

BUILDING STANDARDS

for the

HANDICAPPED

1977

REFERENCE MATERIAL
CODES SECTION
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SUPPLEMENT No. 5

TO THE NATIONAL BUILDING

CODE OF CANADA

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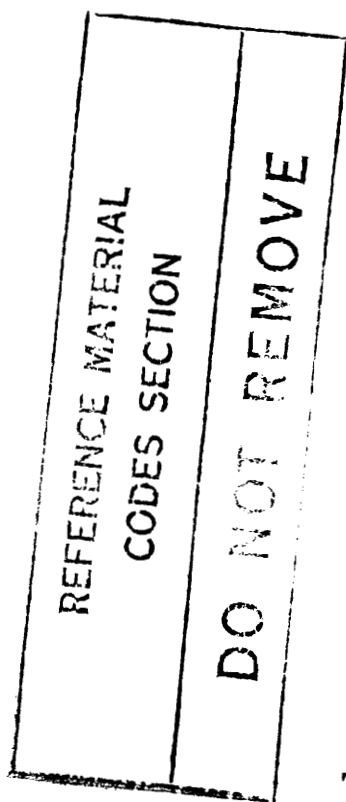
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PREFACE

One in every seven Canadians has an infirmity associated with ageing or a permanent physical disability

Building Standards for the Handicapped, a Supplement to the National Building Code of Canada, is designed to allow handicapped persons to enter and use buildings without assistance and thus greatly facilitate their mobility. The recommendations contained herein are based on average needs and acceptable norms, with wheelchair use being a primary design determinant. The implementation of these standards will not detract from the normal use of buildings by those who are not handicapped but will make buildings more accessible and safer for all who use them.

The Supplement is written in a form suitable for adoption as legislation or for application as guidelines by those who wish to ensure that the buildings they design are accessible to the handicapped. The document contains detailed requirements to augment the following provisions in the National Building Code 1977 which are intended to be mandatory when the National Building Code is adopted by a jurisdictional authority:

- (a) Subsection 3.2.7. "Provisions for Physically Handicapped Persons,"
- (b) Article 3.6.4.4. which regulates the provision of public washrooms for physically handicapped persons, and
- (c) Articles 9.9.2.10. and 9.9.2.11. which regulate access requirements in buildings falling within the scope of Part 9 of the National Building Code.

These NBC requirements are set out in full in Appendix A.

Appendix B contains supplementary material and diagrams to assist the designer. The first line of each item in Appendix B contains in bold-face type the reference to the requirement in this document to which the supplementary material is applicable. These references have been placed in numerical order to ensure that they are easily found when they are referred to in the text.

A metric pamphlet has been prepared which gives appropriate metric values for the imperial units of measure used herein. This pamphlet is distributed automatically with each copy of the Supplement and is intended to provide a basis for working in metric terms pending completion of a fully metric document in a subsequent edition.

Comments on the content of this document and suggestions for revision are welcomed and should be sent to the Secretary, Associate Committee on the National Building Code, National Research Council, Ottawa, Ontario K1A 0R6.

Le code national du bâtiment, ses suppléments et les documents qui s'y rattachent sont disponibles en français. On peut se les procurer en s'adressant au Secrétaire, Comité associé du Code national du bâtiment, Conseil national de recherches du Canada, Ottawa, Ontario K1A 0R6.

SECTION 1 SCOPE

SUBSECTION 1.1 GENERAL

1.1.1. These Standards apply to the design of buildings and to associated site development for use by physically handicapped persons.

1.1.2. In designing buildings and building sites to accommodate physically handicapped persons, the designer shall take into consideration the requirements of persons with aging or other physical disabilities, with wheelchair use generally being the most limiting design condition. (See Appendix B.)

SECTION 2 SITE DEVELOPMENT

SUBSECTION 2.1 WALKS (See Appendix B.)

2.1.1. Walks that are required to be designed to accommodate physically handicapped persons shall conform to Articles 2.1.2. to 2.1.5. (See also Subsection 3.2.7. and Article 9.9.2.9. of the National Building Code of Canada 1977.)

2.1.2. Exterior walks shall have nonslip surfaces.

2.1.3. Exterior walks shall form a continuous surface and shall not have abrupt changes in level such as steps and curbs.

2.1.4. Exterior walks shall be at least 3 ft in width.

2.1.5. Where the gradient of a walk exceeds 1 in 20 it shall be designed according to the requirements for a ramp. (See Article 3.3.1.)

2.1.6. Obstructions such as signs, guy wires, trees and parking meters shall not be permitted along outdoor walkways where they create a potential hazard to the user of the walkway, particularly to blind persons.

SUBSECTION 2.2 PARKING AREAS (See Appendix B.)

2.2.1. Where parking spaces are required to be provided for physically handicapped persons, such spaces shall be at least 12 ft wide, hard surfaced and level, located near and accessible to an entrance and shall be identified for the use of physically handicapped persons.

SECTION 3 BUILDINGS

SUBSECTION 3.1 ENTRANCES (See Appendix B.)

3.1.1. Doorways and ramps at the entrance to a building which are required to be designed to accommodate physically handicapped persons shall conform to Subsections 3.2 and 3.3, respectively.

3.1.2. Vestibules required to be designed to accommodate physically handicapped persons, including those in toilet rooms, shall be designed to allow movement of a wheelchair between the doors.

3.1.3. Where a building is required to have a principal entrance to accommodate physically handicapped persons, signs shall be installed where necessary to indicate the location of the principal entrance that is suitable. (See Appendix B.)

3.1.4. Where a facility is required to be designed to accommodate physically handicapped persons, such facility shall be identified by a sign consisting of the international symbol of accessibility for handicapped persons and such other graphic or written directions as are needed to indicate clearly the intended facility. (See Appendix B.)

SUBSECTION 3.2 DOORS AND DOORWAYS (See Appendix B.)

3.2.1. Except as required in Subsection 4.3, doorways required to be designed to accommodate physically handicapped persons shall have a clear opening, free of protruding hardware, of at least 2 ft 6 in. when the door is in the open position.

3.2.2. Thresholds that are not flush with the floor in doorways that are required to be designed to accommodate physically handicapped persons shall not exceed ½ in. in height and shall be sloped to facilitate the passage of wheelchairs.

3.2.3. Door closers shall be of a type that permits the door being opened with a minimum of effort and that is slow closing to allow uninterrupted passage of a wheelchair.

SUBSECTION 3.3 RAMPS (See Appendix B.)

3.3.1. Where ramps are required to be designed to accommodate physically handicapped persons, the ramps shall conform to the requirements of Articles 3.3.2. to 3.3.8.

3.3.2. Ramps shall have a nonslip surface.

3.3.3. Ramps shall have a minimum width of 3 ft.

3.3.4. Gradients for ramps shall not exceed 1 in 12, except that the authority having jurisdiction may permit a steeper slope where it is not practicable to provide a slope of 1 in 12, but in no case shall the slope exceed 1 in 7.

3.3.5. A level area of 5 ft by 5 ft shall be provided at the bottom of a ramp.

3.3.6. A level area of at least 5 ft by 5 ft shall be provided on the top of a ramp leading to a door so that at least 1 ft projects beyond the latch edge of the door opening, except that where the door opens away from the ramp, the depth of the level area may be reduced to 3 ft. (See Appendix B.)

3.3.7. Where there are abrupt changes in the direction of a ramp, or where the ramp exceeds 30 ft in length, it shall have a level landing at intervals of not more than 30 ft measuring at least 4 ft long and of at least the same width as the ramp.

3.3.8. All ramps and landings shall be equipped so they can be illuminated to average levels of at least 5 foot candles at floor level.

SUBSECTION 3.4 HANDRAILS (See Appendix B.)

3.4.1. Except as provided in Articles 3.4.2. and 3.4.3., ramps shall have a handrail on at least one side which shall extend at least 1 ft beyond the top and bottom of the ramp. This extension shall be located so that it does not constitute a hazard. (See also Sentences 3.4.8.5.(1) to (5) of the National Building Code of Canada 1977.)

3.4.2. Ramps with a gradient steeper than 1 in 12 shall have 2 handrails spaced approximately 2 ft 10 in. apart.

3.4.3. No handrails are required for ramps where the ramp height does not exceed 8 in.

SUBSECTION 3.5 ELEVATORS

3.5.1. Where elevators are required to be designed to accommodate physically handicapped persons, the requirements of Articles 3.5.2. and 3.5.3. shall apply.

3.5.2. The uppermost button in the elevator cab control panel shall be located not more than 5 ft above floor level.

3.5.3. At least 1 handrail shall be provided in each elevator car.

SUBSECTION 3.6 TOILET ROOMS

3.6.1. Where a special toilet room is provided for the use of handicapped persons of both sexes and their attendants, in lieu of facilities for handicapped persons in washrooms used by the general public, the special toilet rooms shall conform to Articles 3.6.2. to 3.6.7.

3.6.2. Doors to the special toilet rooms referred to in Article 3.6.1. shall be capable of being locked from the inside.

3.6.3. Special toilet rooms shall contain at least 1 water closet and associated grab bars conforming to Subsection 3.8 and 1 lavatory conforming to Subsection 3.9.

3.6.4. Where vestibules are provided, doors in vestibules shall conform to Articles 3.2.1. and 3.2.2.

3.6.5. Special toilet rooms shall be at least 50 sq ft in size with no dimension less than 5 ft 6 in.

3.6.6. Fixture clearance shall conform to the requirements in Subsections 3.7 to 3.9, inclusive.

3.6.7. The door to the special toilet room shall be identified for use by physically handicapped persons. (See Appendix B for Article 3.1.4.)

SUBSECTION 3.7 WATER CLOSET STALLS (See Appendix B.)

3.7.1. Where a washroom is required to be installed for use by physically handicapped persons, at least 1 water closet stall shall conform to Articles 3.7.2. to 3.7.8.

3.7.2. Water closet stalls shall be at least 4 ft 6 in. in width by 5 ft in depth.

3.7.3. The water closet stall door shall be a minimum of 2 ft 8 in. in width and shall swing outward.

3.7.4. Except as provided in Article 3.7.5., the water closet shall be located 1 ft 6 in. from the centre of the fixture to an adjacent side wall.

3.7.5. At least 3 ft shall be provided from the centre line of a water closet to an adjacent wall on at least 1 side of the water closet.

3.7.6. The water closet stall shall be provided with a grab bar conforming to Article 3.7.7.

3.7.7. Grab bars shall have a diameter of not less than 1 in. and not more than 2 in. The space between the bar and the wall shall be approximately 1¾ in. Such grab bars shall be mounted at the side of the water closet approximately 1 ft 4 in. from the centre line of the water closet.

3.7.8. A coat hook with rounded edges shall be mounted 5 ft above the floor on a side wall, projecting not more than 1 in. from the wall.

SUBSECTION 3.8 WATER CLOSETS (See Appendix B.)

3.8.1. Where a water closet stall is installed for use by physically handicapped persons, at least 1 water closet in such stall shall conform to Articles 3.8.2. to 3.8.5.

3.8.2. Water closet seats shall not exceed 1 ft 6 in. in height above floor level.

3.8.3. Water closet seats with spring-up action shall not be used.

3.8.4. Flushing controls shall be hand operated and easily accessible to a wheelchair user.

3.8.5. A back support shall be provided for each water closet.

SUBSECTION 3.9 LAVATORIES

3.9.1. Where a washroom is required for use by physically handicapped persons, lavatories and soap and towel dispensers shall be installed in conformance with Articles 3.9.2. to 3.9.7.

3.9.2. Lavatories shall have a clearance of 2 ft 2 in. beneath the bottom of the lavatory to a point at least 10 in. in from its front.

3.9.3. Waste outlet pipes which constitute a burn hazard shall be insulated.

3.9.4. Lavatory faucet handles shall be of the lever type.

3.9.5. Lavatories shall be mounted a minimum of 1 ft 6 in. from the side wall to the centre of the fixture.

3.9.6. Soap dispensers, shelving or other projections in a lavatory that may cause injury to users, particularly blind persons, shall be located in such a position that they will not create a hazard.

3.9.7. Soap and towel dispensers shall be located so that they are accessible to physically handicapped persons, including persons in wheelchairs. The dispensers shall be not more than 3 ft 4 in. above the floor.

SUBSECTION 3.10 PUBLIC TELEPHONES

3.10.1. Public telephones provided for use by physically handicapped persons shall meet the requirements of Articles 3.10.2 to 3.10.5.

3.10.2. The booth or enclosure shall be located so that it can be entered by a person in a wheelchair and shall be suitably identified for use by physically handicapped persons.

3.10.3. The dial, handset and coin deposit slots shall be mounted not more than 4 ft above the floor.

3.10.4. The telephone shall be equipped with an amplifier on the receiver.

3.10.5. A telephone directory shelf shall be mounted approximately 30 in. above the floor.

SECTION 4 DWELLING UNITS

SUBSECTION 4.1 GENERAL (See Appendix B.)

4.1.1. Dwelling units required to be designed for the use of physically handicapped persons shall conform to Articles 4.1.2. to 4.15.1.

4.1.2. All living areas and essential facilities in and related to the dwelling unit shall be accessible to persons in wheelchairs.

SUBSECTION 4.2 ENTRANCES

4.2.1. At least 1 entrance to each dwelling unit shall be designed for use by persons in wheelchairs.

SUBSECTION 4.3 DOORS AND DOORWAYS

4.3.1. Doorways at the entrance to the dwelling unit and at the entrance to each room shall conform to Article 3.2.1., except that where doors or openings lead off a hallway at right angles, such doors or openings shall be at least 3 ft in width. All other doorways shall provide a clear opening of at least 2 ft 6 in. in width.

SUBSECTION 4.4 HALLWAYS

4.4.1. The clear width of a hallway shall be at least 3 ft 2 in.

SUBSECTION 4.5 KITCHENS (See Appendix B.)

4.5.1. A clearance of at least 4 ft 6 in. shall be provided in front of base cabinets, work surfaces, counter tops and appliances.

4.5.2. Knee space shall be provided under the sink to accommodate persons in wheelchairs.

SUBSECTION 4.6 BATHROOMS (See Appendix B.)

4.6.1. Bathrooms shall be designed to allow access by a person in a wheelchair to each fixture.

4.6.2. The access area to a bathtub shall be at least 2 ft 6 in. wide by 3 ft 6 in. in length to allow for parallel placement of a wheelchair.

4.6.3. Clearance at one side and in front of a water closet shall be at least 2 ft 6 in.

4.6.4. Lavatories shall have a clearance of 2 ft 2 in. under the bowl to a point at least 10 in. from the front of the fixture.

4.6.5. Lavatory faucet handles shall be of the lever type.

4.6.6. Waste outlet pipes which may constitute a burn hazard shall be insulated.

4.6.7. Where a shower is installed as a separate fixture, the shower stall shall be at least 3 ft wide by 4 ft deep. The sill of such stalls shall be designed to permit easy entrance of a wheelchair.

4.6.8. Grab bars shall be provided at the water closet, bathtub and shower and shall be adequately anchored.

SUBSECTION 4.7 CLOTHES CLOSETS

4.7.1. Floors in clothes closets shall be at the same level as the floor of the room they serve.

SUBSECTION 4.8 BEDROOMS

4.8.1. At least 1 bedroom shall be specially designed to allow free movement of a wheelchair within the bedroom.

SUBSECTION 4.9 LAUNDRY FACILITIES

4.9.1. A clearance of at least 4 ft 6 in. shall be provided in front of laundry tubs, automatic washers and dryers.

SUBSECTION 4.10 GARAGES, CARPORTS AND PARKING SPACES

4.10.1. A garage, carport or parking space serving a dwelling unit required to be designed to accommodate physically handicapped persons shall be designed to accommodate wheelchairs. (See Appendix B for Section 2, Site Development.)

4.10.2. A garage or carport to accommodate 1 car shall have a clear inside width of at least 12 ft.

SUBSECTION 4.11 WALKS

4.11.1. Walks shall have a width of at least 3 ft with a gradient of not more than 1 in 20, constructed without steps or abrupt changes in level.

SUBSECTION 4.12 RAMPS

4.12.1. Ramps shall conform with the requirements of Subsection 3.3.1.

SUBSECTION 4.13 CONTROLS

4.13.1. Controls for lights, cooking, heating and ventilation equipment, windows, draperies and all similar controls of frequent or essential use shall be placed within reach of persons in wheelchairs. (See Appendix B for Subsection 4.5.)

4.13.2. Electrical receptacles shall be at least 1 ft 6 in. above the floor.

SUBSECTION 4.14 WINDOWS

4.14.1. Openable windows shall be designed and located so that they can be easily opened by a person in a wheelchair. Opening mechanisms shall allow easy operation.

SUBSECTION 4.15 SHARED FACILITIES

4.15.1. Shared recreation and service facilities in multi-family occupancies shall be accessible to persons in wheelchairs.

APPENDIX A

EXTRACTS from the National Building Code of Canada 1977

(This Appendix contains the requirements for building standards for the handicapped from the National Building Code of Canada 1977.)

EXTRACTS FROM THE NATIONAL BUILDING CODE OF CANADA 1977

Public building (as applied to requirements for the design of *buildings* for physically handicapped persons) means a *building* to which the public is admitted, but does not include apartment *buildings*, houses, boarding houses or *buildings* of Group F *major occupancy* or *buildings* of Group D *major occupancy* of a single tenancy.

(Details of occupancies can be found in Part 3 of the National Building Code of Canada 1977.)

3.2.7.1. Every *public building* shall have at least 1 principal entrance designed in conformance with NBC Supplement No. 5, "Building Standards for the Handicapped 1977" for use by physically handicapped persons, opening to the outdoors at sidewalk level or to a ramp conforming to Article 3.4.8.8. leading to a sidewalk.

3.2.7.2. Every *public building* shall provide access for physically handicapped persons from the entrance described in Article 3.2.7.1. to public spaces on the entrance floor, and to at least 1 elevator where elevators are provided.

3.2.7.3. Washroom facilities in *public buildings* shall conform to Article 3.6.4.4.

(Where *buildings* are designed to accommodate handicapped persons, the requirements in NBC Supplement No. 5, "Building Standards for the Handicapped 1977" may be used as a guide for facilities in addition to the facilities required in this Bylaw.)

3.6.4.4. In every *public building* where washrooms are provided for the public, at least 1 wash-room shall be provided that is designed for and is accessible to physically handicapped persons in conformance with the appropriate provisions in NBC Supplement No. 5, "Building Standards for the Handicapped 1977."

9.9.2.10. Every *public building* shall have at least 1 principal entrance designed in conformance with NBC Supplement No. 5, "Building Standards for the Handicapped 1977" for use by physically handicapped persons, opening to the outdoors at sidewalk level or to a ramp leading to a sidewalk.

9.9.2.11. Every *public building* shall provide access for physically handicapped persons from the entrance described in Article 9.9.2.10. to public spaces on the entrance floor and to at least 1 elevator when elevators are provided in conformance with NBC Supplement No. 5, "Building Standards for the Handicapped 1977."

APPENDIX B

SUPPLEMENTARY MATERIAL for Building Standards for the Handicapped 1977

(This Appendix contains notes and diagrams that apply to the requirements of this Supplement. The bold-face reference numbers that introduce each item apply to the requirements in the main body of the Supplement to which this material is applicable. The bold-face captions following these reference numbers describe the subjects to which the references apply.)

Article 1.1.2. GENERAL INFORMATION ON DESIGNING FOR THE PHYSICALLY HANDICAPPED

For the purposes of this publication, a person is handicapped when he has a loss of bodily function which decreases his ability to move throughout the community in a normal manner.

Such losses include weakness, paralysis or absence of 1 or more limbs, loss of balance and co-ordination, spastic muscles, and painful, stiff or deformed joints.

Walking aids, including canes, crutches, braces and artificial limbs, may prevent the free use of arms and hands for other purposes. In addition, loss of function of other parts of the body including visual and hearing defects and poor exercise tolerance associated with heart or lung disease will interfere with mobility. More than one such disability may be present in one individual. The likelihood of disabilities occurring increases markedly with age. Because the non-ambulatory person or wheelchair user has the greatest number of mobility problems, additional information concerning the wheelchair is presented below.

Wheelchair Dimensions

The dimensions of common models vary as follows:

	Range of Dimensions	Usual Dimension
Length	33.5 to 48 in.	42 in.
Width when open	18.5 to 30 in.	26 in.
Width when collapsed	9 to 14.5 in.	11 in.
Height of seat above floor	14 to 20 in.	18 in.
Height of armrest from floor	19.5 to 33.5 in.	29.5 in.
Height of handle from floor	33 to 53.5 in.	37 in.

Functioning of a Wheelchair

The average space for turning through 180° is 5 ft by 5 ft. A minimum width of 5 ft is required for 2 wheelchairs to pass each other.

Functioning of an Adult in a Wheelchair

The upward reach from the floor ranges from 4 ft 6 in. to 6 ft 6 in. with an average reach being equal to 5 ft. The average horizontal working reach at a bench or table is 1 ft 6 in. beyond the front edge of the seat. The average forward reach upwards, as when using a wall mounted dial telephone, is 4 ft. Removable arm rests may increase some of these dimensions slightly. Transference from the chair to a car, bed or water closet is usually achieved either by a slide, after removing an arm rest, or off the front corner of the wheelchair. Ideally, the two seats should be level. In any event, the chair seat should not be more than 3 in. higher than the seat or bed.

Designing for Children

The preceding dimensions are for adults of average stature. In designing buildings for children, it may be necessary to alter some dimensions, such as the height of handrails.

Section 2. SITE DEVELOPMENT

Almost any building can be made accessible to physically handicapped persons by planning the site, so that terraces, retaining walls and winding walks are used effectively. An accessible route should exist from the sidewalk or roadway and parking area to an accessible building entrance. This route should be located so that physically handicapped persons do not have to pass behind parked cars. Particular attention should be paid to the junction of walkways with driveways, parking areas and other walks. The provision of nonslip surfaces on steps, walks and floors greatly assist those with semi-ambulatory disabilities.

Subsection 2.2 PARKING AREAS

Zoning or parking Bylaws should include requirements for parking for the physically handicapped.

Article 2.1.4.

Although the minimum width for walks is 3 ft, it is highly desirable that, where space allows, they be 5 ft in width to allow wheelchair users to pass each other.

Subsection 3.1 BUILDINGS

As much of the building as possible should be accessible to physically handicapped persons, especially areas used by the public. Special attention should be given to the accessibility of entrances, washrooms and elevators. The international symbol of accessibility for handicapped persons was adopted in 1969 by the International Society for the Rehabilitation of the Disabled to indicate that building services are accessible to the physically handicapped.

It is essential that the finish of all floors should have nonslip qualities even when standard flooring materials are used. Highly polished finishes should be avoided. Particular attention should be given to the selection of materials used on vestibule and entrance hallway floors, as these may become dangerous when wet. A minimum of wax should be used on the maintenance of floors to prevent surplus amounts being transferred to the soles of shoes. Nonslip waxes containing fine abrasive particles are recommended. Any temporary floor covering material should be of a kind that does not constitute a tripping hazard.

Carpet flooring should be compact with a dense surface of loop pile or felt type and should be attached to subsurfaces so as to allow wheelchairs to move freely without excessive friction, bunching or binding.

Article 3.1.3.

This symbol when displayed on a building indicates to physically handicapped persons that they will have reasonable freedom of movement within that building. An arrowhead can be added to either side of the symbol to indicate direction or the location of an accessible ground level entrance.



Article 3.1.4.

These symbols can be used to notify physically handicapped persons that rest room and other facilities that are so marked have been made accessible to them, and to indicate their location.



The background (shown here as black) is blue in the official symbol, but for aesthetic purposes different colours can be used. Where the colour will not be clear when the sign is in position because of lighting conditions, for example, the sign can be centred on a white background made from self-adhesive decorator vinyl covering, which adheres to glass and is waterproof. The design of the symbol allows for easy reproduction in many building materials.



(Additional information on the availability and use of this international symbol can be obtained from: The Canadian Rehabilitation Council for the Disabled, Suite 2110, One Yonge Street, Toronto, Ontario M5E 1E8.)

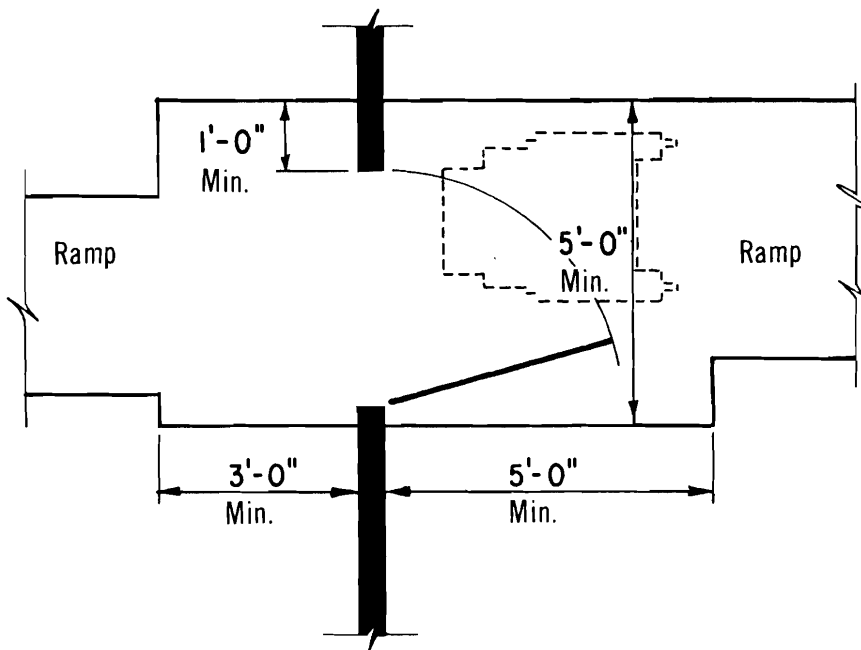
Subsection 3.2 DOORS AND DOORWAYS

Doors that require little strength to operate, that have an easily gripped handle, that are reasonably wide and that do not have a threshold can be safely used by most people. Space for wheelchair manoeuvring should be provided on both sides of the door. Door handles should be of the lever type.

Subsection 3.3 RAMPS

A change in the level of a walk or floor area becomes a major problem for people with physical disabilities. Flat surfaces are desirable, but if a change in level occurs, a ramp of low slope should be used. As the slope of the ramp decreases, the number of people who can safely use the ramp increases; a slope of 1 in 12 is the suggested maximum. Provision of a nonslip surface at all times is essential. Where a ramp is located outside a building, it should be protected from snow and ice accumulation by providing a roof, snow melting device or other means.

Article 3.3.6 LEVEL AREAS AT END OF RAMPS LEADING TO DOORWAYS

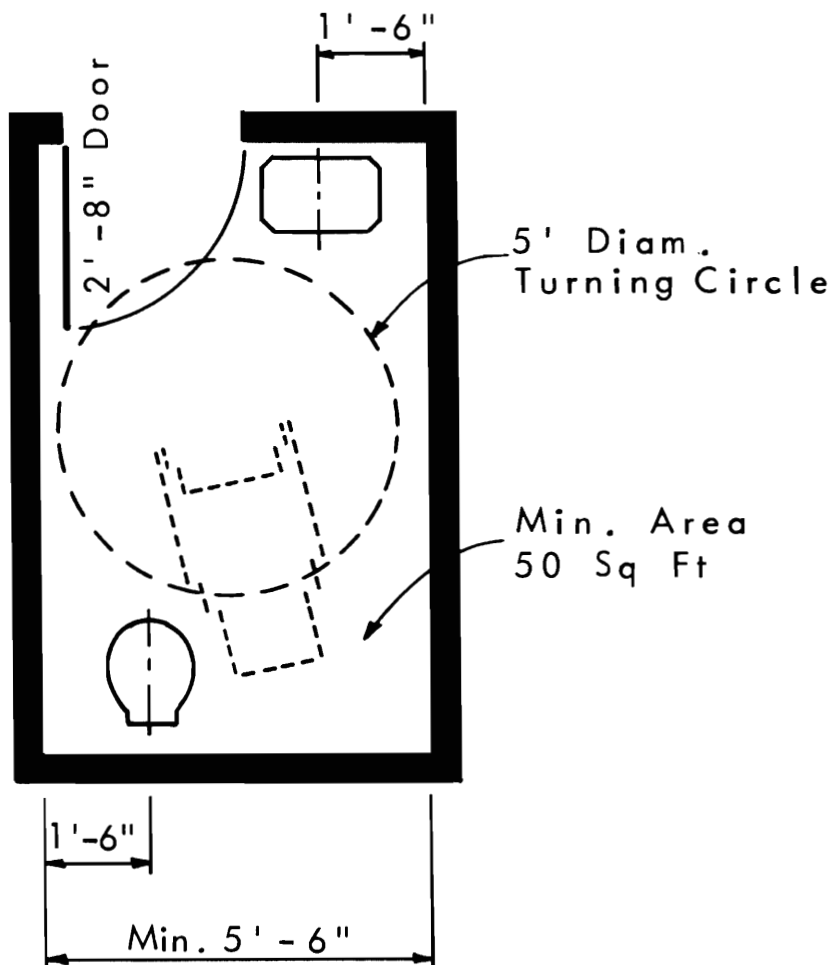


Subsection 3.4 HANDRAILS

Although Article 3.4.1. permits a handrail on only one side if the ramp slope is 1 in 12 or less, it is preferable to have handrails on both sides regardless of the slope.

Subsection 3.5 ELEVATORS

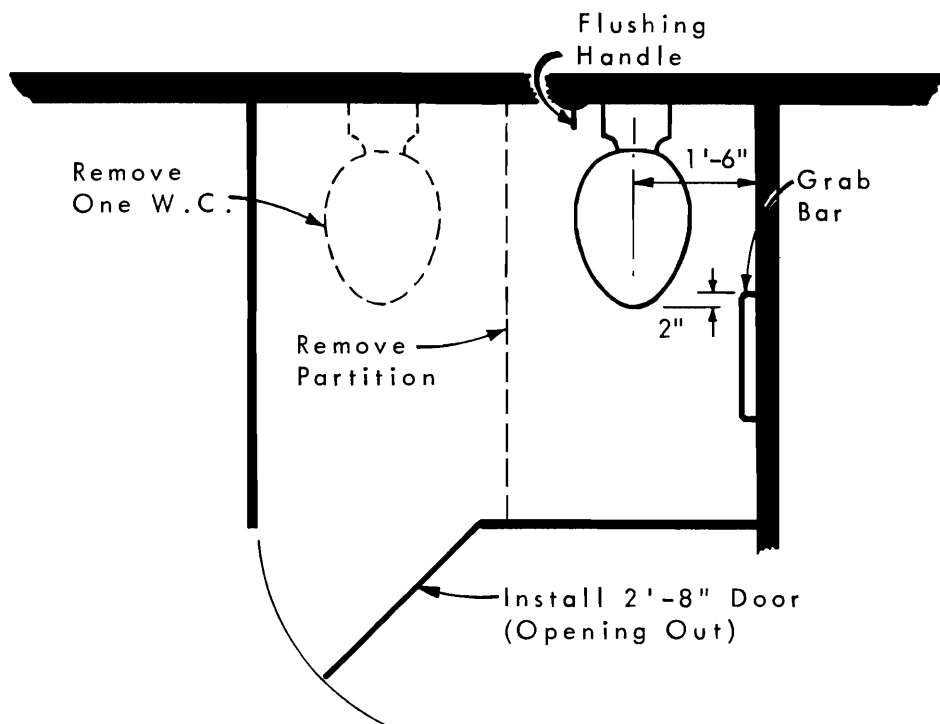
Public buildings of more than 6,000 sq ft of building area with more than 1 storey should have an elevator or other acceptable means of access from one floor to another for persons in wheelchairs.

Subsection 3.6 SPECIAL TOILET ROOMS

Sample layout of a special toilet room

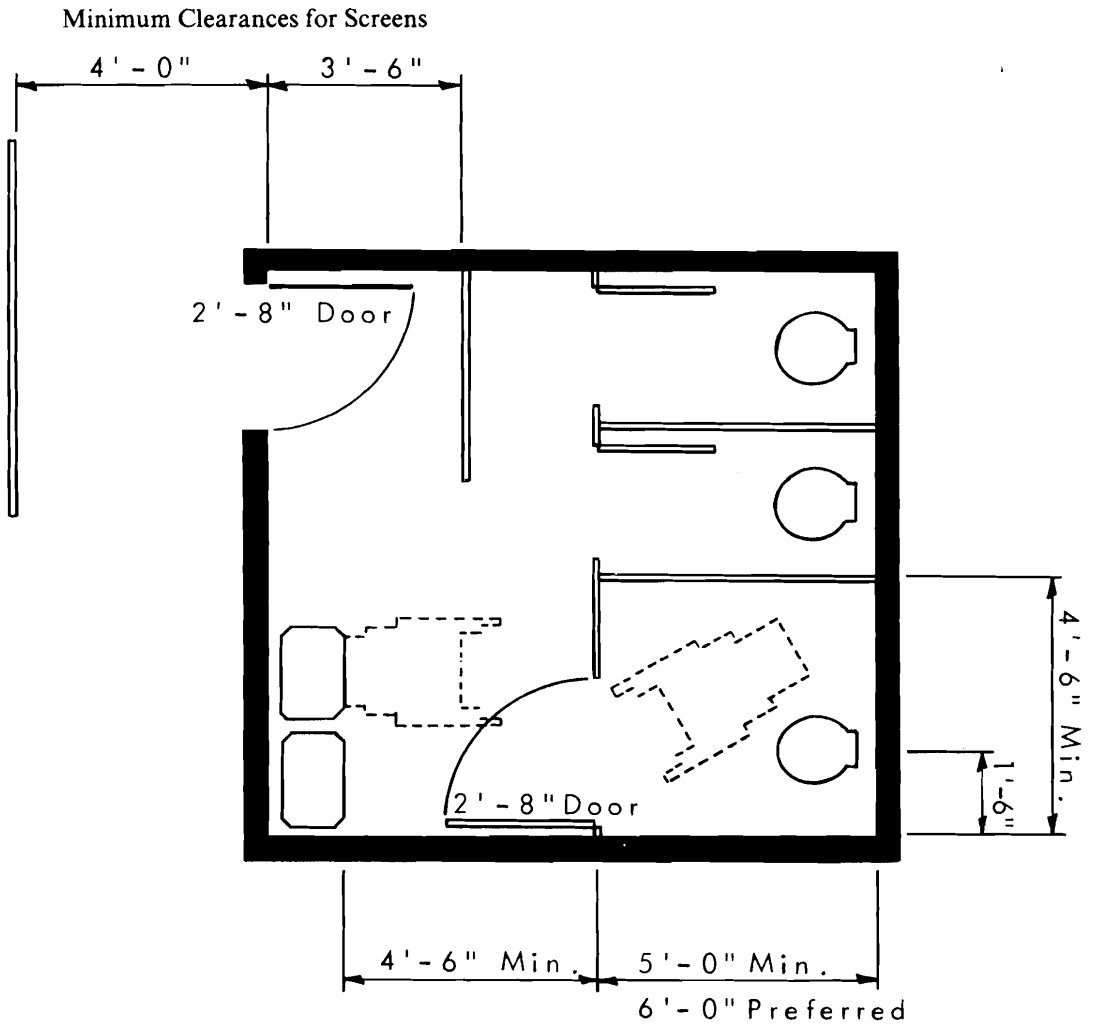
Subsection 3.7 WATER CLOSET STALLS

Water closet stall doors should preferably swing outward against a side wall. In existing buildings, water closet stalls for persons with physical disabilities can be provided by combining 2 standard water closet stalls into 1 by removing the common partition and fitting a suitable door.



Conversion of 2 standard water closet stalls to 1 for the physically handicapped

Subsection 3.7 (Cont'd.)



Plan view of water closet stall

Subsection 3.8 WATER CLOSETS

Wall-mounted toilet fixtures or floor models with receding bases are desirable because they provide the least amount of obstruction. The back support required in Article 3.8.5. may be of a fixed type or can be provided by the seat lid. It should be fixed or should rest approximately 5 deg. from the vertical.

Subsection 4.1 GENERAL (Dwelling units)

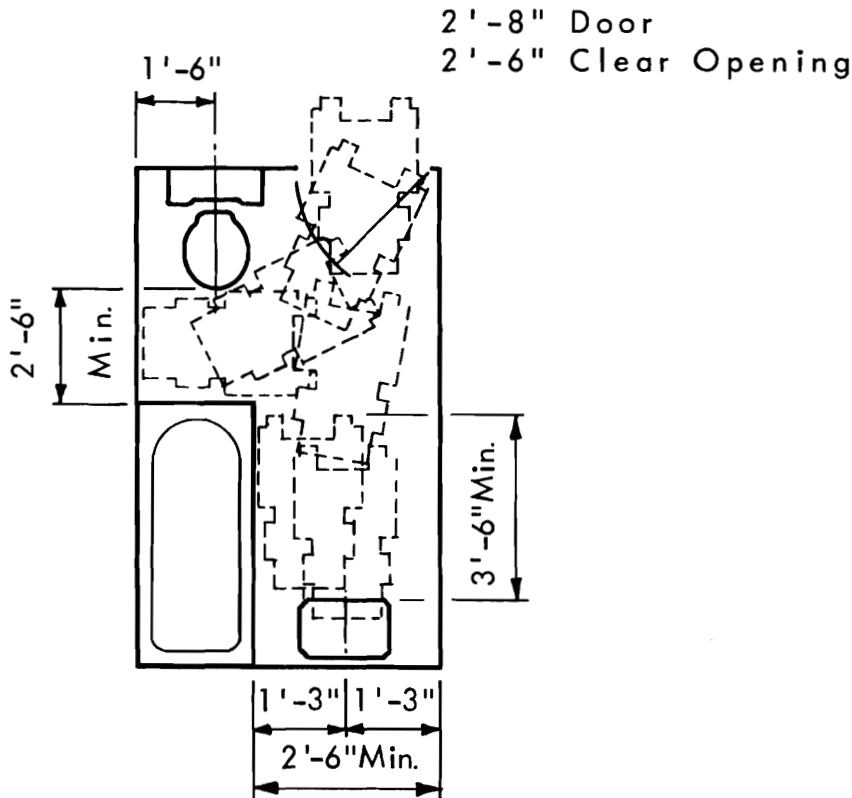
A single-storey dwelling with the floor close to grade level is the most efficient type of house for the handicapped. Unless the basement is accessible to the non-ambulatory person, facilities of frequent use such as the laundry should be located on the main floor. (See also Appendix material for Subsection 3.1 (Buildings). (For additional information refer to "Housing for the Handicapped," NHA5076, published by Central Mortgage and Housing Corporation.)

Subsection 4.5 KITCHENS

Sliding doors are preferable for kitchen cabinets. A work surface can be provided by a cutting board located at a suitable level. Kitchen shelving should be adjustable so as to accommodate different individuals. Where kitchen ranges are provided, the controls should be accessible without having to reach over the burners or elements.

Subsection 4.6 BATHROOMS

There are many ways of arranging the fixtures in a bathroom, depending on the shape and total floor space available. The following plan is used only to show the minimum distances that one fixture should be from another fixture or from a wall.



Typical bathroom layout in a dwelling unit showing minimum clearances necessary for access to fixtures by a wheelchair

Grab bars must be designed so they can be securely attached to the framing members. In new construction their location should be determined before the interior cladding is completed so that adequate backing can be installed. They may be attached to masonry by expansion anchors or toggle bolts.

The type and arrangement of grab bars within dwelling unit bathrooms may vary with the type of handicap of the occupant and should preferably be decided upon in consultation with the physically handicapped occupant of the dwelling unit.

An eye bolt adequately anchored to the ceiling should be provided for the suspension of a chain or stirrup grip for use by persons in wheelchairs getting into and out of the bathtub.

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