 8" × 16" concrete blocks, open celled or solid placed on the pier foundation. All open celled concrete block shall be installed with the cells of the block in a vertical position. Nominal 2" × 8" × 16" or nominal 4" × 8" × 16" solid concrete blocks may be utilized as needed, to achieve the necessary heights of the piers for a particular installation. A nominal 2" × 8" × 16" wood plate, or equivalent, shall be placed on top of each pier, unless there is at least 4" of solid block, with shims fitted and driven between the wood plate or solid block and the main frame longitudinal beam. The wood blocking shall not occupy more than a nominal 2 inches of vertical space and shims shall not occupy more than 1 inch of vertical space. Shims which have a thickness of more than 3/8" shall be hardwood.

1. Piers up to 40 inches in height, except corner piers over three blocks high (a nominal 24"), may be single block construction and shall be installed transverse (right angle) to the mainframe longitudinal beam. (see Figure 1)

2. Piers over 40 inches in height but not exceeding 80 inches in height and corner piers over three blocks high shall be double block construction with every other course either parallel or transverse (right angle) to the main frame longitudinal beam. These piers shall be capped with a nominal 16" × 16" × 4" solid concrete block or equivalent. (see Figure 2) Wood blocking and hardwood shims shall be installed accordingly.

3. Piers over 80 inches in height shall be reinforced concrete or double block construction following exactly the procedure given in paragraph number two above. Celled concrete blocks only shall be used (with open cells vertical) with 3/8" diameter or larger steel reinforcing rods placed in the pier corners and all cells filled with 3,000 pounds per square inch concrete. (see Figure 3) Wood blocking and shims shall be installed accordingly.

16.626(2) Requirements for anchorage systems. When instructions are not provided by manufacturer, ties shall be attached vertically and diagonally to a system of ground anchors in a manner as illustrated in Figures 4 and 5. The minimum number of ties required are listed in Table 6-A. There shall be a diagonal tie between the ground anchors and the unit at each vertical tie. Additional diagonal ties may be required between vertical ties. The ties shall be as evenly spaced as practicable along the length of the unit with not over 8 feet open on each end.

a. Ties may be either steel cable, steel strapping, or other materials which meet the requirements of 16.626(2)“*f.*” Ties are to be fastened to ground anchors and drawn tight with galvanized turnbuckles or yoke-type fasteners and tensioning devices. Turnbuckles shall be ended with jaws of forged or welded eyes (hook ends are not approved).

b. When continuous straps (over-the-top tie-downs) are provided as vertical ties, they should be positioned at rafters and studs to prevent structural damage. Where a vertical tie and diagonal tie are located at the same place, both ties may be connected to a single doublehead ground anchor, provided that the anchor used is capable of carrying the combined loads and the anchor is included on a list of approved products maintained by the commissioner.

c. Cable used for ties may be either galvanized steel or stainless steel having a breaking strength of at least 4,725 pounds. Cable should be either 7/32” diameter or greater (7 × 7) steel cable or 1/4” diameter or greater (7 × 19) aircraft cable. All cable ends should be secured with at least two I-bolt type cable clamps or other nationally approved fastening devices.

d. When flat steel straps are used as ties they shall be type 1, class B, grade 1, 1 1/4 inches wide and 0.035 inch thick, conforming with federal standard QQ-S-781-F, with a breaking strength of at least 4,725 pounds. Zinc coating (weather protection) shall be a minimum of 0.30 ounces per square foot of surface. Steel strap ties shall terminate with D-rings, bolts, or other nationally approved fastening devices which will not cause distortion or reduce breaking strength of ties.

e. The direction of pull of the diagonal ties should be at a right angle to the main frame longitudinal beam. Connection of the diagonal tie to the main frame longitudinal beam should be in accordance with anchor system instructions for those fastening devices. When steel strap ties are used, care should be exercised that the minimum bending radius is adhered to so the breaking strength is not reduced.

f. The anchorage materials shall be capable of resisting an allowable minimum working load of 3,150 pounds (pullout in a vertical direction) with no more than 2 percent elongation and shall withstand a 50 percent overload. All anchorage materials shall be resistant to weathering deterioration at least equivalent to that provided by a coating of zinc on steel strapping of not less than 0.30 ounces per square foot surface coated. Anchors to reinforced concrete slab or to rock shall be of comparable strength as provided within this paragraph.

Each ground anchor, when installed, shall be capable of resisting an allowable working load at least equal to 3,150 pounds in the direction of the ties plus a 50 percent overload (4,750 pounds total) without failure. Failure shall be considered to have occurred when the point of connection between the tie and anchor moves more than 2 inches at 4,750 pounds in the direction of the vertical tie when anchoring equipment is installed in accordance with the anchorage manufacturer’s instructions. Those ground anchors which are designed to be installed so that the loads on the anchor are other than direct withdrawal shall be designed and installed to resist an applied design load of 3,150 pounds at 45° from horizontal without displacing the anchor more than 4 inches horizontally at the point when the tie attaches to the anchor.

Anchors designed for connection of multiple ties shall be capable of resisting the combined working load and overload consistent with the intent expressed in this section.

g. Ground anchors shall be installed so the load-carrying portion of the anchor in its final working position is below the frost depth 42 inches and the anchor head shall be at ground level. Total anchor length shall be more than 42 inches as necessary.

NOTE: Precaution shall be taken to ensure that no telephone, electrical, plumbing or water lines are contacted when installing ground anchors on private property. Utility line locations shall be verified with the property owner or owner's representative.

661—16.627(103A) Approval of existing manufactured home tie-down systems. This rule is to provide a method by which manufactured homes which have been installed prior to the effective date of these rules can be sold without requiring a new tie-down system to be installed and to allow existing manufactured homes which are properly supported and anchored to be sold without installing new support and anchorage systems.

16.627(1) Sale of a certified unit.

a. The commissioner shall be notified in writing by the seller of the change of ownership when any manufactured home sold after the effective date of these rules remains in the same location. The installation seal shall remain in place and a copy of the installation certificate shall be supplied to the new owner. Replacement seals and certificates may be obtained if necessary (see subrule 16.623(9)).

b. A certified manufactured home sold after the effective date of these rules which is moved to a new location must obtain a new certificate and seal. However, the existing support and anchorage system may be used if the installer verifies the conditions of use and the installation procedures of the existing systems are met at the new location.

16.627(2) Sale or acceptance of installed existing units as an owner's option. Application may be made to the commissioner for approval of an existing manufactured home support and anchor system on one of the following conditions:

a. If the support and anchorage systems were installed by an approved installer and are approved systems.

b. If the existing support and anchorage system has been inspected by an approved installer and the installer attests by signing the installation certificate that to the best of the installer's knowledge, the existing systems are equal to or better than the minimum requirements of this code.

c. If the existing support and anchorage systems are inspected and approved by a registered engineer or architect, and attested to in writing.

d. If the existing support and anchorage systems are inspected by a field inspector with the Iowa state building code (see subrule 16.625(1)) and the existing systems are found to be equal to or better than the minimum requirements of this code.

If compliance is met by one of the above procedures and payment of the required fee has been paid, an Iowa installation seal and certificate may then be issued.

661—16.628(103A) Procedure for governmental subdivisions for installation of factory-built structures. Any governmental subdivision which has adopted the state building code or any other building code is required to enforce the state building code requirements for the installation of factory-built structures (see Iowa Code section 103A.9(7)).

Governmental subdivisions who are issuing building permits and are inspecting construction for compliance with the local building regulations shall verify the installation of factory-built structures within their jurisdiction and shall sign the installation certificate and forward the appropriate copy to the commissioner.

1. The local official shall obtain the installation certificate and the installation seal from the person making application for a building permit which includes a factory-built structure.
2. Upon completion and review of the installation the local official shall attach the installation seal to the unit.
3. Governmental subdivisions are permitted to assess fees as may be required by local ordinances.
4. Nothing in this rule is intended to reduce the authority of the governmental subdivision from establishing zoning regulations as outlined in Iowa Code sections 414.28 and 335.30.

661—16.629(103A) Support and anchoring systems approval procedures.

16.629(1) *Approval of support and anchoring systems.* All support and anchoring systems shall be approved by the commissioner. Manufacturers shall obtain approval of such systems by submitting to the building code commissioner, all system drawings and all other related data, e.g., material specifications or standards, calculations of loads and stresses, soils and test data which will show compliance with the requirements of rule 16.626(103A). Support and anchoring systems designed and signed by a registered engineer competent in this field shall submit complete systems drawings only unless other technical data is requested by the commissioner.

EXCEPTION: Support or foundation systems for manufactured homes constructed to the requirements of Division VI, Part 1 of this code, or designed to meet local building regulations are exempt from approval by the commissioner. The installation certificate, 16.610(19), shall show that the support system has been approved by the local authority.

16.629(2) *Application for support and anchoring system approval.* Submissions for approval by the commissioner shall include drawings, data, and test results which show compliance with at least the minimum requirements of rule 16.626 (103A).

- a. Support systems shall be one or more of the following:
 - (1) Engineered on grade support systems.
 - (2) Foundations installed in conformance with the state building code, e.g., piers, continuous footings, posts or isolated footings extending below the frost line. (see 16.626(1)“b” for exception)
 - (3) Use of concrete slabs or continuous footings. If such slabs or footings are used to transfer the anchoring loads to the ground, they shall be so constructed to provide the holding strength as required by 16.626(2)“f.”

b. Materials specified shall meet the minimum requirements of the state building code including, but not limited to:

(1) Wood supports in contact with the ground shall be pressure-impregnated in accordance with uniform building code standard 25-12.

(2) Concrete, where used, shall have a minimum compressive strength of 2000 P.S.I. and be in conformance with uniform building code standard 26-11.

(3) Masonry units, where used, will be in accordance with uniform building code standards 24-4 and 24-5.

(4) Soils information shall reference the classifications of Table 29-B of the UBC and standard No. 29-1 of the UBC. Other classifications may be used to describe soil, however, it shall indicate the standard classification as well.

c. Ground anchoring systems shall include, but not be limited to:

(1) Submission for approval and registration for components which constitute portions or parts of support and anchoring systems by the manufacturer shall clearly indicate compliance with the requirements of the Iowa state building code "structural design." The requirements of 16.626 (103A) shall be considered minimum.

(2) Detailed procedures for field soil identification and anchor selection and test procedure for assuring proper installation.

(3) Restrictions on the use of each anchor and the specific soil types which apply.

(4) Each part identification mark and where it is located on the part.

The commissioner may require additional data or test results to determine compliance with the minimum requirements.

TABLE 6A
MINIMUM NUMBER OF TIEDOWNS
REQUIRED FOR SINGLEWIDE MOBILE HOMES

MOBILE HOME BOX LENGTH NOT EXCEEDING	MINIMUM NUMBER OF TIEDOWNS PER SIDE	
	DIAGONAL TIES	VERTICAL TIES*
40'-0"	3	2
54'-0"	3	2
73'-0"	4	2
84'-0"	5	2

*If more than minimum number of vertical or diagonal ties have been supplied, they shall all be used.

NOTES:

1. Doublewide mobile homes shall comply with Table 6A except that no vertical ties are required.

2. Wherever a vertical tie and a diagonal tie lie in a plane which is vertical and transverse to the main longitudinal beam, both ties may be connected to the same ground anchor, providing that particular anchor withstands both loadings.

3. This table shall be used only if there are no manufacturers approved installation requirements.

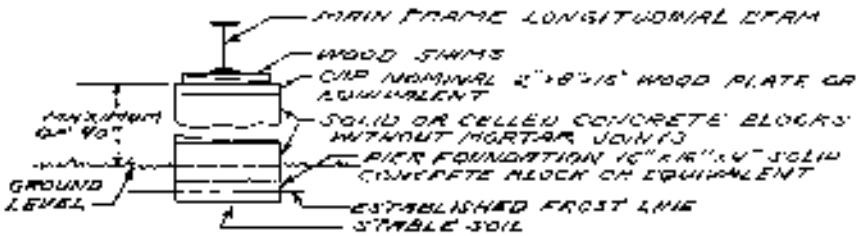


FIGURE 1. PIERS UP TO 40" IN HEIGHT
(SINGLE BLOCK CONSTRUCTION)

NOTE: CORNER PIERS MORE THAN THREE (3) BLOCKS HIGH SHALL BE DOUBLE BLOCK CONSTRUCTION AS SHOWN IN FIGURES 2 & 3

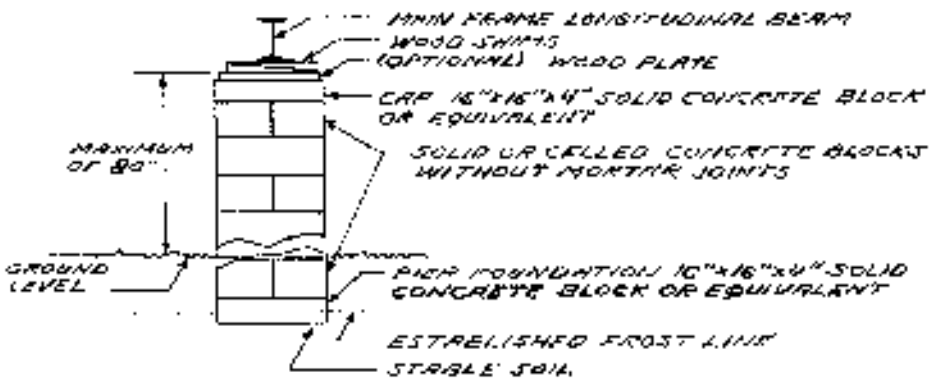


FIGURE 2 - PIERS OVER 40" IN HEIGHT AND NOT EXCEEDING 80" IN HEIGHT (DOUBLE BLOCK CONSTRUCTION)

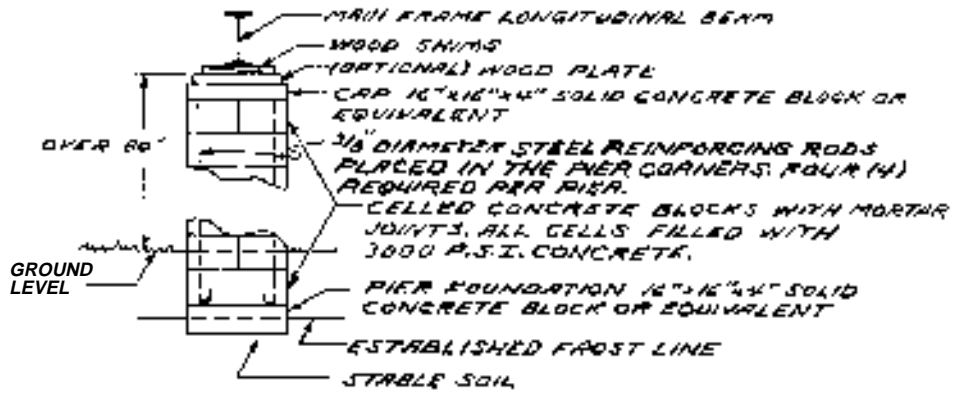
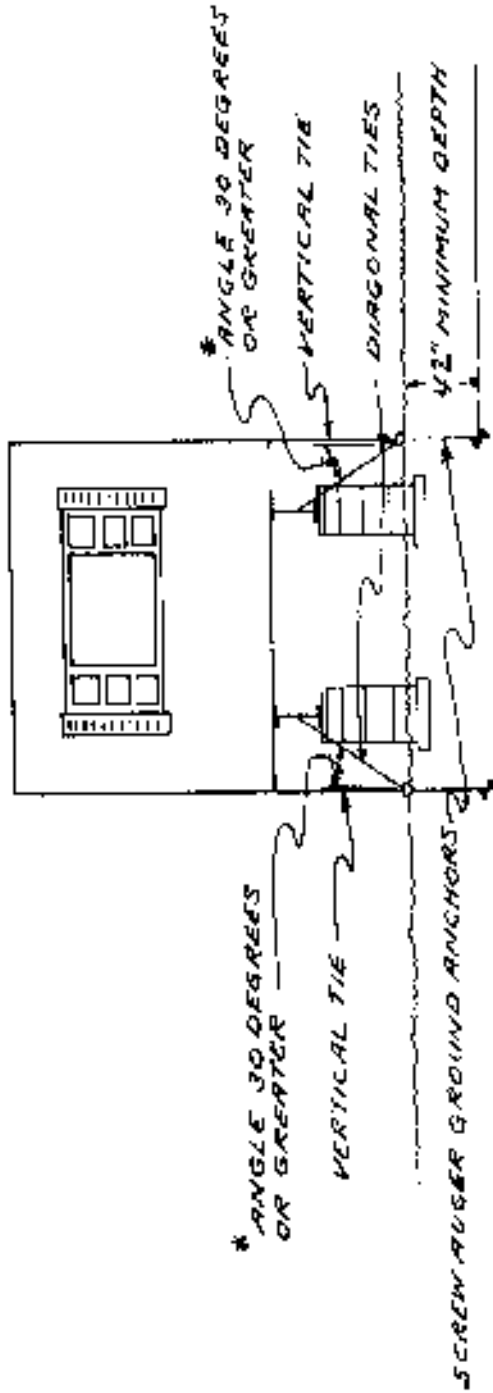


FIGURE 3 - PIERS OVER 80" IN HEIGHT (DOUBLE BLOCK CONSTRUCTION, STEEL REINFORCED)

FIGURE 4

MOBILE HOME TIEDOWN

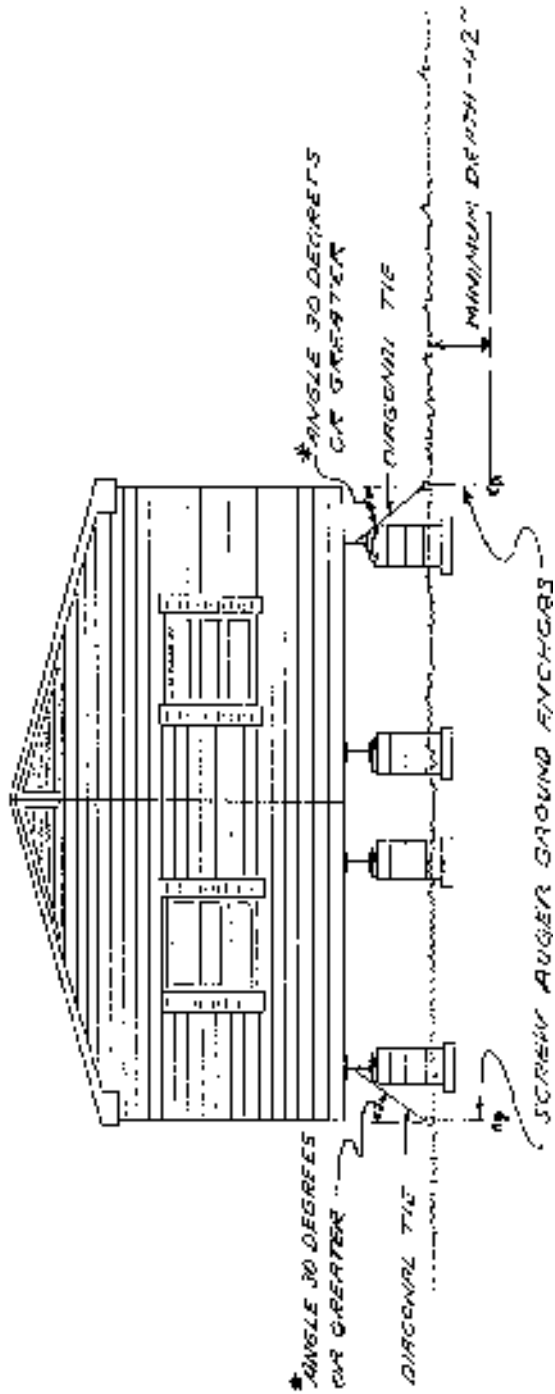


* DIAGONAL TIE SHALL DEVIATE FROM A VERTICAL DIRECTION 30 DEGREES OR MORE.

FIGURE 5

DOUBLE WIDE MOBILE HOME TIEDOWN

* DIAGONAL TIE SHALL DEVIATE FROM A VERTICAL DIRECTION 30 DEGREES OR MORE.



661—16.630 to 16.699 Reserved.

DIVISION VII
ACCESSIBILITY REQUIREMENTS FOR BUILDINGS AND FACILITIES USED BY THE GENERAL PUBLIC

661—16.700(103A,104A) Purpose and scope. Rules 661—16.700(103A,104A) through 661—16.720(103A,104A) are intended to ensure that buildings and facilities used by the public are accessible to, and functional for, persons with disabilities. Rules 661—16.700(103A,104A) through 661—16.710(103A,104A) apply statewide to new construction and to renovation and rehabilitation projects on existing buildings and facilities when local or state building codes require compliance with standards for new construction.

Some requirements contained in rules 661—16.700(103A,104A) through 661—16.710(103A,104A) are not readily enforceable through the plan review process and may not be enforced through this means. Any of the requirements may be enforced during inspections in jurisdictions which inspect construction projects for compliance with building code requirements. Owners and operators of buildings and facilities subject to the provisions of rules 661—16.700(103A,104A) through 661—16.710(103A,104A) are responsible for compliance with any applicable requirements contained within these rules regardless of whether those requirements are enforced through plan reviews or inspections.

Rules 661—16.701(103A,104A) through 661—16.710(103A,104A) are based upon the federal Americans with Disabilities Act Accessibility Guidelines (ADAAG) and in many instances adopt the language of ADAAG by reference. However, state and local building officials charged with enforcement of these rules are unable to warrant the acceptance of any interpretation of ADAAG language by federal agencies or any other state. A state or local official's decision to approve a building plan under these rules does not prevent the federal government or another state from making a different decision under ADAAG or other applicable law, notwithstanding any similarities among such laws.

NOTE A: See rule 661—16.720(103A,104A) for specific requirements within the individual dwelling units and public and common use spaces of multiple-dwelling unit buildings.

NOTE B: Other federal and state laws address requirements for accessibility for persons with disabilities and may be applicable to buildings and facilities subject to rules 661—16.700(103A,104A) through 661—16.720(103A,104A). Nothing in these rules should be interpreted as limiting the applicability of these other provisions of state or federal law. These provisions include, but are not limited to, the following:

1. Iowa Code chapter 216, the Iowa Civil Rights Act of 1965.
2. Iowa Code chapter 216C, which enumerates the rights of persons who are blind or partially blind and persons with physical disabilities.
3. Iowa Code chapter 321L and 661—Chapter 18, which relate to requirements for parking for persons with disabilities.
4. The federal Architectural Barriers Act of 1968 (Public Law 90-480).
5. The federal Rehabilitation Act of 1973 (Public Law 93-112).
6. The federal Fair Housing Act of 1968 (Public Law 90-284), the federal Fair Housing Amendments Act of 1988 (Public Law 100-430), and related regulations, including 24 CFR 100, Subpart D.

661—16.701(103A,104A) Definitions. The following definitions are adopted for purposes of rules 661—16.700(103A,104A) through 661—16.720(103A,104A).

NOTE: Many of these definitions have been taken from or adapted from ADAAG.

“*Access aisle*” means an accessible pedestrian space between elements, such as parking spaces, seating, and desks, which provides clearances appropriate for use of the elements.

“*Accessible*” describes a site, building, facility, or portion thereof that complies with rules 661—16.700(103A,104A) through 661—16.720(103A,104A).

“*Accessible element*” means an element specified by and which complies with rules 661—16.700(103A,104A) through 661—16.720(103A,104A).

“*Accessible route*” means a continuous unobstructed path connecting all accessible elements and spaces of 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, crosswalks at vehicular ways, walks, ramps, and lifts.

“*Accessible space*” means space that complies with rules 661—16.700(103A,104A) through 661—16.720(103A,104A).

“*ADA*” means the federal Americans with Disabilities Act, Public Law 101-336.

“*ADAAG*” means Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities, 28 CFR Part 36, Appendix A, as revised through July 1, 1994. Persons wishing to obtain copies of ADAAG may contact the building code bureau, fire marshal division, Iowa department of public safety, for advice on obtaining a copy, or may access the department’s Web site (www.state.ia.us/government/dps) for a downloadable copy.

“*Adaptability*” means 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 individuals with or without disabilities or to accommodate the needs of persons with different types or degrees of disability.

“*Addition*” means an expansion, extension, or increase in the gross floor area of a building or facility.

“*Administrative authority*” means the governmental agency that adopts or enforces regulations and guidelines for the design, construction, or alteration of buildings and facilities.

“*Alteration*” means a change to a building or facility that affects or could affect the useability of the building or facility or part thereof. Alterations include, but are not limited to, remodeling, renovation, rehabilitation, reconstruction, historic restoration, resurfacing of circulation paths or vehicular ways, changes in or rearrangement of the structural parts of elements, and changes in or rearrangement of the plan configuration of walls and full-height partitions. Normal maintenance, reroofing, painting or wallpapering, or changes to mechanical and electrical systems, are not alterations unless they affect the useability of the building or facility.

“*Area of rescue assistance*” means an area, which has direct access to an exit, where people who are unable to use stairs may remain temporarily in safety to await further instructions or assistance during emergency evacuation.

“*Assembly area*” means a room or space accommodating a group of individuals for recreational, educational, political, social, civic, or amusement purposes, or for the consumption of food and drink.

“*Automatic door*” means 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. See “power-assisted door.”

“*Building*” means any structure used and intended for supporting or sheltering any use or occupancy.

“*Circulation path*” means 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*” means unobstructed.

“*Clear floor space*” means the minimum unobstructed floor or ground space required to accommodate a single, stationary wheelchair and occupant.

“*Closed circuit telephone*” means a telephone with dedicated line(s) such as a house telephone, courtesy telephone or telephone that must be used to gain entrance to a facility.

“*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).

“*Cross slope*” means the slope that is perpendicular to the direction of travel. See “running slope.”

“*Curb ramp*” means a short ramp cutting through a curb or built up to it.

“*Detectable warning*” means a standardized surface feature built in or applied to walking surfaces or other elements to warn visually impaired people of hazards on a circular path.

“*Educational occupancy*” means any building primarily used to deliver instruction in a classroom setting to students enrolled in primary or secondary schools or postsecondary institutions.

“*Egress, means of*” refers to a continuous and unobstructed way of exit travel from any point in a building or facility to a public way. A means of egress comprises vertical and horizontal travel and may include intervening room spaces, doorways, hallways, corridors, passageways, balconies, ramps, stairs, enclosures, lobbies, horizontal exits, courts and yards. An accessible means of egress is one that complies with rules 661—16.700(103A,104A) through 661—16.720(103A,104A) and does not include stairs, steps, or escalators. Areas of rescue assistance or evacuation elevators may be included as part of accessible means of egress.

“*Element*” means an architectural or mechanical component of a building, facility, space, or site. Examples of elements include, but are not limited to, telephones, curb ramps, doors, drinking fountains, seating, or water closets.

“*Entrance*” means any access point to a building or portion of a 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).

“*Equivalent facilitation*” means the use of alternative designs and technologies which provide for substantially greater or equivalent access to and useability of a facility than is provided by technologies and designs which comply with the requirements of rules 661—16.700(103A,104A) through 661—16.720(103A,104A). Departures from particular technical and scoping requirements of rules 661—16.700(103A,104A) through 661—16.720(103A,104A) are permitted where the alternative designs and technologies used will provide equivalent facilitation.

“*Facility*” means all or any portion of buildings, structures, site improvements, complexes, equipment, roads, walks, passageways, parking lots, or other real or personal property located on a site.

“*Government facility*” means a structure accessible to the public which is owned or used by the state of Iowa or a political subdivision.

“*Ground floor*” means any occupiable floor less than one story above or below grade with direct access to grade. A building or facility always has at least one ground floor and may have more than one ground floor as where a split level entrance has been provided or where a building is built into a hillside.

“*Marked crossing*” means a crosswalk or other identified path intended for use by pedestrians in crossing a vehicular way.

“*Mezzanine*” or “*mezzanine floor*” means that portion of a story which is an intermediate floor level placed within the story and having occupiable space above and below its floor.

“*Multifamily dwelling*” means any building containing four or more dwelling units. Rule 661—16.720(103A,104A) establishes accessibility requirements for multifamily dwellings of four or more units.

“*Occupiable*” describes 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 which is equipped with means of egress, light, and ventilation.

“*Operable part*” means 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, push button, handle).

“*Power-assisted door*” means a door used for human passage with a mechanism that helps to open the door, or relieves the opening resistance of a door, upon the activation of a switch or a continued force applied to the door itself.

“*Private facility*” means a place of public accommodation or commercial facility which is not owned or used by the state of Iowa or a political subdivision and which is subject to Title III of the ADA and 28 CFR Part 36 or which is a transportation facility subject to Title III of the ADA and 49 CFR 37.45.

“*Public facility*” means a facility or portion of a facility constructed by, on behalf of, or for the use of a public entity subject to Title II of the ADA and 28 CFR Part 35 or to Title II of the ADA and to either 49 CFR 37.41 or 49 CFR 37.43.

“*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*” means a walking surface which has a running slope greater than 1:20.

“*Running slope*” means the slope that is parallel to the direction of travel. See “cross slope.”

“*Service entrance*” means an entrance intended primarily for delivery of goods or services.

“*Signage*” means displayed verbal, symbolic, tactile, and pictorial information.

“*Site*” means a parcel of land bounded by a property line or a designated portion of a public right-of-way.

“*Site improvement*” means landscaping, paving for pedestrian and vehicular ways, outdoor lighting, recreational facilities, and the like, added to a site.

“*Sleeping accommodations*” means rooms whose primary use is for people to sleep including, but not limited to, dormitory and hotel or motel guest rooms or suites.

“*Space*” means an identifiable area. Examples of spaces include, but are not limited to, rooms, toilet rooms, halls, assembly areas, entrances, storage rooms, alcoves, courtyards, and lobbies.

“*Story*” means that portion of a building included between the upper surface of a floor and upper surface of the floor or roof next above. If such portion of a building does not include occupiable space, it is not considered a story for purposes of rules 661—16.700(103A,104A) through 661—16.720(103A,104A). There may be more than one floor level within a story as in the case of a mezzanine or mezzanines.

“*Structural frame*” means columns and the girders, beams, trusses and spandrels having direct connections to the columns and all other members which are essential to the stability of the building as a whole.

“*Tactile*” describes an object that can be perceived using the sense of touch.

“*TDD*” means a telecommunication device for the deaf. See “text telephone (TTT).”

“*Technically infeasible*” means, with respect to an alteration of a building or a facility, that the alteration has little likelihood of being accomplished because existing structural conditions would require removing or altering a load-bearing member which is an essential part of the structural frame; or because other existing physical or site constraints prohibit modification or addition of elements, spaces, or features which are in full and strict compliance with the minimum requirements for new construction and which are necessary to provide accessibility.

“*Text telephone (TTY)*” means machinery or equipment that employs interactive text-based communications through the transmission of coded signals across the standard telephone network. Text telephones include devices known as TDDs (telecommunication display devices or telecommunication devices for deaf persons) or computers with special modems. Text telephones are also called TTYs, an abbreviation for teletypewriter.

“*Transient lodging*” means a building, facility, or portion thereof, excluding inpatient medical care facilities and residential facilities, that contains sleeping accommodations. Transient lodging may include, but is not limited to, resorts, group homes, hotels, motels, and dormitories.

“*Vehicular way*” means a route intended for vehicular traffic, such as a street, driveway, or parking lot.

“*Walk*” means an exterior pathway with a prepared surface intended for pedestrian use, including general pedestrian areas such as plazas and courts.

661—16.702(103A,104A) Plan review procedures. Prior to the commencement of construction of a facility which is required to comply with rules 661—16.700(103A,104A) through 661—16.720(103A,104A), the owner of the property, or a contractor or architect acting on behalf of the owner of the property, shall submit an application for approval of the construction plans. The application shall be of a form required by the building code commissioner and shall be submitted to the local building authority, if there is one. If there is no local building authority, the application shall be submitted to the building code bureau. The application shall be accompanied by a copy of the construction plans and payment of the applicable fee.

661—16.703(103A,104A) Site development.

16.703(1) Development. Proper attention to site development in the early stages in design is the most practical and economical way of making a site accessible and providing accessible entrances to buildings. The siting of facilities, grading, parking, and the routes of walks shall provide convenience, safety and unrestricted circulation of persons with disabilities and their vehicles.

16.703(2) Grading. The site shall be graded, even contrary to existing topography, so that it attains a level with all primary entrances, making the building or facility accessible to persons with physical disabilities.

16.703(3) Accessible routes. ADAAG, section 4.3, is adopted as the requirements for accessible routes in and around facilities required to comply with rules 661—16.700(103A,104A) through 661—16.720(103A,104A).

16.703(4) Parking and passenger loading zones. Parking spaces, parking lots and passenger loading zones shall comply with 661—Chapter 18.

661—16.704(103A,104A) Building elements and spaces accessible to the physically handicapped. ADAAG, chapter 4, is adopted as the requirements for accessible building elements and spaces for buildings and facilities required to comply with rules 661—16.700(103A,104A) through 661—16.720(103A,104A), with the following amendments:

Delete section 4.3.

NOTE: ADAAG, section 4.3, is adopted in subrule 16.703(3).

Delete section 4.34.

661—16.705(103A,104A) Restaurants and cafeterias. ADAAG, chapter 5, is adopted as the accessibility requirements for restaurants and cafeterias.

661—16.706(103A,104A) Medical care facilities. ADAAG, chapter 6, is adopted as the accessibility requirements for medical care facilities which are required to comply with rules 661—16.700(103A,104A) through 661—16.720(103A,104A) with the following amendments:

Delete section 6.1, subsection (1), and insert in lieu thereof the following new subsection (1):

(1) Hospitals—general purpose hospitals, psychiatric facilities, detoxification facilities—All patient bedrooms and toilets, and all public use and common use areas are required to be designed and constructed to be accessible.

Delete section 6.1, subsection (3), and insert in lieu thereof the following new subsection (3):

(3) Long term care facilities, nursing homes—All patient bedrooms and toilets, and all public use and common use areas are required to be designed and constructed to be accessible.

661—16.707(103A,104A) Business and mercantile facilities. ADAAG, chapter 7, is adopted as the accessibility requirements for business and mercantile facilities which are required to comply with rules 661—16.700(103A,104A) through 661—16.720(103A,104A).

661—16.708(103A,104A) Libraries. ADAAG, chapter 8, is adopted as the accessibility requirements for libraries which are required to comply with rules 661—16.700(103A,104A) through 661—16.720(103A,104A).

661—16.709(103A,104A) Transient lodging facilities. ADAAG, chapter 9, is adopted as the requirements for accessible transient lodging in facilities which are required to comply with rules 661—16.700(103A,104A) through 661—16.720(103A,104A).

661—16.710(103A,104A) Transportation facilities. ADAAG, chapter 10, is adopted as the accessibility requirements for transportation facilities which are required to comply with rules 661—16.700(103A,104A) through 661—16.720(103A,104A).

661—16.711 to 16.719 Reserved.

661—16.720(103A,104A) Making apartments accessible and functional for the physically handicapped.

16.720(1) Apartments within multiple-dwelling units. The requirements of this rule shall apply to the individual dwelling units and the common use spaces which are accessible to the physically handicapped in covered multifamily dwellings. The term multifamily dwellings means any building consisting of four or more dwelling units if such buildings have one or more elevators, and ground floor units in other buildings consisting of four or more units.

Dwelling unit means a single unit of residence for a household of one or more persons. Examples of dwelling units covered by these rules include condominiums, an apartment unit within an apartment building, and other types of dwellings in which sleeping accommodations are provided but toilet or cooking facilities are shared by occupants of more than one room or portion of the dwelling. Examples of the latter include dormitory rooms and sleeping accommodations in shelters intended for occupancy as a residence for homeless persons.

Ground floor means a floor of a building with a building entrance on an accessible route. A building may have one or more ground floors. Where the first floor containing dwelling units in a building is above grade, all units on that floor must be served by a building entrance on an accessible route. This floor will be considered to be a ground floor.

a. The individual dwelling units shall contain an accessible route into and through the unit.

(1) All doors intended for use as passage through the dwelling unit shall have a clear opening of at least 32 inches nominal width with the door open 90 degrees, measured between the face of the door and the stop. Openings more than 24 inches in depth are not considered doorways (see Figure 4).

NOTE: A 34-inch door, hung in the standard manner, provides an acceptable 32-inch opening.

(2) Except at doorways the minimum clear width of the accessible route shall be at least 36 inches wide.

(3) In single-story units special features such as lofts or sunken or raised areas are not required to be on an accessible route provided the areas do not interrupt the accessible route through the remainder of the dwelling unit.

(4) In multistory dwelling units in buildings with elevators, the story of the unit that is served by the building elevator shall be the primary entry to the unit and such entry/accessible floor shall comply with the requirements of "a" (1), (2) and (3) above. The entry/accessible floor shall contain a bathroom or powder room which complies with paragraph "c" below.

(5) Exterior deck, patio, or balcony surfaces shall be no more than ½ inch below the floor level of the interior of the dwelling unit, unless they are constructed of impervious material such as concrete, brick or flagstone. In such case the surface shall be no more than 4 inches below the floor level of the interior or lower if required by local building code.

(6) Thresholds at exterior doors, including sliding tracks, shall be no higher than ¾ inch. Thresholds and changes in elevations as in (5) above shall be beveled with a slope no greater than 1:2.

b. Kitchens shall meet or be adaptable to meet the following:

(1) A clear floor space at least 30 inches by 48 inches that allows a parallel approach by a person in a wheelchair must be provided at the range or cooktop and the sink. Either a parallel or forward approach must be provided at the oven, dishwasher, refrigerator/freezer or trash compactor.

(2) Clearance between counters and all opposing base cabinets, countertops, appliances or walls must be at least 40 inches. In U-shaped kitchens with sink or cooktop at the base of the "U," the base cabinets must be removable at that location or a 60-inch turning radius must be provided.

c. All bathrooms of covered multifamily dwelling units shall comply with provisions of subparagraph (1) of this paragraph or at least one bathroom in the dwelling unit shall comply with provisions of subparagraph (2) of this paragraph and all other bathrooms and powder rooms within the dwelling unit must be on an accessible route with usable entry doors in accordance with paragraph "a" above.

However, in multistory dwelling units, only those bathrooms on the accessible level are subject to these requirements. Where the powder room is the only facility provided on the accessible level of a multistory dwelling unit, the powder room must comply with the provisions of subparagraph (1) or (2) of this paragraph.

(1) Sufficient maneuvering space shall be provided within the bathroom for a person using a wheelchair or other mobility aid to enter and close the door, use the fixtures, reopen the door and exit. Doors may swing into the clear floor space provided at any fixture if the maneuvering space is provided. Maneuvering space may include any kneespace or toespace available below the bathroom fixtures.

Such clear floor space is illustrated in Figures 10(a), (b), (c) and (d). Clear floor space at fixtures may overlap.

If the shower stall is the only bathing facility provided in the covered dwelling unit, the shower stall shall measure at least 36 inches by 36 inches.

NOTE: Cabinets under lavatories are acceptable provided the bathroom has space to allow a parallel approach by a person in a wheelchair; if parallel approach is not possible within the space, any cabinets provided would have to be removable to afford the necessary knee clearance for forward approach.

(2) Where the door swings into the bathroom there shall be a clear space (2'6" × 4'0") within the room to position a wheelchair or other mobility aid clear of the path of the door as it is closed and to permit the use of the fixtures. This clear space can include any kneespace and toespace available below the bathroom fixtures.

Where the door swings out, a clear space shall be provided within the bathroom for a person using a wheelchair or other mobility aid to position the wheelchair such that the person is allowed use of the fixtures. There also shall be a clear space to allow persons using wheelchairs to reopen the door to exit.

When both tub and shower fixtures are provided in the bathroom, at least one shall be made accessible. When two or more lavatories are provided in a bathroom, at least one shall be made accessible.

Toilets shall be located within bathrooms in a manner that permits a grab bar to be installed on one side of the fixture. In locations where toilets are adjacent to walls or bathtubs, the centerline of the fixture shall be a minimum of 1'6" from the obstacle. The other (nongrab bar) side of the toilet fixture shall be a minimum of 1'3" from the finished surface of the adjoining walls, vanities, or from the edge of a lavatory. (See Figure 10(a).)

Vanities and lavatories shall be installed with the centerline of the fixture a minimum of 1'3" horizontally from an adjoining wall or fixture. The top of the fixture rim is a maximum height of 2'10" above the finished floor. If kneespace is provided below the vanity, the bottom of the apron is at least 2'3" above the floor. If provided, full kneespace (for front approach) is at least 1'5" deep. (See Figure 10(c).)

Bathtubs and tub/showers located in the bathroom shall provide a clear access aisle adjacent to the lavatory that is at least 2'6" wide and extends for a length of 4'0" (measured from the head of the bathtub). (See Figure 10 Alt. Spec. Clear Floor Space at Bathtub.)

Stall showers in the bathroom may be of any size or configuration. A minimum clear floor space 2'6" wide by 4'0" should be available outside the stall. (See Figure 10(d).) If the shower stall is the only bathing facility provided in the covered dwelling unit, or on the accessible level of a covered multistory unit, and measures a nominal 36" × 36", the shower stall must have reinforcing to allow for installation of an optional wall-hung bench seat.

d. Walls in bathrooms which are to be adaptable shall be reinforced to allow later installation of grab bars around toilet, tub, shower stall and shower seat where such facilities are provided.

Illustration of minimum areas of reinforcement are shown in Figure 11. Where the toilet is not placed adjacent to a side wall, provision shall be made for floor-mounted foldaway or similar alternative grab bars. Where the powder room (a room with a toilet and sink) is the only toilet facility located on an accessible level of a multistory dwelling unit, it must comply with this requirement for reinforced walls for grab bars.

NOTE: Installation of bathtubs is not limited by the illustrative figures; a tub may have shelves or benches at either end; or a tub may be installed without surrounding walls, if there is provision for alternative mounting of grab bars. For example, a sunken tub placed away from walls could have reinforced areas for installation of floor-mounted grab bars. The same principle applies to shower stalls—e.g., glass-walled stalls could be planned to allow floor-mounted grab bars to be installed later.

Reinforcement for grab bars may be provided in a variety of ways (for example, by plywood or wood blocking) so long as the necessary reinforcement is placed so as to permit later installation of appropriate grab bars.

e. Accessible and usable public and common use areas shall be readily accessible to and usable by handicapped persons.

The following chart identifies the public and common use areas that shall be made accessible, cites the appropriate section of the American National Standards Institute, and describes the appropriate application of the specification, including modifications to the standard:

Basic Components for Accessible and Usable
Public and Common Use Area or Facilities

Accessible element or space	ANSI	Application
1. Accessible Route(s) ...	A117.1 4.3	<p>Within the boundary of the site:</p> <p>(a) From public transportation stops, accessible parking spaces, accessible passenger loading zones, and public streets or sidewalks to accessible building entrances.</p> <p>(b) Connecting accessible buildings, facilities, elements and spaces that are on the same site. On grade walks or paths between separate buildings with covered multifamily dwellings, while not required, should be accessible unless the slope of finish grade exceeds 8.33% at any point along the route. Handrails are not required on these accessible walks.</p> <p>(c) Connecting accessible building or facility entrances with accessible spaces and elements within the building or facility, including adaptable dwelling units.</p> <p>(d) Where site or legal constraints prevent a route accessible to wheelchair users between covered multifamily dwellings and public or common-use facilities elsewhere on the site, an acceptable alternative is the provision of access via a vehicular route so long as there is accessible parking on an accessible route, and necessary site provisions such as parking and curb cuts are available at the public or common use facility.</p>
2. Protruding objects	4.4	Accessible routes or maneuvering space including, but not limited to, halls, corridors, passageways or aisles.
3. Ground and floor and surface treatments	4.5	Accessible routes, rooms, and spaces, including floors, walks, ramps, stairs, and curb ramps.

4. Parking and passenger-loading zones	4.6	If provided at the site, designated accessible parking at the dwelling unit on requests of residents with handicaps, on the same terms and with the full range of choices (e.g., surface parking or garage) that are provided for other residents of the project. See Iowa Administrative Code Chapter 18 of Public Safety [661] for minimum parking requirements.
5. Curb ramps	4.7	Accessible routes crossing curbs.
6. Ramps	4.8	Accessible routes with slopes greater than 1:20.
7. Stairs	4.9	Stairs on accessible routes connecting levels not connected by an elevator.
8. Elevator	4.10	If provided.
9. Platform lift	4.11	May be used in lieu of an elevator or ramp under certain conditions.
10. Drinking fountains and water coolers		Fifty percent of fountains and coolers on each floor, or at least one, if provided in the facility or at the site.
11. Toilet rooms and bathing facilities (including water closets, toilet rooms and stalls, urinals, lavatories and mirrors, bathtubs, shower stalls, and sinks.)	4.22	Where provided in public use and common-use facilities, at least one of each fixture provided per room.
12. Seating, tables, or work surfaces	4.30	If provided in accessible spaces, at least one of each type provided.
13. Places of assembly....	4.31	If provided in the facility or at the site.
14. Common-use spaces and facilities(including swimming pools, playgrounds,entrances, rental offices, lobbies, elevators, mailbox areas, lounges, halls and corridors, and the like.)	4.1 through 4.30	If provided in the facility or at the site: (a) Where multiple recreational facilities (e.g., tennis courts) are provided sufficient accessible facilities of a type to ensure equitable opportunity for use by persons with handicaps. (b) Where practical, access to all or a portion of nature trails and jogging paths.
15. Laundry rooms	4.32.6	If provided in the facility or at the site, at least one of each type of appliances provided in each laundry area, except that laundry room serving covered multifamily dwellings would not be required to have front-loading washers in order to meet the requirements. (Where front-loading washers are not provided, management will be expected to provide assistive devices on request if necessary to permit a resident to use a top-loading washer.)

f. Light switches, electrical outlets, thermostats and other environmental controls shall be located no higher than 48 inches, and no lower than 15 inches, above the floor. If the reach is over an obstruction (for example, an overhanging shelf) between 20 and 25 inches in depth, the maximum height is reduced to 44 inches for forward approach; or 46 inches for side approach, provided the obstruction (for example, a kitchen base cabinet) is no more than 24 inches in depth. Obstructions should not extend more than 25 inches from the wall beneath a control. (See Figure 12.)

NOTE: Controls or outlets that do not satisfy these specifications are acceptable provided that comparable controls or outlets (i.e., that perform the same functions) are provided within the same area and are accessible.

16.720(2) Reserved.

Table 705A. Rescinded IAB 3/3/93, effective 5/1/93.

TABLE 705B
SCHEDULE OF FEE FOR HANDICAPPED REVIEW AND COMPLIANCE

Handicapped Review Certificate and Insignia	\$15.00
Replacement Insignia	15.00
Plan Review Fee*	30.00
Hourly Rate (additional for over 3 hours, including revised submissions of the same building)	15.00

*Plan Review Fee applies only to buildings reviewed by the commissioner’s office.

NOTES: Plans submitted to the state for review and certification shall include a minimum \$45.00 payment. If more than the minimum three hours are used in handicapped review, the additional hourly fee will be billed and must be paid before the review certificate is issued.

The plan review fees for state-owned buildings in 661—16.131(103A) include the handicapped review fee.

Rules 16.1(103A) through 16.710(103A,104A) are intended to implement Iowa Code sections 103A.7 and 103A.9.

Rule 16.720(103A,104A) is intended to implement Iowa Code sections 103A.7(5), 104A.2 and 104A.3.

661—16.721 to 16.799 Reserved.

NOTE: Figures 1 to 11 are included herein to illustrate acceptable methods of compliance with this code. Some dimensions exceed code requirements but are the preferred dimensions. Other acceptable illustrations can be found in ANSI 117.1-1980 and the minimum guidelines of the federal Architectural and Transportation Barriers Compliance Board rules 36 CFR Part 1190. (Federal Register Wed., Aug. 4, 1982.)

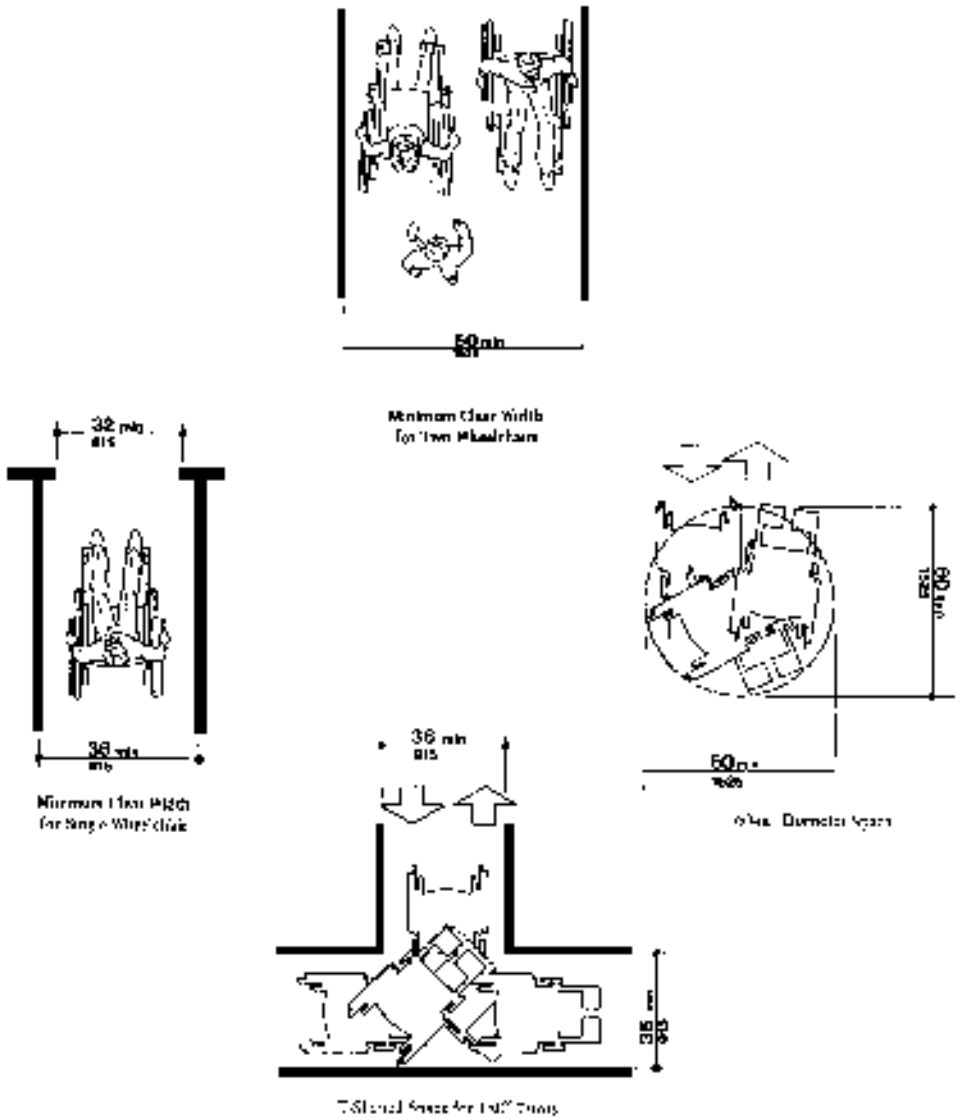
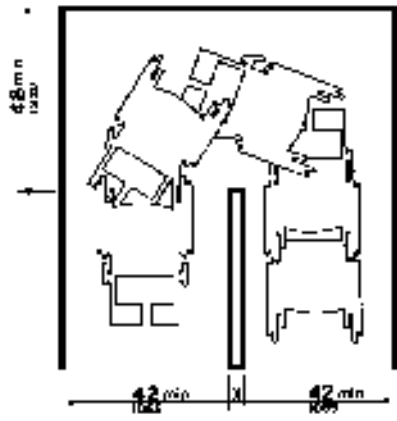
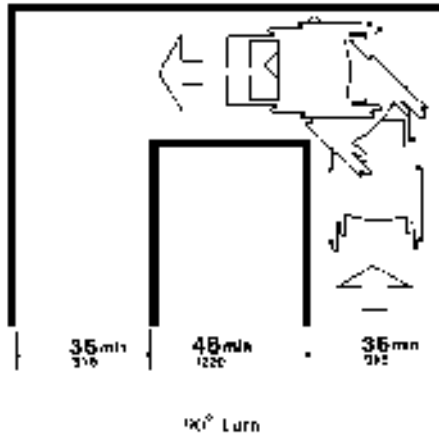


FIG. 1
Wheelchair Turning Space

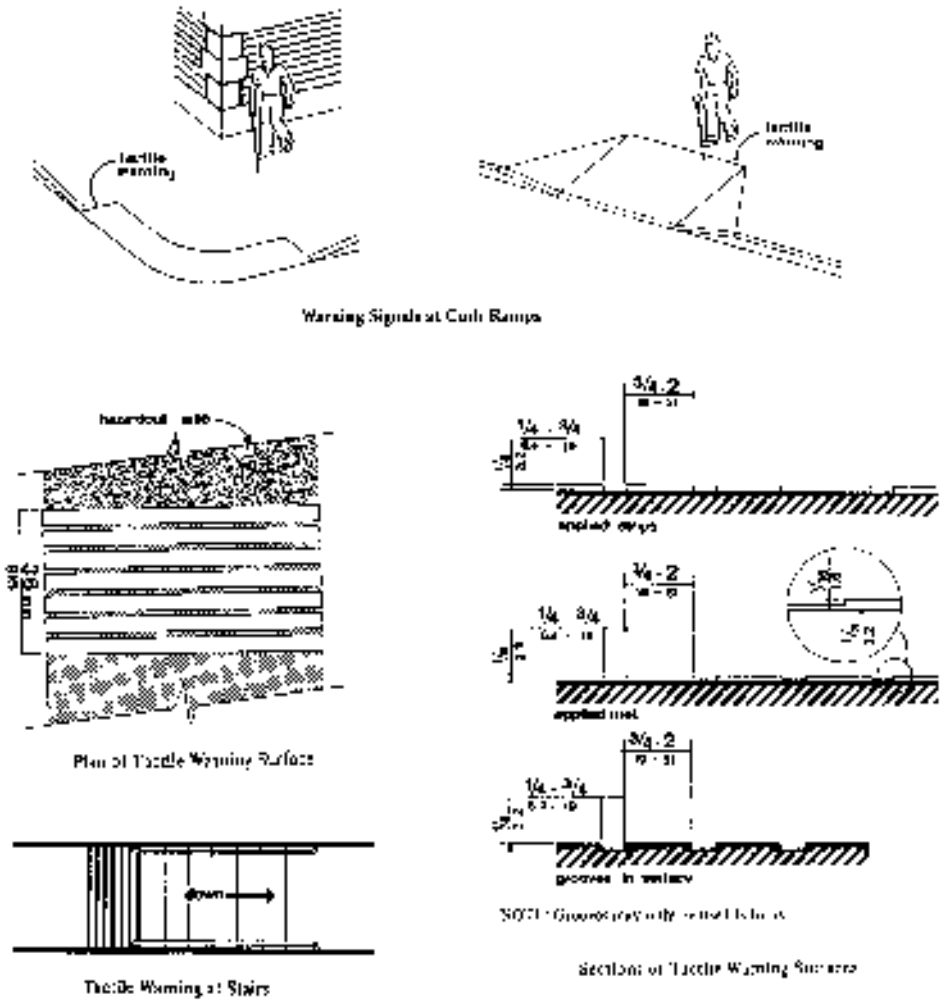


NOTE: Clearances apply only when > 48 in (1220 mm).

Turns around an Obstruction

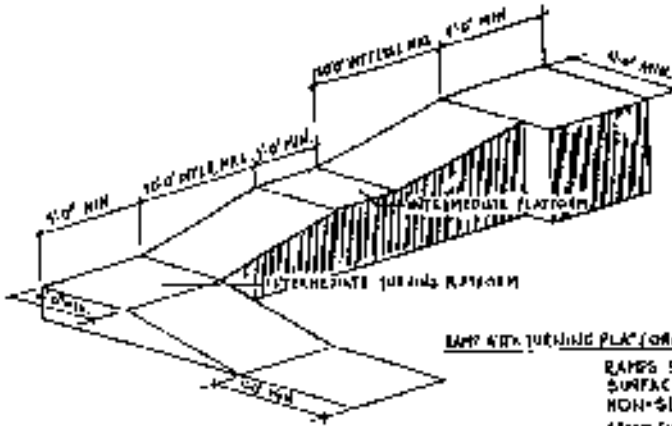
Width of Accessible Route

FIG. 1 (Continued)
Wheelchair Turning Space



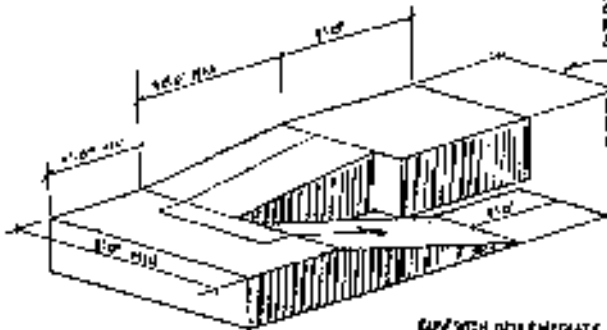
Strips and Grooves used as Tactile Warnings on Walking Surfaces

FIG 2 Tactile Warning of Hazardous Areas



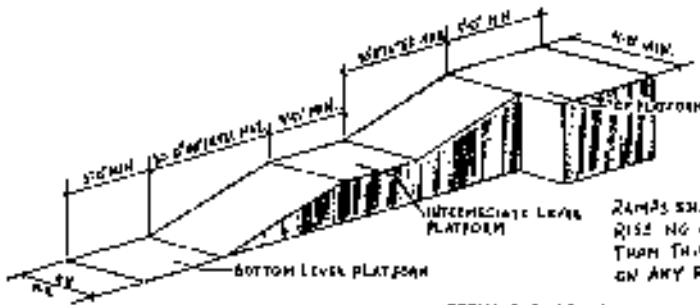
RAMP WITH TURNING PLATFORM

RAMPS SHALL HAVE SURFACES THAT ARE NON-SLIP. ROOM FINISH CONCRETE, CLEVER GRUNDUM OR T & B ARE SUITABLE FOR S-TREADING MATERIALS.



RAMP WITH INTERMEDIATE SWITCH-BACK PLATFORM

RAMPS SHALL HAVE A LEVEL PLATFORM AT LEAST 5'-0" X 5'-0" THAT SHALL EXTEND MIN 4" ON THE SIDE FROM WHICH THE DOOR OPENS



STRAIGHT RUN RAMP

RAMPS SHALL HAVE A RISE NO GREATER THAN THIRTY PERCENT ON ANY RUN

RAMPS SHALL HAVE A 5'-0" LONG INTERMEDIATE LEVEL PLATFORM AT 3'-0" INTERVALS FOR REST AND SAFETY.

RAMPS SHALL HAVE LEVEL PLATFORMS WHEREVER THEY TURN TO ALLOW TURNING & STOPPING SPACE FOR WHEELCHAIRS

RAMPS SHALL HAVE AT LEAST A 5'-0" STRAIGHT LEVEL SURFACE AT THE BOTTOM TO ALLOW STOPPING DISTANCE FOR WHEEL CHAIRS.

Figure 2a

FIG: 3
Handicapped Parking Spaces
Rescinded IAB 4/17/91, effective 6/1/91

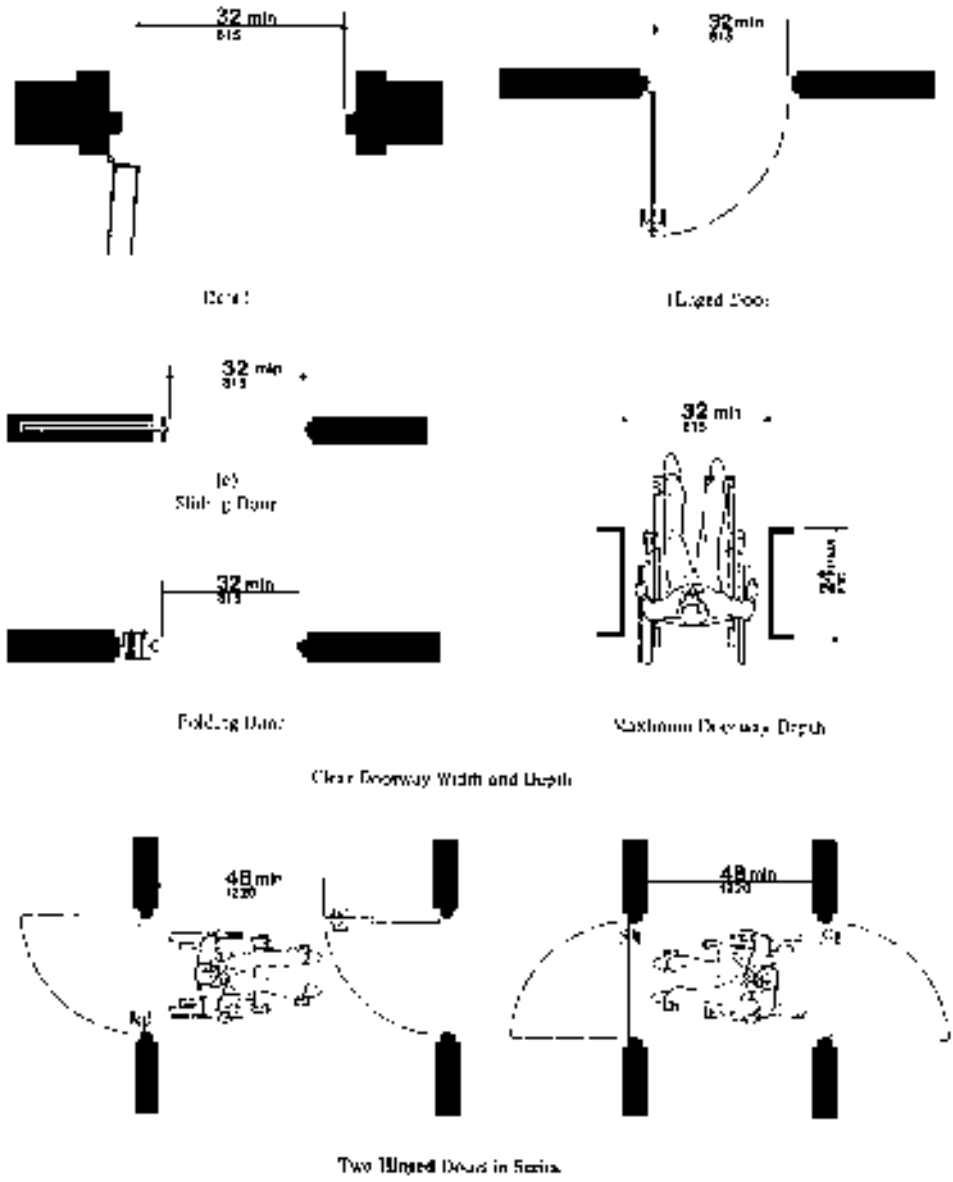
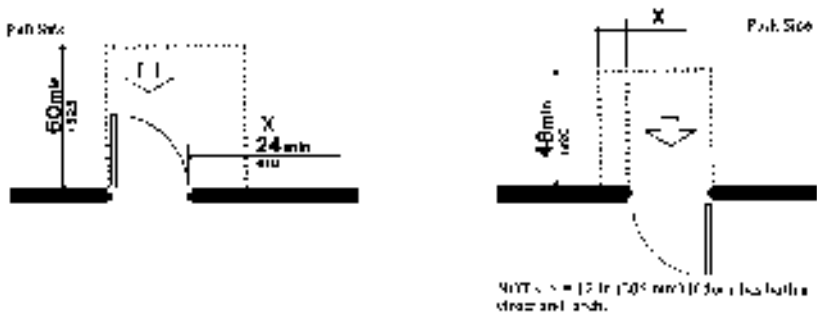
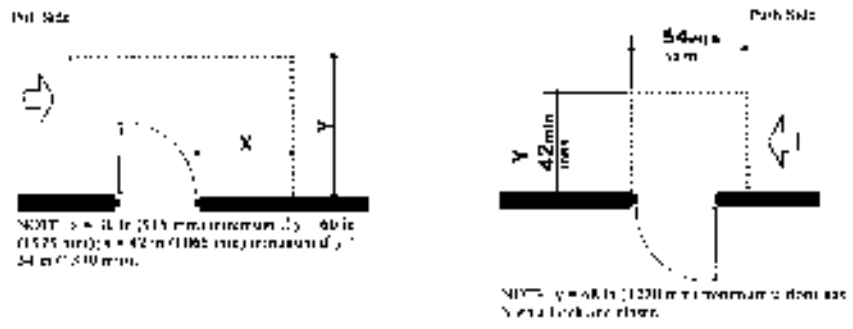


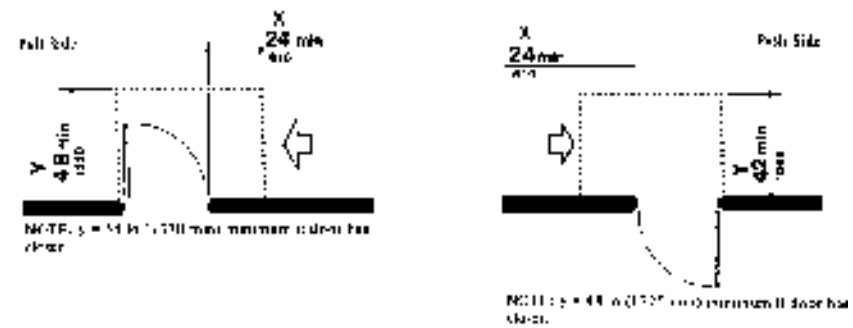
FIG 4
Doorway Widths and Maneuvering Clearances



Front Approaches - Swinging Doors



Hinged Side Approaches - Swinging Doors

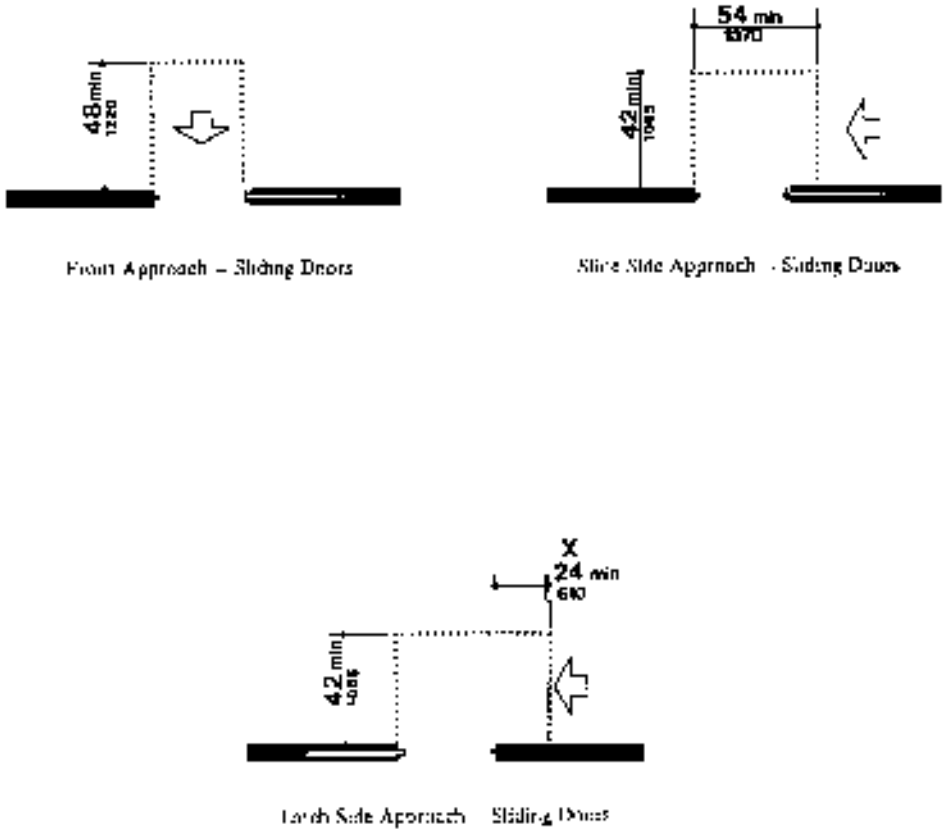


Latched Side Approaches - Swinging Doors

NOTE: All door clearances shall comply with the clearances for front approaches.

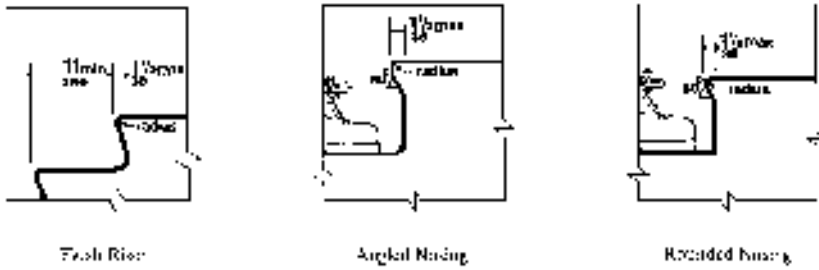
Maneuvering Clearances of Doors

FIG 4 (Continued)
Doorway Widths and Maneuvering Clearances

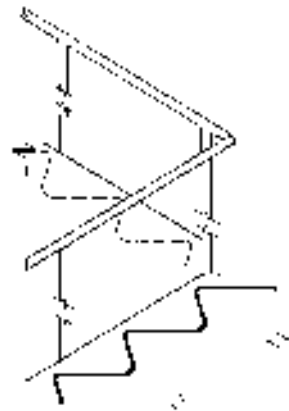
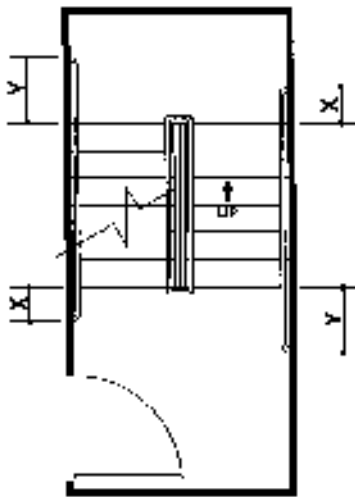


NOTE: All dimensions shall comply with the clearances for front approaches.

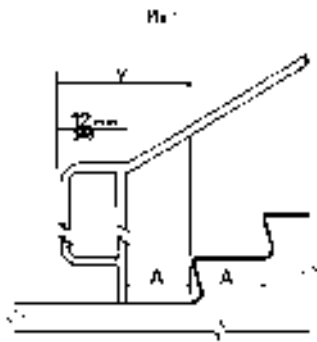
FIG 4 (Continued)
Doorway Widths and Maneuvering Clearances



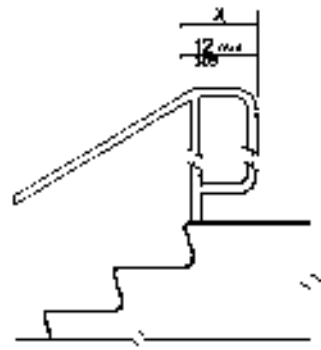
Usable Tread Width and Examples of Acceptable Handing



Elevation of Leather Handrail

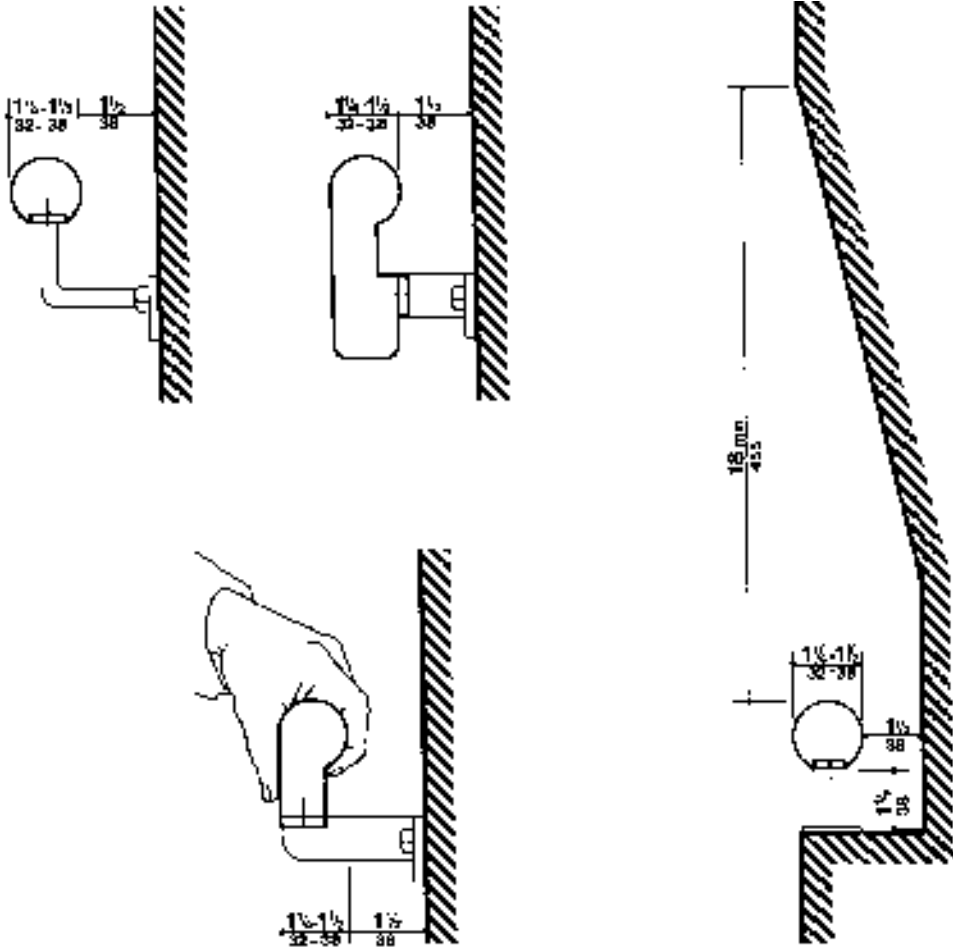


Extension at Bottom of Post



Extension at Top of Rail

FIG 5
Stair Handrails

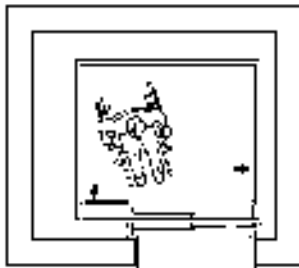


Size and Spacing of Handrails and Grab Bars

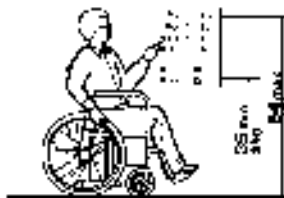
FIG 5 [Continued]
Stair Handrails



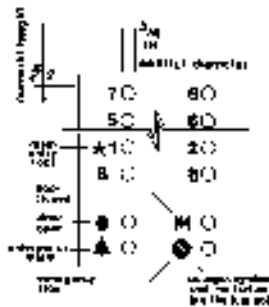
Alternate Location of Panel with Center-Opening Door



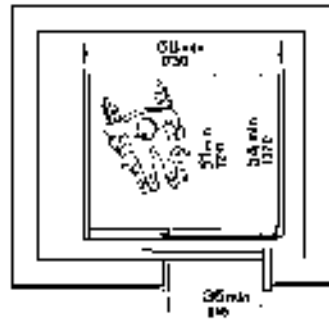
Alternate Location of Panel with Side-Opening Door



Control Height

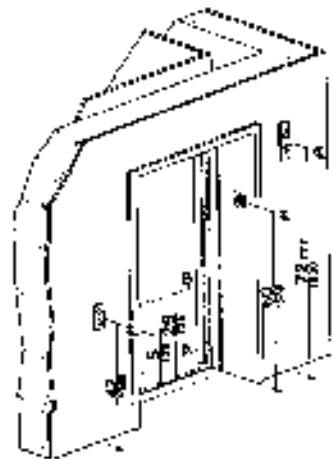


Panel Detail



NOTE: Panel size may be increased slightly from this size above but no less than 64 in (1626 mm) wide. Also, the distance with respect to both the 5000 (50) and the opening door application. The maximum is allowing for 60-in (1524 mm) of clearance.

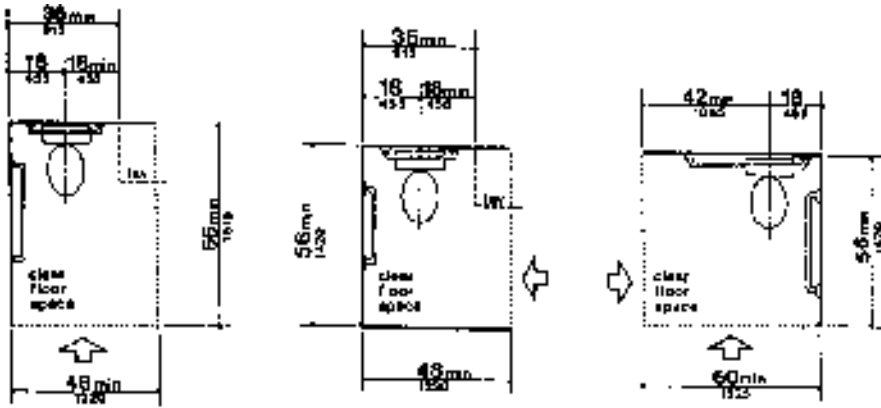
Minimum Clearance of Manual Cars



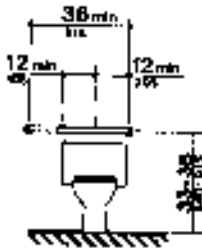
NOTE: The minimum clearance required between the control panel and a person in a wheelchair is 48 in (1219 mm). A minimum of 48 in (1219 mm) is required between the wheelchair and the control panel.

Handway and Elevator Entrances

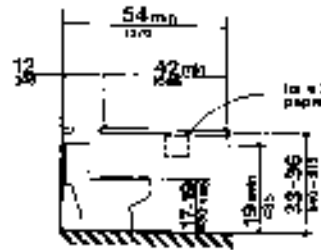
FIG 6
Car Controls



Clear Floor Space at Water Closets

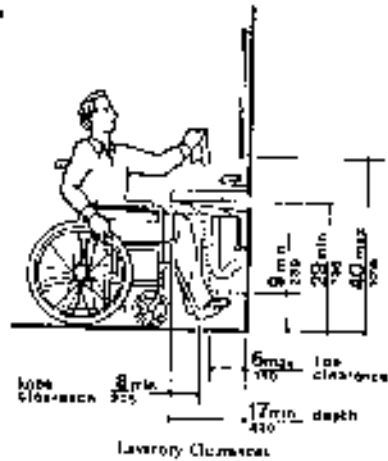


Toilet W.C.



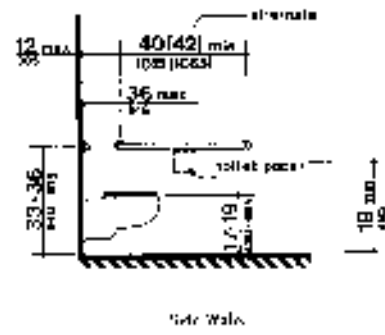
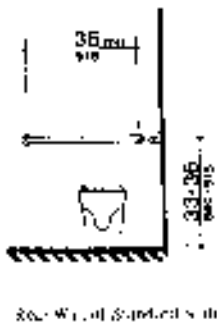
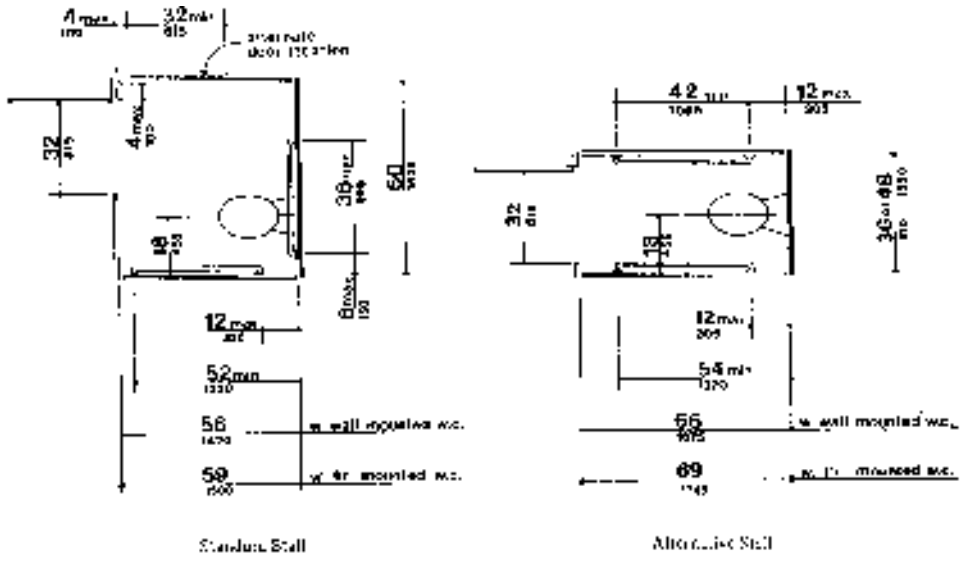
Sink W.C.

Grab Bars at Water Closets

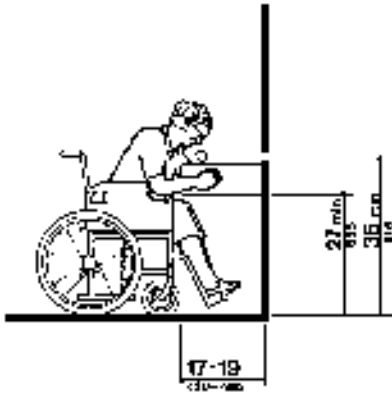


Lavatory Clearances

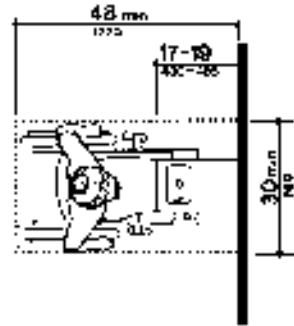
FIG 7
Toilet Facilities



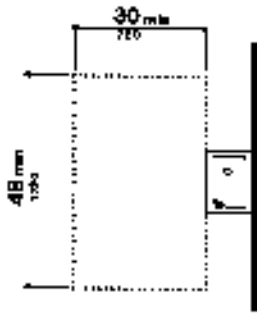
Toilet Stalls
FIG 7 (Continued)
Toilet Facilities



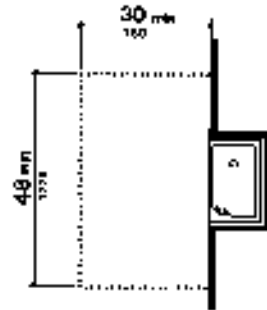
Spout Height and
Knee Clearance



Clear Floor Space

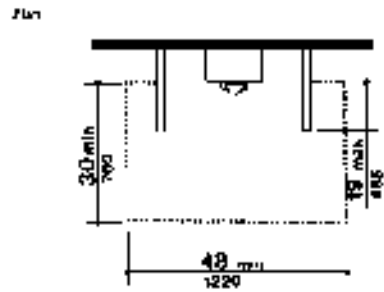
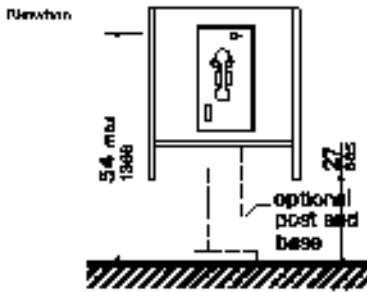


Free Standing
Fountain or Cooler

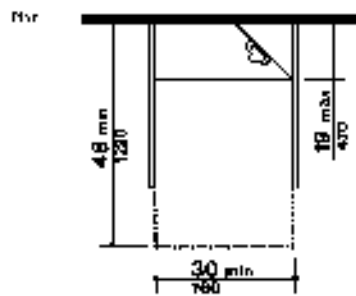
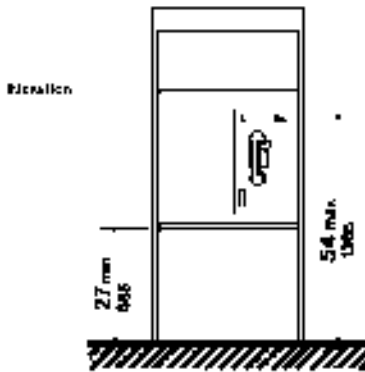


Built-In
Fountain or Cooler

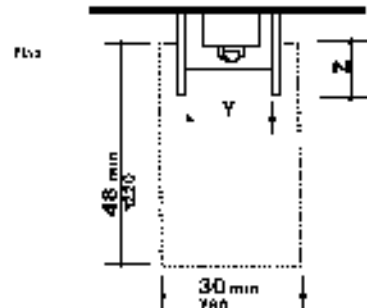
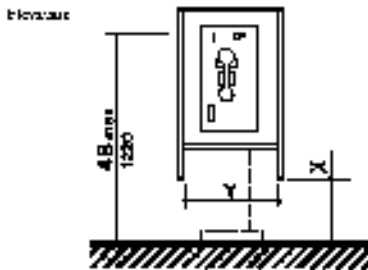
FIG 8
Drinking Fountains and Water Coolers



Side Reach Possible



Full Height Elevation

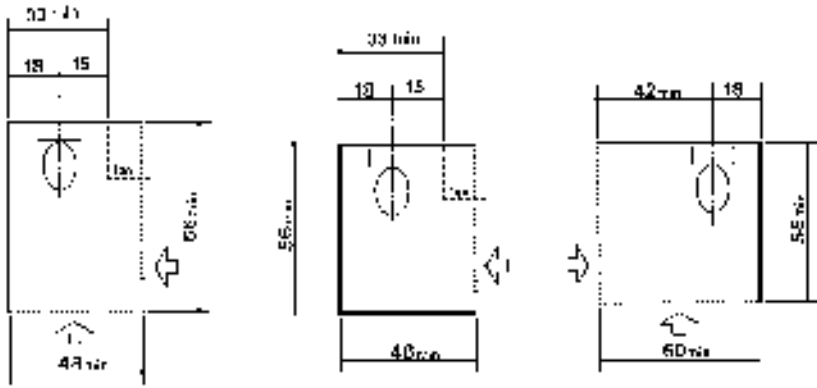


NOTE: If $X < 30$ in (761 mm), there shall be > 27 in (685 mm).

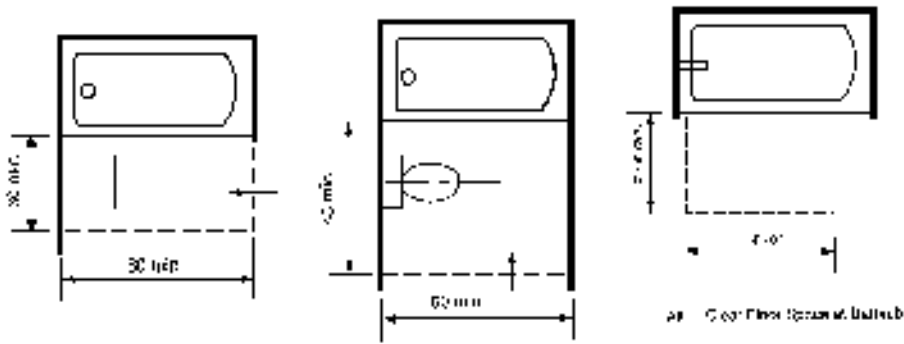
NOTE: If $Z < 12$ in (305 mm), there shall be > 30 in (761 mm).

Forward Reach Required

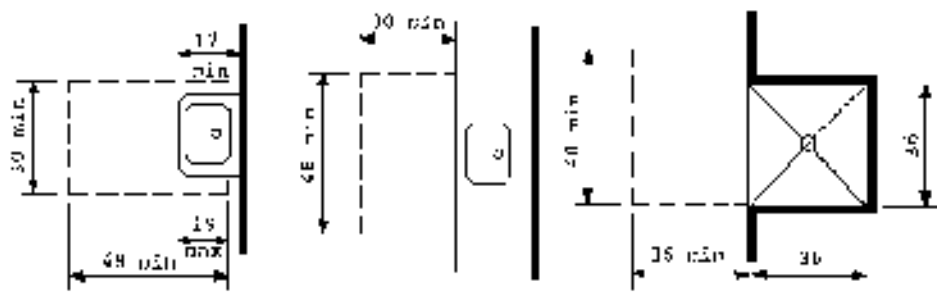
FIG 9
Mounting Heights and Clearances for Telephones



(a) Clear Floor Space for Water Closets



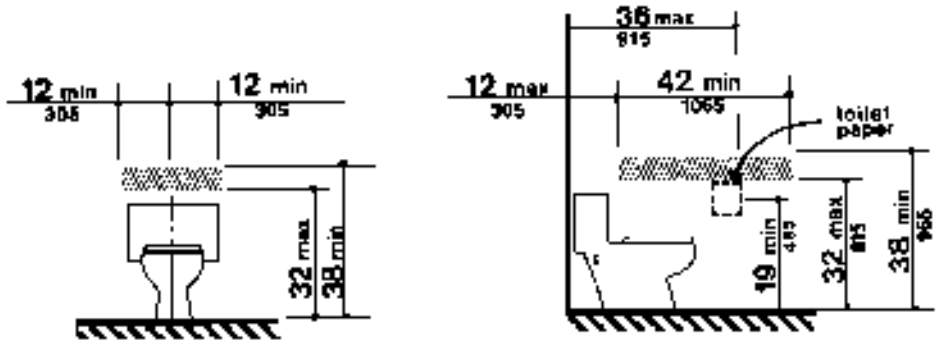
(b) Clear Floor Space at Bathtubs



(c) Clear Floor Space at Lavatories

(d) Clear Floor Space at Shower

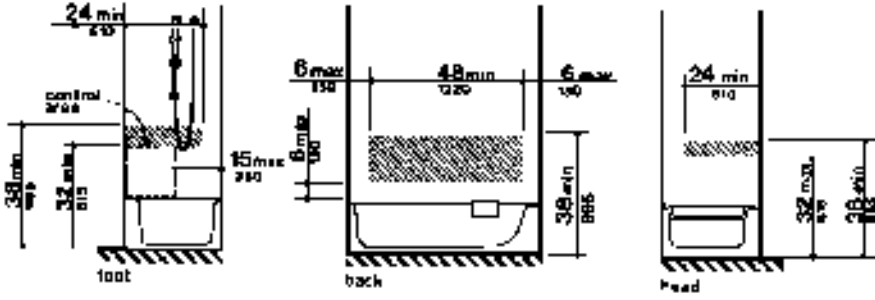
Fig. 10 Clear Floor Space for Adaptable Bathrooms



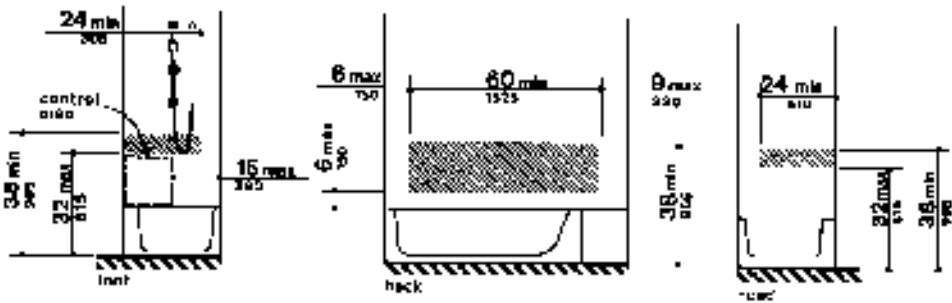
Note: The hatched areas are reinforced to receive grab bars.

Reinforced Areas for Installation of Grab Bars

FIG 11
Water Closets, Bathtubs and Showers in Adaptable Bathrooms



With Seat in Tub

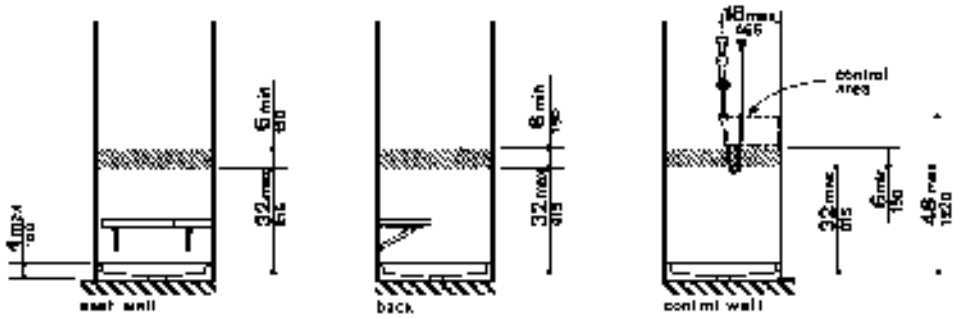


With Seat at Head of Tub

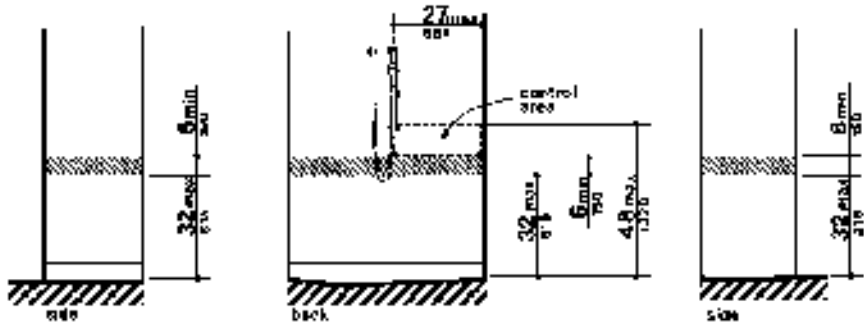
NOTE: The hatched areas are reinforced to receive grab bars.

Location of Grab Bars and Controls of Adaptable Bathtubs

FIG 11 (Continued)
Water Closets, Bathtubs and Showers in Adaptable Bathrooms



36-in by 36-in (915-mm by 915-mm) Stall

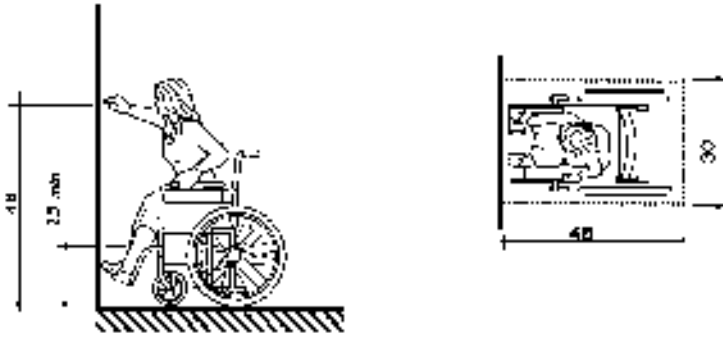


30-in by 60-in (750-mm by 1525-mm) Stall

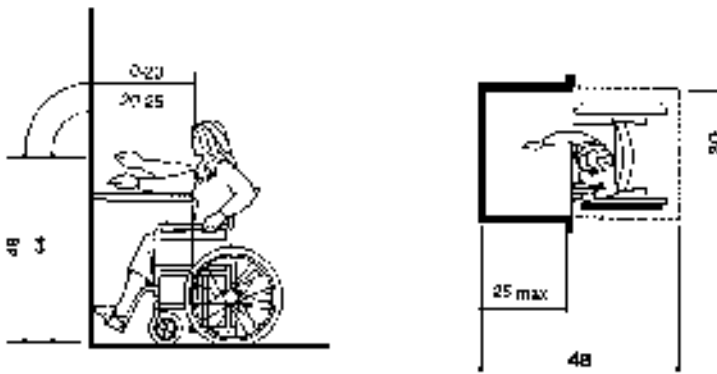
NOTE: The hatched areas are reinforced to receive grab bars.

Location of Grab Bars and Controls of Adaptable Showers

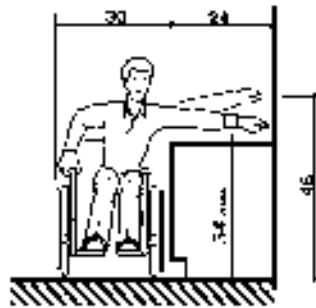
FIG 11 (Continued)
Water Closets, Bathtubs and Showers in Adaptable Bathrooms



(a)
High Forward Reach Limit

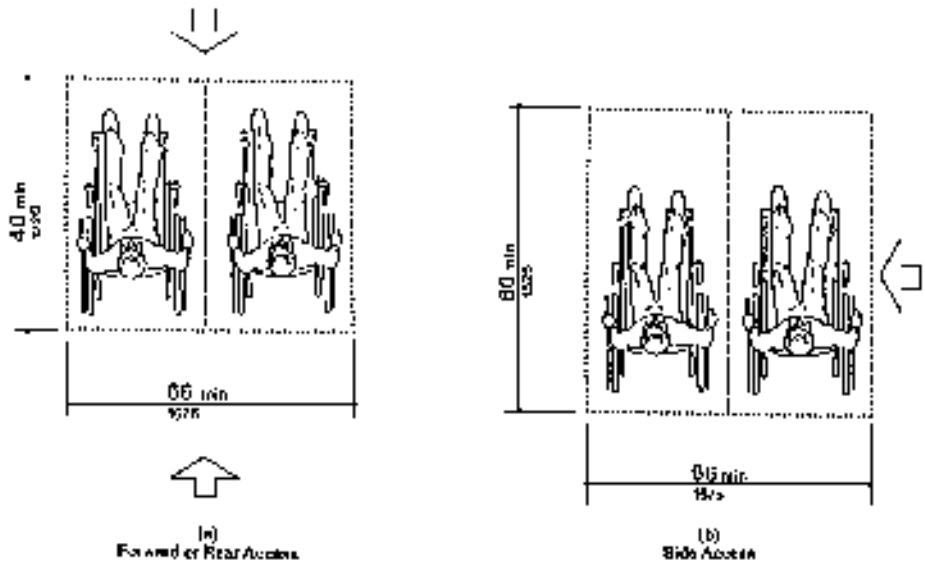


(b)
Maximum Forward Reach over an Obstruction



(c)
Maximum Side Reach over Obstruction

Fig. 12 Reach Ranges



Space Requirements for Wheelchair Seating Spaces In Series

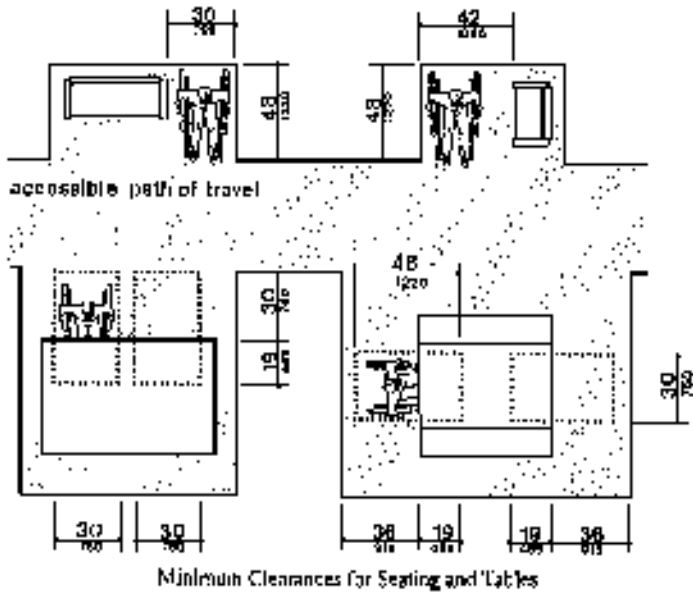


Figure 13
Wheelchair Seating

DIVISION VIII

NOTE: Pursuant to Iowa Code section 103A.10, subsection 4, paragraph “a,” Division VIII applies to any new construction to which the state of Iowa building code generally applies, to all new construction in jurisdictions which have adopted the state of Iowa building code, a local building code, or a compilation of requirements for building construction, and, in addition, to any new construction anywhere in the state which will contain more than 100,000 cubic feet of enclosed space that is heated or cooled.

661—16.800(103A) Iowa state building code thermal and lighting efficiency standards.

16.800(1) Scope. Rules 661—16.800(103A) to 661—16.802(103A) establish thermal and lighting efficiency standards for the design of new buildings and structures or portions thereof and additions to existing buildings which provide facilities or shelter intended primarily for human occupancy or use by regulating their exterior envelopes and selection of their heating, ventilation, and air-conditioning systems, service water heating, electrical distribution and illuminating systems and equipment for the efficient use of energy.

16.800(2) Applicability. Rules 661—16.800(103A) to 661—16.802(103A) apply to design and construction of buildings which provide facilities or shelter intended primarily for human occupancy or use throughout the state of Iowa. Rule 661—16.801(103A) establishes standards for design and construction of low-rise residential buildings. Rule 661—16.802(103A) establishes standards for nonresidential and high-rise residential design and construction.

NOTE: In any case in which the language of a code adopted herein by reference is in conflict with these rules or the Code of Iowa, the language of these rules or the Code of Iowa shall prevail.

661—16.801(103A) Adoption of residential energy code. The “Model Energy Code,” 1992 edition, chapters 1 through 7 and including all charts, figures, and appendices, as published by the Council of American Building Officials, 5203 Leesburg Pike, Falls Church, Virginia 22041, is adopted by reference as the residential energy code of the state of Iowa building code, applicable to low-rise residential construction throughout the state of Iowa on or after November 16, 1994, with the following amendments:

16.801(1) Add a new subsection 101.3.1.3 as follows:

101.3.1.3 Other exemptions—Exemptions of other buildings or classes of buildings shall be requested from the commissioner in writing. Exemptions shall be granted if the commissioner determines the requirements are unreasonable as they apply to a particular building or class of buildings based upon the data supplied with the written request or additional data if requested by the commissioner.

16.801(2) Add a new subsection 101.3.2.4 as follows:

101.3.2.4 Occupancy — The occupancies and use of all buildings shall be as defined by the uniform building code as adopted by the state building code, Iowa Code chapter 103A.

16.801(3) Add a new subsection 102.3 as follows:

102.3 Code compliance. All materials and equipment used to comply with the requirements of this code shall meet the minimum requirements of the Iowa state building code or other applicable building codes.

16.801(4) Add to section 103 the following:

Procedures for obtaining approval of alternate materials and methods of construction are specified in rule 661—16.3(103A).

16.801(5) Delete section 104.1 and replace with the following:

104.1 General requirements. Nothing in these rules shall exempt or change the requirements of Iowa Code chapters 114 and 118, pertaining to registered architects or engineers.

104.1.1 Review by architect or engineer. The plans and specifications for all buildings to be constructed after January 1, 1978, and which exceeds a total volume of 100,000 cubic feet of enclosed space that is heated or cooled shall be reviewed by a registered architect or registered engineer for compliance with applicable energy efficiency standards.

104.1.2 Statement of review. A statement that a review has been accomplished and that the design is in compliance with the energy efficiency standards shall be signed and sealed by the responsible registered architect or registered engineer. This statement shall be filed with the commissioner on the form furnished by the commissioner, prior to construction or the obtaining of any local permits.

104.1.2.1 Submission fee. Included with the statement shall be a remittance of \$15.00 (checks shall be made payable to the Treasurer, State of Iowa).

104.1.3 Additional buildings. If the plans and specifications relating to energy efficiency for a specific structure have been approved, additional buildings may be constructed from those same plans and specifications without need of further approval if construction begins within five years of the date of approval. Alterations of a structure which has been previously approved shall not require a review because of these changes, provided the basic structure remains unchanged and no additional energy is required for heating, cooling or lighting.

104.1.4 Changes to approved plans. No changes shall be made to any approved plan or specifications which either decreases or increases the amount of energy used for heating, cooling, or lighting, unless approved by the responsible registered architect or registered engineer in writing and notice filed with the commissioner.

104.1.5 Local plan review. The review of plans and specifications for buildings constructed with a volume of less than 100,000 cubic feet of enclosed space which is heated or cooled shall be in accordance with local or other building code requirements pertaining to plan review, as required by Iowa Code section 103A.19.

16.801(6) Add an additional subsection to 104 as follows:

104.3 Retention of plans and specifications. Plans and specifications shall not be filed with the commissioner, however, the person signing the approval statement or the owner shall maintain a copy of the approved plans and specifications, for a period of five years following substantial completion of the construction.

16.801(7) Delete subsections under section 105 and insert in lieu thereof the following:

105.1 Inspections. Inspection and review of construction shall be performed in the same manner as the other construction, in accordance with Iowa Code section 103A.19.

16.801(8) Delete the exception to section 402.5 and replace it with the following:

EXCEPTION: Except for a comparison of energy consumption between the alternative design and the standard design, single and multifamily dwellings are exempt.

16.801(9) Add the following subsections and figures to section 502.2.

502.2.1.6 HOME HEATING INDEX. In addition to the requirements of this code for detached one- and two-family dwellings the calculated Home Heating Index (HHI) of Type A-1 residential buildings shall be no greater than Five Btu per Fahrenheit Degree—Day per square foot.

502.2.1.6.1. The Home Heating Index shall be calculated using the following formula:

$$HHI = \frac{BLC \times 24 \times C}{A_t}$$

BLC = The Building Loss Coefficient expressed as Btu/hr. °F.

A_t = Total square foot area of heated space (including heated basements and basements which contain the heating equipment).

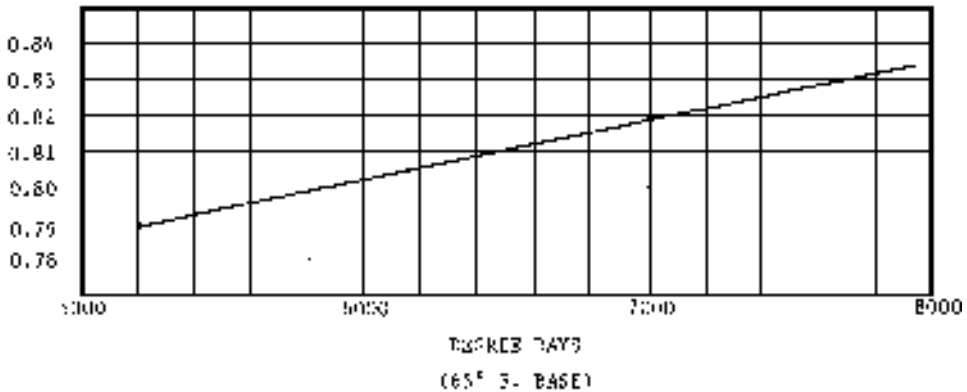
C = Correction factor from Figure 12 (to correct for solar gain and to adjust the maximum heat loss to an average hourly heat loss).

NOTE: The Building Loss Coefficient (BLC) shall include the above grade walls, below grade walls, roof/ceiling, floor over unheated space, slabs on grade and infiltration based on ½ air change per hour. These values are obtained by using the standard ASHRAE methods and equations 1 and 2 in this chapter, infiltration heat loss (H_{inf}) shall be computed as follows unless the procedure used includes infiltration in determining the component heat loss.

$$H_{inf}(Btu/hr. °F) = (VOLUME OF HEATED SPACE IN CUBIC FEET) \times 0.009$$

Other methods of calculation may be used to verify the HHI such as the Thermal Performance Calculation Method (including solar) as developed by the Iowa State University Energy Extension Service, Manual “J” as published by the Air Conditioning Contractors of America or any other recognized method.

FIGURE 12
CORRECTION FACTOR C



16.801(10) Add the following subsection to section 503.4:

503.4.3.1 Vent dampers. Automatic vent dampers may be added to gas fired equipment not otherwise equipped under the following conditions:

1. The unit and installation procedure must be approved by the American Gas Association.
2. The installation must be made in accordance with the approved installation procedures.
3. The installation does not effect the operation or the warranty provisions of the equipment to which it is attached.

16.801(11) Add new subsections to section 503.4 as follows:

503.4.8 Oversizing of equipment. System design heating/cooling capacity. The rated capacity of the heating/cooling system at design conditions shall not be greater than 130 percent for heating, 115 percent for cooling at design output load calculated in accordance with section 503.2 whenever appropriate equipment is available. Equipment designed for standby purposes is not included in this capacity limitation requirement. The cooling capacity of heat pumps is exempt from this limitation.

503.4.9 Combustion air. Combustion air shall be supplied as required by chapter 6 of the uniform mechanical code as adopted as part of the state building code.

16.801(12) Add at the end of the first paragraph of section 503.10:

Provisions of the duct requirements of the uniform mechanical code as adopted as part of the state building code shall be used if different from these standards.

16.801(13) Delete section 601.1 and replace with the following:

601.1 General. The requirements contained in this chapter are applicable only to buildings containing less than 100,000 cubic feet of enclosed heated or cooled space and three stories or less in height. The provisions of this chapter are limited to residential buildings, which have more than two dwelling units, that are heated only or heated and mechanically cooled and to other buildings that are heated only. Buildings constructed in accordance with this chapter are deemed to comply with this code.

One- and two-family dwellings must comply with the Home Heating Index requirements of amendment 16.801(9) above.

16.801(14) Add to RS-8 in Section 701.1:

IES pamphlets EMS-1, EMS-2, and EMS-3 are included as part of this standard.

Rules 16.100(103A) to 16.800(103A) are intended to implement Iowa Code sections 103A.7, 103A.9 and 104A.2 and chapter 104B and Public Law 100-430.

661—16.802(103A) Adoption of nonresidential energy code. The 1993 codified version of “ASHRAE/IES 90.1-1989, Energy Efficient Design of New Buildings Except Low-Rise Residential Buildings,” including appendices A, B, C, and D, published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., 1971 Tullie Circle N.E., Atlanta, Georgia 30329-2398, is adopted by reference as the nonresidential energy code of the state of Iowa building code, applicable to nonresidential or high-rise residential construction within the state of Iowa on or after November 16, 1994, with the following amendments:

16.802(1) Article 101 is amended by adding the following exception:

(4) Exemptions to applicability of the nonresidential and high-rise residential energy code to other buildings or classes of buildings shall be requested from the commissioner in writing. Exemptions will be granted if the commissioner determines that the requirements are unreasonable as they apply to a particular building or class of buildings based upon the data supplied with the written request or additional data requested by the commissioner.

16.802(2) Article 101 is further amended by adding the following new section 101.1:

101.1 Application to existing buildings.

101.1.1 Additions to existing buildings. Additions to existing buildings may be made without requiring the entire building or structure to comply. Additions to buildings or structures shall be constructed in conformance with the provisions of this standard which apply to new construction.

101.1.2 Historic buildings. Historic buildings are exempt from the provisions of this standard. For purposes of this rule, a “historic building” is a building which has been specifically designated as historic pursuant to Iowa Code section 103A.42 or which has been included in the National Register of Historic Places or has been determined to be eligible for such a listing.

101.1.3 Change of occupancy. A change of occupancy or use of an existing building or structure constructed under this code which would result in an increase in demand for either fossil fuels or electrical energy supply shall not be permitted unless the building or structure complies with the provisions of this code.

101.1.4 Mixed occupancy. When a building houses more than one occupancy, each portion of the building shall conform to the requirements for the occupancy housed therein.

EXCEPTION: When minor accessory uses occupy no more than 10 percent of the area of any floor of a building, the major use shall be considered the building occupancy.

101.1.5 Occupancy. The occupancies and uses of all buildings shall follow the definitions established in the Uniform Building Code, 1991 edition, published by the International Conference of Building Officials.

16.802(3) Article 102 is amended by adding the following unnumbered paragraph at the end of the article:

Alternate materials and methods of construction. Procedures for the approval of alternate materials and methods of construction are established in rule 661—16.3(103A).

16.802(4) Article 105 is amended by adding the following unnumbered paragraph at the end of the article:

Code compliance. All materials and equipment used to comply with the requirements of this standard shall meet the minimum requirements established in this chapter or other applicable building codes.

16.802(5) Article 106 is amended by omitting the introductory paragraph and inserting the following new sections in lieu thereof:

106.1 Review by architect or engineer. The plans and specifications for any building constructed after January 1, 1978, which exceed 100,000 cubic feet of enclosed space that is heated or cooled, shall be reviewed by an architect registered pursuant to Iowa Code chapter 544A or by an engineer registered pursuant to Iowa Code chapter 542B for compliance with applicable energy efficiency standards.

106.1.1 Statement of review. A statement that a review for compliance with applicable energy efficiency standards and that the design is in compliance within these standards shall be signed and sealed by the responsible registered architect or registered engineer. The statement shall be filed with the commissioner on a form prescribed and provided by the commissioner prior to construction or the issuance of any local building permits.

106.1.1.1 Submission fee. Included with the statement of review shall be a remittance of \$15. Checks should be made payable to “Treasurer, State of Iowa.”

106.1.2 Additional buildings. If plans and specifications related to energy efficiency have been approved for a specific structure, additional buildings may be constructed from those same plans and specifications, without need of further approval regarding compliance with energy efficiency standards, if construction of any additional structure commences within five years of the date of approval of the plans and specifications. Alterations of a structure for which the design has been previously approved shall not require review or further approval, provided that the basic structure of the building remains unchanged and that the alterations do not result in increased energy usage for heating, cooling, or lighting.

106.1.3 Changes to approved plans. No changes shall be made in approved plans or specifications prior to completion of original construction which would result in either decreased or increased demand for energy used for heating, cooling, or lighting, unless the changes are approved by the responsible registered architect or registered engineer in writing and notice of the changes has been filed with the commissioner.

106.1.4 Local plan review. The review of plans and specifications for buildings of less than 100,000 cubic feet of enclosed space that are heated or cooled shall be conducted in accordance with local or other building code requirements for plan reviews established pursuant to Iowa Code section 103A.19.

106.1.5 General requirements. Nothing in these rules shall be interpreted to alter the requirements established in Iowa Code chapter 542B or the rules of the engineering and land surveying examiners board pertaining to registered engineers or in Iowa Code chapter 544A or the rules of the architectural examining board pertaining to registered architects.

106.2 Details. The plans and specifications shall show all pertinent data and features of the building and equipment and systems governed by this standard including, but not limited to, design criteria, exterior envelope component materials, "U" values of the envelope system, "R" values of insulating materials, size and type of apparatus and equipment, equipment and systems controls and other pertinent data to indicate conformance with the requirements of this standard.

106.3 Retention of plans and specifications. The building owner or the registered architect or registered engineer who signs the approval statement shall maintain a copy of the approved plans and specifications and of the signed approval statement for a period of five years following substantial completion of the construction. Plans and specifications shall not be filed with the commissioner but shall be made available to the commissioner on request.

16.802(6) Article 107 is amended by omitting the introductory paragraph and inserting in lieu thereof the following:

Inspections and review of construction regarding this standard shall be performed in the same manner as inspections and review of construction related to other portions of this chapter.

16.802(7) Section 301.1 Exterior Design Conditions is amended by adding the following ASHRAE Alternative Component Package Tables: Burlington, IA #35; Des Moines, IA #63; Mason City, IA #130; Moline, IL #144; Omaha, NE #159; and Sioux City, IA #202.

16.802(8) Section 403.1 is amended by inserting the following new subsections:

403.1.1 Vent dampers. Automatic vent dampers may be added to gas-fired mechanical equipment, not otherwise equipped, if all of the following conditions are met:

403.1.1.1 The unit and installation method must be approved by the American Gas Association.

403.1.1.2 The installation must be made in accordance with approved installation procedures.

403.1.1.3 The installation does not affect the operation or warranty provisions of the equipment to which the vent damper is attached.

16.802(9) Section 403.2.4 is amended by adopting the ventilation standard established by the Uniform Building Code, 1991 edition, published by the International Conference of Building Officials as the referent for the minimum ventilation requirement.

16.802(10) The first exception to section 403.2.6.6 is amended by adding the ventilation requirement of the Uniform Building Code, 1991 edition, as the referent for the minimum ventilation requirement.

16.802(11) Subsection 403.2.9.3 is amended by adding the following unnumbered paragraph at the end of the subsection:

Provisions of the duct requirements of the Uniform Mechanical Code, 1991 edition, published by the International Conference of Building Officials and the International Association of Plumbing and Mechanical Officials shall apply.

These rules are intended to implement Iowa Code section 103A.7 and Public Law 102-486.

[Filed and effective 7/15/75]

[Filed 7/7/77, Notice 4/20/77—published 7/27/77, effective 9/1/77]

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[Filed emergency 12/13/77—published 12/28/77, effective 1/4/78]

[Filed 9/27/78, Notice 3/22/78—published 10/18/78, effective 11/22/78]

[Filed emergency after Notice 2/6/79—published 3/7/79, effective 2/6/79, Notice 11/1/78]†

[Filed 12/15/80, Notice 6/25/80—published 1/7/81, effective 3/1/81]*

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[Filed 6/16/83, Notice 4/13/83—published 7/6/83, effective 8/12/83]

[Filed 8/10/84, Notice 5/23/84—published 8/29/84, effective 10/3/84]

[Filed 10/17/86, Notice 7/16/86—published 11/5/86, effective 1/1/87]

[Filed 12/23/86, Notice 7/16/86—published 1/14/87, effective 2/19/87]

[Filed 8/31/87, Notice 6/3/87—published 9/23/87, effective 11/1/87]

[Filed 4/1/88, Notice 9/23/87—published 4/20/88, effective 5/25/88]

[Filed 10/25/88, Notice 9/7/88—published 11/16/88, effective 1/1/89]**

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[Filed 10/13/89, Notice 8/9/89—published 11/1/89, effective 12/6/89]

[Filed 12/22/89, Notice 10/18/89—published 1/10/90, effective 2/14/90]

[Filed emergency 1/17/90—published 2/7/90, effective 2/14/90]

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[Filed 3/29/91, Notice 11/28/90—published 4/17/91, effective 6/1/91]

[Filed 5/10/91, Notice 4/3/91—published 5/29/91, effective 7/3/91]

[Filed 8/28/92, Notice 5/27/92—published 9/16/92, effective 11/1/92]

[Filed 2/12/93, Notice 10/14/92—published 3/3/93, effective 5/1/93]

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[Filed 5/16/97, Notice 11/20/96—published 6/4/97, effective 7/15/97]

[Filed 11/26/97, Notice 10/22/97—published 12/17/97, effective 2/1/98]

[Filed 11/9/00, Notice 7/26/00—published 11/29/00, effective 1/3/01]

[Filed 11/9/00, Notice 10/4/00—published 11/29/00, effective 1/3/01]

[Filed emergency 3/23/01—published 4/18/01, effective 4/1/01]

[Filed emergency 9/27/01—published 10/17/01, effective 10/1/01]

[Filed 6/13/03, Notice 11/27/02—published 7/9/03, effective 1/1/04]

*Effective date of IAB amendments to [O.P.P. 5.600 to 5.629] Division VI (16.600 to 16.629) delayed 70 days by the Administrative Rules Review Committee.

†Inadvertently dropped out from 1/7/81 IAC Supplement replacement pages.

**Effective date (1/1/89) of 16.120(2)[3802 "h" only] delayed until adjournment of the 1988 Session of the General Assembly by the Administrative Rules Review Committee at its December 13, 1988, meeting.

CHAPTER 17

CRIME VICTIM REPARATION

[Prior to 4/20/88, see Public Safety Department[680] Ch 17]

Program transferred to the Department of Justice—Attorney General[61] Ch 9, IAB 9/20/89. See 1989 Iowa Acts, House File 700.