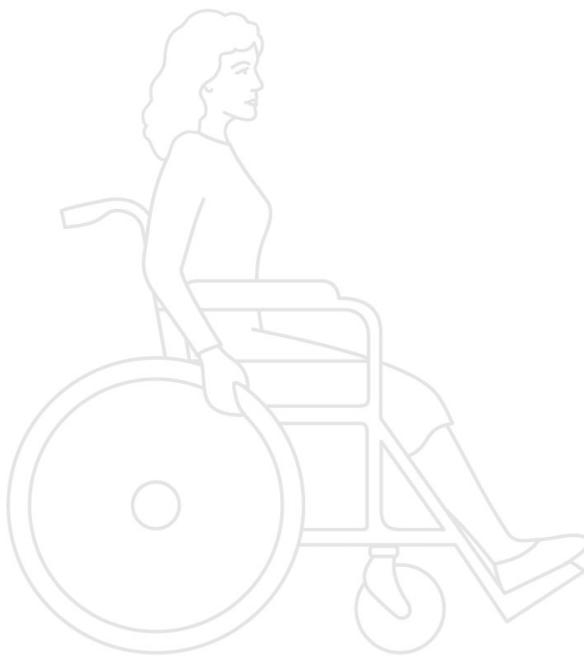


CITY OF TORONTO ACCESSIBILITY DESIGN GUIDELINES



Contact us:

Diversity Management and Community Engagement
Strategic and Corporate Policy / Healthy City Office
Chief Administrator's Office
City Hall, 11th Floor East
100 Queen Street West
Toronto, ON M5H 2H2

Tel: (416) 392-8592
Fax: (416) 696-3645
TTY: (416) 339-0889
www.toronto.ca/diversity
diversity@toronto.ca

City of Toronto Accessibility Plan:
www.toronto.ca/diversity/accessibilityplan2003

This publication is available in alternative formats.



Chief Administrator's Office
Shirley Hoy, Chief Administrative Officer

100 Queen Street West
City Hall, 11th Floor, East Tower
Toronto, ON M5H 2N2

Tel: 416-392-3551
Fax: 416-392-1827

Message from the Chief Administrative Officer

I am pleased to present to you a new resource tool: the City of Toronto's Accessibility Design Guidelines. The Accessibility Design Guidelines can be used by all sectors to conduct accessibility audits and to plan developments as we work towards making Toronto a "barrier free" community.

Based on the human rights principles of respect, dignity and inclusion, the Guidelines are a key component of the City's Accessibility Plan and meet the City's objectives under its Plan of Action for the Elimination of Racism and Discrimination. The Guidelines are also in keeping with the City's Official Plan which states, "A key city-building principle is that public buildings, parks and open spaces should be open and accessible to all members of the public."

A multi-year implementation strategy to make City facilities accessible to persons with disabilities will be provided for City Council's consideration later this year.

This resource guide is the result of the collaborative effort among community and professional experts working with City staff and Members of Council. I would like to express my appreciation to everyone involved in this project.

A handwritten signature in black ink, appearing to read "Shirley Hoy".

Shirley Hoy
Chief Administrative Officer

April, 2004

**CITY OF TORONTO ACCESSIBILITY
DESIGN GUIDELINES
2004**

TABLE OF CONTENTS

INTRODUCTION

I - III

PART I: EXTERIOR AREAS

1.1 Exterior Routes

| | | |
|--------|---|-----|
| 1.1.1 | Bridges with Pedestrian Access | .3 |
| 1.1.2 | Crosswalks | .3 |
| 1.1.3 | Curb Ramps/Curb Cuts on Public Right of Way | .4 |
| 1.1.4 | Grades and Elevation Changes | .6 |
| 1.1.5 | Guards and Handrails | .7 |
| 1.1.6 | Lay-Bys for Vehicles | .7 |
| 1.1.7 | Paths, Sidewalks and Walkways | .8 |
| 1.1.8 | Pedestrian Routes | .9 |
| 1.1.9 | Ramps | .10 |
| 1.1.10 | Stairs and Steps | .11 |
| 1.1.11 | Traffic Islands on Public Right of Way | .12 |

1.2 Arrival and Departure Areas

| | | |
|-------|--------------------------------|-----|
| 1.2.1 | Accessible Routes to Entrances | .13 |
| 1.2.2 | Bus/Public Transit Shelters | .13 |
| 1.2.3 | Bus Stops | .14 |
| 1.2.4 | Emergency Routes | .14 |
| 1.2.5 | Parking | .14 |
| 1.2.6 | Passenger Loading Zones | .16 |

1.3 Special Areas and Features

| | | |
|--------|---|-----|
| 1.3.1 | Amphitheatres | .17 |
| 1.3.2 | Outdoor Eating and Entertainment Spaces: Balconies and Terraces | .17 |
| 1.3.3 | Boardwalks | .18 |
| 1.3.4 | Campgrounds | .18 |
| 1.3.5 | Community Mailboxes | .19 |
| 1.3.6 | Docks | .20 |
| 1.3.7 | Grandstands and Viewing Areas | .21 |
| 1.3.8 | Outdoor Swimming Pools and Wading Pools | .22 |
| 1.3.9 | Parks and Parkettes | .24 |
| 1.3.10 | Play Spaces | .25 |
| 1.3.11 | Picnic Areas | .26 |
| 1.3.12 | Sports, Fields, and Spectator Areas | .27 |
| 1.3.13 | Terraces and Patios | .27 |
| 1.3.14 | Trails and Footbridges | .28 |
| 1.3.15 | Viewing Areas | .28 |
| 1.3.16 | Waterfront Areas | .29 |
| 1.3.17 | Wilderness and Conservation Areas | .29 |

TABLE OF CONTENTS

| | | |
|------------|---|-----|
| 1.4 | Outdoor Amenities | |
| 1.4.1 | Benches and Seats | .30 |
| 1.4.2 | Bicycle Racks | .30 |
| 1.4.3 | Drinking Fountains | .30 |
| 1.4.4 | Mail Boxes | .31 |
| 1.4.5 | Public Showers | .31 |
| 1.4.6 | Public Telephones | .31 |
| 1.4.7 | Public Washrooms | .33 |
| 1.4.8 | Street Furniture and Vending Machines | .33 |
| 1.4.9 | Waste Receptacles and Recycling Bins | .34 |
| 1.5 | Outdoor Support Systems | |
| 1.5.1 | Crosswalk/Pedestrian Signals | .35 |
| 1.5.2 | Lighting for Exterior Areas not including roads | .36 |
| 1.5.3 | Public Address Systems | .37 |
| 1.5.4 | Signage and Way-Finding | .37 |
| 1.5.5 | Snow-melting and Snow Removal | .38 |
| 1.5.6 | Traffic Signals | .38 |
| 1.6 | Other | |
| 1.6.1 | Colour and Texture | .40 |
| 1.6.2 | Construction Site Protection | .41 |
| 1.6.3 | Freestanding Objects | .42 |
| 1.6.4 | Garbage Handling | .43 |
| 1.6.5 | Gates and Openings | .43 |
| 1.6.6 | Landscape Materials and Planting | .43 |
| 1.6.7 | Materials and Finishes | .44 |
| 1.6.8 | Maintenance | .45 |
| 1.6.9 | Obstacle Removal | .45 |
| 1.6.10 | Safety and Security | .46 |
| 1.6.11 | Snow Accumulation and Removal | .47 |

PART II: INDOOR AREAS

| | | |
|------------|----------------------------------|-----|
| 2.1 | Entrances | |
| 2.1.1 | Canopies and Weather Protection | .51 |
| 2.1.2 | Doors and Doorways | .52 |
| 2.1.3 | Door Hardware, Locks and Closers | .53 |
| 2.1.4 | Entrances | .54 |
| 2.1.5 | Glazed Screens and Sidelights | .55 |
| 2.1.6 | Mats and Mat Sinkages | .56 |
| 2.1.7 | Thresholds | .56 |
| 2.1.8 | Vestibules | .57 |
| 2.1.9 | Waiting Areas | .57 |

TABLE OF CONTENTS

| | | |
|------------|---|-----|
| 2.2 | Interior Routes | |
| 2.2.1 | Aisles and Passages | .58 |
| 2.2.2 | Corridors and Hallways | .59 |
| 2.2.3 | Doors and Doorways | .60 |
| 2.2.4 | Elevators and Platform Lifts | .60 |
| 2.2.5 | Interior Ramps | .61 |
| 2.2.6 | Safe Holding Areas | .62 |
| 2.2.7 | Stairs and Steps | .63 |
| 2.2.8 | Turnstiles and Control Gates | .63 |
| 2.3 | Interior Amenities | |
| 2.3.1 | Coat Closets and Coat Racks | .64 |
| 2.3.2 | Door and Cupboard Hardware | .64 |
| 2.3.3 | Drinking Fountains | .65 |
| 2.3.4 | Equipment and Furniture | .66 |
| 2.3.5 | Information and Service Counters | .67 |
| 2.3.6 | Lockers and Baggage Storage | .67 |
| 2.3.7 | Mail Boxes | .68 |
| 2.3.8 | Mirrors | .68 |
| 2.3.9 | Platforms/Daises | .69 |
| 2.3.10 | Public Showers and Changing Rooms | .69 |
| 2.3.11 | Public Washrooms | .70 |
| 2.3.12 | Vanities and Work Surfaces | .71 |
| 2.3.13 | Vending Machines | .72 |
| 2.3.14 | Washroom Accessories | .73 |
| 2.3.15 | Windows and Window Hardware | .74 |
| 2.4 | Interior Systems and Controls | |
| 2.4.1 | Acoustics | .75 |
| 2.4.2 | Audible Signals | .75 |
| 2.4.3 | Automatic Door Openers | .76 |
| 2.4.4 | Card Access Systems & Security Systems | .77 |
| 2.4.5 | Communication Systems | .78 |
| 2.4.6 | Controls and Operating Mechanisms | .79 |
| 2.4.7 | Electrical Power | .80 |
| 2.4.8 | Fire/Emergency Systems and Signals | .80 |
| 2.4.9 | Heating, Cooling, and Ventilation Systems | .81 |
| 2.4.10 | Information Systems and Directories | .81 |
| 2.4.11 | Artificial Lighting | .82 |
| 2.4.12 | Natural Lighting | .82 |
| 2.4.13 | Listening Devices | .82 |
| 2.4.14 | Public Address Systems | .83 |
| 2.4.15 | Telephones | .83 |
| 2.4.16 | Signage and Way-finding | .84 |
| 2.4.17 | Ticketing Machines | .86 |
| 2.4.18 | Video Display Terminals | .87 |

TABLE OF CONTENTS

| | | |
|------------|--|------|
| 2.5 | Special Facilities and Areas | |
| 2.5.1 | Arenas | .88 |
| 2.5.2 | ATM's / Bank Machines | .89 |
| 2.5.3 | Cafeterias, Restaurants, Dining Areas and Bars | .90 |
| 2.5.4 | Churches and Places of Worship | .91 |
| 2.5.5 | Office Buildings | .92 |
| 2.5.6 | Clinics | .92 |
| 2.5.7 | Community Centers | .92 |
| 2.5.8 | Courthouses and Detention Areas | .93 |
| 2.5.9 | Displays, Exhibition Areas, Galleries, and Museums | .93 |
| 2.5.10 | Gymnasium | .94 |
| 2.5.11 | Ice-Rinks | .94 |
| 2.5.12 | Hospitals and Health Care Facilities | .94 |
| 2.5.13 | Libraries | .95 |
| 2.5.14 | Long Term Care Facilities | .96 |
| 2.5.15 | Meeting Rooms, Assembly Areas, and Theatres | .97 |
| 2.5.16 | Recreation Facilities | .97 |
| 2.5.17 | Schools and Continuing Education Centres | .98 |
| 2.5.18 | Seniors Housing | .98 |
| 2.5.19 | Residential Kitchens | .98 |
| 2.5.20 | Residential Bathrooms | .100 |
| 2.5.21 | Residential Bedrooms | .101 |
| 2.5.22 | Shopping Centers and Malls | .101 |
| 2.5.23 | Swimming Pools | .102 |
| 2.5.24 | Theatres and Media Display Areas | .103 |
| 2.5.25 | Transit Settings | .104 |

2.6 Other

| | | |
|-------|-------------------------|------|
| 2.6.1 | Texture and Pattern | .106 |
| 2.6.2 | Floor Surfaces/Textures | .106 |
| 2.6.3 | Colour and Tone | .107 |
| 2.6.4 | Fire and Life Safety | .107 |
| 2.6.5 | Maintenance | .109 |
| 2.6.6 | Materials and Finishes | .110 |
| 2.6.7 | Obstacles | .110 |
| 2.6.8 | Pattern | .112 |
| 2.6.9 | Glare and Light Sources | .112 |

Appendix A: Acknowledgements

Appendix B: Definitions

Appendix C: Legislative Overview

Appendix D: Bibliography

INTRODUCTION

For many people in Toronto, the City provides an abundance of opportunities and experiences free of limitations imposed upon them by the built environment. For Torontonians with disabilities, however, the built environment imposes numerous obstacles that limit their ability to moving about freely and safely without concern. In June 2000, Toronto City Council adopted a motion to make the City fully accessible by the year 2008. In October 2000, Council requested staff develop new accessibility design guidelines and to start an audit of all City-owned buildings.

City Council's recommendation resulted in the preparation of this coherent set of guidelines. They are intended to address the needs of people with disabilities with a wide range of impediments that limit their ability to access their environment that include but are not limited to mobility, sight, hearing or cognitive disabilities (see also Appendix B: Definitions).

This document presents the **City of Toronto Accessibility Design Guidelines** and responds to the varying needs of the disability community. In 2001, 3.6 million Canadians living in households reported having activity limitations (Statistics Canada, A Profile of Disability in Canada 2001). The survey also indicated that in 2001, 1.5 million Ontarians had a disability, representing 13.5 per cent of the total 11 million Ontarians. Disability rate increases with age. The disability rate reported for persons aged 65 and over is more than 40 per cent and for persons 75 and over is more than 50 per cent. The demographic implications are obvious and will drive the need for change. In the upcoming decades, the proportion of the population 65 and over will increase dramatically.

Every sector of society and government must provide barrier-free environments. Civic government must lead the way in providing accessibility through City-owned buildings. The benefits of accessibility are significant. Aside from responding to the needs of people with disabilities, increasing accessibility leads to increased opportunities for people with disabilities to access employment and to fully participate in the social, cultural, recreational, economic and political life of Toronto. Moreover, to compete nationally and internationally, a barrier-free city can increase tourism and provide a competitive advantage. For instance, for Toronto's Olympic bid in 2002, overwhelming pressure for a barrier-free city resulted in the City committing to make itself barrier-free and accessible. A logical outcome to this commitment was Council directing staff to develop the **City of Toronto Accessibility Design Guidelines**.

During the design, planning and construction of accessible spaces and buildings a wide range of opportunities exist not only to optimize independent access to persons with disabilities but also to improve access for all. The major objective of the **City of Toronto Accessibility Design Guidelines**, which are based on Universal Design principles (see definition in Appendix B), is to provide practical examples of solutions that optimize accessibility to buildings and other buildings owned or occupied by the City of Toronto.

The document should guide City staff when considering or developing capital projects. The guidelines will be a building block in developing future policies, guidelines, standards and other initiatives that serve the needs of persons with disabilities. The guidelines are in keeping with the Official Plan which states that

"A key city-building principle is that public buildings, parks and open spaces should be open and accessible to all members of the public including people with disabilities."

By making the **City of Toronto Accessibility Design Guidelines** available to all sectors of the planning, design and development industry, the City of Toronto demonstrates its commitment to proactive measures to eliminate and prevent barriers faced by persons with disabilities.

INTRODUCTION

GUIDELINE DEVELOPMENT

Associated Planning Consultants developed the **City of Toronto Accessibility Design Guidelines** with support and direction from the City of Toronto **Community Advisory Committee on Disability Issues** and numerous City staff representing various City Departments (see Appendix A: Acknowledgements).

These guidelines consolidate the "best practices" identified during the extensive research on existing barrier-free standards and guidelines. It also includes some of the requirements of the Ontario Building Code (OBC 1997, Section 3.8) in accessibility planning and universal design (see definition in Appendix B). However, the most current version of the Ontario Building Code should be consulted during design and construction as these legislated minimum requirements may change over time. Exceedences to the Ontario Building Code (OBC) have been noted as being "recommended" in these guidelines. The Building Division of Urban Development Services do not have the authority to enforce exceedences beyond the current edition of the OBC and all other applicable law.

PRINCIPLES AND OBJECTIVES

Accessible design must:

- make approaching, entering and using buildings and structures easier. In this respect, accessible design must address a wide variety of internal and external building elements;
- provide an equivalent level of life safety for everyone, including methods of leaving a building and communicating in an emergency;
- emphasize dignity and independence, providing those features that will allow people to function in their day-to-day activities; and;
- be non-institutional and successfully integrated with a building's function, form and architectural quality.

LEGISLATION AND STANDARDS

The **City of Toronto Accessibility Design Guidelines** are based primarily on current Canadian federal and provincial legislation and published standards. Amendments and revisions to legislation and standards will require corresponding revisions to this document (see also Appendix C: Legislative Overview).

The **City of Toronto Accessibility Design Guidelines** will be reviewed periodically to incorporate changes to the legislation, regulations and standards as well as new technologies and information. Where there are discrepancies between the City of Toronto Accessibility Design Guidelines and other legislation or standards the most optimum level of accessibility should be used.

Legislation and Standards

- All work must comply with the Ontario Human Rights Code. The Ontario Human Rights Commission ultimately determines how to apply such concepts as "reasonable accommodation" and "undue hardship".
- All work must comply with the Ontarians with Disabilities Act (ODA): "An Act to improve the identification, removal and prevention of barriers faced by persons with disabilities and to make related amendments to other Acts."
- All work must comply with the most current edition of the Ontario Building Code (OBC) and all other applicable law. The OBC describes a minimum mandatory level of design standards for accessibility.

INTRODUCTION

The Ontario Human Rights Code supersedes the Ontario Building Code. As a result, although a provider has incorporated barrier-free accessibility in accordance to the Ontario Building Code, the Ontario Human Rights Commission may deem a building not accessible.

- These guidelines incorporate elements of Canadian Standards Association (CSA) Standards CAN/CSA B651-95 "Barrier-Free Design". Some aspects of these standards describe an optimum level of accessibility beyond that of the OBC.

Policies and Guidelines

- All work shall comply with the Policy and Guidelines on Disability and the Duty to Accommodate from the Ontario Human Rights Commission, revised version, November 23, 2000.

The Ontario Human Rights Commission also codifies a number of principles:

- Respect for dignity
- Individualized accommodation
- Integration and full participation

Staff considered these principles key in developing these guidelines.

Of these principles, the respect for dignity and integration and full participation are key to understanding the need for and impact of accessibility in the built environment. These are described in the Ontario Human Rights Commission's The Duty to Accommodate as follows:

"Human dignity encompasses individual self-respect and self-worth. It is considered physical and psychological integrity and empowerment. It is harmed when individuals are marginalized, stigmatized, ignored or devalued. Privacy, confidentiality, comfort, autonomy, individuality and self-esteem are important factors as well as to whether an accommodation maximizes integration and promotes full participation in society.

With these principles in mind, achieving integration and full participation for persons with disabilities requires barrier-free and inclusive designs and removal of barriers. Preventing and removing barriers means persons with disabilities should be able to access their environment and face the same duties and requirements as everyone else with dignity and without impediment. Where barriers continue to exist because it is impossible to remove those barriers at a given point in time, then accommodation should be provided to the extent possible, short of undue hardship."

PART 1: EXTERIOR AREAS

1.1 EXTERIOR ROUTES

POLICY:

All pedestrian routes should be safe and easy to use by a wide range of persons with disabilities. Generally, such routes should be easily identifiable, clearly separated from vehicular routes, and free of obstacles at all times of the year.

1.1.1 Bridges with Pedestrian Access

- Pedestrian sidewalks located on either side of bridges, should have slopes no greater than 1:20 (5%), and cross slopes no greater than 1:50, or (2%), wherever possible.
- No sidewalk on a bridge should be less than 1220 mm wide where minimal pedestrian traffic is expected, and a minimum of 1525 mm wide where frequent pedestrian is anticipated (e.g., two-way pedestrian traffic).
- Handrails or guards located beside sidewalks should be easy to grasp at 50 mm wide (maximum) and mounted at a suitable height. (See Figure 1)
- It is recommended that pedestrian footbridges have ramp access rather than stairways.

1.1.2 Crosswalks

- Wherever possible, crosswalks at roadway intersections should be

located so that the sidewalk and the crosswalk are at right angles to one another. All such pedestrian routes should be free of obstacles, such as light standards, traffic signal supports, posts or catch basins as well as

temporary objects such as pots, boxes and garbage containers. (See Section 1.5.6 Traffic Signals and Figure 69)

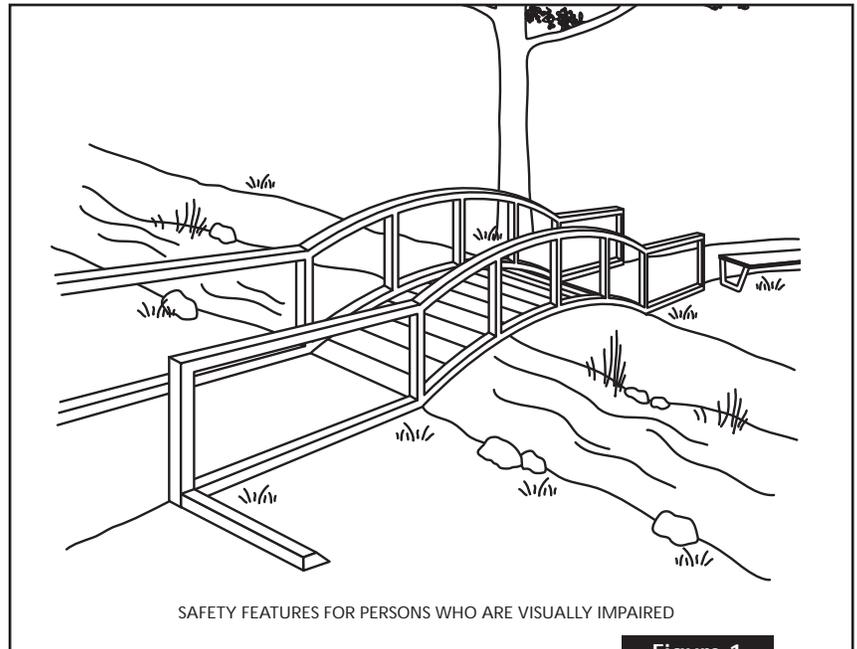


Figure 1

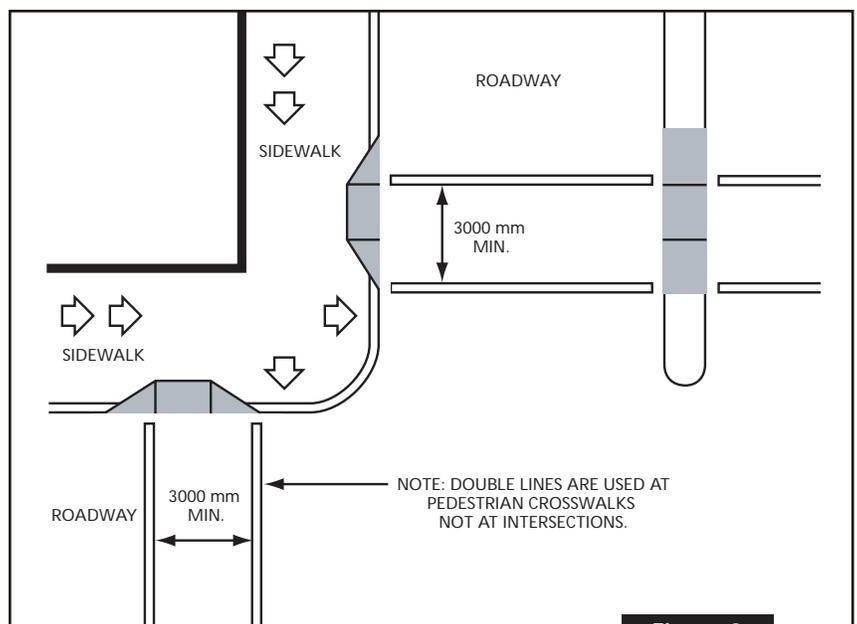


Figure 2

1.1 EXTERIOR ROUTES

- Crosswalks should have suitable curb ramps at each end of the walkway where sidewalks are provided, or wherever level differences of more than 19 mm occur. (See Figure 2)
- Intermediate traffic islands should include appropriate curb ramps or, in the area of crosswalks, be level with street paving. Such level areas should be clearly marked by white lines and/or distinctive highly contrasting paving.
- Crosswalks should be at least 3000 mm wide and clearly marked by 100 mm painted white lines, or by using distinctive, highly contrasting paving materials.
- Pedestrian crosswalks located between intersections should include appropriate curb ramps at each end, and be located so that there is a clear view of traffic, in each direction, and sufficient distance from the intersection to permit a safe crossing.
- Wherever traffic lights or pedestrian crossovers (PXO) are provided, a clearly identifiable pedestrian push button should be located adjacent to the crosswalk and mounted on a nearby post at a height of 1065 mm. Paving should be level at posts, providing at least 915 mm X 1220 mm clear approach area for pedestrians. (See Figures 3 and 69)

1.1.3 Curb Ramps/Curb Cuts on Public Right of Way

- Curb ramps should be provided wherever there is a level difference between the sidewalk, or pedestrian pathway, and the road surface at all street corners, or wherever pedestrian crosswalks are provided. (See Figure 4)

- Curb transitions should have a minimum length of 1500 mm to provide safer sidewalk ramp transition slopes. (See Figure 5)

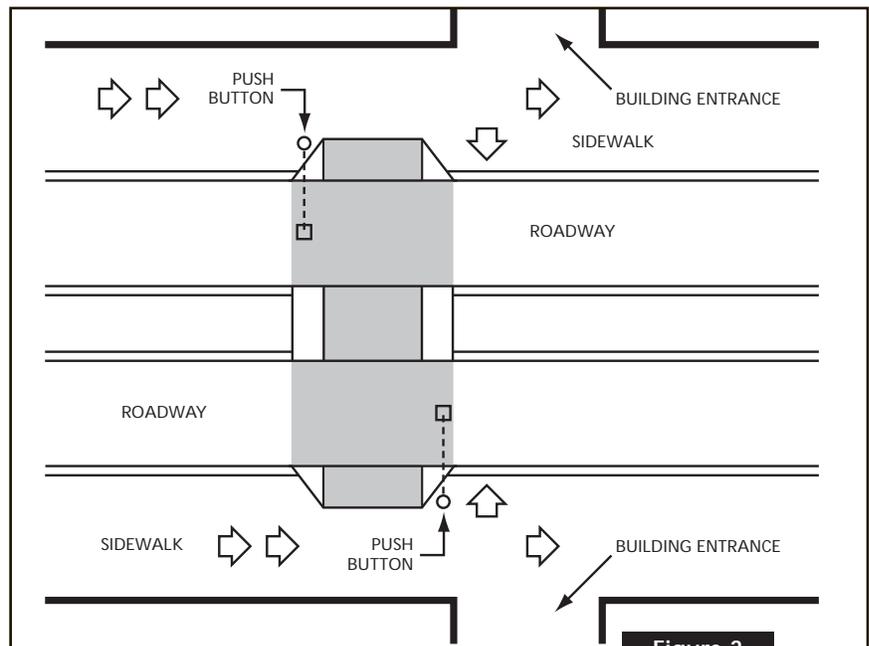


Figure 3

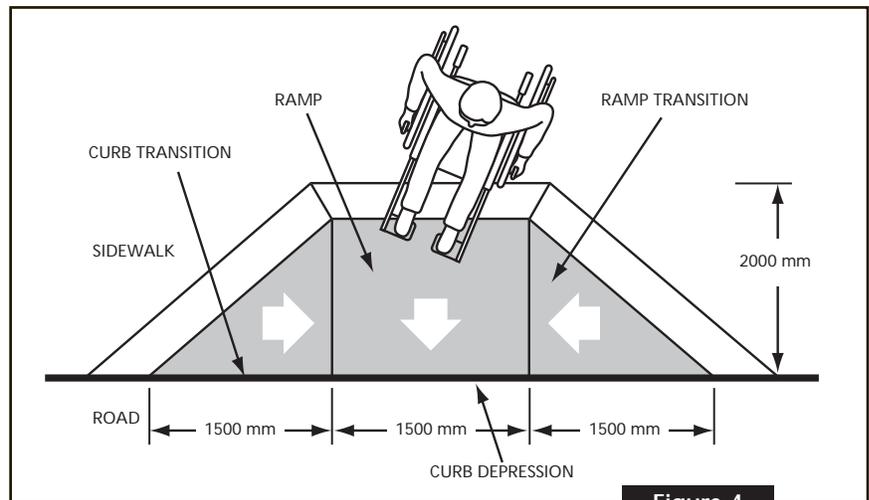


Figure 4

1.1 EXTERIOR ROUTES

PART 1: EXTERIOR AREAS

- Curb ramps should be a minimum of 1500 mm wide when the ramp is located on a public thoroughfare, have flared, non-slip sides, and be of a clearly different, cane detectable texture (e.g., incised lines, 13 mm deep on 100 mm centres in poured in place concrete), from the surrounding sidewalk at right angles to the path of travel. (See Figure 5)
- As an aid to persons with visual limitations, curb ramps should be finished at the lower edge with a cane detectable rounded edge of 13 mm in height and where possible, be in a contrasting colour to the road surface and also be of a different textured material to allow easy identification. (See Figure 6)
- Generally, curb ramps should be located so that they are free of accumulated rainwater or melting snow, and contain no manhole covers, storm gratings, or other obstacles that limit free movement. Where catch basins are necessary, they should be positioned on the upstream side of the crosswalk.

- It is recommended to have a clear and level landing minimum of 1065 mm deep, which should be provided at the top of curb ramps in order to allow turning (left or right) of mobility aids.

Whenever possible, this level area should be 1500 mm deep. (See Figure 5)

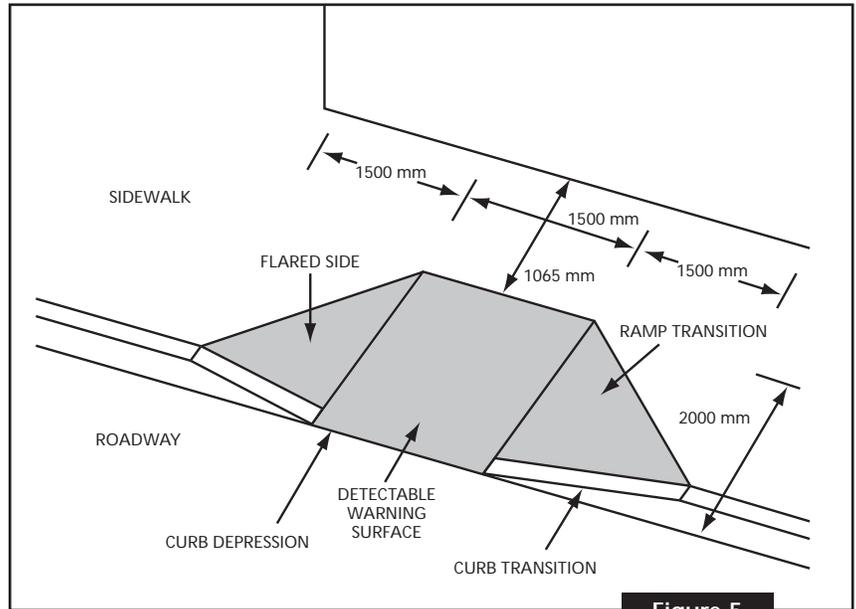


Figure 5

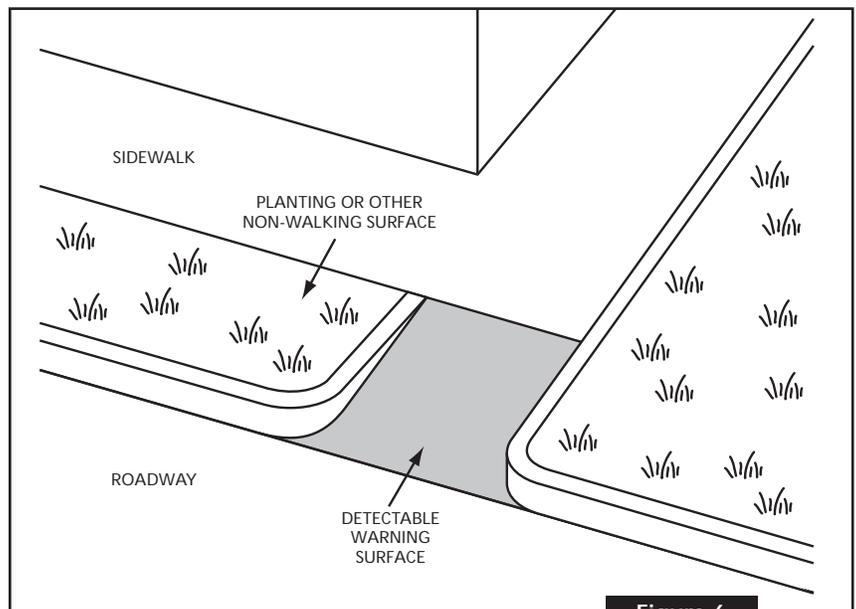


Figure 6

1.1 EXTERIOR ROUTES

1.1.4 Grades and Elevation Changes

- Wherever possible, grades on roads and sidewalks should be designed so that the slope of pedestrian routes does not exceed 1:20.
- Wherever possible, accessible paths of travel should have a minimum number of curb cuts to keep sidewalk as level as possible.
- Where elevation changes greater than 1:20 are necessary, and/or where steps are unavoidable, properly designed ramps suitable for persons using mobility aids must be provided in close proximity.
- Where steeply sloping landscaped areas are located adjacent to pedestrian routes and where slope exceeds 3:1 (horizontal to vertical), a clear boundary edge; such as an up-stand curb or retaining wall, (minimum 150 mm high) is desirable as a locational aid for persons who have visual limitations. (See Figures 7 and 8)
- Where the grade drop-off adjacent to the sidewalk is 460 mm or more, a handrail or guard is recommended as an aid to persons with visual limitations. (See Figure 8)

1.1.5 Guards and Handrails

- Continuous handrails should be provided on both sides of all ramps or stairs, or wherever three or more steps are provided.

- Handrails should be of a smooth, easy to grip design, no more than 50 mm in diameter; and mounted between 865 mm and 965 mm (above stair nosings). (See Figures 9 and 10)

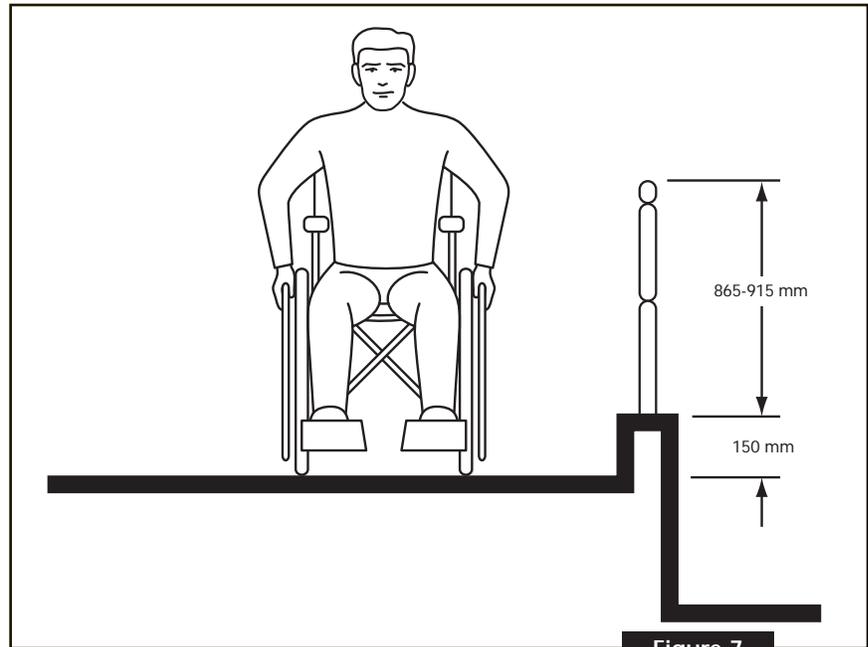


Figure 7

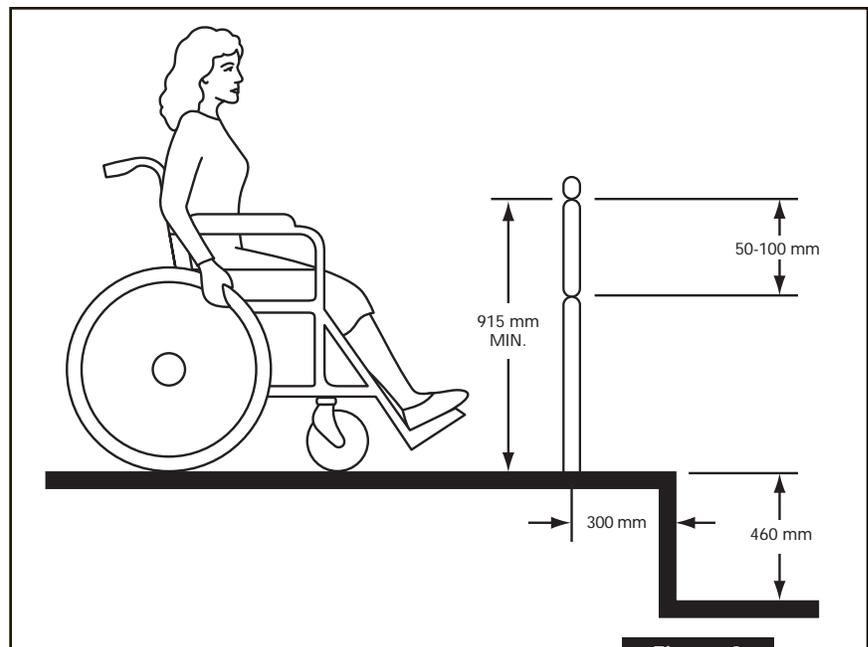


Figure 8

1.1 EXTERIOR ROUTES

PART 1: EXTERIOR AREAS

- A level section of handrail should extend a minimum of 300 mm beyond the top and bottom risers of all flights of stairs or ramps. (See Figure 19) Note: Handrails on the inside curve of stairs or ramps need not extend more than 100 mm.
- Handrail ends should terminate either by turning down, or by going into the wall as an aid to persons who have visual limitations.
- Guards are required on both ramps and stairs wherever height differences are significant.
- Guards and/or handrails, where provided on terraces or viewing platforms, should be designed so that a seated person (e.g., wheelchair user) can see under the handrail or guard.
- Handrails and/or guards should not be located within 1000 mm of any roadway.

- Lay-by headroom should be a recommended minimum clearance of 3555 mm for special transit vehicle and for adapted vans etc. (See Figure 11)

- Sidewalks adjacent to lay-by headroom should be a recommended minimum clearance of 1980 mm wide, to accommodate side-loading vehicles with hydraulic lifts.

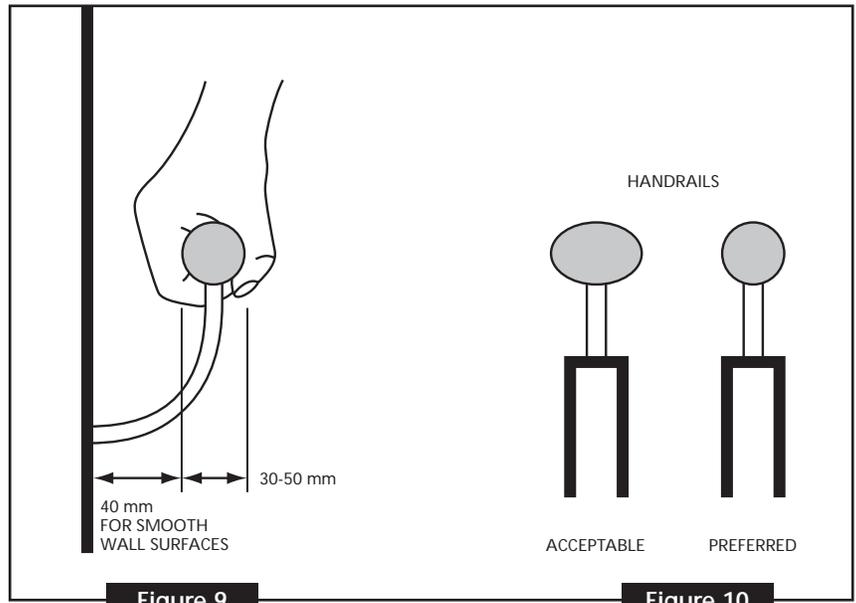


Figure 9

Figure 10

1.1.6 Lay-Bys for Vehicles

- Wherever regular stops for special transit vehicles are provided, a special lay-by area, free of other vehicular traffic is desirable. (See Figure 11)
- Lay-by spaces should be level and a minimum of 3050 mm wide by 7925 mm long with a curb cut located towards the rear of the space.

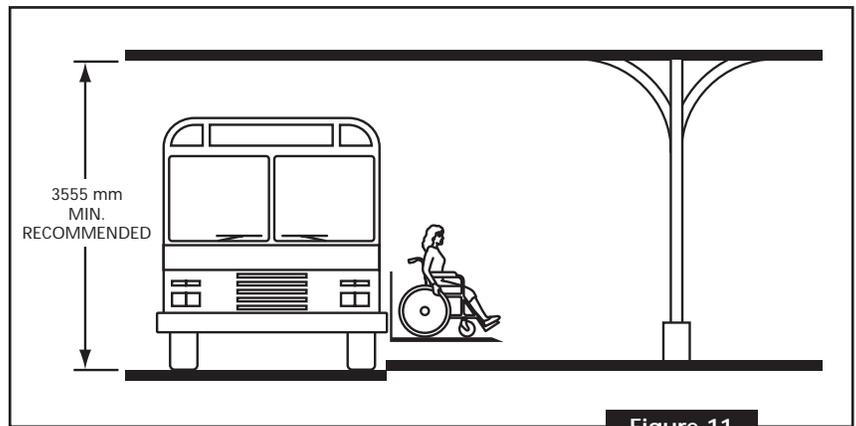


Figure 11

1.1 EXTERIOR ROUTES

1.1.7 Paths, Sidewalks and Walkways

POLICY:

All entrance paths/sidewalks in a public right of way and/or walkways for pedestrians and persons using mobility aids must be of firm, level, and non-slip materials and are recommended to be a minimum of 1675 mm wide to allow two wheelchairs or scooters to pass one another. In no case should sidewalks be less than 1525 mm wide where two-way traffic is expected.

- Sidewalks should be a maximum gradient of 1:20 (5%), except where site conditions prevent this. (See Figure 22)
- Walkways and paths on private property should be a minimum of 1100 mm and widened to 1600 mm (1675 mm recommended) width at 30 m intervals to accommodate persons using mobility aids.
- Unit paving materials used in sidewalks, paths and walkways should be firm and level, with joints no greater than 6 mm wide. (See Figure 12)
- Where gratings must be located in sidewalks, no opening should be wider than 13 mm and bars of gratings should be perpendicular to the path of travel. (See Figure 13)

- Wherever possible, consider the use of clearly marked continuous amenity strips at the edge of the sidewalk to accommodate posts, mail boxes, trees, guy-wires, planters, bicycle racks and vending machines, etc.

Such strips are to be at least 610 mm wide and separated from the pedestrian walkway by a colour contrasted and cane detectable border that is a minimum of 305 mm wide. (See Figure 14)

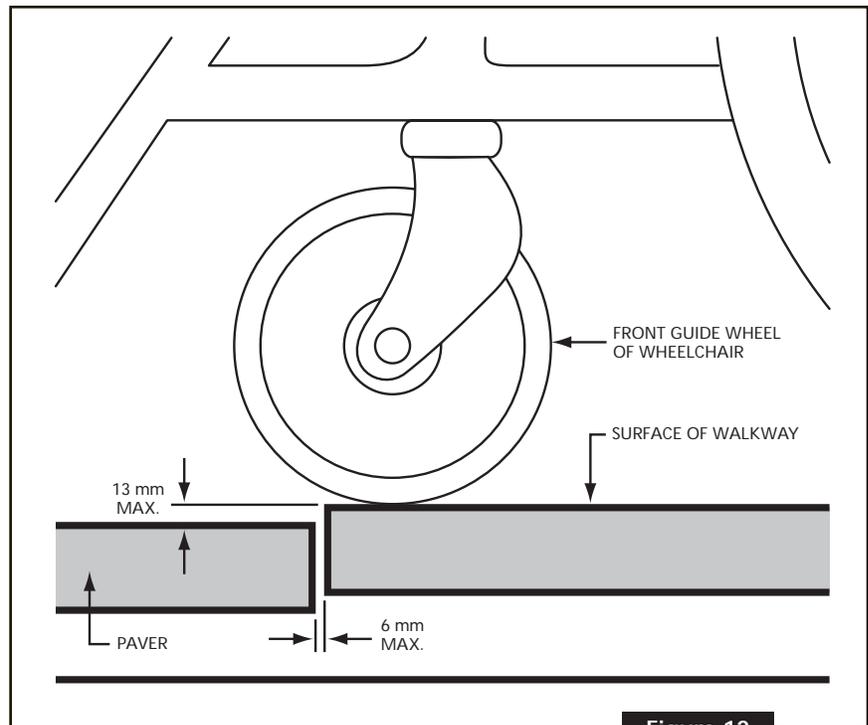


Figure 12

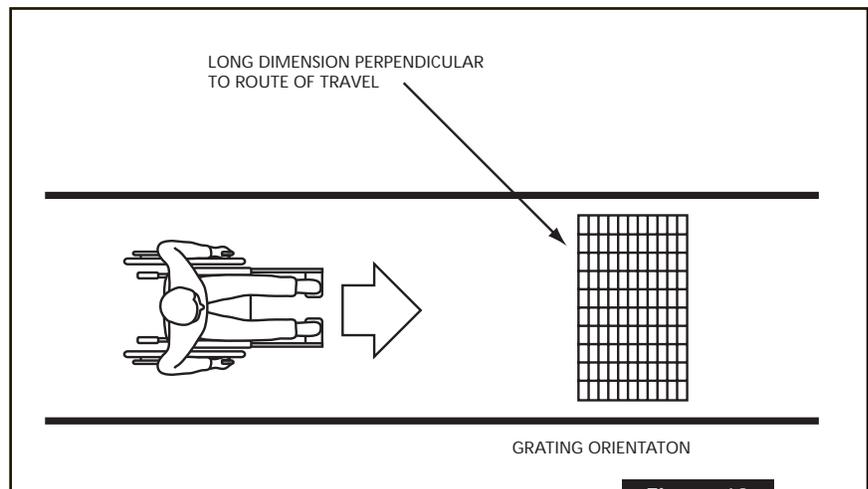


Figure 13

1.1.8 Pedestrian Routes

POLICY

Public Pedestrian routes should be designed to ensure the comfort and safety of all persons regardless of age or ability.

- All active routes required to accommodate persons using mobility aids, walkers, or persons accompanied by guide dogs, should be a minimum of 1500 mm wide; 1675 mm is preferred.
- All routes should be free of protruding obstacles, overhanging signs, branches etc., in the walking area, to aid persons with visual limitations. (See Figures 14 and 15)
- The maximum allowable protrusion of objects into any pedestrian route from grade to a recommended height of 2030 mm is 100 mm.

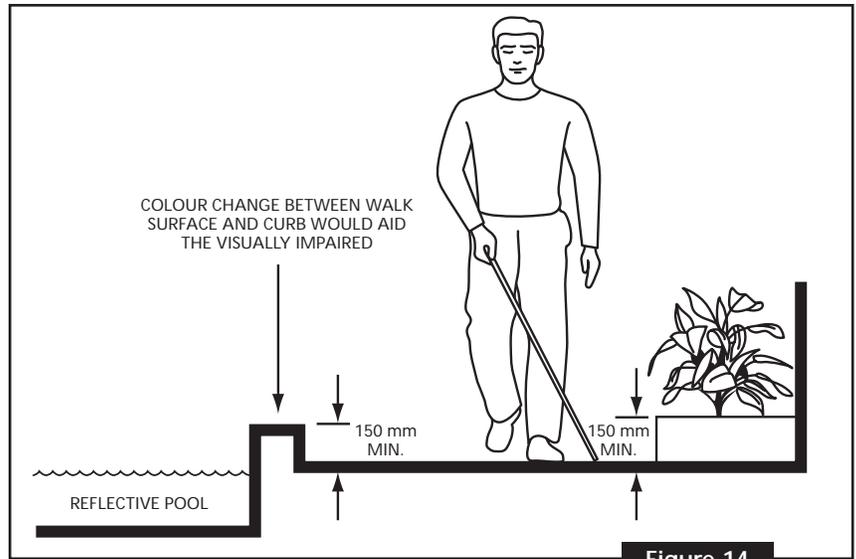


Figure 14

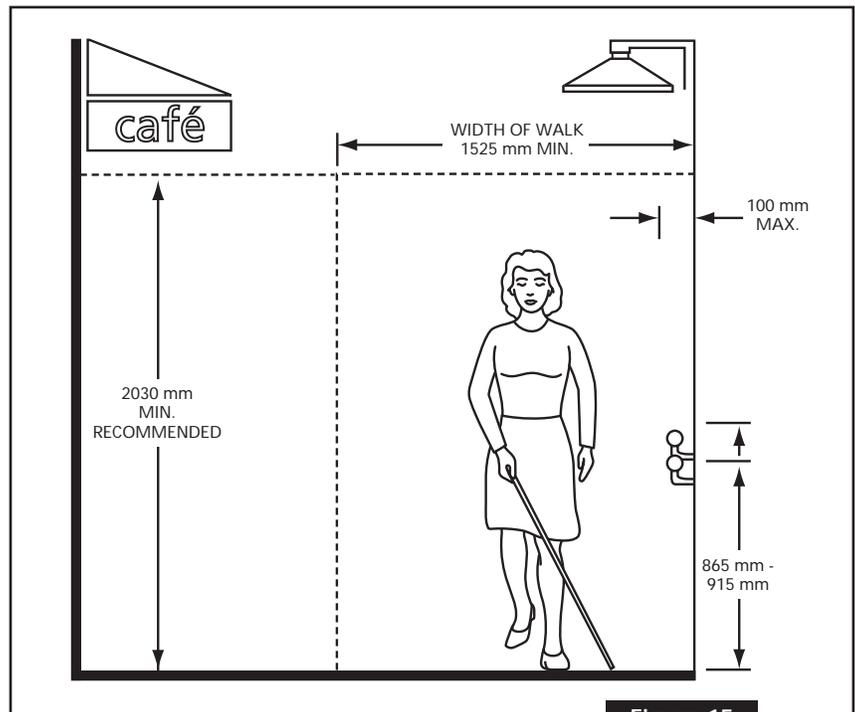


Figure 15

1.1 EXTERIOR ROUTES

1.1.9 Ramps

POLICY

Wherever the gradient is more than 1:20, ramps should be provided that comply with the following criteria:

- Ramps must be no steeper than 1:12, with individual ramp sections no longer than 9 m. (Note: 1:15 is preferred where space is available).
- Ramp widths should be a maximum of 1100 mm and a recommended minimum of 1015 mm between handrails, to allow persons using mobility aids to move easily and to grasp the handrails if required (e.g., while ascending or descending).
- Where ramps are required for use by persons with visual limitations only, ramps up to 1525 mm are preferred, in order to allow space for a companion or a guide dog.
- For intermediate level landings, a minimum of 1670 mm in depth by the width of the ramp should be provided. Level landings at top and bottom of the ramp shall be a minimum of 1670 mm by 1670 mm. (See Figure 16)
- Where ramps return upon themselves, or wherever doors open out onto the ramp, the level platform area shall be a minimum of 1670 mm by 1670 mm and an additional distance for any

doors opening on to the landing.
(See Figures 17 and 18)

- An up-stand curb 50 mm high or a solid barrier is recommended on either side of ramps for persons using mobility aids, in order to act as a safety stop for the front wheels of wheelchairs and/or scooters.

- Ramps with slopes between 1:20 and 1:12 require handrails on both sides as an aid to mobility.

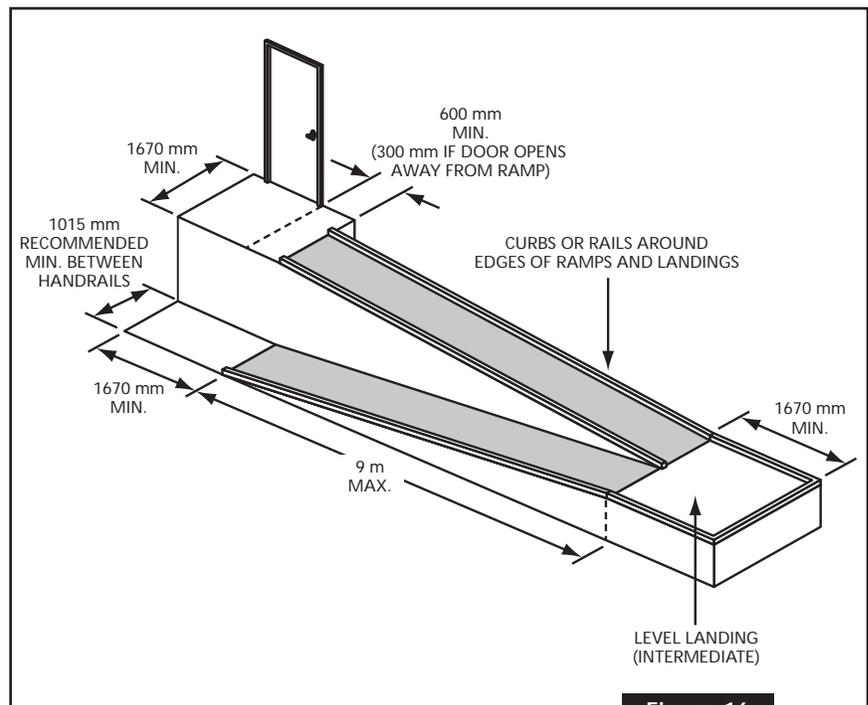


Figure 16

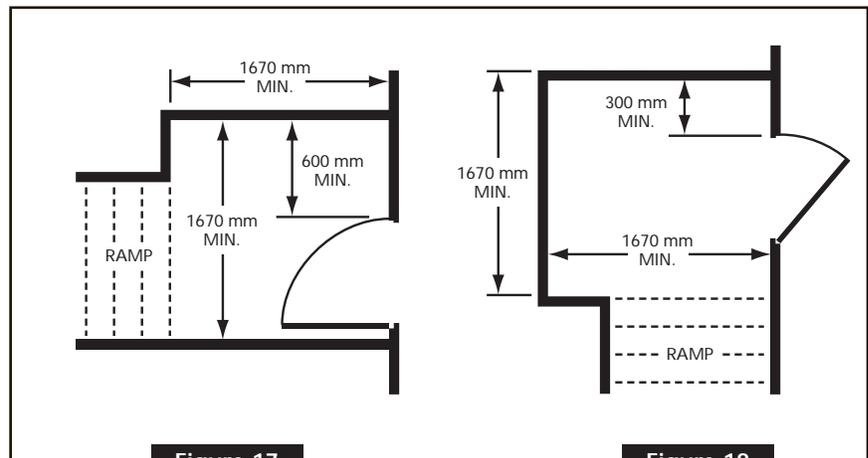


Figure 17

Figure 18

1.1 EXTERIOR ROUTES

PART 1: EXTERIOR AREAS

- Handrails on ramps should be mounted between 865 mm and 965 mm, and provide a smooth continuous surface from the top to bottom of the ramp, without breaking the handhold.
- Handrails should extend a minimum distance of 300 mm beyond the top and bottom of the ramp (See Figure 19). Handrail ends must be turned down or curved into an adjacent wall as an aid to persons with visual disabilities.

- For all flights of stairs or steps that are 2200 mm wide or greater, an intermediate (middle) handrail is recommended, as an aid to persons with limited mobility or vision.
- Paving surfaces at the top and bottom of all flights of stairs or steps should include a cane-detectable and textured

walking surface, a minimum of 915 mm deep, (forward of the first riser and continuous from the top of stair), as an early warning of an impending level change to persons with visual limitations. (See Figure 20)

1.1.10 Stairs and Steps

- Exterior steps should be of firm; non-slip materials with a recommended maximum rise of 180 mm, and a maximum tread length of 280 mm. (See Figure 20)
- Tread nosings should be clearly marked with either a brightly painted non-slip finish and/or include an integrated non-slip nosing that clearly contrasts in tone/colour from the tread.
- Continuous handrails should be provided on both sides of all exterior flights of stairs or steps, which include 3 or more risers.

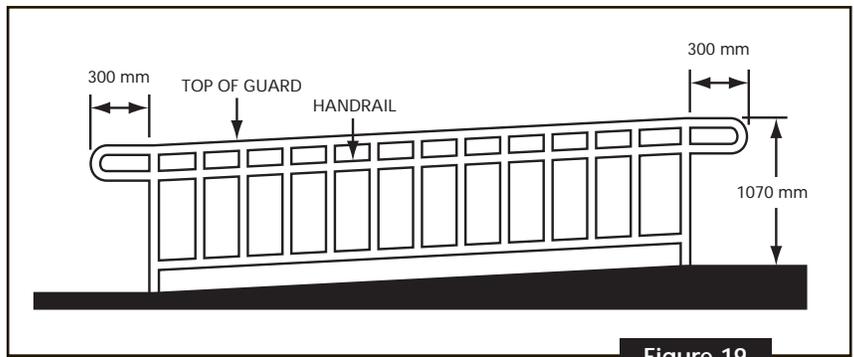


Figure 19

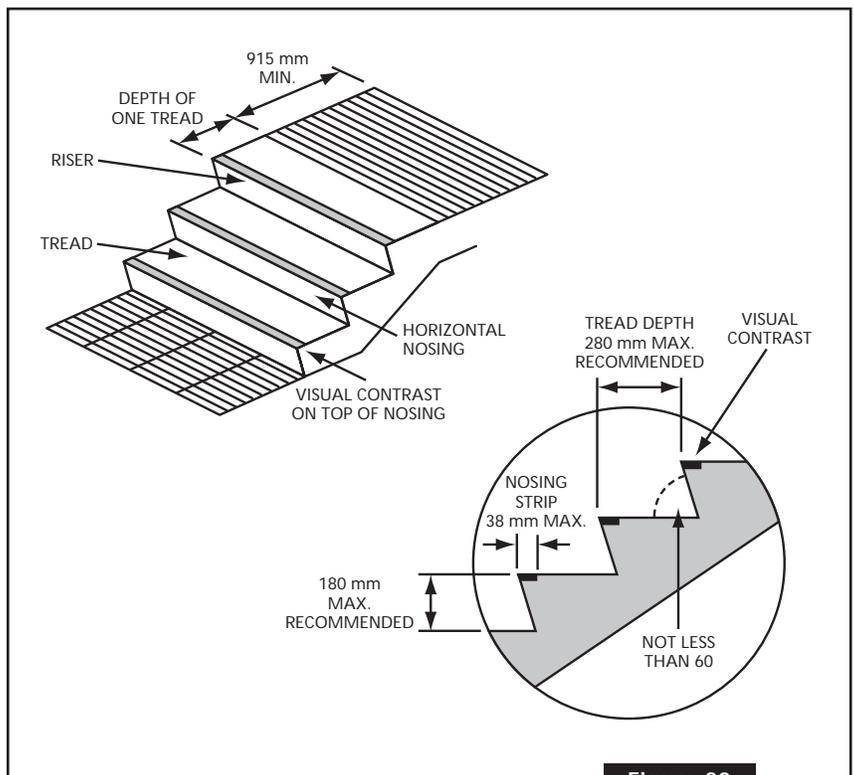


Figure 20

1.1 EXTERIOR ROUTES

- Exterior doors that open onto landings should be avoided wherever possible, in order to minimize hazards to persons with visual limitations. Where such doors are unavoidable, the landing depth should be increased to 1670 mm. No door should open onto any sloping section of a ramp.

- Traffic islands should be at least 1500 mm wide (1980 mm is preferred) to provide persons using mobility aids and seniors with a safe resting zone. (See Figure 21)

- Where the crossing surface at the island is level with the paving, the safe waiting area should be made clearly identifiable by using different materials, colours or textures that are detectable by persons with low vision.

1.1.11 Traffic Islands on Public Right of Way

- Where traffic islands are required, they should be built of materials and finishes that are easily distinguishable from the surrounding paving, as an aid to persons who are blind or who have visual limitations.
- Pedestrian crosswalks that cross a traffic island should be level with the main crossing or have curb ramps for persons using mobility aids.

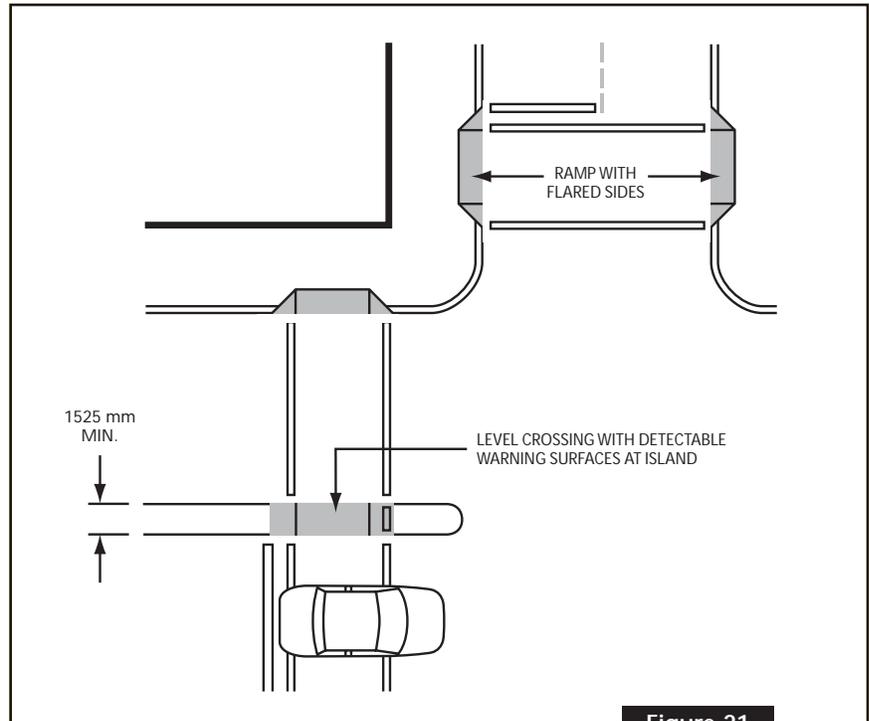


Figure 21

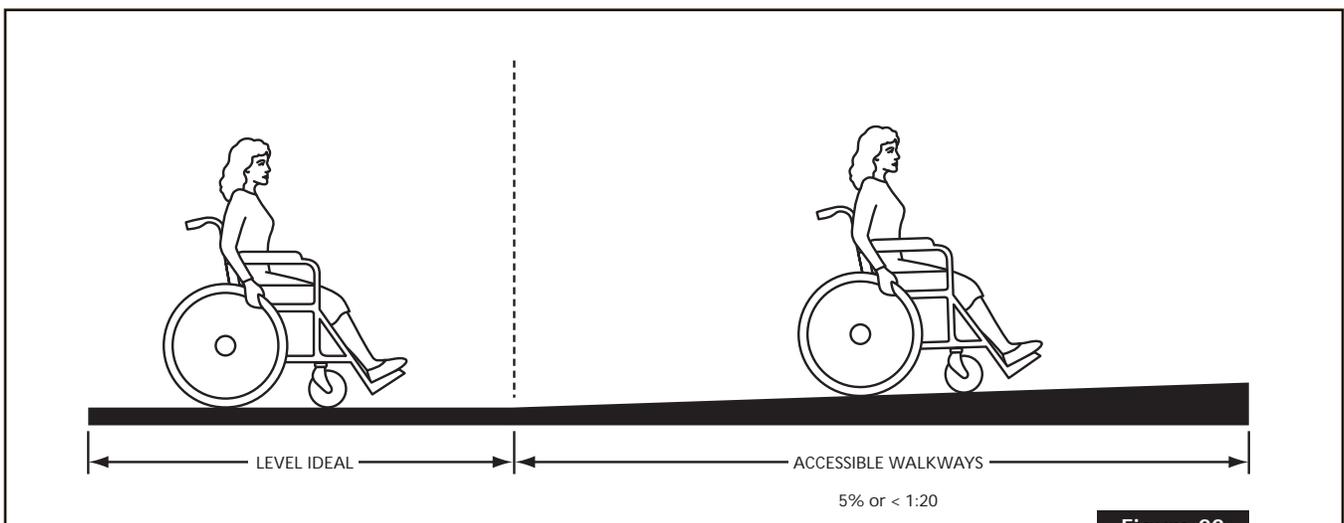


Figure 22

1.2 ARRIVAL AND DEPARTURE AREAS

PART 1: EXTERIOR AREAS

POLICY:

All pedestrian routes to the Main Entrance and/or other accessible entrances should provide a safe, direct, level and obstacle free path of travel for persons with mobility or visual limitations.

1.2.1 Accessible Routes to Entrances

- Provide an accessible route from the site boundary to the Main Entrance and/or other accessible entrances of at least 1100 mm however a 1675 mm wide is recommended, consisting of a firm non-slip material.
- Accessible pedestrian routes to entrances should be designed so they do not cross into vehicular routes.
- In situations where accessible pedestrian routes cross into vehicular routes, crossings with suitable curb ramps identified by bright yellow or white lines and/or distinct paving should be provided.
- Slopes of walkways should not exceed 1:20 (5%). Where steeper walks are necessary, nearby stairs should be provided and the slopes should be treated as ramps. (See Figure 22)
- Where the length of accessible routes to accessible entrances exceeds 30 m, rest areas at intervals of 30 m are recommended.

- Rest areas should be located to one side of walkways, be at least 1200 mm deep and include space for a bench, wheelchair, or scooter.

1.2.2 Bus/Public Transit Shelters

POLICY

Bus shelters should be located on a firm and level base approximately 4265 mm by 1830 mm and be at the same elevation as the sidewalk or walkway. Clearances around the shelter (particularly on the side of the landing pad) should be a minimum of 1100 mm. This will allow easy wheelchair or scooter access on all sides used by pedestrians. (See Figure 23)

- The bus shelter design should provide a clear view of on-coming traffic, and have a minimum interior length of 2185 mm to accommodate persons using mobility aids.

- At least one seat, between 405 mm and 460 mm high should be provided inside the bus shelter, since it would be suitable for seniors and other persons with limited stamina. For persons who are very tall, or who have difficulty sitting, a resting ledge, or substantial handrail, mounted at 760 mm to 815 mm high is beneficial.
- All glazed panels forming part of a bus shelter should have 50 mm diameter decals or a continuous coloured line, mounted at eye-level 1525 mm. Decals should be positioned at no more than 150 mm on centre, to ensure easy identification by persons with limited vision.

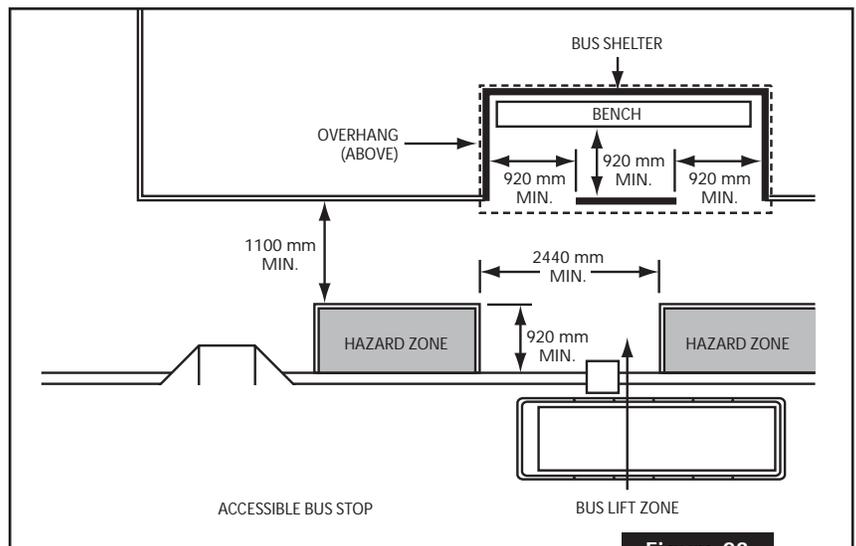


Figure 23

1.2 ARRIVAL AND DEPARTURE AREAS

1.2.3 Bus Stops

- Waiting areas at bus stops should be of level and firm materials, at least 2000 mm wide by 12000 mm long, in order to accommodate waiting persons.
- Bus stop areas should be free of all street furniture, e.g., dispensers, vending machines, waste boxes, planters, posts, signs and guy wires.

1.2.4 Emergency Routes

- Vehicular routes, used by emergency vehicles (e.g., fire trucks and ambulances), should be clearly identified by suitable signage and should avoid crossing primary pedestrian routes to the main entrance or other accessible entrances wherever possible.

1.2.5 Parking

POLICY

Designated accessible parking space(s), whether external or internal, should be provided within 30m of the main accessible entrance and/or any other accessible entrances.

- Provide a protected, or designated route from the accessible parking spaces to the main accessible entrance and/or any other accessible entrances.
- Parking meters to be accessible for persons with disabilities.

- In no case should the number of accessible parking spaces be less than 4 for the first 100 spaces (i.e. 1:25 parking spaces) plus 2 spaces for each additional 100 parking spaces (i.e. 1:50). No less than 1 accessible parking space should be provided where the number of parking spaces provided is less than 25.
- At least one accessible parking space for wheelchair vans, a minimum of 3660 mm wide and 5385 mm long, should be provided for each 100 spaces. (See Figures 24 and 28)
- Headroom clearance for van parking spaces should be at least 2750 mm.
- In multi-storey or underground parking garages, at least one level of parking should include easy to locate accessible parking spaces.
- The walkway from designated parking to the accessible entry to the building should be no less than 1100 mm in width and must be firm, level, non-slip material with a texture contrasted with the adjacent surfaces.

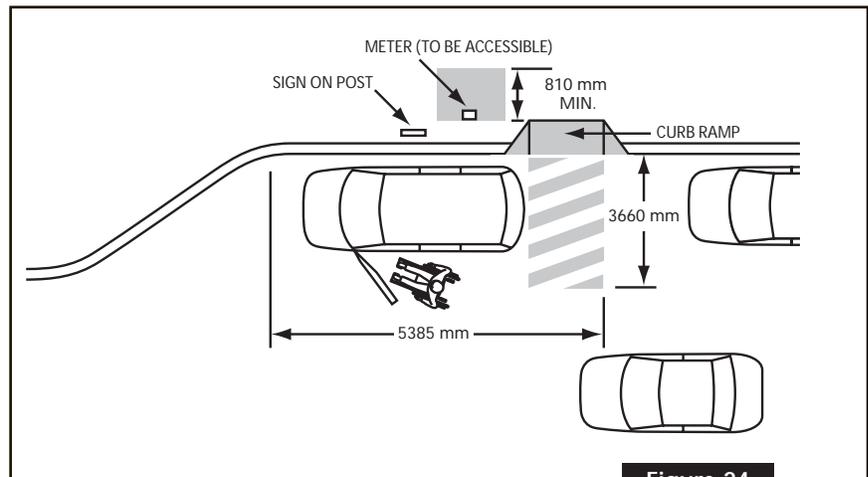


Figure 24

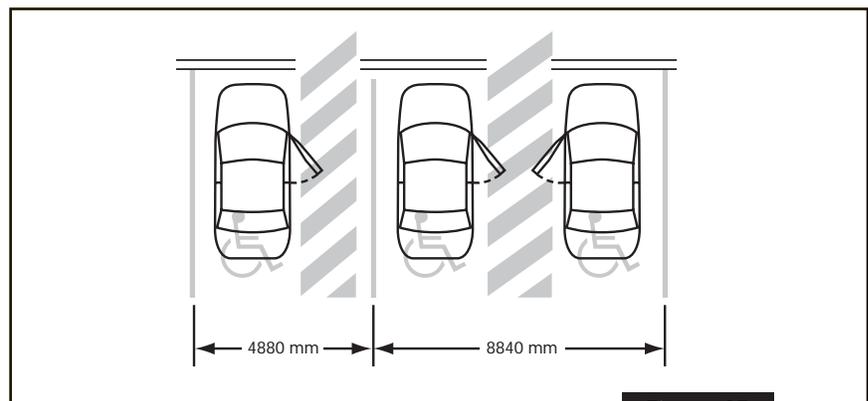


Figure 25

- Where covered or underground parking spaces for cars are provided, all access and exit routes, including ramps serving such spaces, should have clear headroom of 2100 mm below beams, pipes, or sprinkler heads, however 2285 mm is recommended.
- All accessible parking spaces should be marked with the "International Symbol of Accessibility", (e.g., with a paving sign and a post mounted sign). (See Figures 26 and 27)
- Accessible parking spaces should be a minimum of 3660 mm wide, with a clear pedestrian aisle of 1200 mm. Where two accessible parking spaces are adjacent, the pedestrian aisle may be shared, and should preferably be increased to 1500 mm. (See Figures 25 and 27)
- Provide a suitable curb ramp from the accessible car parking area to any adjacent sidewalk or pedestrian route where difference in elevation is greater than 13 mm.
- All safe pedestrian walkways should be clearly marked (e.g., by the use of painted yellow lines and/or distinctive paving surfaces).



Figure 26

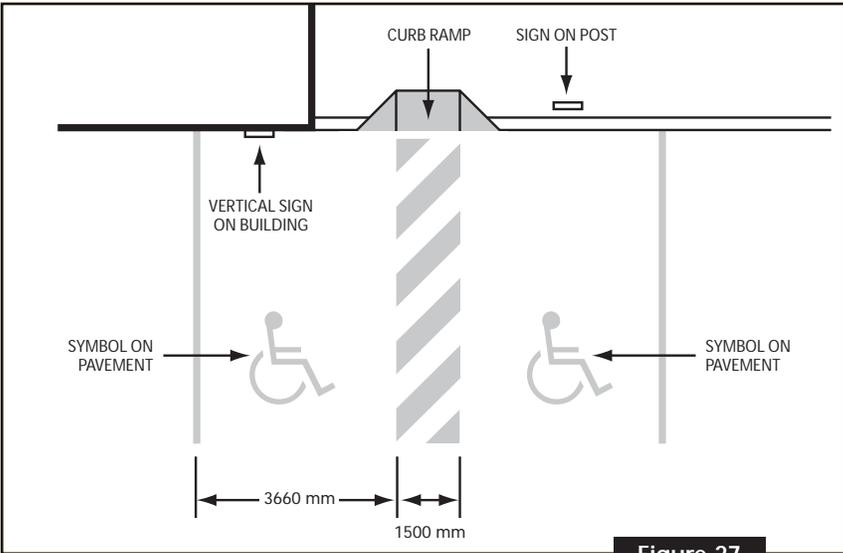


Figure 27

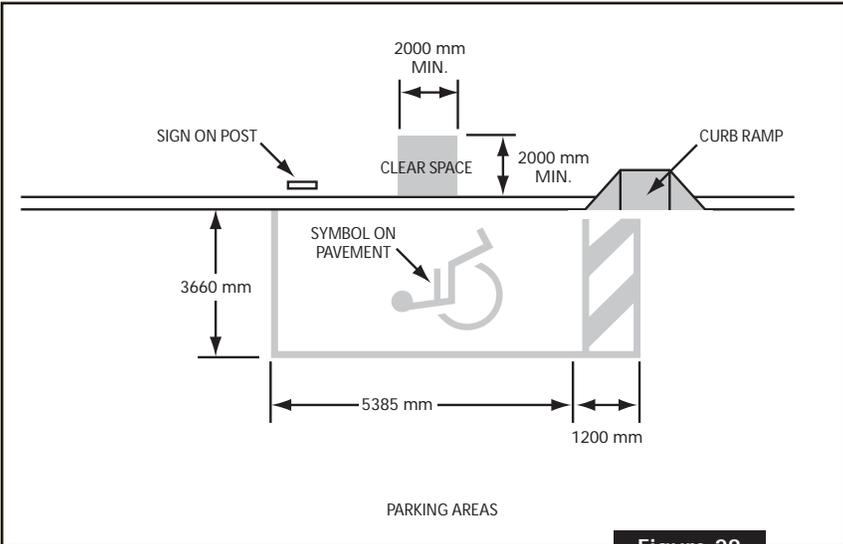


Figure 28

1.2.6 Passenger Loading Zones

- Passenger loading zones on individual sites should be located within 30m of the main or other accessible entrance.
- Bus parking space at passenger loading zones should be at least 7925 mm long by 3050 mm wide, to accommodate special transit vehicles.
- Headroom clearance at car passenger loading zones should be a minimum of 2750 mm but 2895 mm is recommended.
- For special transit vehicles, such as WheelTrans Buses, the headroom clearance is recommended to be increased to 3555 mm. (See Figure 30)
- Suitable curb ramps should be provided at all passenger loading zones, where differences in roadway and sidewalk levels are greater than 19 mm.
- Van parking spaces at passenger loading zones should be a minimum of 7315 mm long by 2590 mm wide. (See Figure 29)
- All designated passenger loading zones should have a sidewalk or safe pedestrian zone, located behind the vehicle and at the passenger boarding side of the vehicle, a minimum of 2000 mm wide by the length or width

of the boarding space, to ensure safe loading and unloading.

- All designated passenger loading zones should be marked with appropriate signage utilizing the "International Symbol of Accessibility".

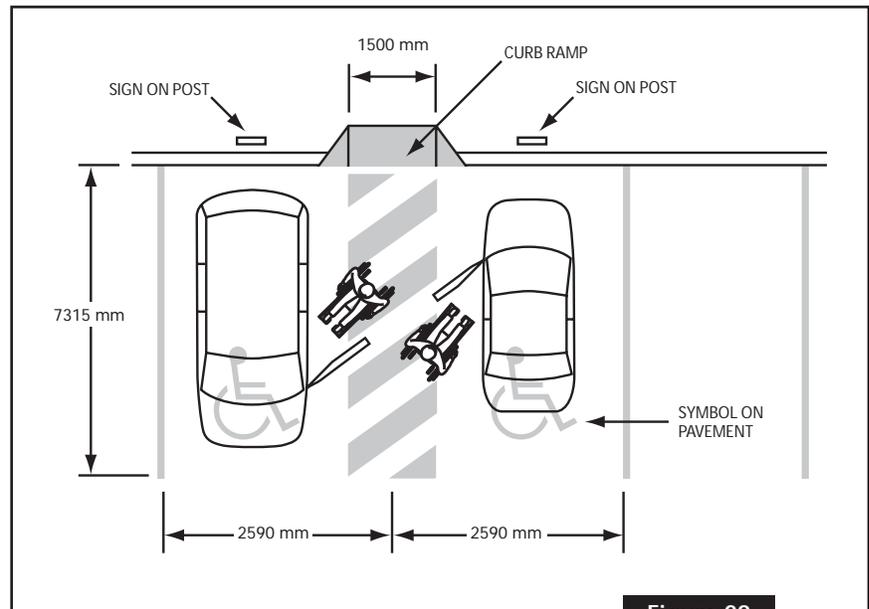


Figure 29

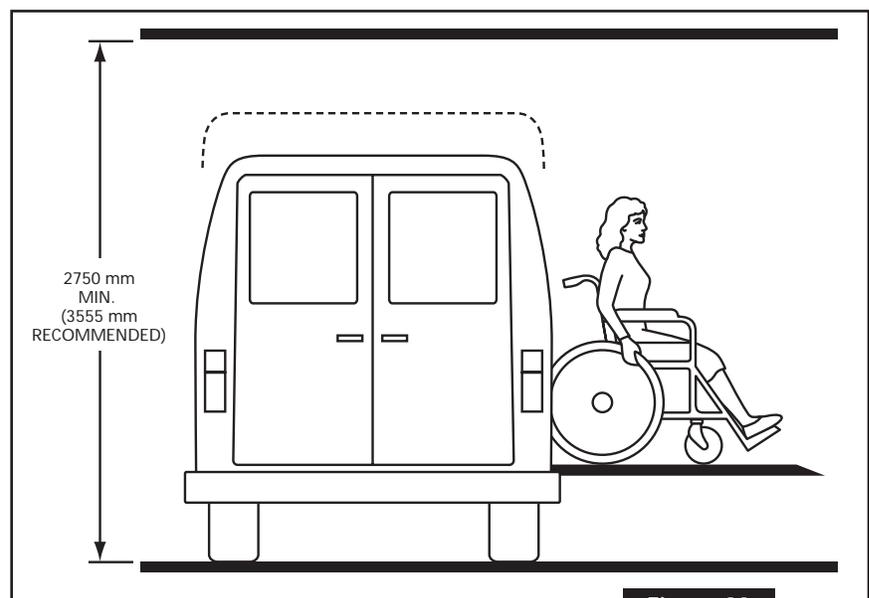


Figure 30

POLICY

All areas and special features of a site or facility, normally used or available to members of the general public, should be accessible to and useable by people with varying disabilities.

1.3.1 Amphitheatres

- Exterior amphitheatres or performance areas should include seating areas that are accessible to persons using mobility aids. At least two spaces should be provided side by side. A minimum of 2% of all spaces is recommended for persons using mobility aids.
- Fixed or portable seating should include some seats with back supports and arm rests to accommodate seniors or others with limited stability.

1.3.2 Outdoor Eating and Entertainment Spaces Balconies and Terraces

- Exterior residential and public balconies or terraces should be accessible from interior spaces with thresholds no higher than 13 mm.
- Where greater differences in elevation are unavoidable, short ramps with a maximum rise of 150 mm, maximum pitch of 1:7.5 and maximum length of 1200 mm should be utilized.

- Balcony or terrace surfaces should be of firm non-slip materials, laid to fall (no greater than 5%) to ensure rapid removal of water or melting snow.
- Balcony or terrace handrails or guards should comply with OBC requirements and should be designed to allow clear vision below the rails for persons seated in wheelchairs wherever possible. Note: The top surface of the rail should also be designed to be graspable, to assist persons with limited stability. (See also Section 1.1.5, Guards and Handrails)
- Balcony depths should be a minimum recommended of 1830 mm to allow free rotation of mobility aids. (See Figure 31)
- Doors opening out, onto balconies or terraces, should be located where they open against a sidewall or rail. This ensures doors do not constitute a hazard to persons who have visual limitations as well as permitting optimum access by persons using mobility aids.

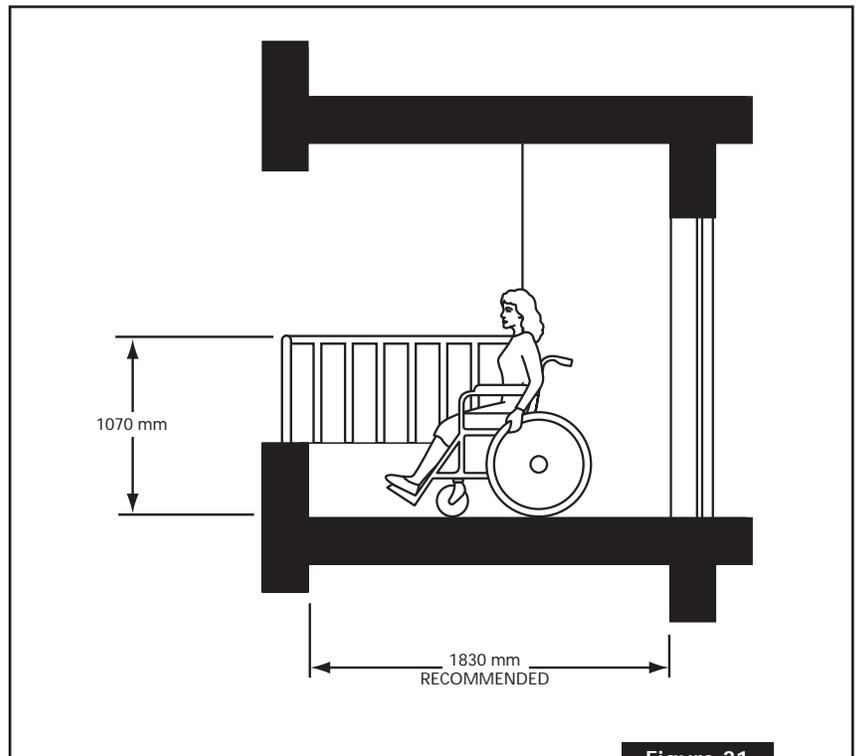


Figure 31

1.3 SPECIAL AREAS AND FEATURES

1.3.3 Boardwalks

- Where boardwalks are provided, (e.g., at beach or waterfront locations), they should be at least 1675 mm wide to allow two persons in wheelchairs to pass easily. (See Figure 32)
- Boardwalk surfaces should be of firm, non-slip materials. Where wooden boardwalks are provided, planks should be laid perpendicular to the normal path of travel with joint widths no greater than 6 mm.
- Where the grade drop-off on any side is greater than 205 mm, a contrasting, continuous stand up edge of at least 150 mm high is recommended as an aid to persons with visual or mobility limitations.
- Where the grade drop-off is greater than 460 mm, handrails or other suitable guards are recommended. (See Section 1.1.5, Guards and Handrails)
- Roads, paths, sidewalks, or other pedestrian approaches to the boardwalk should allow easy wheelchair or scooter access via level surfaces and/or suitably ramped access points.
- Benches and/or garbage cans should be located to one side of the boardwalk on level, firm surfaces at the same elevation as the boardwalk.

1.3.4 Campgrounds

- Municipal campgrounds should include at least

3% accessible campsites close to essential amenities, such as washrooms and showers.

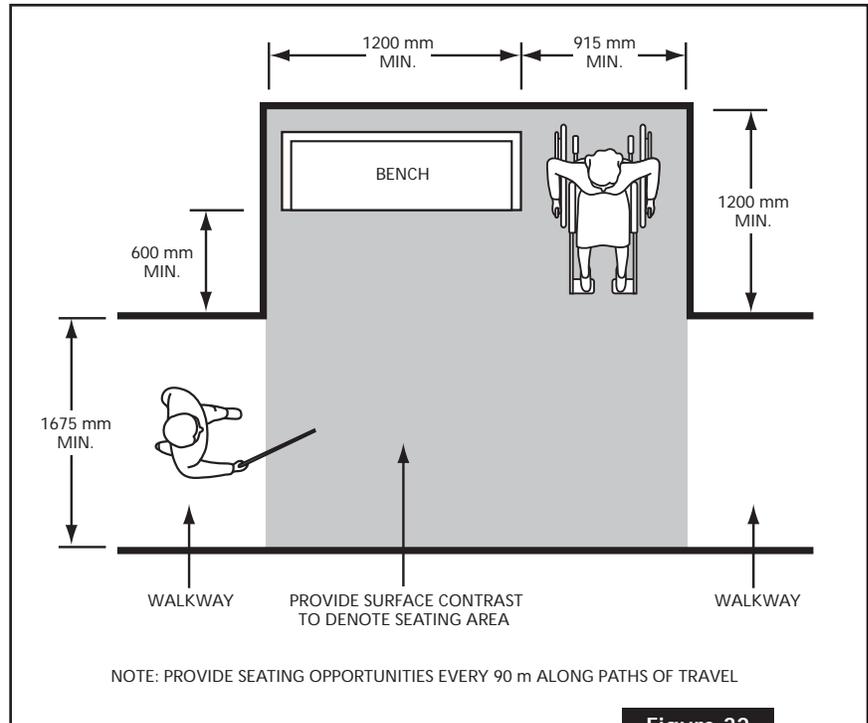


Figure 32

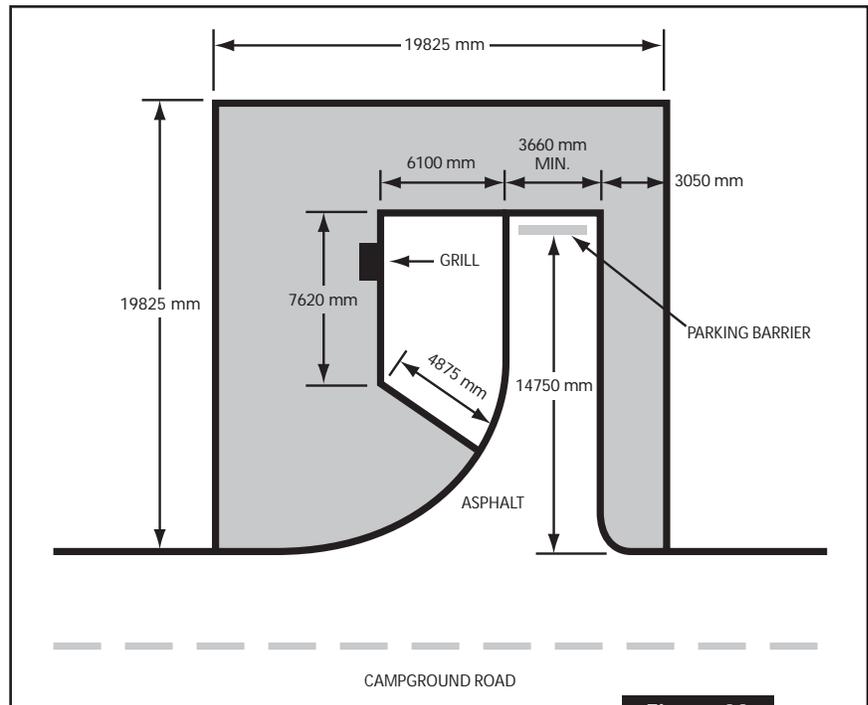


Figure 33

1.3 SPECIAL AREAS AND FEATURES

PART 1: EXTERIOR AREAS

- Accessible campsites should be level with adjacent grades, be of a firm free draining surface, and include adjacent accessible parking. (See Figure 33)
- Picnic tables and barbecue pits in close proximity to accessible campsites should be wheelchair accessible. (See Figure 34)
- A firm surface, roadway, or path should be available between the accessible campsite, accessible washrooms, and showers or other campground amenities.
- Accessible campsites should include an accessible hydro outlet to allow recharging of batteries for electric mobility aids.

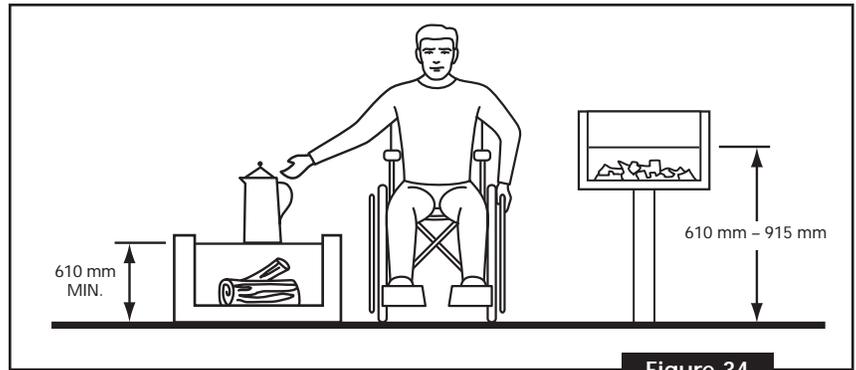


Figure 34

- Community mailboxes should be mounted on level, firm, and free-draining surfaces. A minimum clear approach area of 1370 mm by 1525 mm should be provided to allow access by persons using mobility aids.
- Where designated boxes are not available for wheelchair users, a minimum of 10% of boxes should be mounted so that the lock is no higher than 1220 mm and no lower than 460 mm.
- All numbers on mail boxes should be at least 19 mm high for easy identification and be colour or tone differentiated from the mailbox surface.

1.3.5 Community Mailboxes POLICY

Community mailboxes should be located in highly visible locations to one side of pedestrian routes or roadways. (See Canada Post Guidelines for Community Mailboxes).

- Where provided, parking spaces or lay-bys at community mailboxes should include sufficient space for a wheelchair user's van.
- An accessible curb ramp should be provided to permit access from the road surface and/or parking locations by various mobility aids. (See Figure 35)

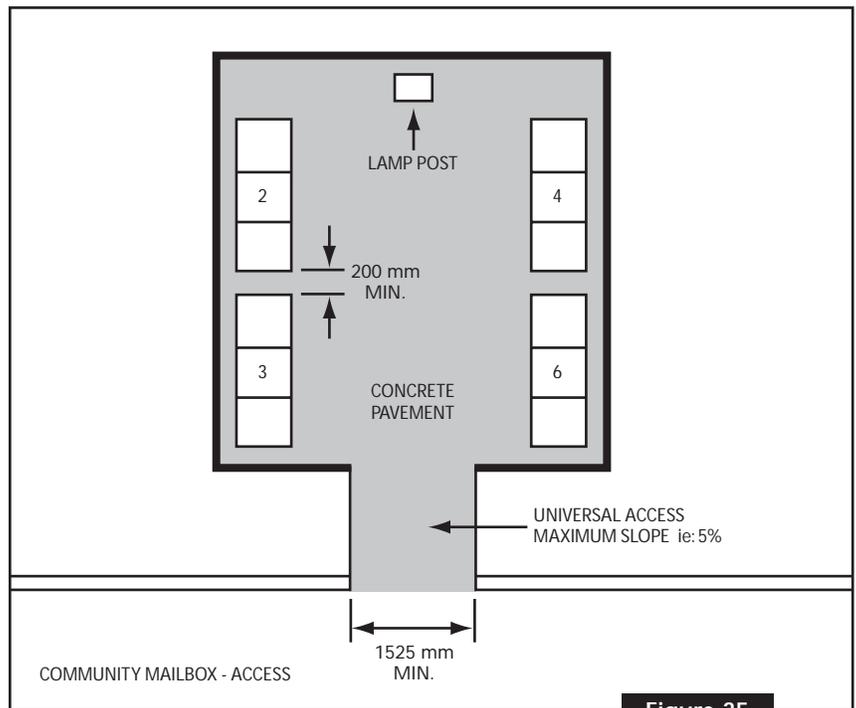


Figure 35

1.3 SPECIAL AREAS AND FEATURES

- All other amenities at the community mail box (e.g., mail slots, stamp machines, etc.), should be approachable and useable by persons using mobility aids. (See the Canada Post Accessibility Guidelines for Community Mailboxes)
- Garbage cans should be located close to community mailboxes; however, they should be placed to one side of the normal paths of travel.

- Elevation changes of 205 mm or less can be ramped at 1:8.
- Where dock surfaces are located more than 460 mm above the normal water surface (e.g., floating docks), a suitable guardrail should be provided.
- Where dock surfaces are 205 mm or less above the water, a contrasting stand up edge of at least 150 mm high is recommended, on all exposed sides.

- Steps down into the water for swimming areas or/at docks should include handrails on both sides, extending to a minimum of 610 mm above the dock surface, and returned down to the dock.
- Steps should provide a safe entering position for persons with limited vision or stability. (See Figure 37)

1.3.6 Docks

POLICY

Fishing, boating, or swimming docks should be accessible to persons with varying disabilities. (See Figures 36 & 37)

- Paths, boardwalks and/or other routes to docks should be made of level and firm material that provides direct access without changes in elevation. Where inclined routes are unavoidable, the gradient should be no greater than 1:20. (See Section 1.2.1, Accessible Routes to Entrances, Figure 22)
- Grades steeper than 1 in 20 should be designed as a ramp, with a slope gradient no greater than 1:12. (See Section 1.1.9, Ramps)
- Handrails should be provided on both sides of ramps at 1:12 gradient. (See also Section 1.2.1, Accessible Routes to Entrances, Figure 22)

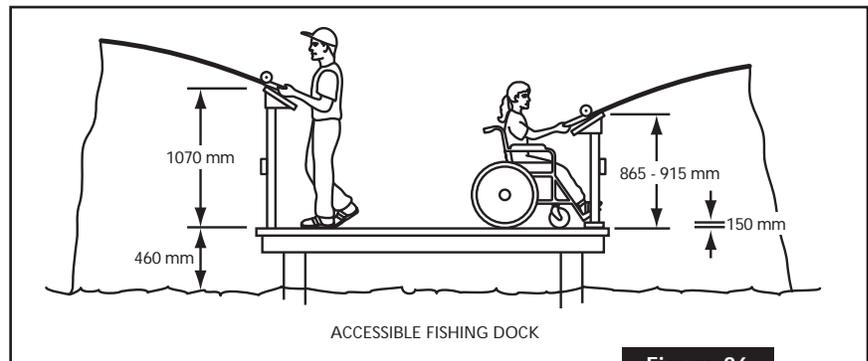


Figure 36

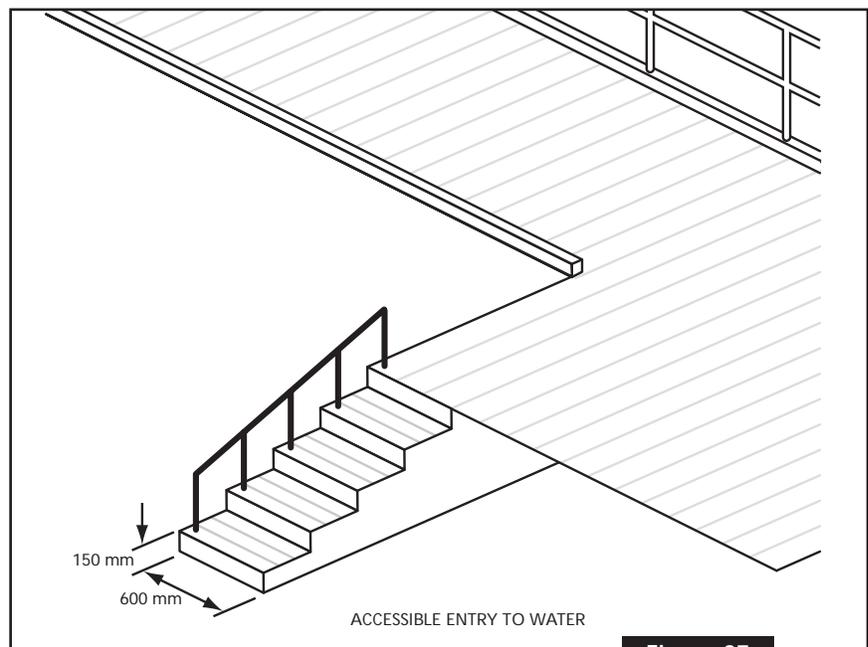


Figure 37

1.3 SPECIAL AREAS AND FEATURES

PART 1: EXTERIOR AREAS

1.3.7 Grandstands and Viewing Areas

POLICY

Where exterior grandstands and viewing areas are provided, accessible seating spaces for persons using mobility aids should be available in all price ranges. (See Figures 38 and 39)

- At least 2% of all seating areas should be designed to accommodate persons using mobility aids and located to provide a clear view of event.
- Clear floor space for a person using a wheelchair should be a minimum of 900 mm wide by 1500 mm deep without reducing required aisle space for side approach and 1200 mm long for front or rear entry. (See also Figure 39)
- At least two spaces should be provided side by side in each accessible location to allow for a companion.
- Wheelchair seating areas should be made of level, firm and of non-slip material.
- Where guardrails, handrails or fences separate viewing areas from performance areas, care should be taken to ensure that sight lines are appropriate.
- Fixed seating, benches, or loose seating areas should include some seating with back supports and arm rests for seniors (or others) with limited stability.

- Seat heights should be no greater than 460 mm above floor level and no less than 405 mm.
- Aisles leading to accessible seating areas should have slopes no greater than 1:20 at any point.

Walkway behind wheelchair positions should be a minimum of 1200 mm wide (any width reductions must comply with the OBC)

- Viewing areas at scenic lookouts etc., should be accessible to persons using various mobility aids such as wheelchairs or scooters.

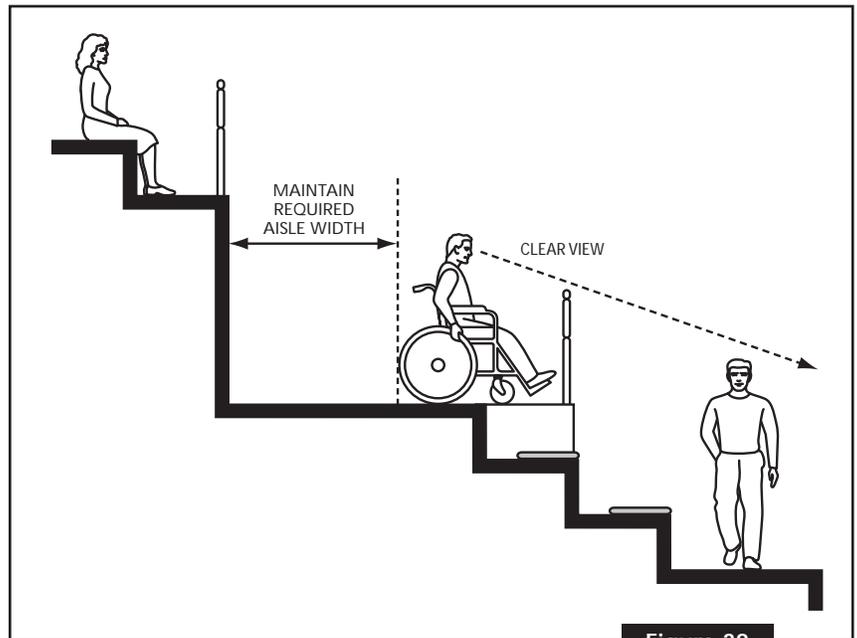


Figure 38

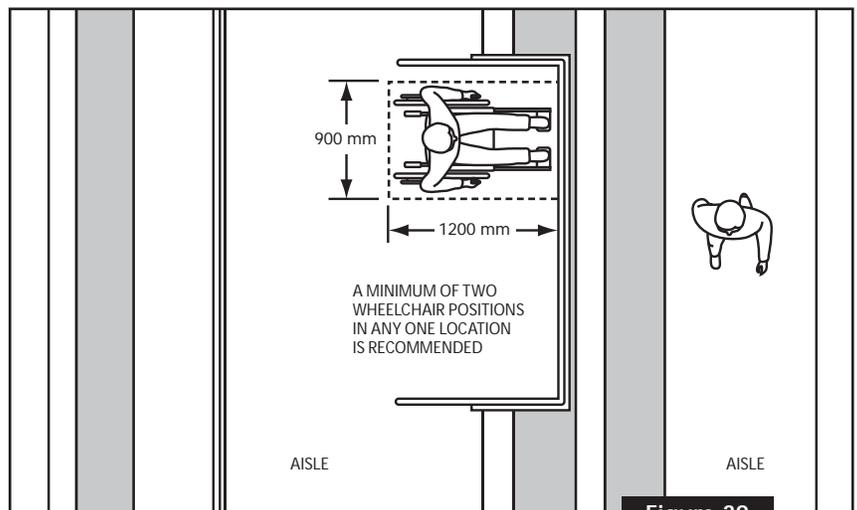


Figure 39

1.3 SPECIAL AREAS AND FEATURES

- Where pay-per-view telescopes etc. are available, at least one location should be accessible to persons using mobility aids. Viewing lenses and controls should be mounted no higher than 1200 mm above grade.

- Pool perimeter tile or finishes should be easy to clean and non-abrasive, to minimize skin damage, with rounded edges at all pool boundary locations.

- The walls and floors of swimming pools should have a light coloured finish for increased safety.
- Adequate drainage should be provided on the pool deck to remove water quickly at all times.

1.3.8 Outdoor Swimming Pools and Wading Pools

POLICY

Outdoor swimming and wading pools should be accessible to persons of varying ages or varying disabilities.

- Swimming pools should be generally of "level-deck" design to allow easy entry and exit to the pool. Where a stand up edge is provided around the perimeter of the pool, it should be a recommended minimum of 205 mm high, and no higher than 405 mm. The top edge should be of 305 mm wide to allow for a seated person.
- Pool boundaries should be clearly defined by a textural change and be of a bright colour or sharp contrast (e.g.: 70% light reflectance difference) to both the water surface and the surrounding paving as an aid to persons with visual limitations. (See Figures 42 & 43)
- All materials and finishes used on the pool perimeter, on the deck or on paved areas surrounding the pool, should be of firm, non-slip materials.

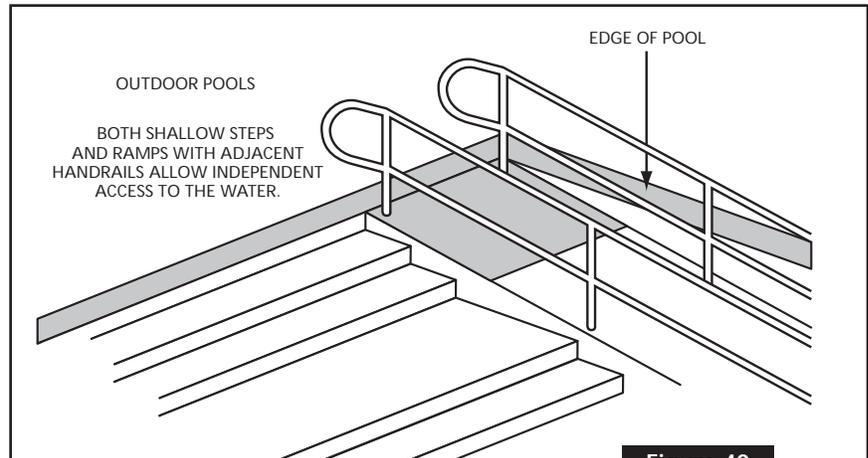


Figure 40

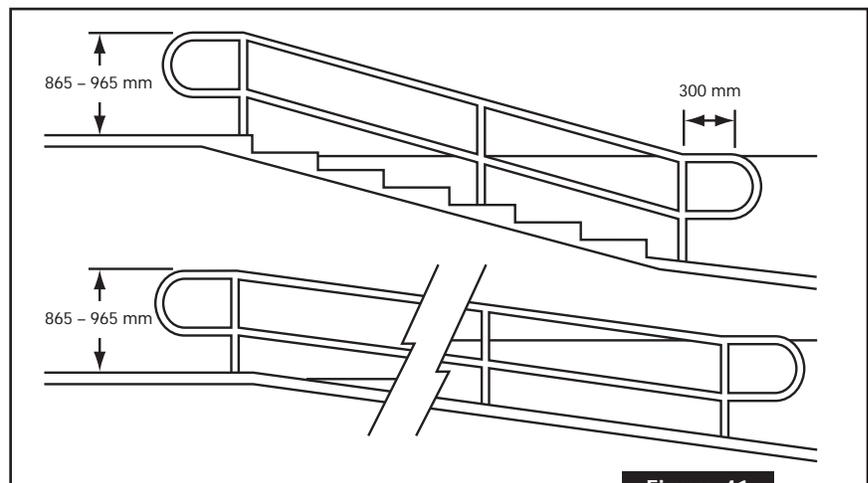


Figure 41

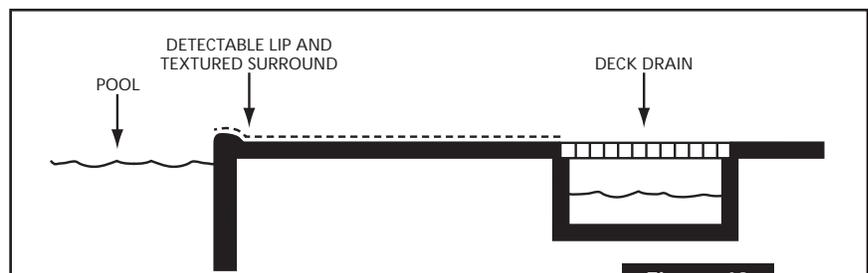


Figure 42

1.3 SPECIAL AREAS AND FEATURES

PART 1: EXTERIOR AREAS

- Drainage tile, scuppers, or trenches should be designed to minimize accidental tripping and have no openings greater than 13 mm.
- Pool depth markings as well as 'SHALLOW END' and 'DEEP END' signage should be in highly contrasting colours and of sufficient size that is easily visible to persons with low vision.
- Where diving boards or platforms are provided, they should be clearly marked and protected so that persons with visual limitations do not accidentally walk below.
- Handrails should be provided on both sides of access steps into the pool, and extend at least 300 mm onto the pool deck. (See Figures 40, 41 and 44)
- Swimming pools, lanes, or lane markers should be in highly contrasting colours. Tie-off devices for lane markers should be located where they do not constitute a potential tripping hazard.
- Starter blocks (for competitive racing) should be capable of being securely fixed in place without posing a tripping hazard.
- Storage of safety gear or other equipment around the pool should be positioned where it does not constitute a hazard to persons with visual limitations.
- Lifeguard chairs or other pool related structures should be painted in highly contrasting colours.

- In public swimming pools, where there is no autonomous access for persons with disabilities, some provision for transferring persons from wheelchairs into the water should be available. Wherever possible, permanent ramps are preferred to portable lifts.

- Built-in ramps into pools should be sloped at 1:12, have handrails on both sides (See Figures 40 and 41), and be positioned where it does not interfere with swimming lanes.
- Wading pool access should be safe and gradual so that children with disabilities can be assisted into the water easily and/or use a wheelchair to enter.

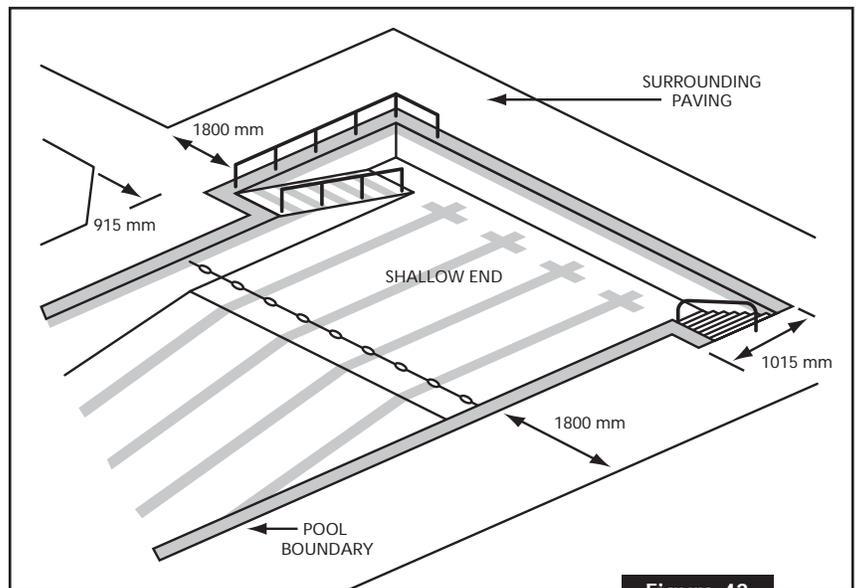


Figure 43

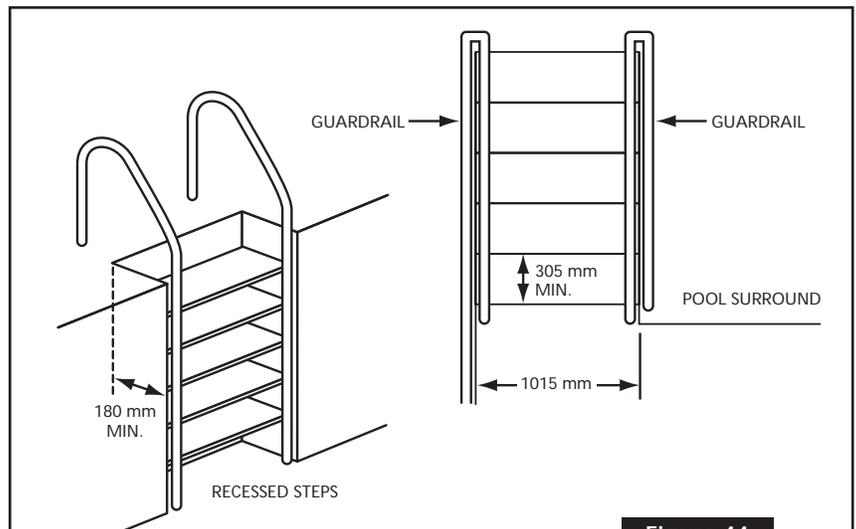


Figure 44

1.3 SPECIAL AREAS AND FEATURES

1.3.9 Parks and Parkettes

POLICY

Public parks, parkettes, and playgrounds should be designed to be used by people with varying abilities/disabilities and with universal access principles in mind.

- Entrance gates, parking areas, paths and walkways through the park should be fully accessible to persons using mobility aids. (See also section 1.1.7 Paths, Sidewalks, and Walkways and Section 1.2.5, Parking)
- Play areas and recreational equipment, or other amenities should generally be designed to be accessible to and useable by children with varying abilities/disabilities. (see fig. 45 and 46)
- Park benches or seating areas should be readily available for children and older persons. Benches and seating areas should be accessible to a variety of users.
- Where planting beds are provided, consider the use of raised beds, fragrant planting materials, and Braille signage as an added value to persons who have visual limitations or for persons using mobility aids. (See also section 1.6.6. Landscapes, Materials, and Planting)

- All garbage containers, light standards, or other obstructions should be located to one side of all paths and/or active playing areas, as an aid to children with visual limitations. (See also Sections 1.4.8, Street Furniture and Vending Machines and Section 1.4.9, Waste Receptacles and Recycling Bins)

- For accessible park amenities such as public washrooms, changing rooms, or telephones, see Sections 1.4.6, Public Telephones and Section 1.4.7, Public Washrooms.

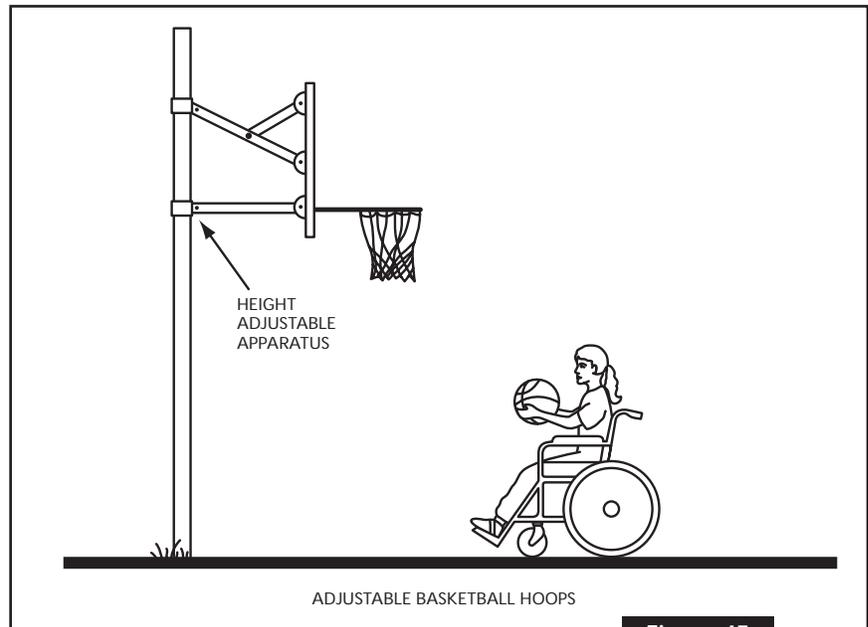


Figure 45

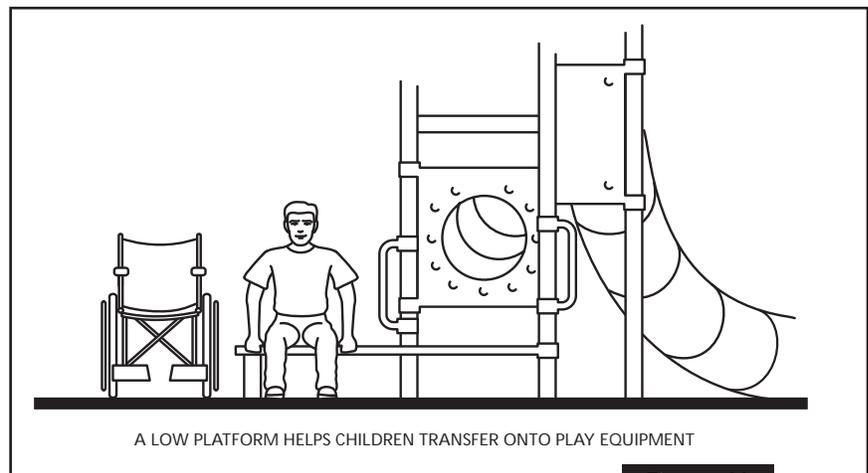


Figure 46

1.3.10 Play Spaces

The Canadian Parks and Recreation Association Policy states that play develops inter-personal and social awareness, intelligence and physical skills and that play is an equalizing medium for children with differing abilities/disabilities (Canadian Parks and Recreation Association website).

Consequently, the City of Toronto is planning on prioritising certain play spaces to be designed as inclusive for all children, including children and youth with varying abilities/disabilities. This prioritisation will be based on programming needs, community input, and a physical analysis of sites. Below is a brief description of the basic components to be integrated in identified inclusive play spaces, (additional references are at the end of this section). Inclusive play spaces are to implemented with the following:

- An accessible route to the play space from accessible parking spaces. An accessible route is defined as a pathway specifically designed to provide access for individuals with disabilities, including those who use wheelchairs or mobility devices, with a minimum clear width distance of 1500 mm (1675 mm preferred) and a maximum slope of 1:20. Ramps are needed wherever the slope exceeds 1:20. The maximum slope for a ramp is

1:12 (1:15 preferred), and the recommended minimum width of 1015 mm (between handrails), for a maximum sloped distance of 9 m. Landings are to have a minimum 2% cross-slope to allow adequate drainage and would accommodate changes of direction or rest sites as needed on accessible routes, (See also Section 1.1.9 Ramps).

- An accessible resilient surfacing compliant with current Canadian Safety Association Standards, and any applicable referenced portions of the current American Society for Testing and Materials Standard Specifications for Impact Attenuation of Surface Systems Under and Around Playground Equipment (ASTM 1292) and Determination of Accessibility to Surface Systems Under and Around Playground Equipment (ASTM 1951). An accessible surfacing is to be firm, stable and slip resistant enough to be accessible by individuals using mobility aids or wheelchairs. The surface needs the ability to drain rapidly to avoid the hazards of ice or water accumulation.

- Play areas separated by age appropriate equipment, including a junior area for use generally for children under 5 years of age and a senior area for use generally for children/youth 5-12 years of age. This separation of age groups makes supervision easier for the parent(s) or care-givers. It is the parent(s)/caregiver(s) who are most familiar with a child's capabilities and it is their judgements which will ensure safe use of equipment by children, regardless of their age.
- A diversity of play components chosen carefully to engage multiple senses, develop skills and encourage social interaction (examples of this are talking tubes, Personal Communication Systems, and interactive, musical, ore educational panels). Play components are to be linked to an accessible route through the playground. One of each type of play component is to be accessible and a minimum of 50% of all play components should be accessible for small playgrounds (10 or less play components), or 75% for larger playgrounds.

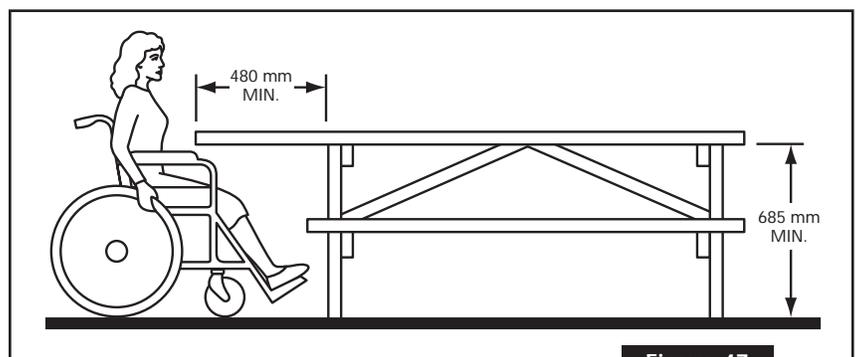


Figure 47

1.3 SPECIAL AREAS AND FEATURES

Specific details for accessible components can be referenced elsewhere below, but would generally include wheelchair access.

These guidelines are not intended to be comprehensive and finalised, they will be revised and updated with new information as it becomes available on how to best include children of all abilities.

References:

Boundless Playgrounds Publication, High Expectations Playgrounds for Children of All Abilities. www.boundlessplaygrounds.org

Canadian Parks and Recreation Association – Definition of Children’s Play www.cpra.ca

Guide de Référence en Accessibilité pour les équipements de Loisir www.altergo.net/documents/Guide_ref_acc equip_loisirs.pdf

A Guide to the Americans with Disabilities Act Accessibility Guidelines for Play Areas www.access-board.gov/play/guide/intro.htm

Playability Tool Kit; Building Accessible Playspaces, 2001. Ontario Parks Association. www.opassoc.on.ca/toolkit.asp

1.3.11 Picnic Areas

POLICY

Public picnic areas including parking areas and entrances should be accessible to persons of all ages and disabilities.

- Some picnic tables and benches should be located near accessible paths and walkways for persons using mobility aids.
- Accessible picnic tables or benches should be available in a variety of sunny and shady locations.
- The design of picnic tables should allow persons using mobility aids to approach them from one or both ends and provide adequate knee and armrest clearance. (See Figures 47, 48 and 49)
- Garbage cans, barbecues and woodpiles etc., located adjacent to accessible picnic areas, should be approachable and useable by persons using mobility aids.

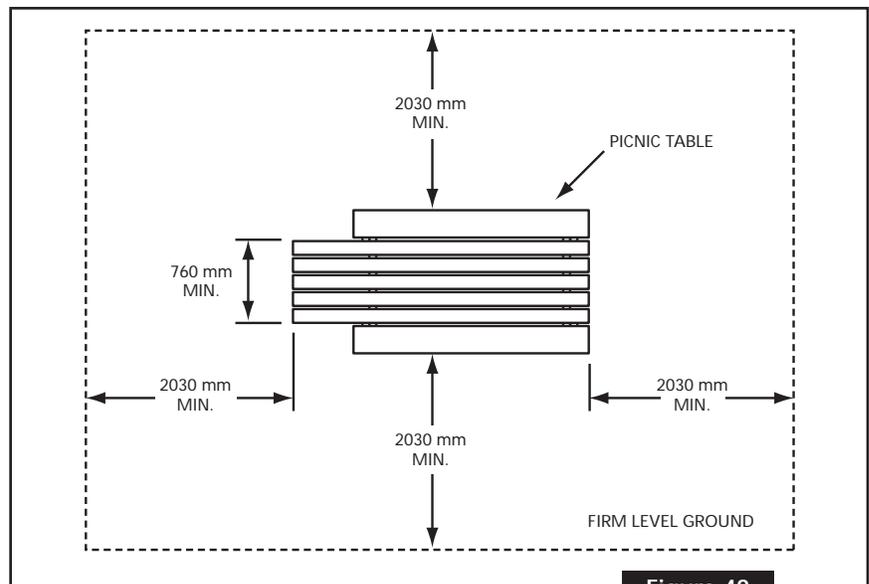


Figure 48

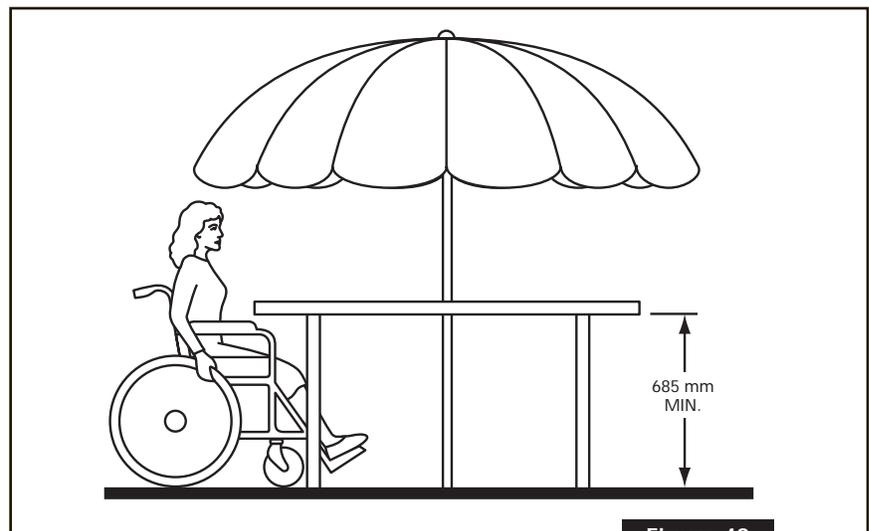


Figure 49

1.3 SPECIAL AREAS AND FEATURES

PART 1: EXTERIOR AREAS

- Grades in accessible picnic areas should be no greater than 1:30. (See Section 1.1.4, Grades and Elevation Changes)
- Where public parking is available, at least four spaces for the first 100 parking spaces should be designed to be accessible to persons with disabilities.
- Some accessible parking spaces should be located within 30 m of accessible picnic areas. (See also Section 1.2.5, Parking)

1.3.12 Sports, Fields, and Spectator Areas

POLICY

Public sports fields, parking areas, entrances and spectator areas should be accessible to persons with varying disabilities.

- Controlled access points (e.g., turnstiles), should be designed to accommodate the free movement of wheelchairs or scooters via an adjacent gate at minimum 915 mm wide. (See Figure 50)
- Level, accessible seating areas should be provided beside sports fields for both spectators and athletes with disabilities.
- For public viewing areas, See Section 1.3.15, Viewing Areas)

For Public Washrooms, Showers, and Changing Rooms (See Section 1.4, Outdoor Amenities)

1.3.13 Terraces and Patios

POLICY

Exterior terraces and patios should be accessible to persons using mobility aids.

- Access from exterior doors to interior areas should be level or have sloped thresholds no greater than 13 mm.

- Where grade differences of 150 mm or less occur, short ramps of 1:7.5 can be created. Grade differences more than 150 mm, ramps of 1:12 will be required. (See Section 1.1.4, Grades and Elevation Changes)

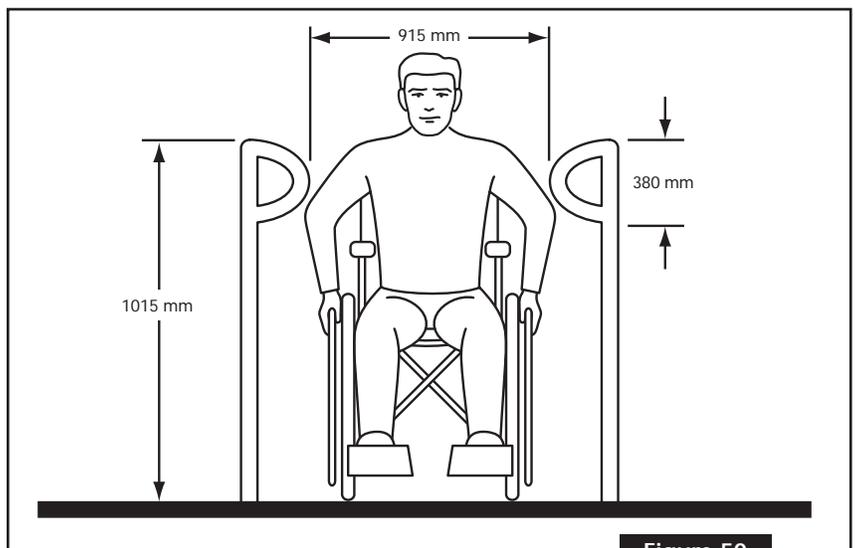


Figure 50

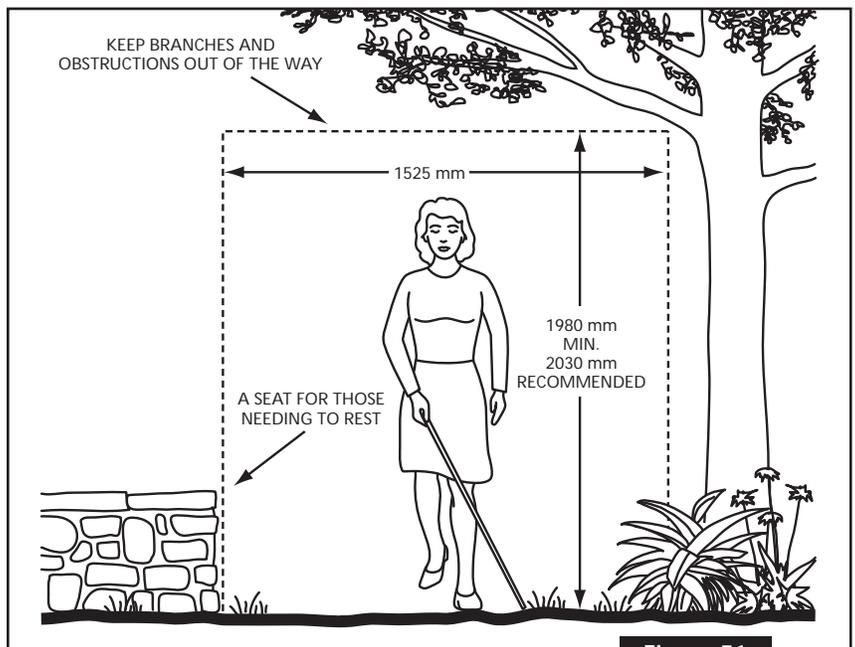


Figure 51

1.3 SPECIAL AREAS AND FEATURES

- Terraces or patios should be of firm level materials laid to drain at slopes of not more than 1:50. Joints in patio/terrace materials should not exceed 6 mm wide.
- Patios or terraces that are 600 mm or more above grade should have suitable guards. The top rail of such guards or handrails should be designed so that a seated person can clearly see below the rail.
- Where patios or terraces are 205 mm to 460 mm above grade, a cane detectable stand up edge, 150 mm or higher, should be provided. Alternatively, a planter box or bench could be used as an aid to persons with visual limitations.
- Where a number of patios or terraces are provided, some consideration of both wind and sun protection is desirable for seniors or other persons who prefer to sit in a protected location.

1.3.14 Trails and Footbridges

POLICY

Where pedestrian or bicycle trails are provided, trails should be laid out with accessible pedestrian paths and footbridges that are suitable for persons using various mobility aids. (See Figure 51)

- If trails include slopes greater than 1:20, alternate

routes should be provided nearby wherever possible and should include steps and ramps. (See Sections 1.1.9, Ramps and Section 1.1.10, Stairs and Steps)

- Where steps, ramps or footbridges are required, the surface of the bridge should be of non-slip materials and the bridge should include suitable handrails and/or guards. (See Figure 53) (See Section 1.3.3, Boardwalks, Section 1.3.16, Wilderness and Conservation Areas and Section 1.6.6

Landscape Materials and Planting)

- Slopes on bridges should not exceed 1:20 (5%).

1.3.15 Viewing Areas

- Where special viewing locations are provided (e.g., to view landmarks, special features, wildlife, entertainment and sports activities etc.), these areas should be accessible to persons using wheelchairs, scooters or walkers. (See Figure 52)

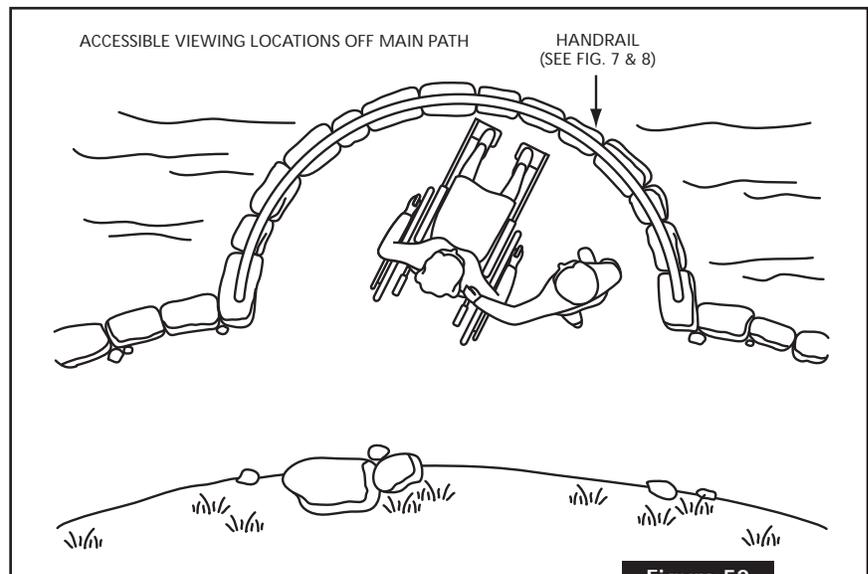


Figure 52

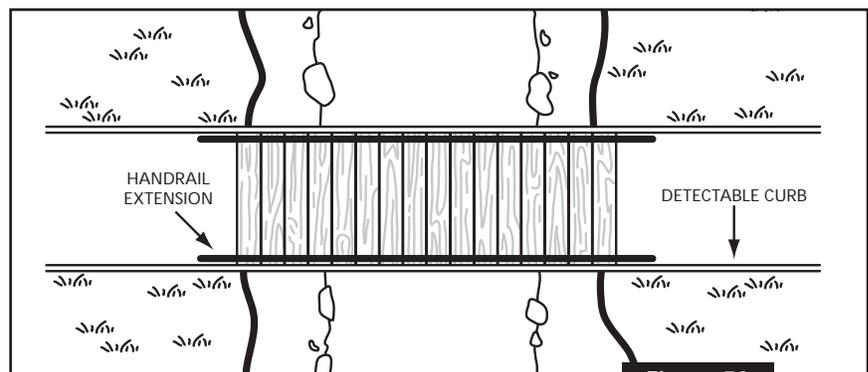


Figure 53

1.3 SPECIAL AREAS AND FEATURES

PART 1: EXTERIOR AREAS

- Where special viewing instruments (e.g., telescopes) are provided, then such devices should include lowered mounting heights suitable for use by children or persons in wheelchairs or scooters.

1.3.16 Waterfront Areas

POLICY

Waterfront areas (e.g., areas adjacent to lakes, ponds or streams) in public parks, recreation facilities or wilderness locations, should be laid out to accommodate persons using wheelchairs, scooters, and walkers, as well as persons with visual limitations.

- Ensure that accessible parking areas, entrances, paths and/or lookout areas are suitable for persons with varying disabilities.
- Provide suitable seating nearby. (See Sections 1.3.2, Outdoor Eating and Entertainment Spaces: Balconies and Terraces, Section 1.3.11, Picnic Areas and Section 1.4.1, Benches and Seats)
- Ensure that accessible parking is provided in a convenient and nearby location. (See Sections 1.3.3, Boardwalks and Section 1.3.14, Trails and Footbridges)

1.3.17 Wilderness and Conservation Areas

POLICY

Wilderness areas open for public enjoyment should include accessible parking areas, entrances, paths, trails, or footbridges that will accommodate persons using various mobility aids.

- Ensure that rest areas and/or lay-bys are provided with suitable seating to accommodate seniors. (See Figure 54)

- Where special lookout locations or wildlife viewing areas are included, ensure that clear signage is provided nearby (e.g.: on the trail or path).
- Where possible, provide a tactile map (e.g., map with a raised outline) of all trails and features at the start of the trail and periodically along the trail to benefit persons who have visual limitations. (See Figure 55)

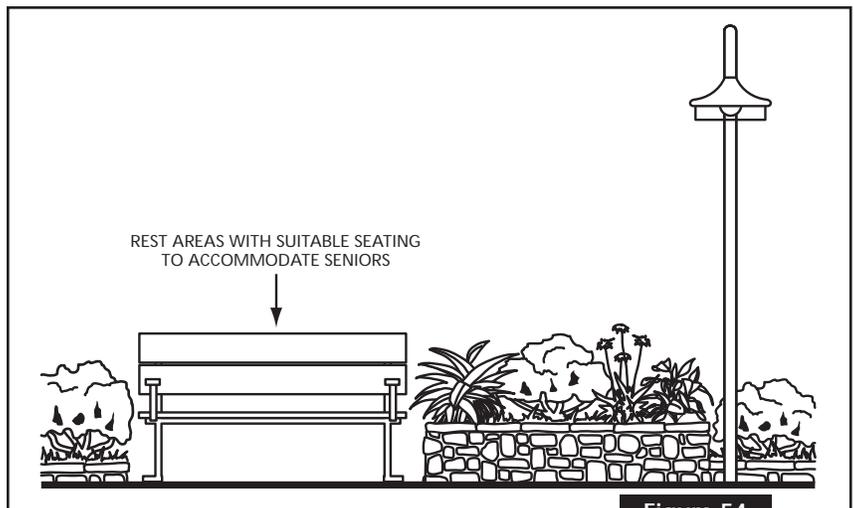


Figure 54

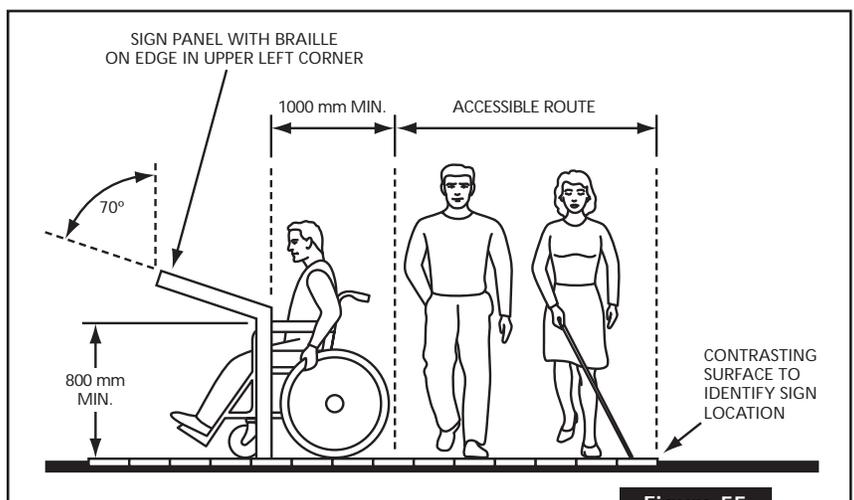


Figure 55

1.4 OUTDOOR AMENITIES

POLICY

All amenities available to the public should be readily accessible and useable by everyone, regardless of age or disability.

1.4.1 Benches and Seats

- Exterior benches or seats should be located to one side of public walkways or paths and be mounted on a firm and level base, such as a concrete pad, brick pavers etc. (See Figure 56)
- Fixed benches should include suitable back supports and arms to allow for easy transfers, with a seat height between 405 mm and 460 mm. (See Figure 56)
- Space should be available beside the bench for at least one person using a wheelchair or scooter with a minimum clearance area of 1015 mm by 1220 mm.

1.4.3 Drinking Fountains

- Where exterior public drinking fountains are provided, they should be securely mounted, and ensure clear knee space below of 700 mm, to allow comfortable access by persons using mobility aids. (See Figure 57)

- Where drinking fountains are recessed (e.g., in an alcove), the width of the knee space should be at least 760 mm.
- The maximum height of the spout should be 915 mm and controls should be easily operable with one hand.

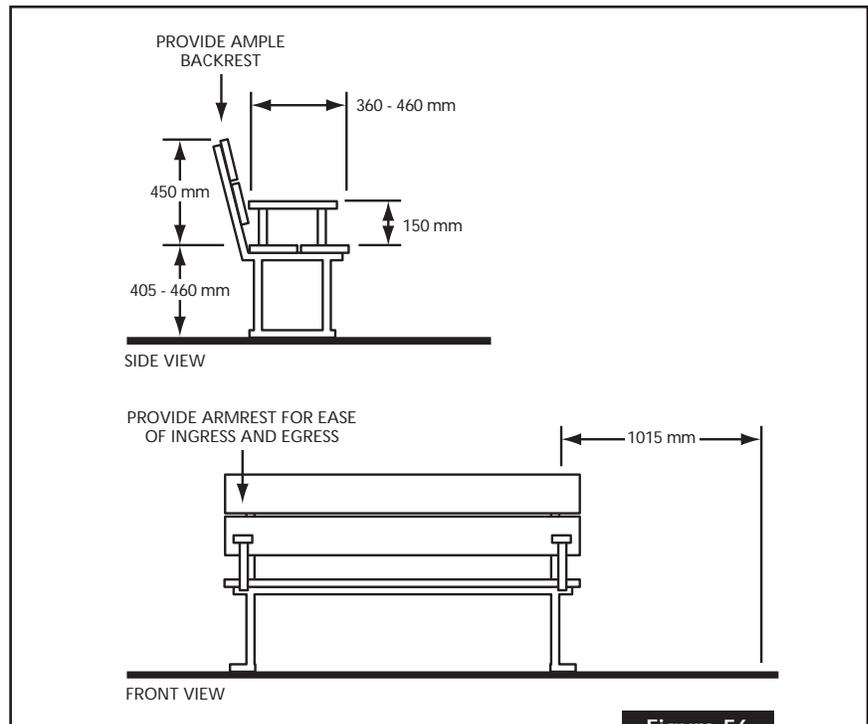


Figure 56

1.4.2 Bicycle Racks

- Fixed bicycle racks should be located to one side of walks, paths, or entrances so as not to impede the normal path of travel or snow clearing activities etc. (See also Section 1.5.5, Snow Melting and Snow Removal)

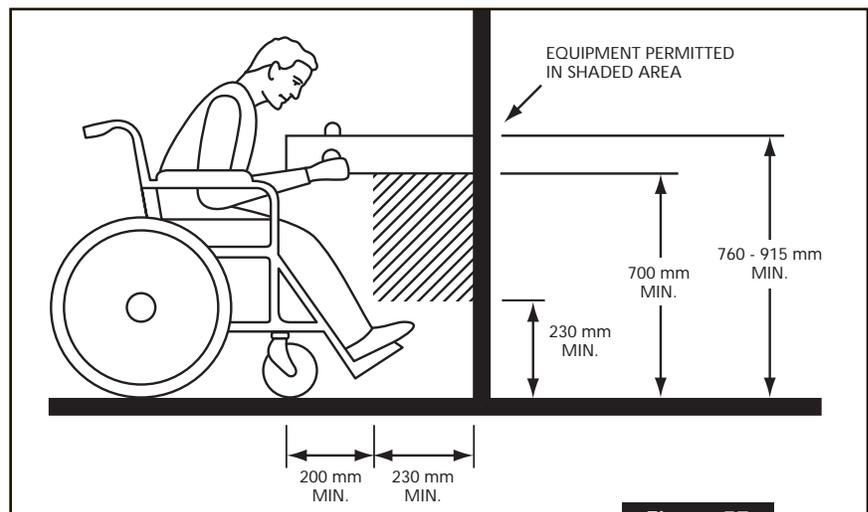


Figure 57

1.4 OUTDOOR AMENITIES

PART 1: EXTERIOR AREAS

1.4.4 Mail Boxes

- Exterior mail boxes, collection boxes, or route boxes (See Figure 58) should be mounted to one side of the sidewalk, path, or entrance to allow free, uninterrupted access along the path of travel and/or to entrance doors. (See Section 1.3.5, Community Mail Boxes)

1.4.5 Public Showers

- Where public showers are provided in exterior settings (e.g., as part of a campground, exterior swimming pool or other recreational facility), they should be designed to be accessible to persons using various mobility aids.
- Floors of showers should be of firm and solid material laid to drain, with no lip, threshold, or step at entry, greater than 13 mm high.

1.4.6 Public Telephones

- Where public telephones are provided in exterior settings, at least one telephone should be designed to be wheelchair accessible.
- No controls or coin slots should be mounted higher than 1200 mm. (See Figure 59)

- Where telephone enclosures or recesses are provided, they should be 760 mm wide with knee space below the phone shelf or equipment at least 685 mm clear.

- Telephones should be mounted to one side of the path of travel, clear of door swings or other obstacles, with enough open space for access by persons using mobility aids.

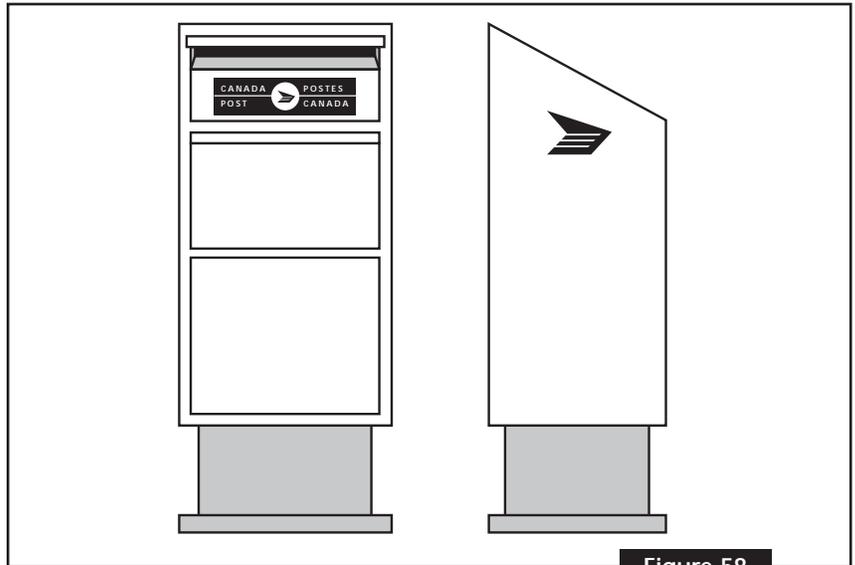


Figure 58

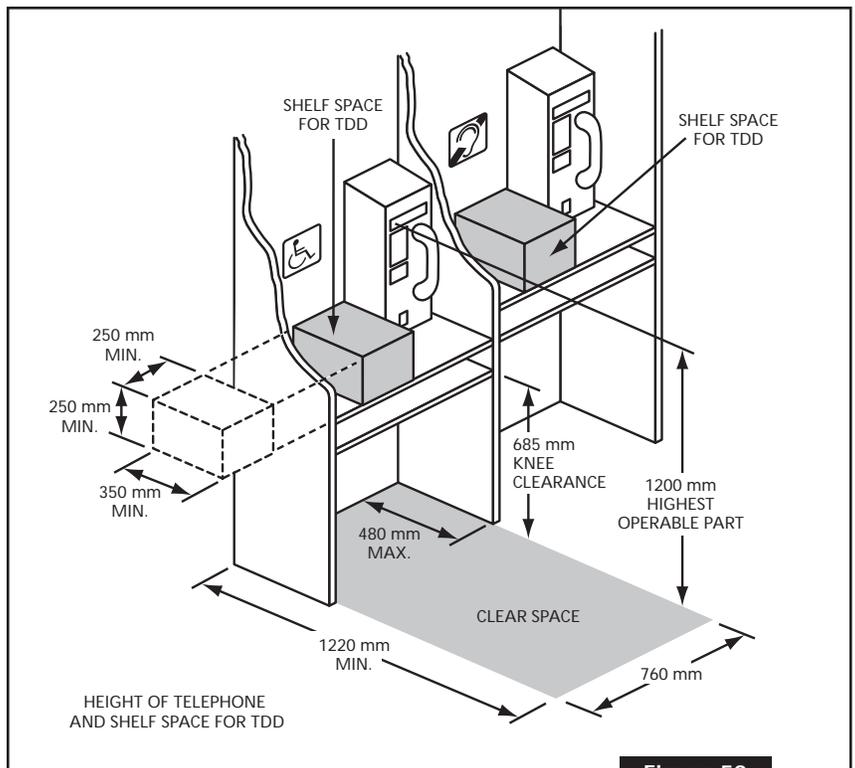


Figure 59

1.4 OUTDOOR AMENITIES

- Lighting level at public telephones should be at least 100 lux. (10 ft. candles).
- Accessible public telephones should be clearly identified by the "International Symbol of Accessibility". (See Section 1.5.4, Signage and Way-finding)
- Where more than one telephone is provided, a telephone should be available that is capable of accommodating persons who are deaf, deafened, or hard of hearing (e.g., with an acoustic coupler, volume control etc.), and be clearly identified with the "International Symbol" for persons who are deaf, deafened, or hard of hearing. (See Figure 59)
- Where several public telephones are located side by side, a TTY device (Text Telephone) should be provided for persons who are deaf, deafened or hard of hearing.

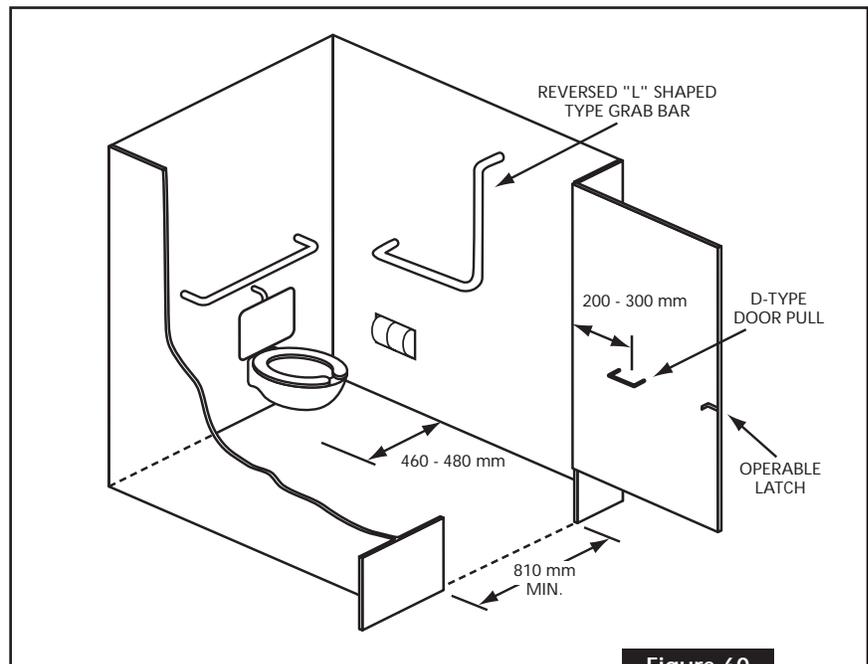


Figure 60

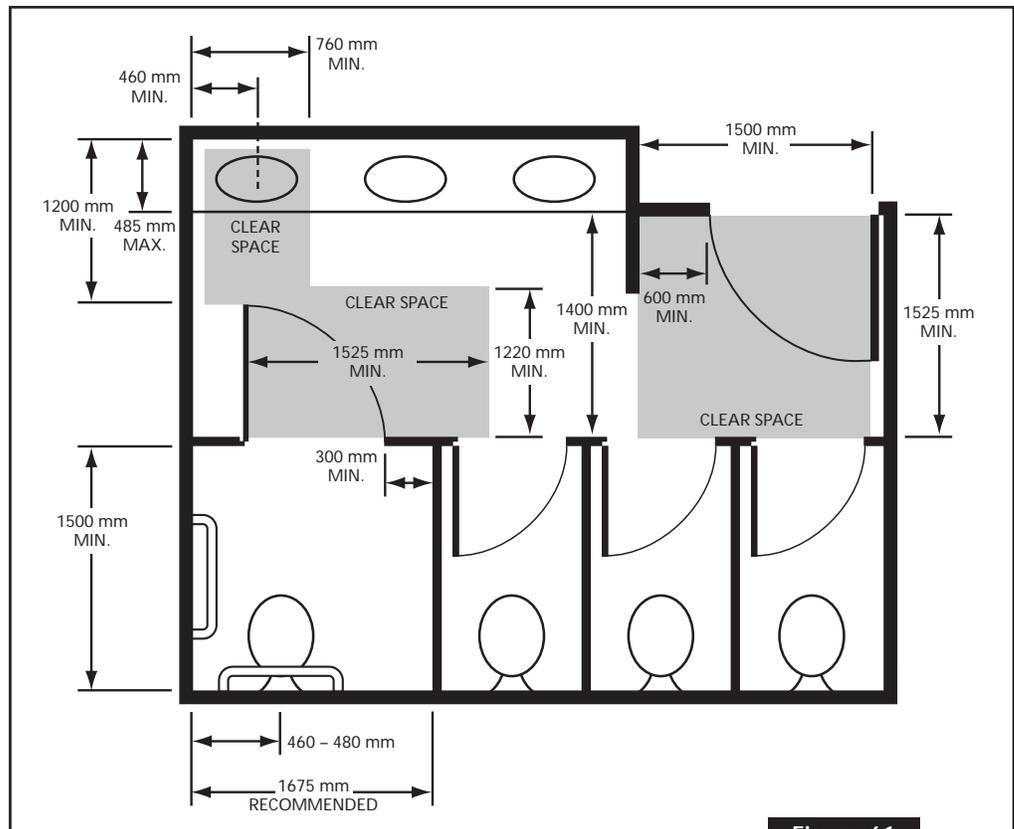


Figure 61

1.4 OUTDOOR AMENITIES

PART 1: EXTERIOR AREAS

1.4.7 Public Washrooms

Wherever possible a public, unisex/family washroom should be provided in every building. Although some public washrooms may not be occupied during the entire year, the washrooms should be accessible and should be designed in accordance with requirements of the Ontario Building Code, Section 3.8.

- Minimum dimensions of accessible stalls should be 1500 mm minimum by a recommended width of 1675 mm for use by persons with mobility aids or others requiring personal assistance (e.g., from attendants etc). An accessible unisex washroom should have no dimension less than 1700 mm. (See Figure 61)
- Provide a door to a stall having a minimum of 810 mm clear width, and clear space of 1220 mm in front of washroom doors to ensure access. Provide an 860 mm wide door to the accessible unisex washroom. (See Figures 60 and 61)
- Install toilets with seats recommended to be no lower than 430 mm and no higher than 460 mm.
- A minimum of one accessible stall for every 25 stalls is recommended where public washrooms are provided.
- The preferred side grab bar is the reversed “L” shaped type.

- The preferred faucet on basins are of the automatic type.
- (See also Part 2: Section 2.3.11, Public Washrooms, and Section 2.3.14, Washroom Accessories)

1.4.8 Street Furniture and Vending Machines

POLICY

- All street furniture, including light standards, signs, planters, mail boxes and vending machines, should be mounted to one side of the normal path of travel so as not to inhibit free movement of persons who have visual limitations, or who use mobility aids.

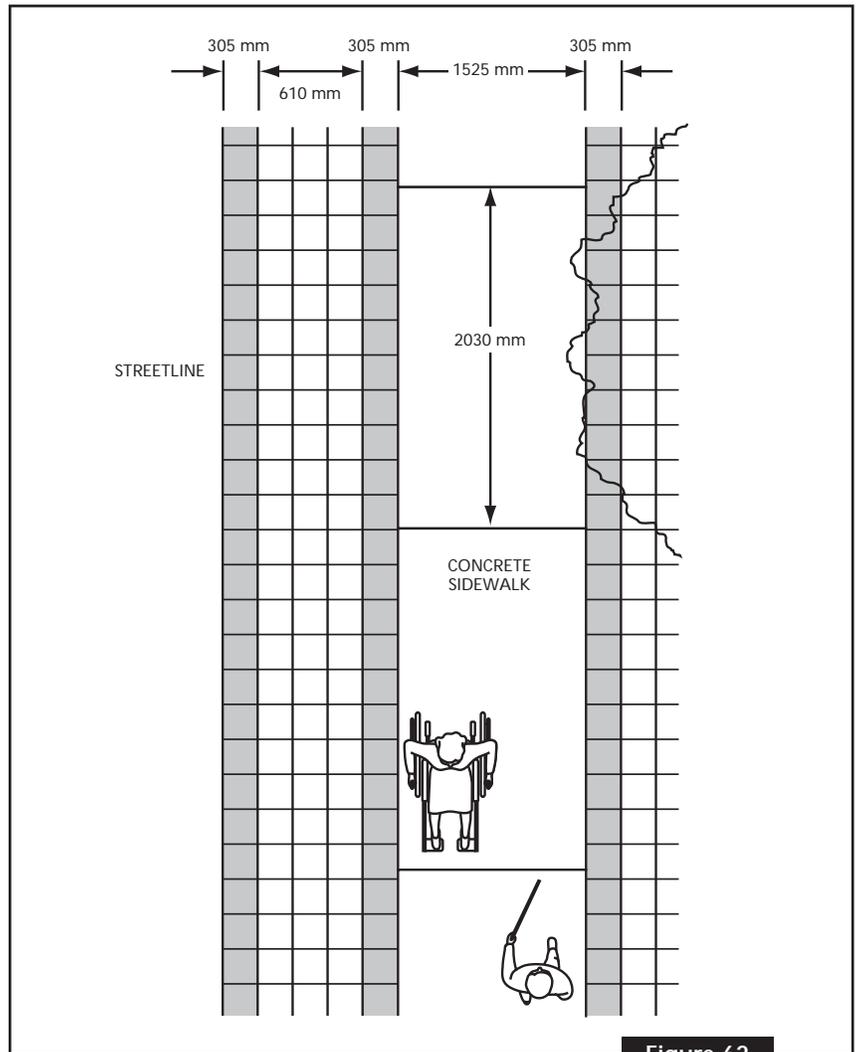


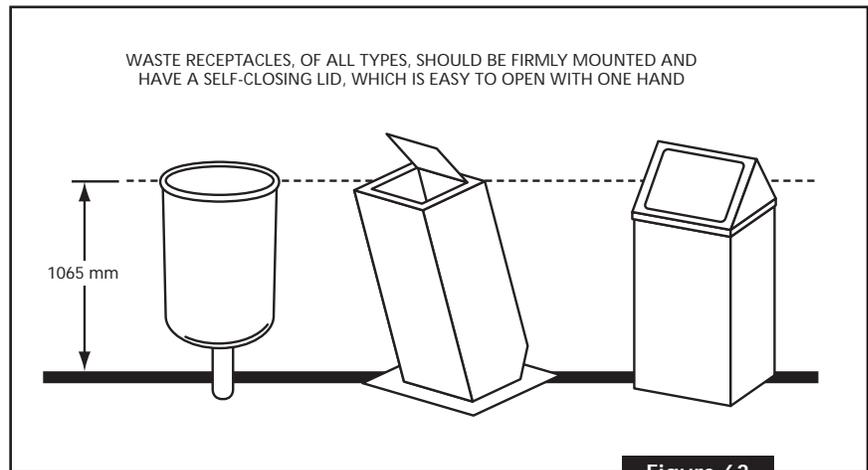
Figure 62

1.4 OUTDOOR AMENITIES

- Wherever possible, street furniture such as lamps, mailboxes, vending equipment, etc., should be positioned securely on a continuous separate amenity strip (beside sidewalks), or located to one side of accessible entrances. (See also Section 1.4.9, Waste Receptacles and Recycling Bins)
- Amenity strips should be a minimum of 610 mm wide, and be of a different paving material to the normal paths of travel. (See Figure 62)

- Waste receptacles or holders containing waste bins should be clearly identified by suitable signs and/or colours.

- Where lids are provided on waste receptacles, they should be easy to operate with one hand and have openings mounted no higher than 1065 mm from grade.



1.4.9 Waste Receptacles and Recycling Bins

POLICY

Waste receptacles and recycling bins should be accessible to persons using various mobility aids and be permanently located to one side of any path or walkway so as not to encroach on walkway width.

- In busy locations, waste receptacles should be securely mounted and be large enough to contain the anticipated amount of waste so that overflows do not cause a tripping hazard. (See Figure 63)
- Waste receptacles in open areas such as parks, wilderness, beach or picnic areas should be securely mounted on firm level pads.

POLICY:

- People with varying disabilities need assurance and support in using exterior routes and facilities. Persons with limited vision or hearing who are dependent upon supplementary cues or information in the environment need to be able to find their way safely from one location to another. Similarly, persons with limited mobility, who use canes, walkers, wheelchairs or scooters need a clear, safe, and accessible route at all times of the year.

1.5.1 Crosswalk/Pedestrian Signals

- Signals at pedestrian crosswalks should be designed generally in accordance with requirements of the Highway Traffic Act and the Ontario Traffic Manual Book 12 – Traffic Signals. (See Figure 64)
- Both audible and flashing crossing signals should be provided as an aid to persons who have hearing or visual limitations.
- Audible pedestrian signals should be loud enough to be heard clearly above the ambient noise (i.e.: at least 15 decibels louder than ambient noise).

- Two different audible pedestrian signals, identifying when it is safe to cross either direction, (as indicated by a separate tone) are required for persons with visual disabilities.
- Where extended time is required to cross, (e.g., by seniors and persons with disabilities), a clearly marked pedestrian button should be available and mounted on a pole beside the curb cut, at a maximum height of 1065 mm.
- Tactile features should be provided as an aid to persons who have both hearing and vision limitations. (ie. A tactile or vibro-tactile feature on pushbuttons.)
- In locations frequently used by seniors or persons with disabilities, crossing timing should be provided to permit pedestrians, or wheelchair users to cross safely.

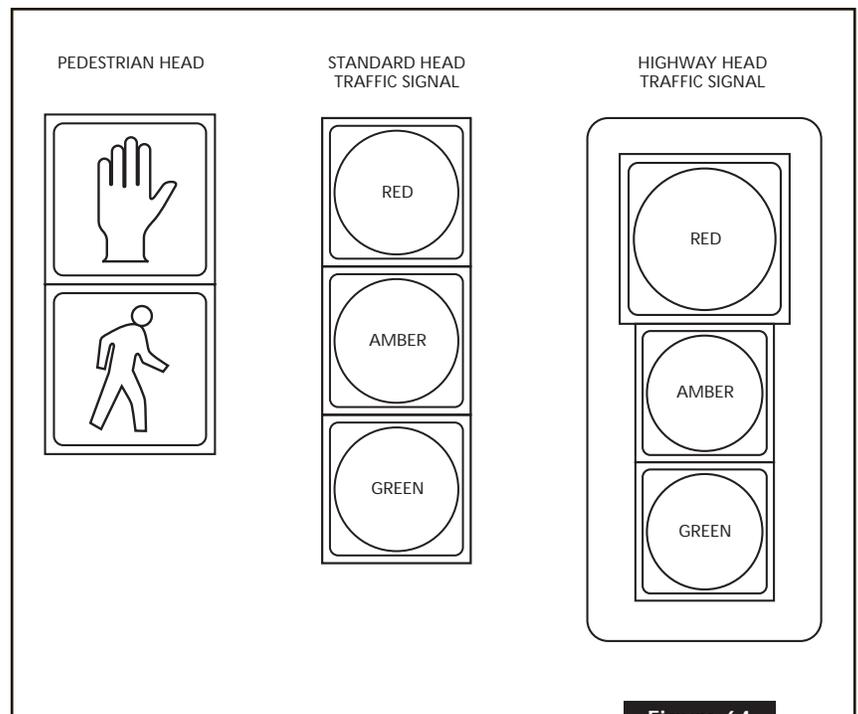


Figure 64

1.5 OUTDOOR SUPPORT SYSTEMS

1.5.2 Lighting for Exterior Areas not including roads

- Exterior lighting should be designed generally in accordance with I.E.S.N.A. (Illuminating Engineering Society of North America) standards, in all public thoroughfares and along all pedestrian routes to ensure safe access for persons with disabilities at sidewalks, bus stops, or parking areas leading to public facilities or amenities. (See Figures 65 and 66) Lighting levels of 100 lux. (10 ft. candles) measured at the ground of all accessible pedestrian entrances are recommended as an aid to persons with visual disabilities.
- At frequently used pedestrian routes (including paths, stairs, and ramps) recommended lighting levels should be 30 lux. (3 ft. candles).
- In accessible parking areas, lighting levels are recommended to be a minimum of 50 lux (5 ft. candles) at accessible parking spaces and along accessible routes from areas of parking to accessible entrances.
- Lighting sources should be selected and located at, or beside steps and stairs, to ensure clear definition of treads, risers, and nosings.
- All lighting over pedestrian routes should be evenly distributed, provide a

reasonable colour spectrum, and minimize cast shadows for persons with low vision.

- Supplementary lighting should be provided to highlight all key way-finding signage.
- Lighting standards or posts should be mounted to one side of pedestrian walkways so as not to inhibit free movement of persons using mobility aids.
- Low-level lighting standards should be tall enough to clear normal snow accumulation heights.

- Overhead light fixtures should be mounted on standards that ensure clear headroom of 2030 mm is available, below fixtures or supports, as an aid to persons with visual limitations.
- Lighting of landscape on special site features should be designed and installed to minimize direct glare to both pedestrians and building users.

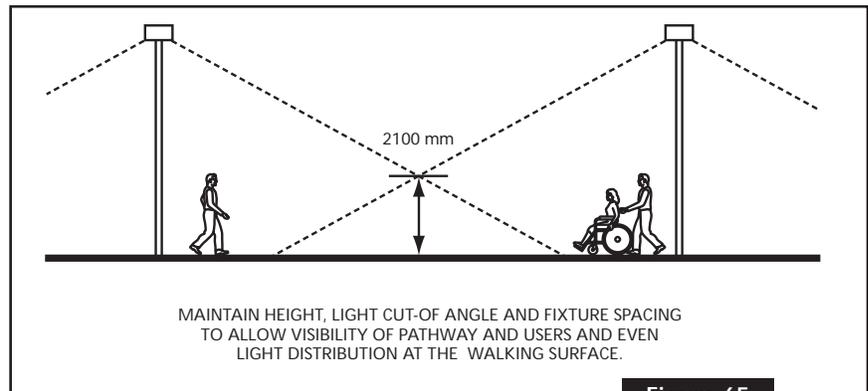


Figure 65

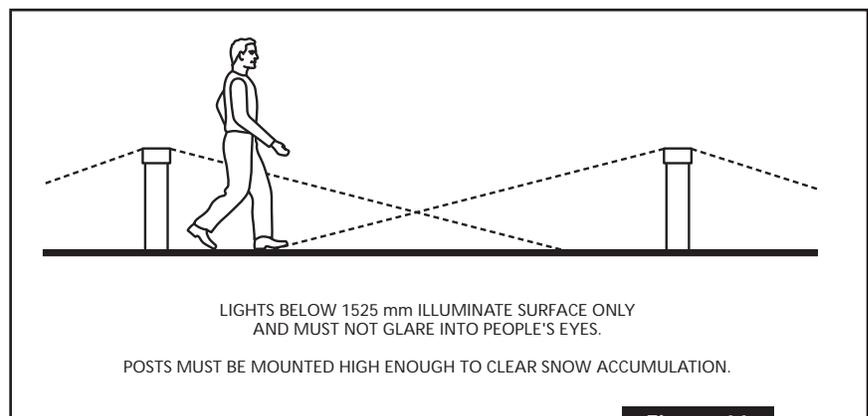


Figure 66

- This does not include lighting for roads and expressways. The Transportation Division of Works & Emergency Services Department is currently developing a Lighting Master Plan which will incorporate street lighting. It is anticipated that this Master Plan will be completed by the end of 2004.

1.5.3 Public Address Systems

POLICY

Where public address systems are provided (e.g., at exterior recreation and/or entertainment facilities) every attempt should be made to select and install that minimize distortion and provide a full spectrum of sound. Loudspeakers should be located so as to cover the desired area adequately without feedback and they should be mounted on posts to ensure that the output close to speakers is at acceptable levels for nearby audience members.

- Where significant information (e.g. emergency information) is to be announced, a clear warning signal should be provided before the announcement, to alert persons who are hard of hearing.

- Where large outdoor concerts are regularly performed (e.g. in the summer months), every attempt should be made to include a FM loop (or other suitable systems), for persons who are hearing impaired. (See Figure 67)

1.5.4 Signage and Way-Finding

- A comprehensive exterior signage and way-finding system is required at every major site or facility, to assist visitors with varying disabilities to locate appropriate parking and accessible entrances.
- The street address and/or building/facility name should be clearly visible from the street or public laneway.
- Lettering size should be legible at typical viewing distances (e.g., from the road, approach route, parking area, etc.).

- Signage generally should be in bold 'sans-serif' lettering (e.g., Helvetica) on a highly contrasting background.
- Building addresses or identifying signage at street level, whether it is mounted in landscaped areas or on posts, should be high enough to be clearly visible even with snow piled nearby.
- Pedestrian, vehicular, and emergency routes should all be clearly identified.
- One-way routes should be clearly marked – both with paving markings and by post-mounted signs.
- The "International Symbol of Accessibility" should be used to identify special amenities, such as accessible parking, accessible entrances, or accessible washrooms.

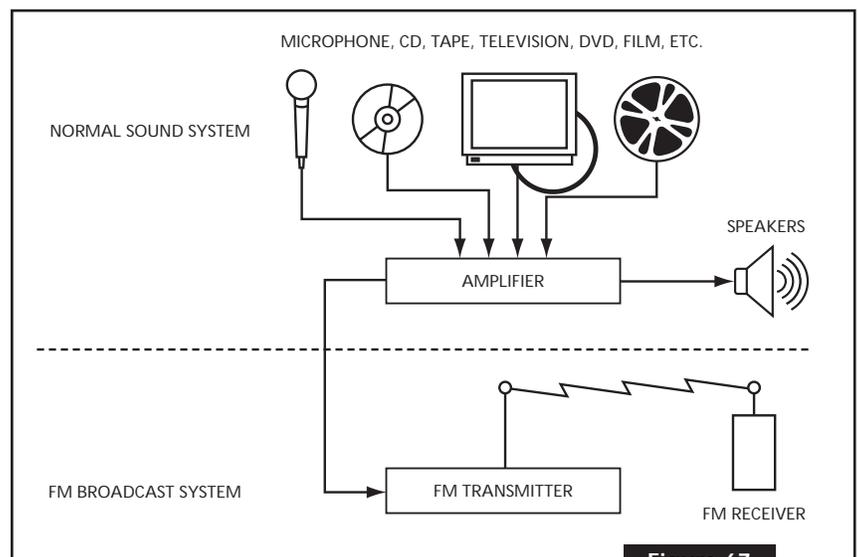


Figure 67

1.5.5 Snow-melting and Snow Removal

POLICY

Where accessible entrances, ramps, or steps are exposed to prevailing winds and/or snow-accumulation, icing, etc., every attempt should be made to ensure that the snow, ice or water is quickly removed. (See also Sections 1.1.8, Pedestrian Routes and Section 1.1.10, Stairs and Steps)

- Sufficient catch basins and run-offs should be provided to ensure rapid removal of water from melting snow or ice from all pedestrian routes.
- At entrance canopies or at accessible entrances, consider the use of radiant heating to automatically clear ice and snow, where timely maintenance and snow clearing may be problematic.
- Snow removal strategies and designated snow accumulation areas should be arranged so that no accessible pedestrian routes are inhibited by snow.

1.5.6 Traffic Signals

POLICY

The majority of elderly persons, as well as persons with various disabilities, need more time to make a safe crossing at traffic lights than the average adult. Persons who are blind, as well as those with low vision, may also need assurance that they are crossing at the right time and in the right direction. As a result, both timing of traffic lights, as well as the provision of audible and visual cues as to when lights change, are essential. (See also Section 1.1.2, Crosswalks) (See Figure 68)

- Traffic light timing at specific sites should be adjustable to suit not only the volume of vehicular traffic, but also the volume of pedestrian traffic.
- Timing of lights for frequently used pedestrian crossings should be adjustable so that the walking speed of persons with disabilities, or seniors, can be accommodated safely.

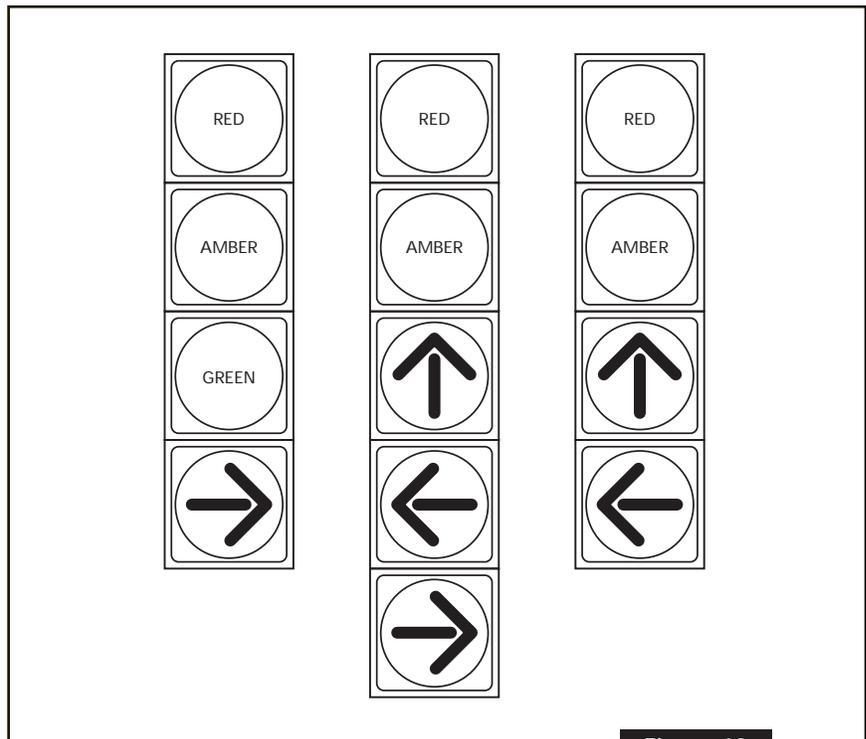


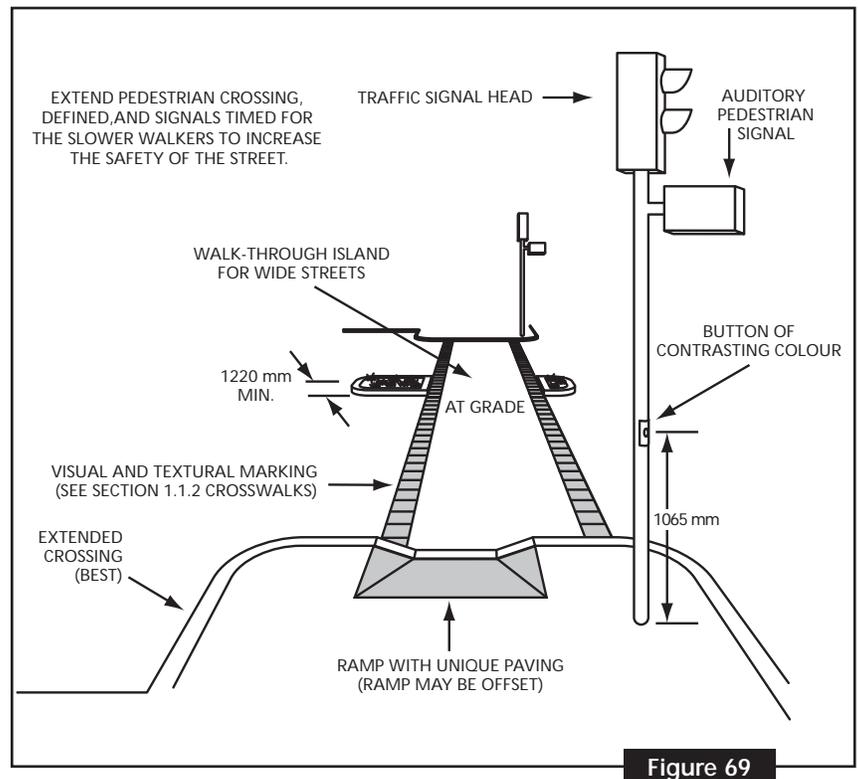
Figure 68

1.5 OUTDOOR SUPPORT SYSTEMS

PART 1: EXTERIOR AREAS

- Audible pedestrian signals indicating when it is safe to walk should operate consistently with visible pedestrian signals. The sound of signals should be capable of being heard above ambient traffic noise. Signal sounds should differentiate directional crossings (e.g., east to west signal should differ from north to south signals).
- No obstacles, poles, bins, signs etc., should be located on the level approach area or within 990 mm of the normal pedestrian approach to the call button location. (See Figure 69)

- Where high use or specialized community facilities (e.g., Senior's Centres) are served by pedestrian crossings, crossing signals should be capable of being activated by pedestrians waiting to cross.
- Tactile features should be provided as an aid to persons who have both hearing and vision limitations. (ie. A tactile or vibro-tactile feature on a pushbutton.)
- Buttons for pedestrian initiated calls should be located in a constant location, on posts set in level surfaces that are identified by textured paving, for persons with visual limitations. The button itself should be mounted at a constant height of 1065 mm and be easily identifiable by colour and profile. Push button should provide a locator tone.



POLICY

For persons who are dependent on visual and tactile cues (e.g. colour and texture), such information should be included in the design of the built environment for safe navigation.

1.6.1 Colour and Texture

POLICY

In developing exterior colour schemes, every attempt should be made to ensure that both colour intensity and contrast with adjacent colours are utilized (e.g., to define boundaries of objects or to distinguish lettering from their background colour). Generally, for seniors and persons with low vision, colours in the warm end of the spectrum (i.e., yellow, orange, and bright red), are more easily recognizable than those in the cool end of the spectrum.

- Signage should generally be designed using highly visible and contrasting colours (e.g., white or yellow on a black, charcoal, or other dark background such as brown, dark blue, dark green, or purple). Black lettering on white or yellow matte surfaces is also acceptable. Unacceptable background colours are: light grey or pastels. (See Figure 70)
- Colour/Tone contrast of approximately 70% light reflectance should be provided on signage.

All finishes should be matte in order to minimize glare.

- Colour contrast should also be used to define edges or boundaries of objects (e.g., stair nosings, the head and foot of an escalator or ramps, or colour differentiated handrails). In high use spaces, colour or tone contrast should also be used to define the boundaries of a room (e.g., at the junction

between walls and floors), as an aid to orientation.

- Colour may also be used to provide constant information (e.g., the location of exit doors, for example, by painting all exit doors in the same distinctive colour). Applied colour may also be an added advantage (e.g., to indicate the termination of handrails in large open areas).



Figure 70

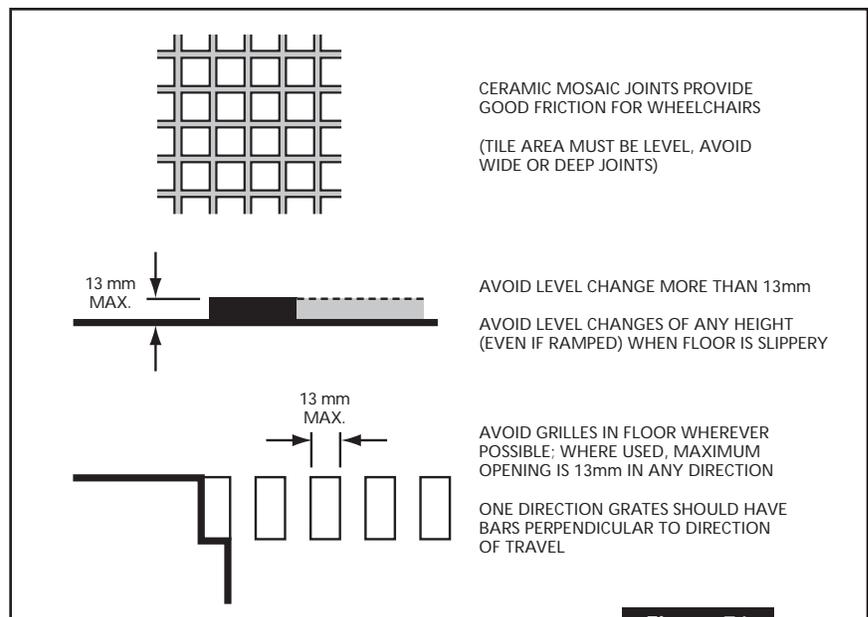


Figure 71

- Textured surfaces are recommended to provide an indication to persons with visual limitations that a potential hazard is nearby. Typical hazards are; level changes at ramps and stairs. In such cases, a textured paving strip, at least one pace deep - 915 mm, is recommended at the head of stairs or ramps, or wherever walking hazards may exist. (See Figure 71)
- All textured surfaces used as warning devices should be cane-detectable and clearly differentiated from surrounding paving surfaces. Throughout any one site, the same texture should be used to denote hazards. Suitable textures include: saw-cut concrete with regular grooves positioned no more than 50 mm apart, with the grooves being perpendicular to the path of travel.

1.6.2 Construction Site Protection

- Construction sites should have suitable boundary protection to minimize hazards to persons with visual limitations and to maintain easy access for persons using various mobility aids. (See Figure 72)
- Construction hoardings should be firmly constructed with supports and bracing which permits free movement by pedestrians or persons using various mobility aids.

- Overhead framing or bracing should ensure clear headroom of at least 1980 mm above the sidewalk but 2030 mm is recommended.
- Cane detectable temporary barriers should be provided around all short-term repair sites (e.g. sidewalk repairs, manhole access covers etc.), as an aid to persons who have visual limitations. (See Figure 73)

- At all construction sites and/or maintenance locations, wherever a clear pedestrian route of 1100 mm is not achievable via the normal route, alternative safe and level pedestrian routes should be provided with suitable protection from vehicular traffic.

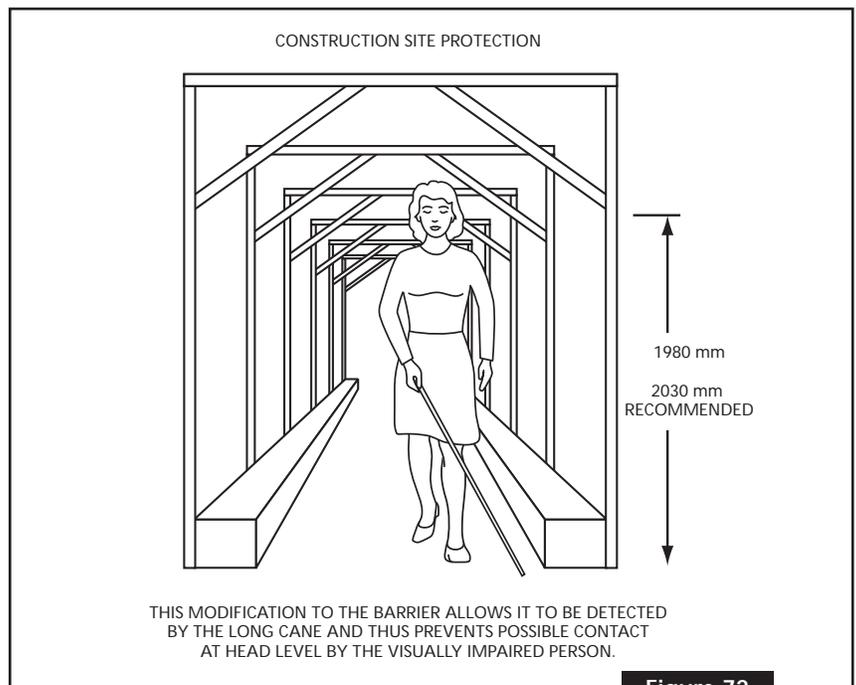


Figure 72

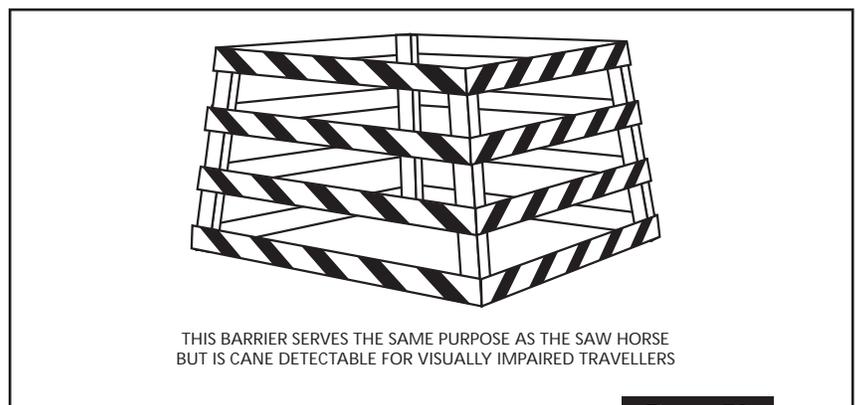


Figure 73

- Where hoardings with public viewing ports are provided, at least one viewing port should be mounted at no more than 1220 mm on center, for use by persons using mobility aids.

1.6.3 Freestanding Objects

POLICY

Freestanding objects should be located to one side of normal pedestrian routes without limiting the width of the normal route or causing a hazard to persons with visual limitations.

- Permanent objects such as bollards, bicycle racks, benches, bus shelters, newspaper vending boxes, mail boxes, hydrants, light standards etc., should all be placed to one side of designated pedestrian routes, preferably in well designed amenity strips or in planned locations or recesses that are close to active areas of use. (See also Section 1.4, Outdoor Amenities and Figure 74)
- Temporary objects such as queuing lines, sales booths, loose garbage receptacles, etc., should be located to one side of the normal pedestrian route. (See Figure 75)
- Guy wires, and other braces or supports for trees, posts etc., should be located so they do not constitute a hazard for persons with visual limitations.

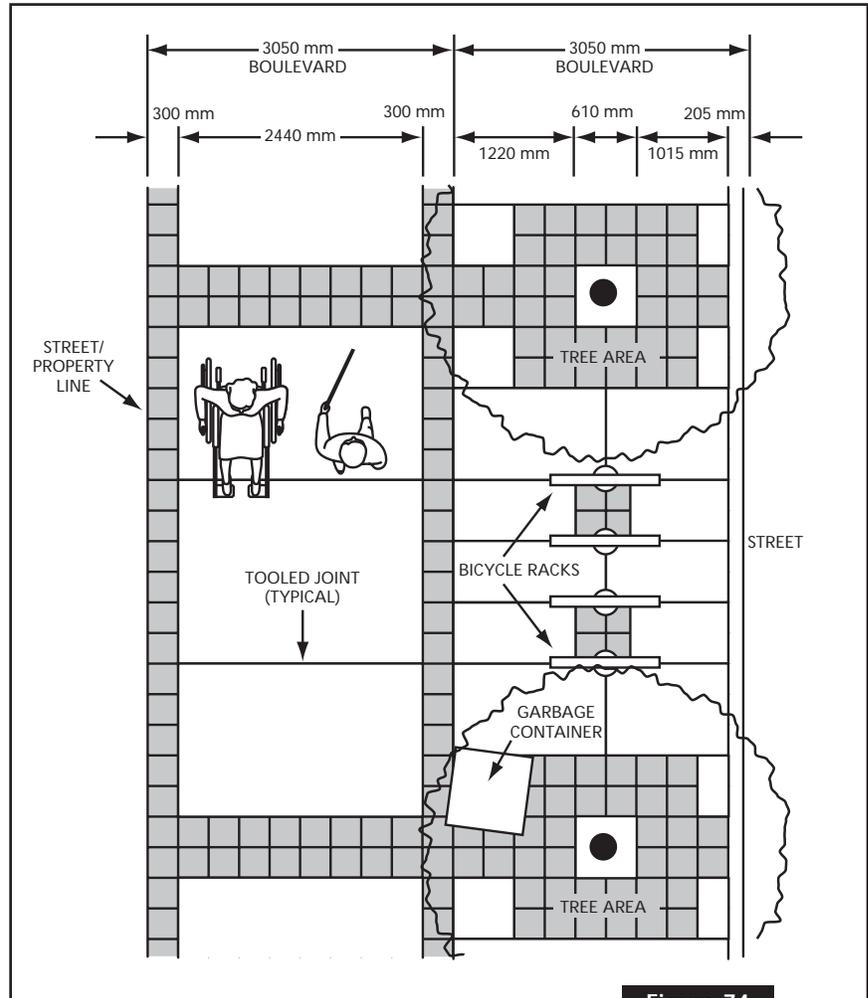


Figure 74

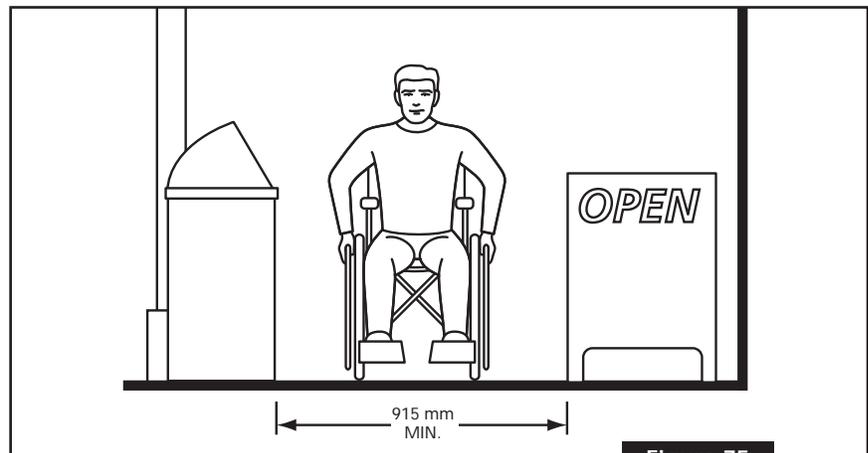


Figure 75

1.6.4 Garbage Handling

POLICY

Waste receptacles should ideally be mounted in selected locations and to one side of pedestrian routes, so as not to constitute a hazard for persons with visual limitations.

(See also Section 1.4.9, Waste Receptacles and Recycling Bins)

- Waste receptacles, containers, or boxes, (including recycling boxes), should be large enough to contain the anticipated quantity of waste in any one location.
- All waste receptacles (except large industrial containers) should be accessible to persons using mobility aids.
- Waste receptacles in landscaped areas, recreation, and picnic areas, should be designed to be unobtrusive, but be clearly identified by suitable colours or signage, as an aid to persons who have visual limitations.
- The paving around waste receptacles should be level, firm, free draining and easy to wash down.
- Where covered waste receptacles are used, the covers should be useable with one hand.
- Temporary construction scows or large mobile industrial containers should be located away from normal pedestrian routes.

- Where wall-mounted or recessed waste receptacles are used, bin liners should be easy to remove.
- Vehicular access routes to garbage containers for maintenance purposes should not cross normal pedestrian routes.

- Where turnstiles or other ticketing devices are not accessible, a nearby gate or opening accessible to persons using mobility aids is required.

1.6.5 Gates and Openings

- Where gates or openings are provided through fences/screens to public use areas beyond, such openings should be accessible and be a minimum recommended 915 mm wide to allow free-passage of persons using mobility aids. Gate hardware should be suitable for autonomous use and closing devices should not be spring-loaded.

1.6.6 Landscape Materials and Planting

POLICY

Landscape materials, trees, shrubs, and plants should be selected and located with a wide variety of disabled users in mind. For instance, plants and shrubs with a variety of fragrances can provide an interesting diversion for persons with visual limitations, whereas plants with thorns or heavy berries may constitute a walking hazard and should therefore be avoided in active pedestrian locations.

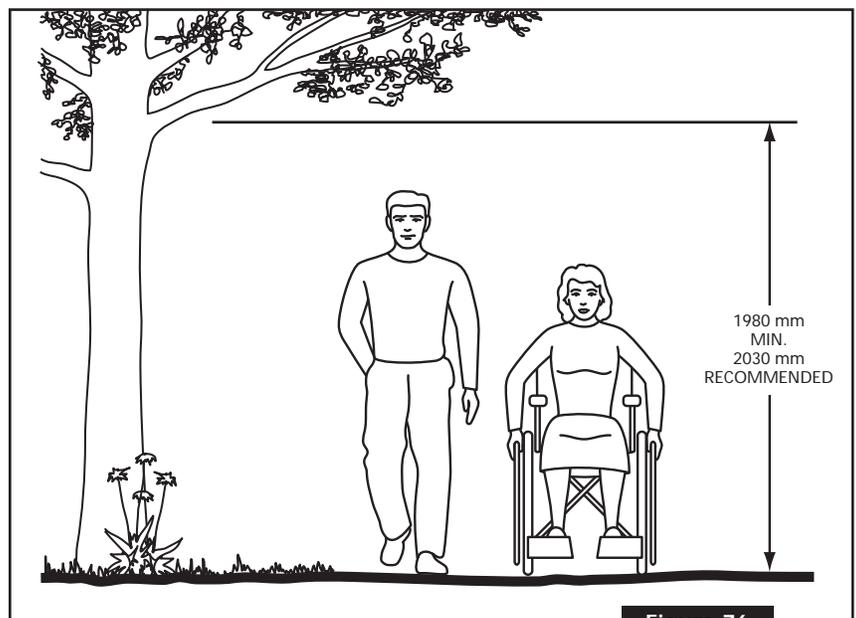


Figure 76

- Consider providing some planter beds at 460 mm high above grade to allow easy access by seniors and persons using mobility aids.
- Provide defined planting bed edges adjacent to busy pedestrian walks, a minimum of 100 mm high, as an aid to persons with visual limitations.
- Provide defined edges at trail boundaries wherever the adjacent grade is variable.
- Trim overhanging branches of trees or shrubs, located over walkways or paths, to ensure that the headroom over the walking space is a minimum of 1980 mm (2030 mm recommended) and the normal walking area is clear of branches, thorns etc. (See Figure 76)

however, where they are inevitable, then the bars of the grating or grill should be located at right angles to the normal path of travel, with

openings no greater than 13 mm. (See Figures 71, 77, 78 & 79)

- All steps should be of non-slip materials with highly contrasted nosings.

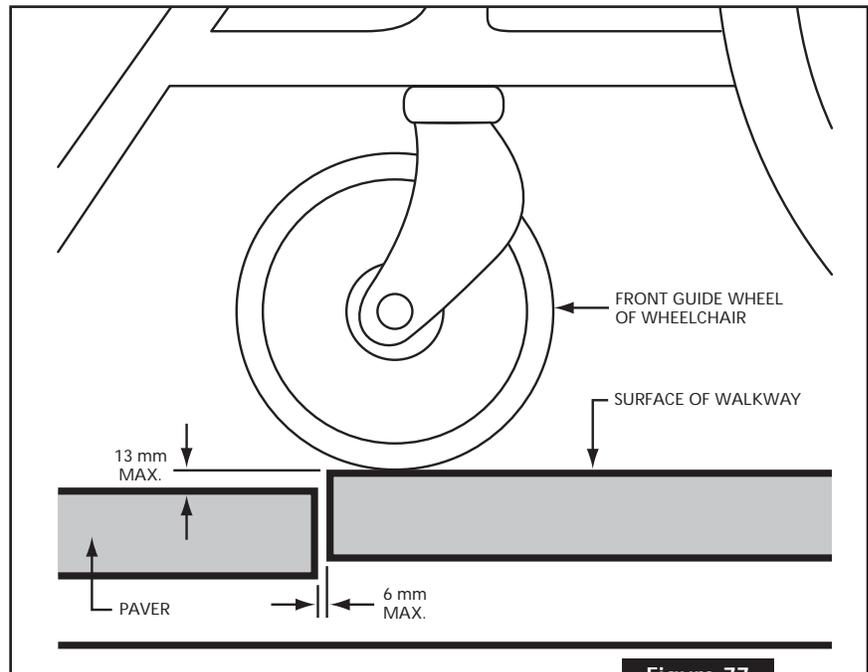


Figure 77

1.6.7 Materials and Finishes

POLICY

Suitable paving surfaces for walkways include macadam, concrete, interlocking brick or patio stones, providing the joints are no greater than 6 mm wide and level variations are no more than 6 mm high. This will minimize tripping hazards and uncomfortable conditions for users of mobility aids.

- All paving should be laid to drain easily.
- Gratings or grills should generally be located to one side of pedestrian walkways,

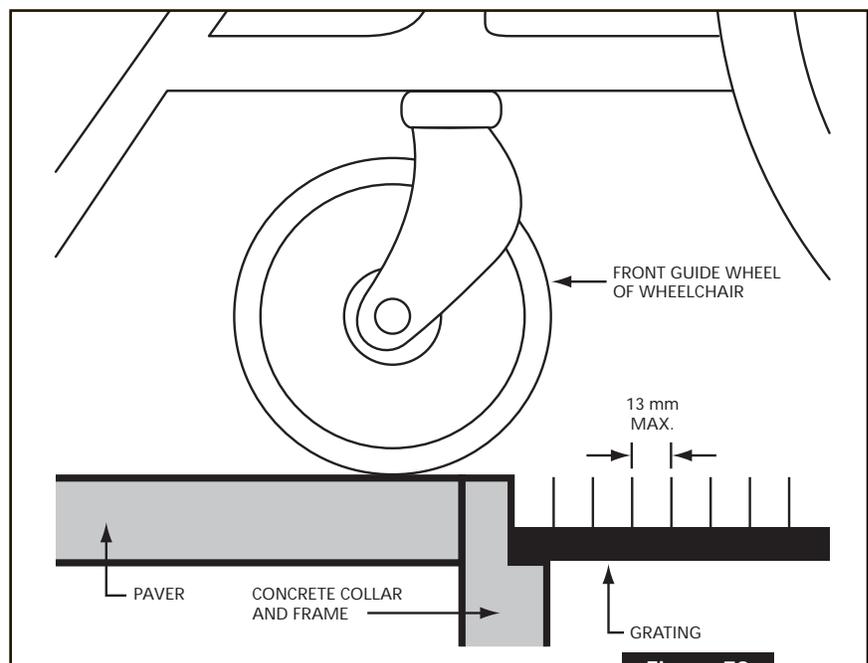


Figure 78

1.6 OTHER

PART 1: EXTERIOR AREAS

- All ramp surfaces should be firm and non-slip (e.g.: broom finish on concrete or wood decking laid perpendicular to path of travel).
- Handrails and guardrails should be continuous, smooth and well maintained. (See also Section 1.1.5, Guards and Handrails)
- Walls adjacent to ramps or stairs should be in non-abrasive finishes.
- Smooth walking surfaces are preferred. Where interlocking pavers are used, they should be laid on a firm, well-compacted backing (e.g., concrete base).
- Where paths are not cleared regularly, suitable signage should be utilized.
- All garbage containers should be emptied regularly to avoid the accumulation of extraneous garbage around the containers.
- All light bulbs along pedestrian routes should be replaced on a regular schedule, with lamps (of the same wattage) for which they were designed.

- All gates, closers, automatic door operators, porch lifts, automatic ticket machines or other essential equipment should be inspected and well maintained on a regular schedule.

1.6.9 Obstacle Removal

Regular and systematic checks should be undertaken to ensure that no obstacles have been located in pedestrian routes (e.g., newspaper vending machines and bicycle racks or garbage containers). (See Figure 80)

1.6.8 Maintenance

POLICY

All active pedestrian routes should be well maintained to permit safe circulation by seniors, persons who have visual limitations and persons using various mobility aids.

- All key pedestrian routes to accessible entrances and/or exits should be kept free of ice and snow in winter months.
- Snow clearing strategies should be developed so that accumulated snow poses no hazard to persons with visual limitations or who use various mobility aids. (See also Section 1.5.5, Snow Melting and Snow Removal and Section 1.6.11 Snow Accumulation and Removal)

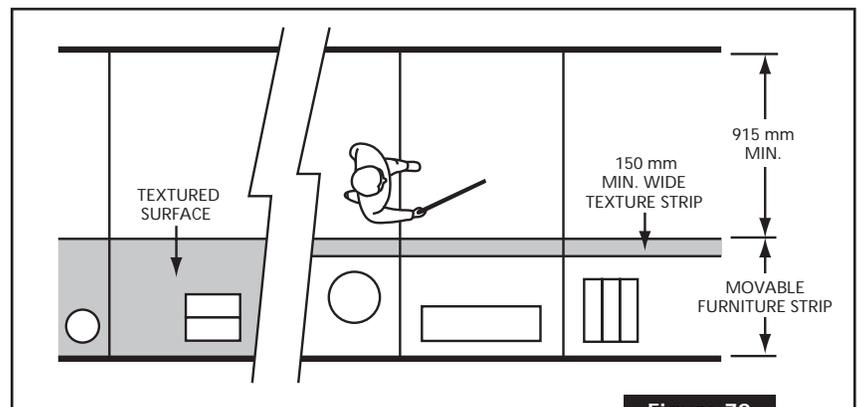


Figure 79

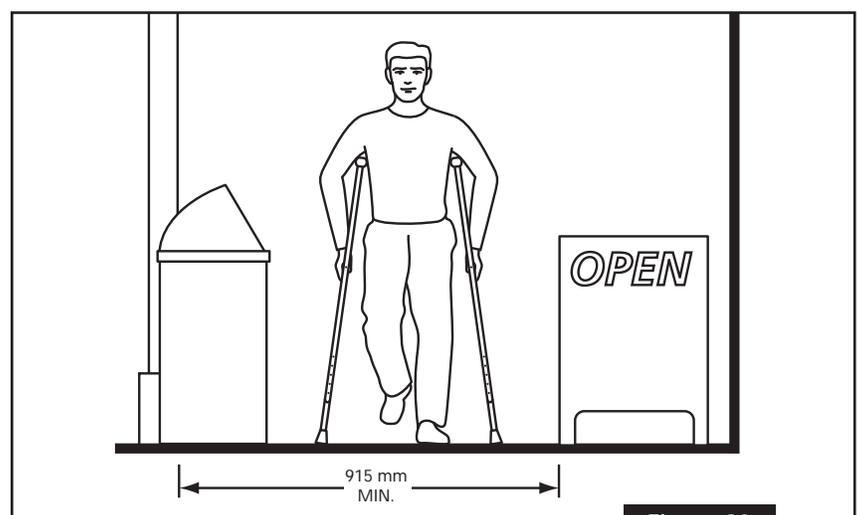


Figure 80

1.6.10 Safety and Security

POLICY

Today, in urban, suburban and rural sites, seniors and persons with disabilities are conscious of their own vulnerability and therefore tend to seek more reassurance and inherent security than in the past.

- Ensure that adequate lighting is provided over public walkways, steps and ramps as well as where public parking is provided. (See Figure 81)
- Pedestrian walkways should be designed to provide clear lines of sight to ensure personal safety wherever possible.
- Provide a call bell or a two-way communication device at the main accessible entrance.
- Provide a call bell or two-way communication device in enclosed public parking areas where accessible parking is provided.
- Provide an accessible public telephone at or in close proximity to the main accessible entrance for persons waiting for a ride or for persons requiring emergency assistance.

- Consider the use of personal alarm devices for those who need assistance, or provide a clearly visible and accessible two-way voice communication system (e.g., in locations where a number of persons with disabilities or seniors are likely to be congregated permanently or for special events). A central monitoring location to receive such calls will also be required.
- Consider the inclusion of a two-way call system or other suitable emergency call system linked to a central location (e.g., office or switchboard) from any accessible unisex washrooms in larger public buildings such as hospitals, schools or recreation facilities, for persons who may require assistance.
- Develop a comprehensive ‘Emergency Plan,’ which addresses the needs of persons with varying disabilities, as well as frail seniors, for exiting large outdoor recreational facilities or other places where crowd-control is likely to be an issue.

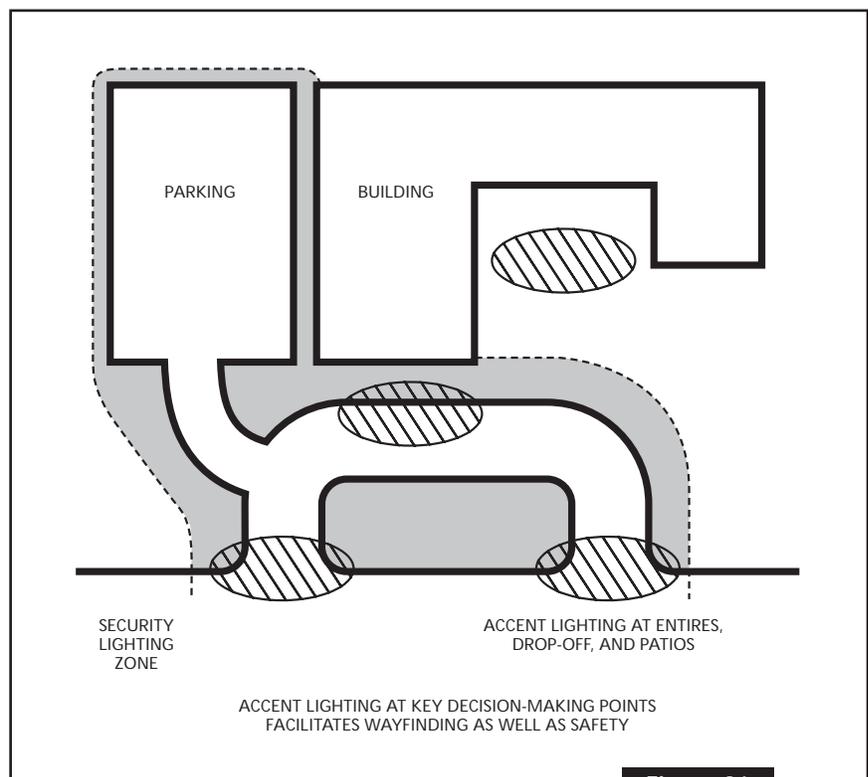


Figure 81

1.6.11 Snow Accumulation and Removal

POLICY

Snow, ice accumulation and/or drifting snow is a major problem at entrances and in all exterior pedestrian routes during the winter months, especially for persons using mobility aids or persons with visual limitations.

- Regularly used pedestrian routes from the site boundary to the main entrance or other accessible entrances should be kept clear of snow and ice during the winter months.

- Snow accumulating at entrances, on essential ramps or stairs, or other primary paths of travel, should be removed completely after each snowfall.

- Provide designated areas for snow piling from all major routes and public parking areas away from pedestrian routes, (See Figure 82) and consider the use of radiant heating in all frequently used entrance areas and exterior ramps.

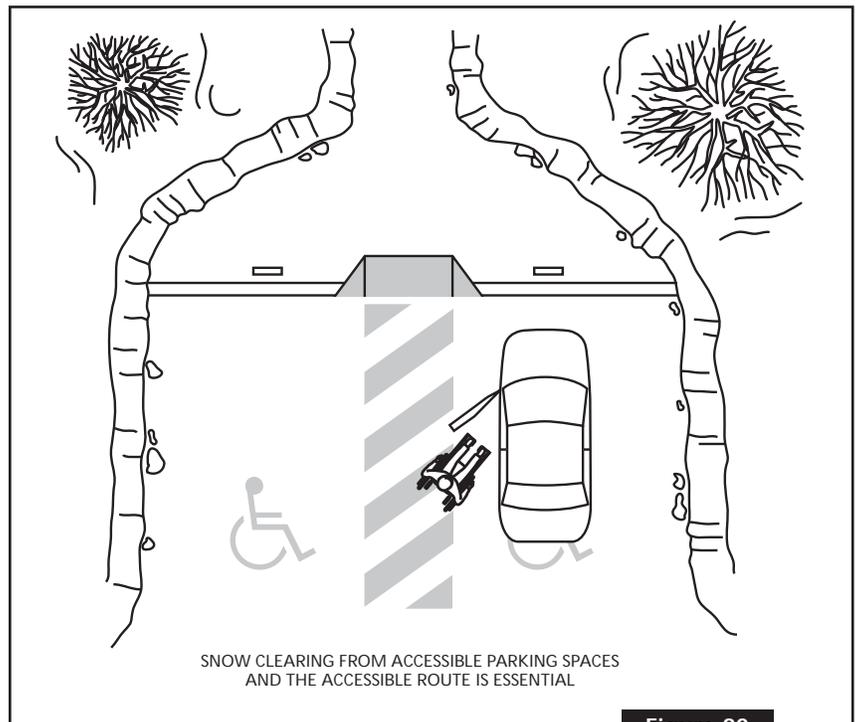


Figure 82

PART 2: INDOOR AREAS

PRINCIPLE

All interior routes from accessible entrances to accessible exits should be safe and easy to use by persons with varying disabilities, including persons requiring mobility aids, and persons with vision or cognitive limitations. Such routes should be clearly identified and logical in layout.

2.1.1 Canopies and Weather Protection

- All main entrances and other accessible entrances should be protected by a suitable canopy or overhang.
- Where canopies project over passenger boarding zones, provide a minimum headroom clearance of 2750 mm, however 3555 mm is recommended to accommodate special transit vehicles, or 2895 mm is recommended to accommodate adapted vans used by persons with disabilities. (See Figure 84)
- Where balconies are provided, (e.g., as part of a residential or hospitality environment), they should be designed to permit optimum use throughout the year by seniors and persons with disabilities and include adequate protection from wind, rain and sun. (See also Part 1, Section 1.3.2, Outdoor Eating and Entertainment Spaces, Balconies and Terraces)

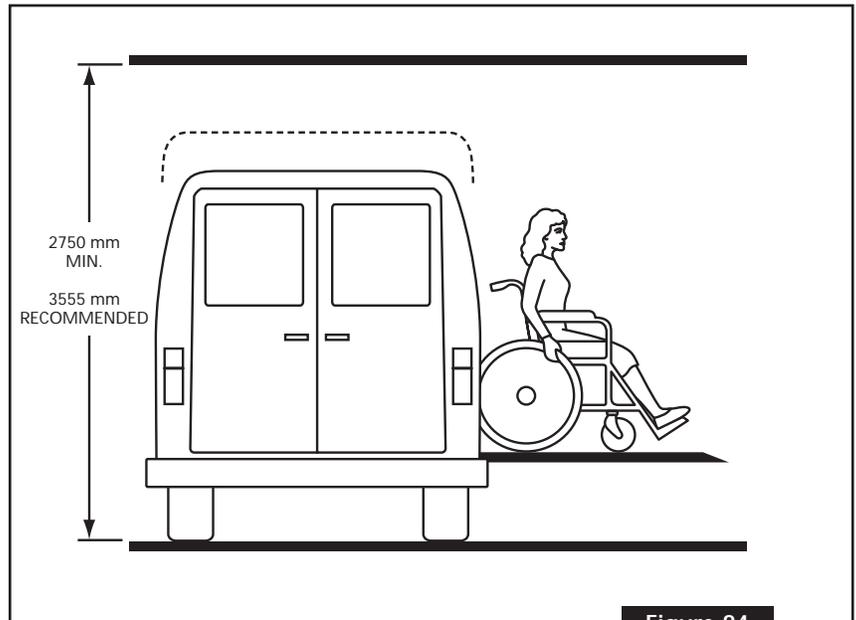


Figure 84

2.1 ENTRANCES

2.1.2 Doors and Doorways

- Main entrance doors and other accessible entrance and exit doors should be a minimum of 915 mm wide to allow safe passage of persons who use mobility aids.
- One accessible entrance is required for buildings having 1 to 3 entrances and 2 accessible entrances for buildings having more than 3 to 5 entrances. No "less than 50 percent accessible entrances are required for buildings having more than 5 entrances. User specific situations would be evaluated in a case by case basis.
- Where pairs of doors are utilized, at least one leaf should provide a clear opening of 810 mm wide.
- Accessible entrance doors and related vestibule doors should be automatic or have power-assisted door openers.
- Where automatic doors open towards users with disabilities, the swing pattern of such doors should be defined by a highly contrasting and textured surface (or mat) at grade, which projects a minimum of 305 mm beyond the door swing. Alternatively, suitable guards, which project a minimum of 305 mm beyond the door swing, should be provided as an aid to persons with visual limitations.

A minimum 305 mm clearance should be provided between the guard and the opened door. (See Figure 85)

- Consider the use of automatic sliding glass doors at busy entrances that are not designated exits.

- In buildings where there is a significant amount of glazing at grade, it is recommended that door frames be clearly colour differentiated to aid in locating the entrance. (See Figure 86)

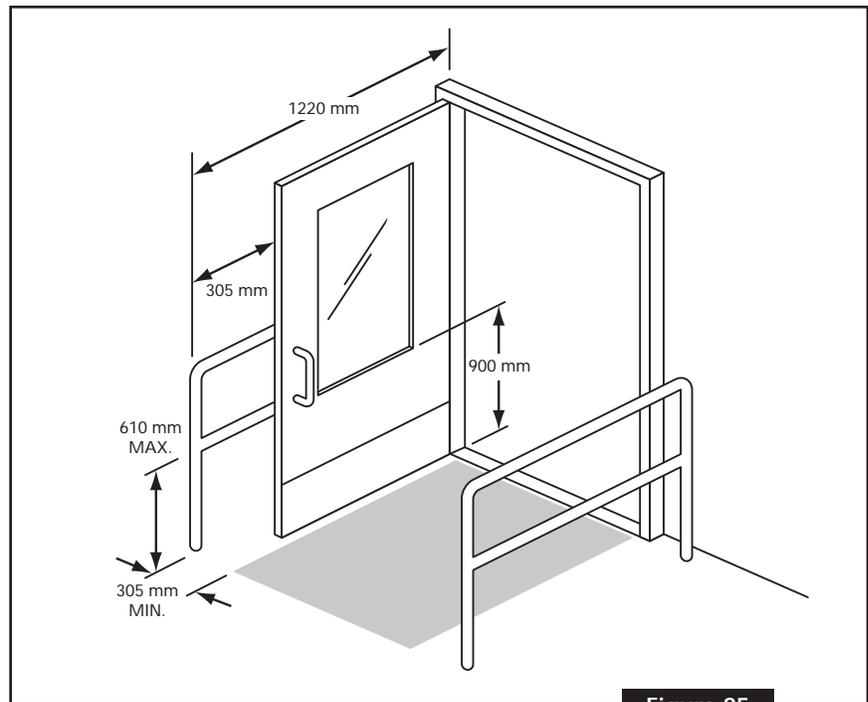


Figure 85

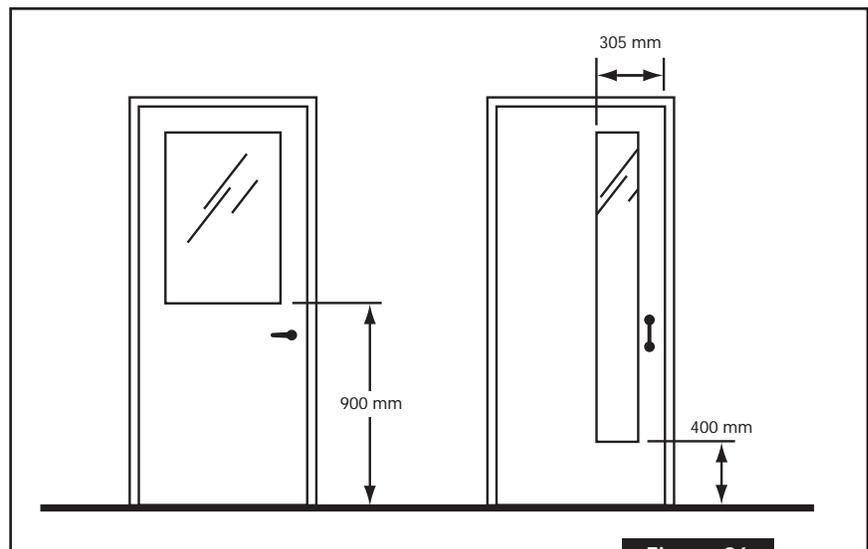


Figure 86

2.1 ENTRANCES

PART 2: INDOOR AREAS

2.1.3 Door Hardware, Locks and Closers

- Automatic door openers are recommended wherever possible.
 - Push buttons or card access controls used to open doors should be located away from the door swing and they should be mounted on walls or posts, at a height between 1000 mm and 1100 mm measured to the centre of the control.
 - Preferred push button 150 mm diameter is recommended.
 - Doors in a series (e.g., in a vestibule) should be a minimum of 2135 mm apart and/or the clear floor area between door swings should be no less than 1200 mm.
 - Door hardware, including pulls and push plates, should be generally mounted between 915 mm and 1065 mm from grade.
 - All door opening hardware on entrance, vestibule, and room doors should be easy to grasp and use (e.g., of the lever handled type). (See Figure 87)
 - Hardware for closet doors, drawer pulls etc., should be of the simple 'D' type (i.e., a continuous and easy to grasp handle), 75 mm – 100 mm long. (See Figure 88)
- Door locks should be mounted between 760 mm and 1065 mm high.
 - Select sliding door hardware that is easy to grasp and use and does not reduce the effective clear opening width below 810 mm. (See Figures 87, 88 and Section 2.1.7 Thresholds)
 - Where out-swinging doors must be closed to preserve privacy (e.g. on washroom doors), an additional pull handle, mounted horizontally and close to the hinge side of the door, is recommended.

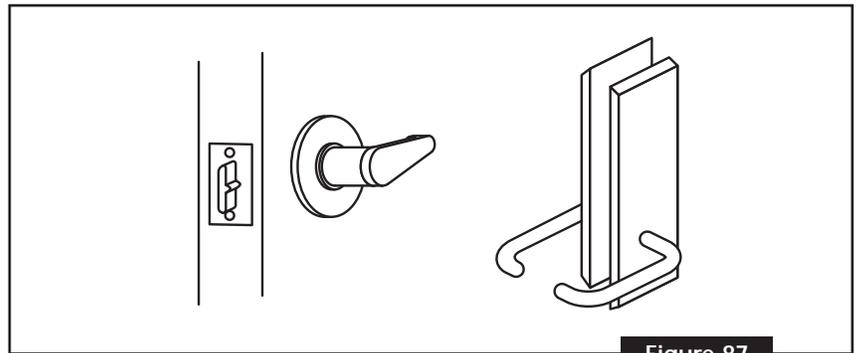


Figure 87

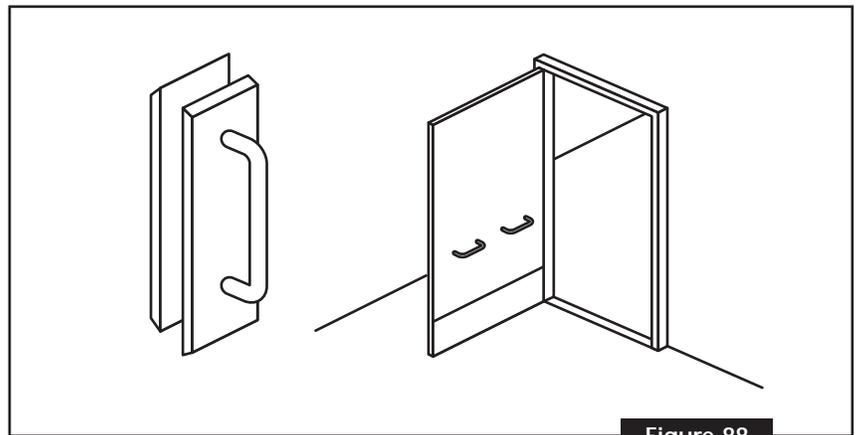


Figure 88

2.1 ENTRANCES

2.1.4 Entrances

- Accessible entrances provide direct access to persons using wheelchairs or scooters and are also frequently used as waiting areas for persons requiring assistance (e.g., waiting for a ride from "special transit, taxis, family members, attendants or others). (See Figure 89)
- There should be enough waiting space inside the main accessible entrance, either in the vestibule or adjacent lobby, for at least two persons using wheelchairs. Such waiting areas should provide a clear view of the entrance and arrival area for taxis, buses or private vehicles.
- Accessible entrances should provide basic protection from the weather and include doors and vestibules that are useable autonomously by persons with varying disabilities.

- Where accessible entrances include security locks or other locking devices, a nearby call bell (or information telephone) should be available for persons requiring information or assistance.
- In public buildings, an accessible public telephone should be available near the accessible entrance to provide seniors and persons with varying disabilities with suitable telephone access (e.g., calling for a taxi or a ride).

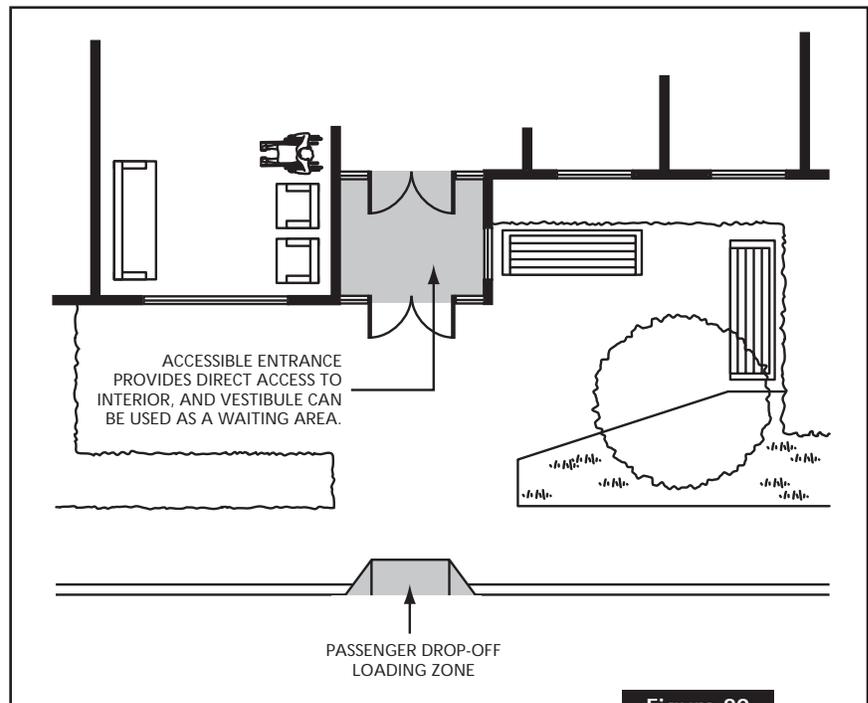


Figure 89

2.1 ENTRANCES

2.1.5 Glazed Screens and Sidelights

- Fully glazed sidelights at exterior entrances or in interior vestibules, as well as fully glazed screens elsewhere, should be clearly identifiable so as not to constitute a hazard for persons with visual limitations.
- A row of bright decals or a continuous opaque stripe, a minimum of 50 mm wide and of highly contrasting colour, should be mounted at eye level, between 1350 mm and 1500 mm from the finished floor.
- Decals should be located at a maximum of 150 mm on center and can be either 50 mm square or round and/or of a special design (e.g., a company logo), providing the solid portion of the logo is sufficiently bold for easy identification by persons with visual limitations.
- Where etched or patterned glass is used, decals or a stripe of a highly contrasting colour, are still recommended.
- Partially glazed doors should have glazed panels that extend low enough to allow persons using mobility aids to see what is on the far side of the door (i.e., maximum height from grade 900 mm to lower edge of glazing). (See Figure 90)

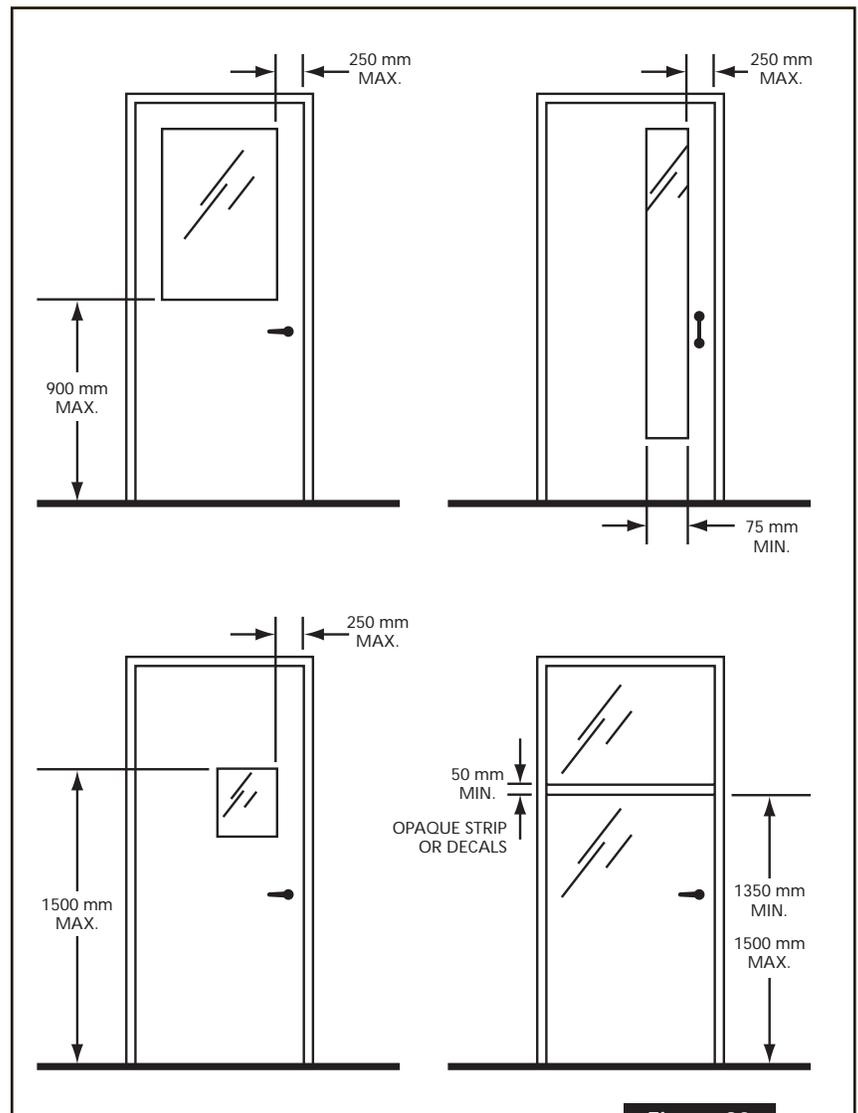


Figure 90

2.1 ENTRANCES

2.1.6 Mats and Mat Sinkages

- Mats at entrances and in vestibules should be level with the floor and/or located in mat sinkages, so as not to create a tripping hazard for persons who have visual limitations or a hindrance to persons using mobility aids.
- Where occasional mats (e.g., runners provided during bad weather) are used, they should be level with the floor surface and/or have gently beveled edges so as not to create a tripping hazard. (See Figure 91)
- Where runners are used to define preferred walking routes to information counters, elevators etc., such as in main entrance and lobby areas, they should lead directly to the desired objective with no furniture or obstacles intruding into the required route. Runners should be as continuous as possible and colour/tone differentiated from the adjacent floor colour.

2.1.7 Thresholds

- Thresholds required to accommodate floor level or finish changes to exterior areas (e.g., terraces and balconies), should be gently beveled and not exceed 13 mm in height.

- Thresholds at interior doorways should be beveled and not exceed 13 mm in height. (See Figure 92)

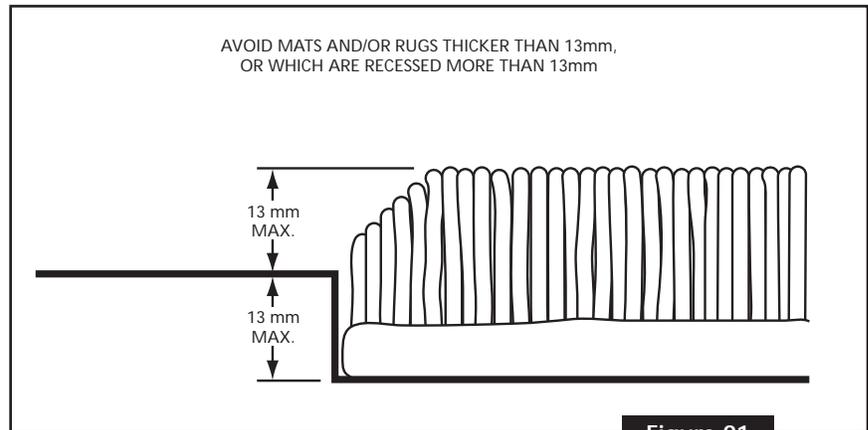


Figure 91

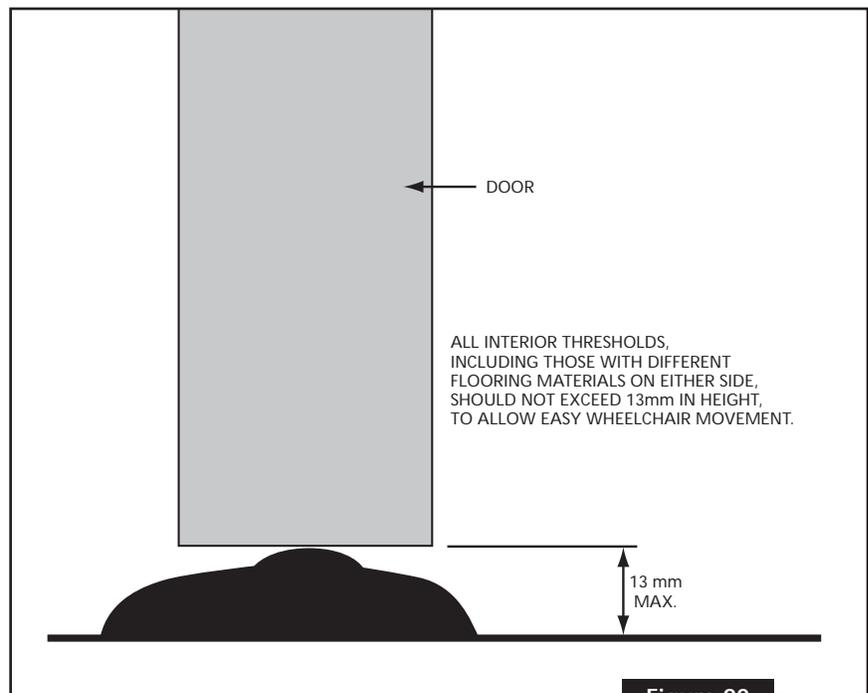


Figure 92

2.1.8 Vestibules

- See Section 2.1.2, Doors and Doorways for vestibules at accessible entrances.
- Interior vestibules to washrooms or other special areas should be fully accessible to persons using mobility aids. All vestibules, corridors, or aisle widths should be a minimum of 1100 mm wide to allow persons using mobility aids to turn at right angles through door openings.
- Vestibule depths should provide at least 1200 mm floor space, clear of door swings and/or other obstacles, for manoeuvring of mobility aids.
- Where interior doors swing towards the person using a wheelchair, at least 600 mm clear space should be available at the jamb, on the opening edge of the door, to allow persons using mobility aids easy access to the door. (See Figure 93 and Section 2.1.2, Doors and Doorways)
- Where doors swing away from the person using a mobility aid, at least 300 mm clear space should be available adjacent to the jamb on the opening edge of the door (See Figure 93), for ease of use by persons using mobility aids.

2.1.9 Waiting Areas

- For persons requiring information services or assistance, waiting areas with loose furniture should be large enough to accommodate at least two persons using wheelchairs or scooters, in addition to other members of the public.
- Waiting areas with fixed seating should include enough clear space for a minimum of two persons using wheelchairs or scooters.

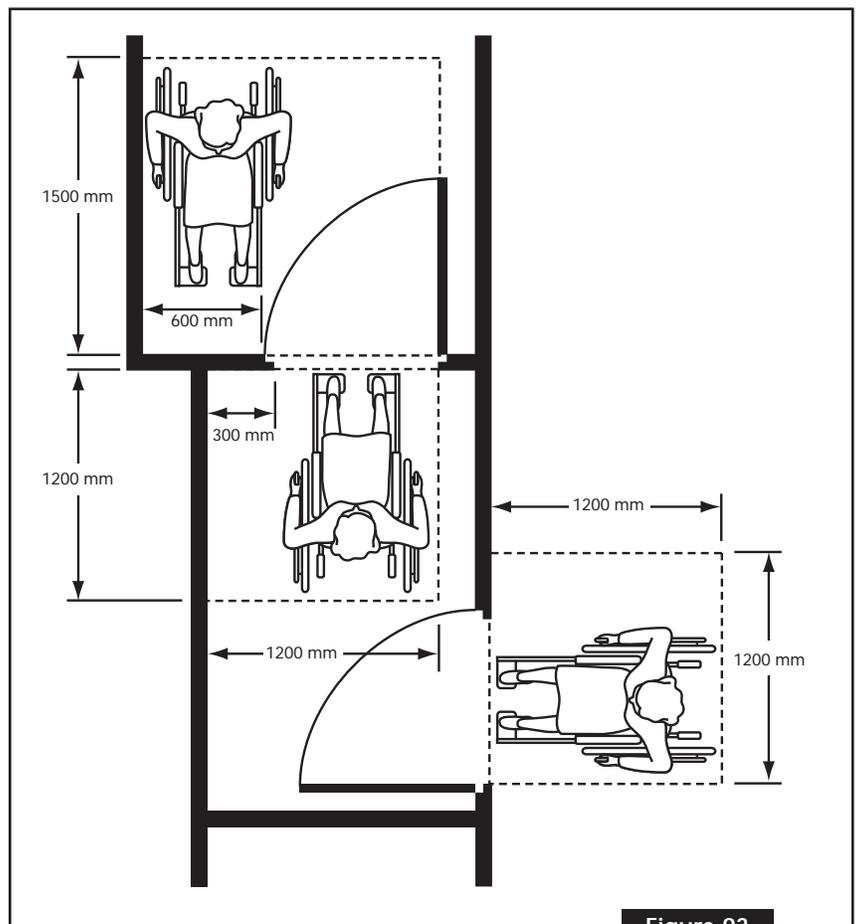


Figure 93

2.2 INTERIOR ROUTES

POLICY

Persons who have mobility limitations require all public interior circulation routes, whether horizontal or vertical, to be wide enough to accommodate various mobility aids. Persons who have visual limitations need safe routes throughout buildings, with no unexpected level changes or obstructions that are potentially hazardous to them. Seniors and others with limited strength and endurance may require handrail support and/or resting places in long corridors or paths of travel.

2.2.1 Aisles and Passages

- In high use public areas, aisles and passageways, a minimum of 1675 mm wide is recommended to allow two persons using wheelchairs or scooters to

pass each other easily. 1200 mm width is required to allow one person using a wheelchair and one ambulatory person to pass. (See Figure 94)

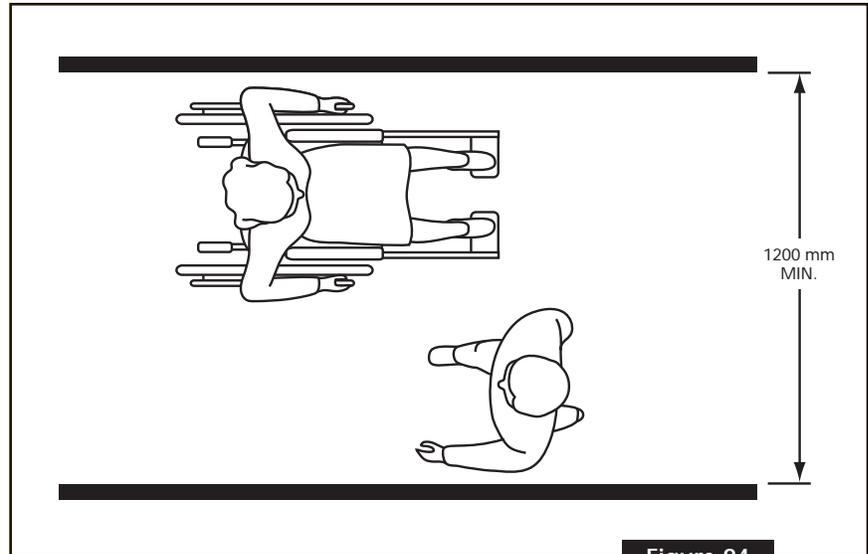


Figure 94

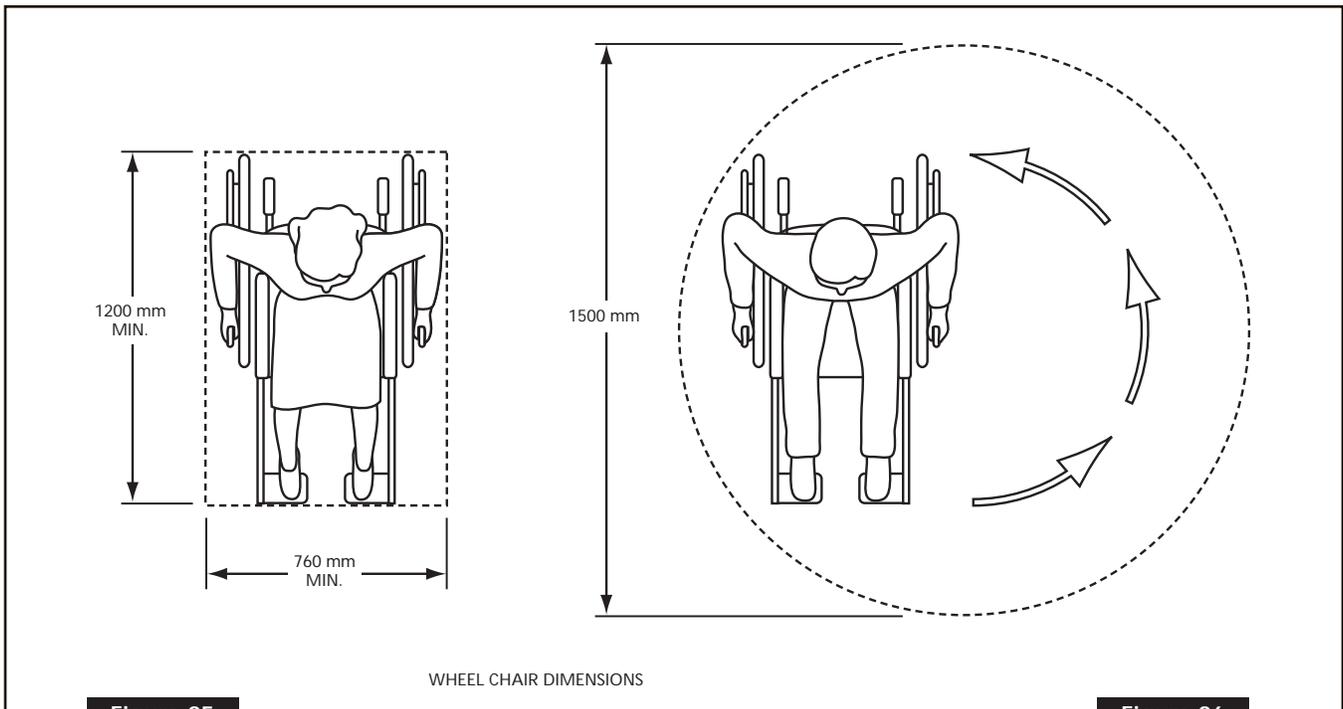


Figure 95

Figure 96

2.2 INTERIOR ROUTES

PART 2: INDOOR AREAS

- In low use areas and offices etc., clear aisle space and passageways between walls, glazed screens, furniture and/or other major obstacles should be a minimum of 1100 mm to accommodate users of mobility aids.
- Wherever aisles that are 1100 mm wide are extensive in length or terminate in a dead end, a turning space of at least 1600 mm by 1600 mm should be available at 30 m intervals and recommended at dead end locations.
- Hallways within accessible residential or overnight suites, as well as aisles in public areas and workspaces etc., should be a minimum of 1065 mm wide.
- Additional space should be available where persons using mobility aids must manoeuvre around obstacles in corridors or hallways. (See Figure 99)
- Wherever extended length corridors are provided, consideration should be given to the inclusion of a suitable and colour contrasted handrail, on at least one side of the corridor, as an aid to seniors and persons with limited mobility.

2.2.2 Corridors and Hallways

- It is recommended that high use accessible public corridors and paths of travel should be a minimum of 1100 mm wide, with turning spaces at least 1600 mm in diameter, every 20 m, to permit the free movement of persons using mobility aids. (See Figures 95, 96, 97 & 98)
- Corridors in all institutional facilities such as hospitals, nursing homes and homes for the aged, should comply with Ministry of Health guidelines.
- Corridors serving residential suites should be a minimum of 1100 mm wide. Turning locations should not be greater than 30 m apart and are recommended at ends of corridors. (See Figure 99)

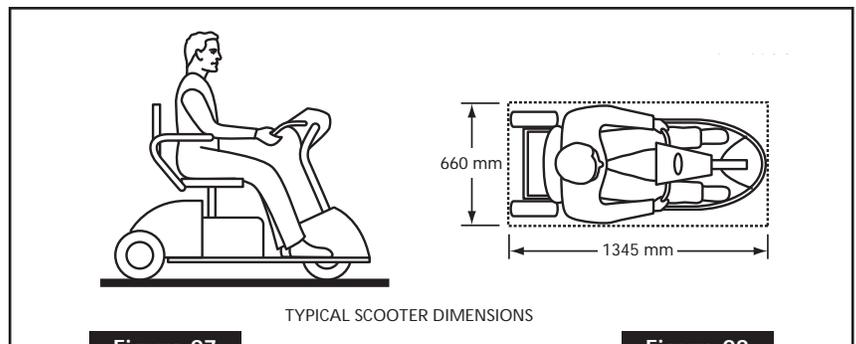


Figure 97

Figure 98

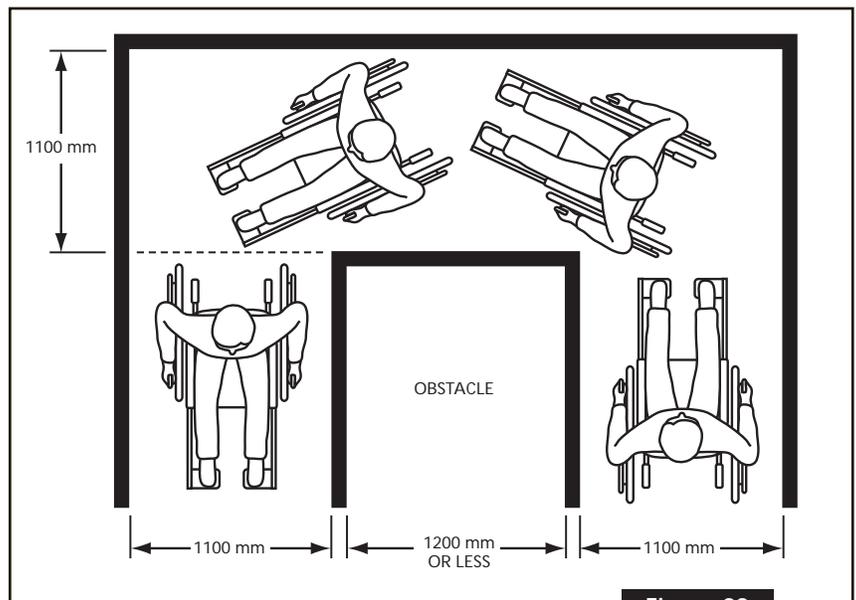


Figure 99

2.2 INTERIOR ROUTES

- In extended length corridors of 40 m or more, consideration should be given to the provision of a bench or other seating, located at intermediate points along the corridor for seniors and others with limited mobility.

2.2.3 Doors and Doorways

- Doors, doorways or arched openings should be a minimum of 915 mm wide, with no opening less than 860 mm clear between obstructions.
- For fully and partially glazed doors, (See Section 2.1.5, Glazed Screens and Sidelights).
- Where fire doors or smoke doors are required in any corridor hallway, they should be a minimum of 915 mm wide, and provide a clear width between stops of 860 mm. (See Figure 100)
- To ensure free movement through public buildings, it is generally recommended that required fire and smoke barrier doors be installed on electrical hold-open devices so that the doors only close when the fire alarm is activated.
- The opening force required for interior doors, using closers or other automatic latching devices should not exceed 22 Newtons.

- Exterior doors, which include panic hardware, should be capable of being opened with a force no greater than 38 Newtons.

2.2.4 Elevators and Platform Lifts

POLICY

Where needed, elevators and passenger platform lifts should be designed to be useable independently by and accessible to persons using wheelchairs and scooters, in all public facilities. The provision of ramps is strongly preferred over platform lifts. (See Figure 126)

- Elevators and platform lifts should comply with the most recent CAN/CSA B355 Standards "Lifts for Persons with Physical Disabilities".
- Passenger elevating devices should comply with the most recent CAN/CSA Standards B44, "Safety Code for Elevators,"
- Controls/buttons should include tactile information to ensure easy use by persons who have visual limitations. Controls/buttons should be easy to reach and push, be raised and require minimal strength to activate. (See Figure 101, also Section 2.4.6, Controls and Operating Mechanisms)

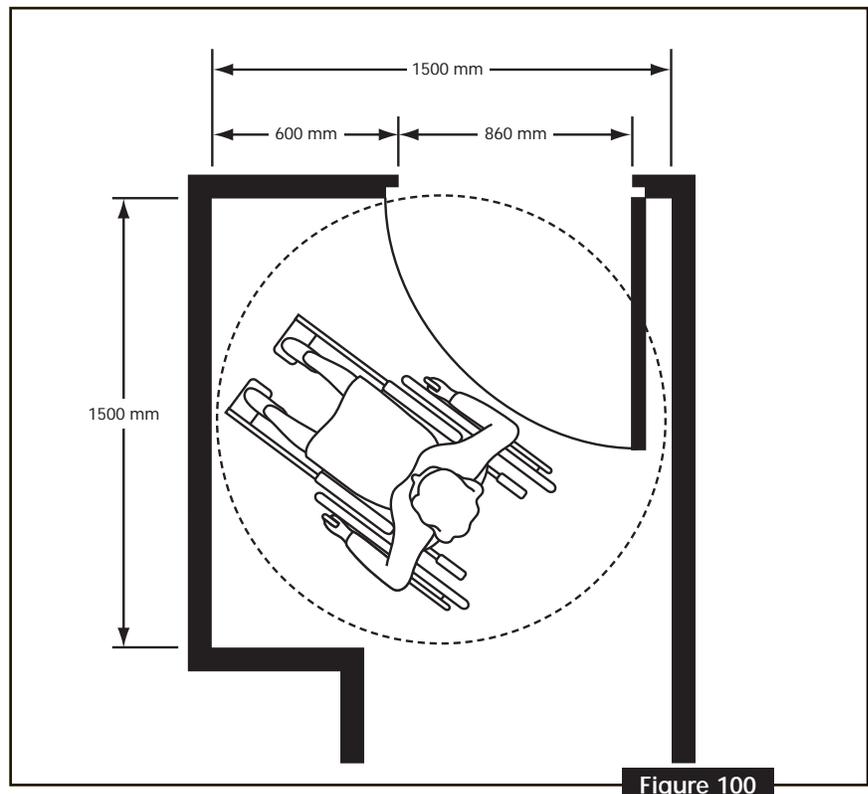


Figure 100

2.2 INTERIOR ROUTES

PART 2: INDOOR AREAS

- A delay button should be available both in the cab and in each elevator lobby to allow boarding by persons who are slower than usual, as a result of ageing or disability.
- In both high-rise residential and institutional facilities serving seniors or people with disabilities, at least one elevator should be capable of accommodating a stretcher, with a minimum platform size of 1725 mm by 2285 mm. (See Figure 102)
- Individual platform lifts required to travel between levels not exceeding 1980 mm shall have a platform size of no less than 1065 mm by 1370 mm. (See figure 103)
- Elevators and platform lifts used by persons with disabilities should include an emergency call system linked to a monitored location within the building, with 2-way voice communication capability.
- Install a concave mirror at the back of the elevator cab.
- Lighting in elevator cabs and at platform lifts is recommended to be no less than 100 lux (10 ft. candles) measured at the floor level. The same lighting level should be provided in adjacent lobby space to minimize tripping hazards at door openings (See Section 2.4.11, Artificial Lighting).

2.2.5 Interior Ramps

- The provision of ramps is strongly preferred over platform lifts.
- Interior ramps should have a maximum slope of 1 in 12, however, a slope of 1 in 15 is preferred. (See Part 1: Section 1.2.1, Accessible Routes to Entrances and Figure 22)

- The maximum length of any ramp is 9 m between level landing areas.

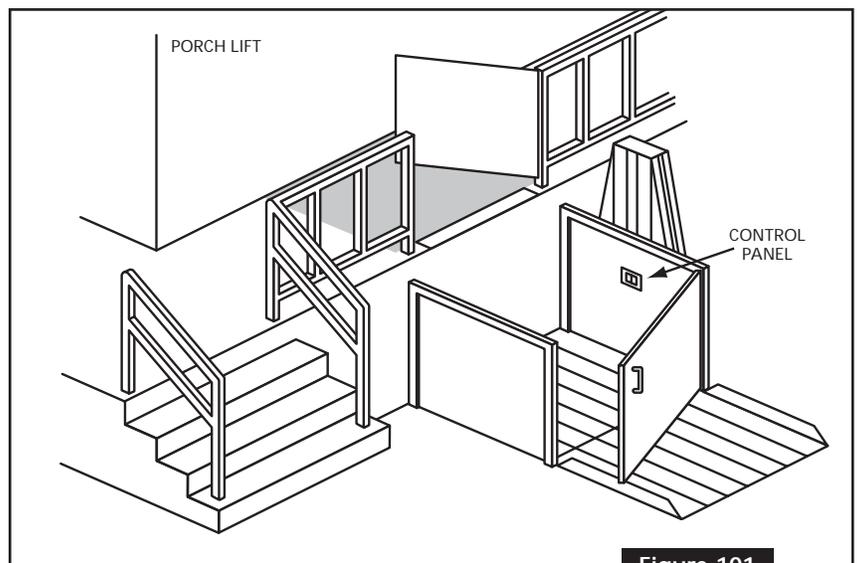


Figure 101

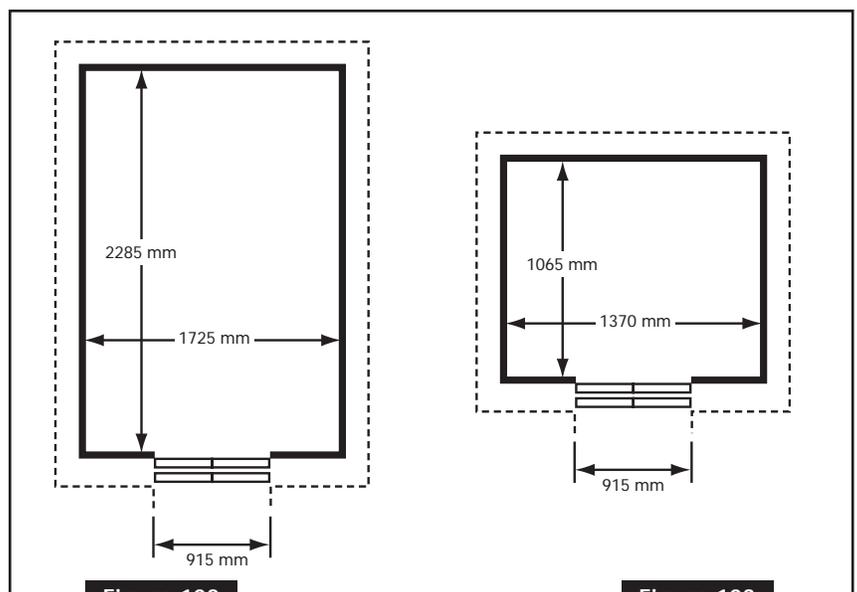


Figure 102

Figure 103

- Where short ramps are required, e.g., for level differences of 150 mm, the ramp slope may be evaluated on case by case basis.
- Ramp surfaces should be non-slip.
- The width between handrails should be not less than 900 mm and not more than 1100 mm. It is recommended that the width between handrails should be a minimum of 1015 mm.
- Handrails are required on both sides of ramps and should extend at least 300 mm beyond the head and foot of the ramp. (See Part 1: Section 1.1.9, Ramps, and Figure 16)
- Provide a cane-detectable floor surface 765 mm deep at the head and foot of all ramps to alert persons who have visual limitations.
- The cane-detectable surface should be colour or tone contrasted with surrounding floor to ensure easy identification.

2.2.6 Safe Holding Areas

POLICY

Where a safe holding area is included as part of the emergency plan for persons with disabilities, such holding areas should be able to accommodate a number of persons using various mobility aids (e.g., wheelchairs or scooters) and:

- Be located in logical locations on each floor, above or below grade, that are easy to identify by persons who have visual limitations and be accessible to wheelchair and scooter users.

- Have separate emergency lighting and ventilation systems. A two-way voice communication system linked to the fire control center should also be provided.

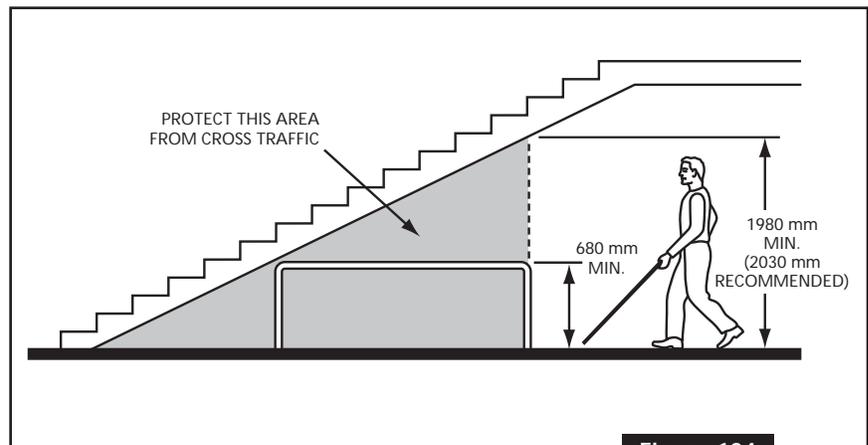


Figure 104

2.2.7 Stairs and Steps

POLICY

Stairs and steps in all normal public routes and paths of travel should be safely useable by persons with limited mobility, e.g., cane users. The following criteria are recommended. (Note: OBC standards should be considered an absolute minimum). (See 1.1.10 Stairs & Steps)

- Stair treads should be a minimum recommended of 280 mm.
- Stair risers should be a maximum recommended height of 180 mm.
- Interior stairs or flights of steps should contain no less than 3 risers. Where the underside of stairs is open, a cane detectable barrier should be provided when the headroom clearance is less than 1980 mm (2030 mm is recommended), as protection for persons who have visual limitations. (See Figure 104)
- A highly contrasting and cane-detectable floor surface at least 915 mm deep, should be located at the head or foot of each flight of steps or stairs to warn persons who have visual limitations that a level change is pending.

- For handrail and guard dimensions etc., (See Figure 105 and Part 1: Section 1.1.5 Guards and Handrails)
- Handrails or guards should be contrasting in colour and project a minimum of 300 mm beyond the top and bottom riser to aid persons who have visual limitations.

2.2.8 Turnstiles and Control Gates

- Wherever turnstiles or other crowd control gates are used to manage the movement of people, such turnstiles should either be of breakaway design to accommodate persons using wheelchairs/scooters or have an adjacent access gate that is wide enough to allow the passage of persons using wheelchairs/scooters or other mobility aids.
- Clearances at turnstiles or gates should be a minimum of 860 mm clear width.

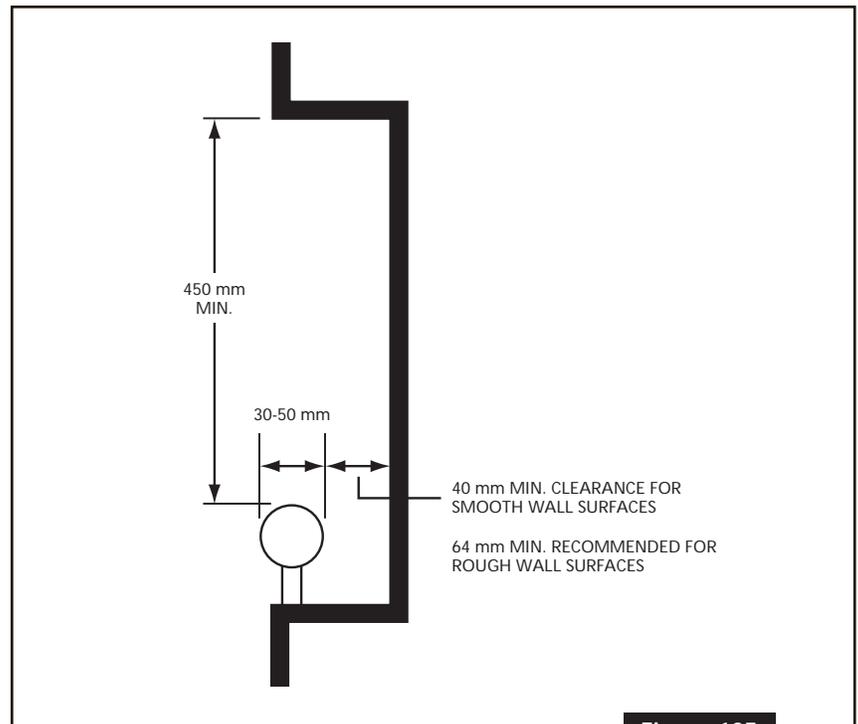


Figure 105

POLICY

All amenities in spaces used by the public or staff should be accessible and useable by persons with varying disabilities.

2.3.1 Coat Closets and Coat Racks

In public facilities and institutional settings, access to coat closets or racks is needed, especially in the winter months.

- In each major area or on each floor, provide at least one section of coat hanging space that is reachable and useable by persons using mobility aids such as wheelchairs/scooters.
Note: approximately 10% of all coat space storage should be accessible and free of obstacles.
(See Figure 106)
- Accessible closets and coat racks should have coat rods and/or coat hooks fixed securely and mounted between 1200 mm and 1370 mm high.
- At least one fixed shelf should be provided in accessible sections of coat closets mounted no higher than 1420 mm. Note: No base or lower shelf should be installed in accessible closets.
- Clear door openings for closets or coat racks should be at least 810 mm wide to allow a frontal approach by persons using mobility aids.

- Public check-in counters for coat storage located in entertainment facilities or other settings, should include at least one section of lowered counter, approximately 765 mm wide and 865 mm high to allow easy access by persons using mobility aids.
- In residential settings, some accessible clothing and bulk storage space should be provided that is suitable for persons using mobility aids.

2.3.2 Door and Cupboard Hardware

Persons with limited dexterity and strength should be able to operate door and cupboard hardware.

- Door pulls or latches should be of the lever handled or 'D' type for easy use by persons with disabilities. (See Figure 107)
- Door hardware should be mounted no higher than 1065 mm.
- Wherever possible, locks should be part of the handset.
- Sliding cupboard or door hardware should be selected and mounted so that the clear door opening that remains is at least 860 mm wide. (See Figure 108)

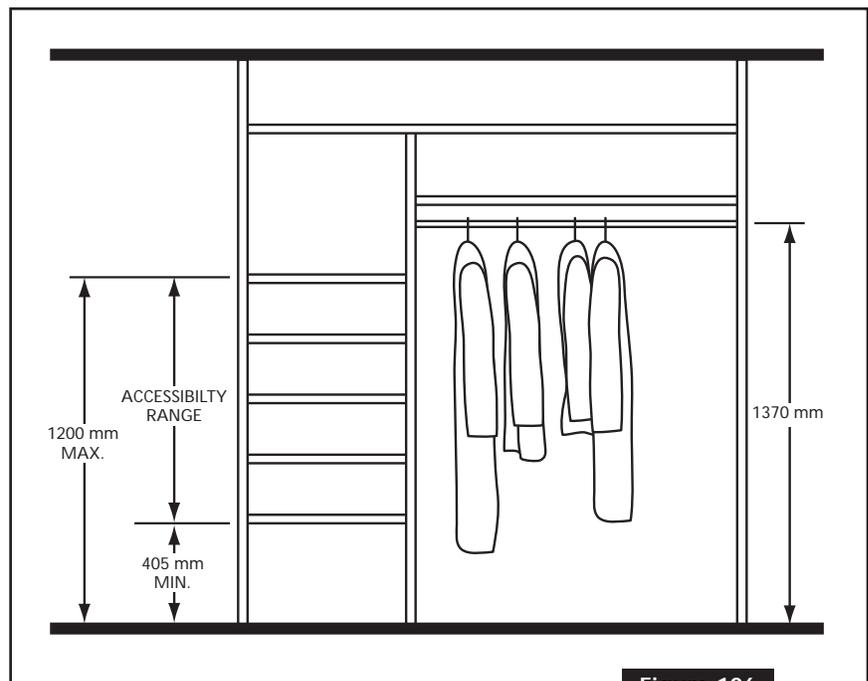


Figure 106

- Pocket door hardware should include a ‘D’ type pull on the leading edge.

2.3.3 Drinking Fountains

Drinking fountains should be readily accessible to and useable by persons with disabilities, including persons who have visual limitations and those using mobility aids.

- Drinking fountains should be set to one side of the path of travel with enough approach room for persons using mobility aids. (See Figure 109)
- Where the drinking fountain is recessed and/or wall mounted, clear knee space of 765 mm wide by 735 mm high to the underside of the unit is required.
- The controls for the drinking fountain should be: mounted to one side of the bowl; be no higher than 915 mm; and be easily operable with one hand.
- The spout for water projection should preferably be no higher than 915 mm, with a trajectory across the bowl. Note: For persons who cannot use a drinking fountain easily, an adjacent paper cup dispenser should be provided.

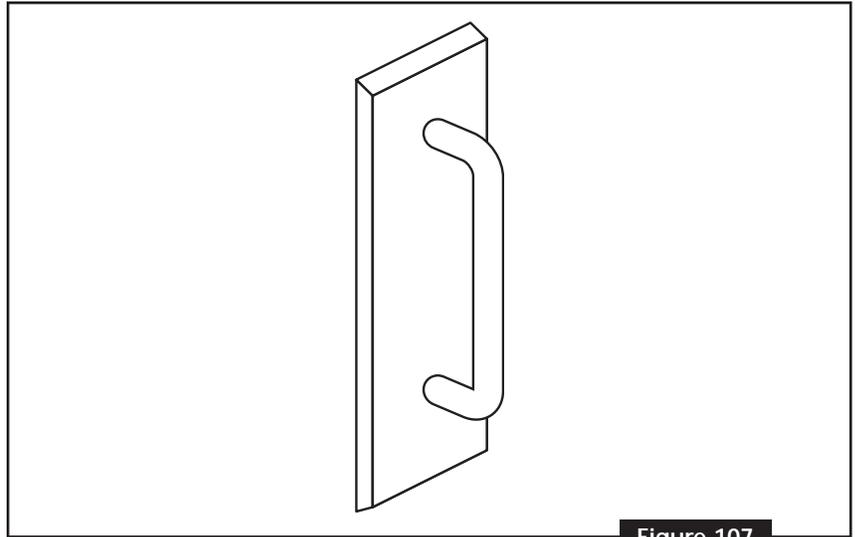


Figure 107

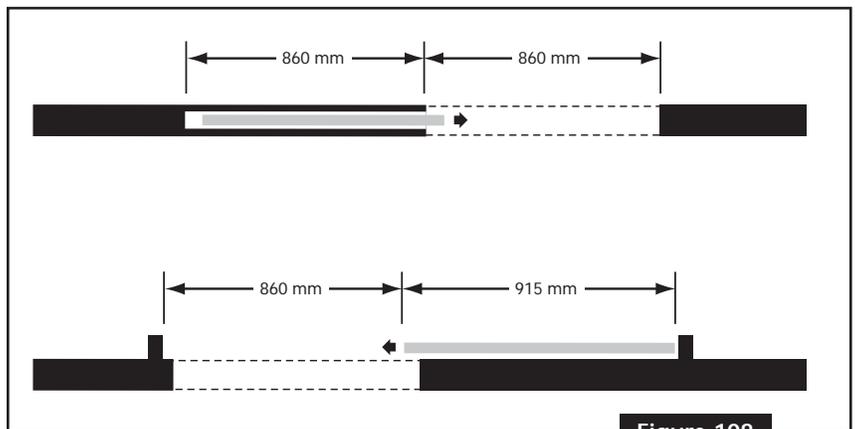


Figure 108

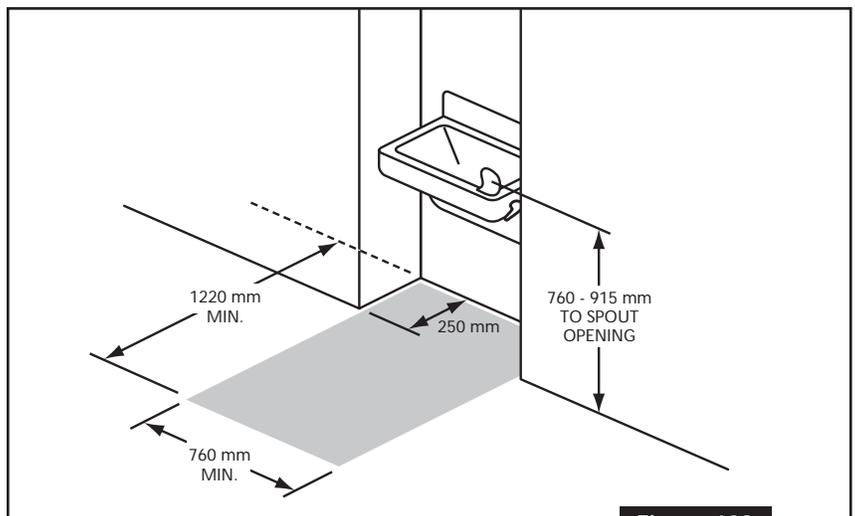


Figure 109

2.3 INTERIOR AMENITIES

2.3.4 Equipment and Furniture

In selecting furniture or equipment for public and staff areas, (e.g., lobbies, waiting and dining areas), care should be taken to ensure that selected items (and their layout) will not constitute a hazard for persons who have visual limitations and that they are useable by persons with varying disabilities.

- All items of furniture, equipment and planters etc., should be positioned to one side of the normal path of travel.
- All temporary items, including display stands, information boards, easels, recycling bins etc., should be located to one side of the normal path of travel.
- Loose seating, chairs or benches should have seat heights between 405 mm and 460 mm, so that seniors or others can get in and out of them without difficulty.
- Some seats should be provided with both armrests and backrests to provide adequate support for frail individuals, seniors or persons with stability and/or transferring difficulties.
- Tables and desks should generally be selected with a working surface no higher than 785 mm and clear knee space of 700 mm high, by at least 760 mm wide between supports, to allow easy

wheelchair access and use. (See Figure 110)

- Coffee and telephone tables, located in waiting areas and lounges, should be no lower than 510 mm high and they

should have an open base to ensure persons using mobility aids approach.

- Planters with strong cane-detectable bases should be selected.

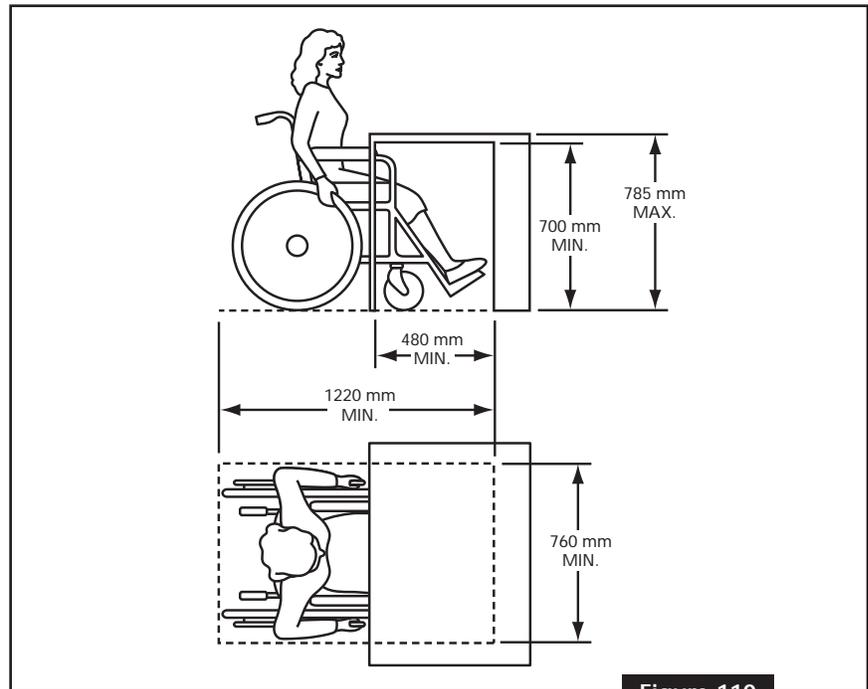


Figure 110

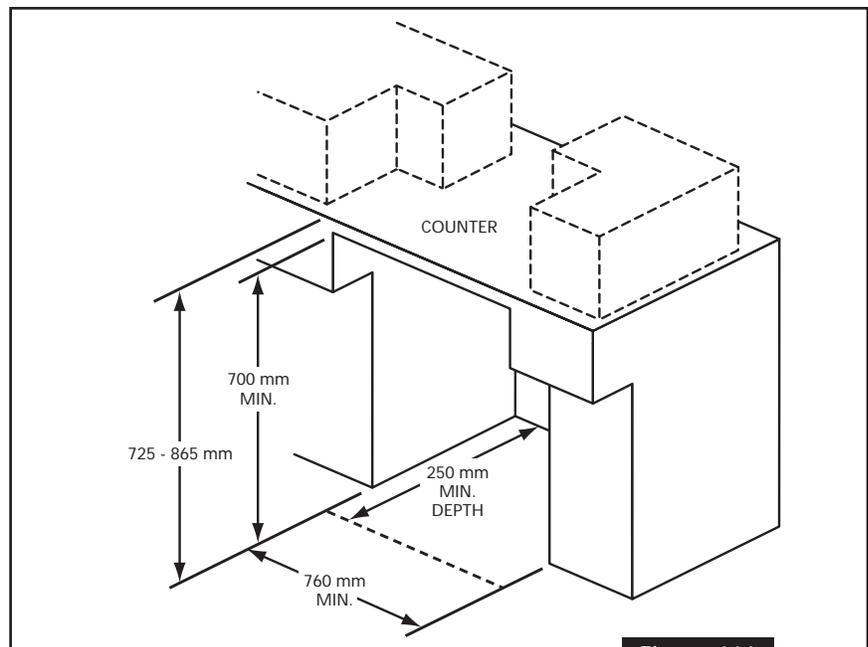


Figure 111

2.3 INTERIOR AMENITIES

PART 2: INDOOR AREAS

2.3.5 Information and Service Counters

- Counters used for information or service purposes should have at least one section useable by persons in wheelchairs/scooters at a maximum height of 865 mm. The counter should have no obstructions that adversely affect the ability of the public or staff to pass through information or have eye contact. Accessible sections of counters should be a minimum of 760 mm wide, with knee space below of at least 250 mm deep by 700 mm high, to allow easy wheelchair/scooter approach and use. (See Figure 111)
- Where speaking ports are provided at enquiry counters, ticket sales desks etc.; at least one such position should have the speaking port no higher than 1065 mm for persons using mobility aids.

2.3.6 Lockers and Baggage Storage

In schools, recreation/transit facilities, or wherever public or private storage lockers are provided, at least some of the storage units should be useable by persons using mobility aids.

- Storage or baggage lockers for people with disabilities should have the bottom shelf of the compartment no higher than 1220 mm and no

lower than 460 mm from the floor (e.g., between 5% and 10% of available spaces). (See Figures 112, 113 and 114)

- Locks for accessible storage lockers should be mounted at 915 mm, but no higher than 1065 mm. Locks should be easy to operate by persons with limited manual dexterity.

- Numbers or names on lockers should: be in distinct and legible lettering; be mounted no higher than 1525 mm; and be of either raised or recessed lettering. Lettering colour should be highly contrasted from the background.

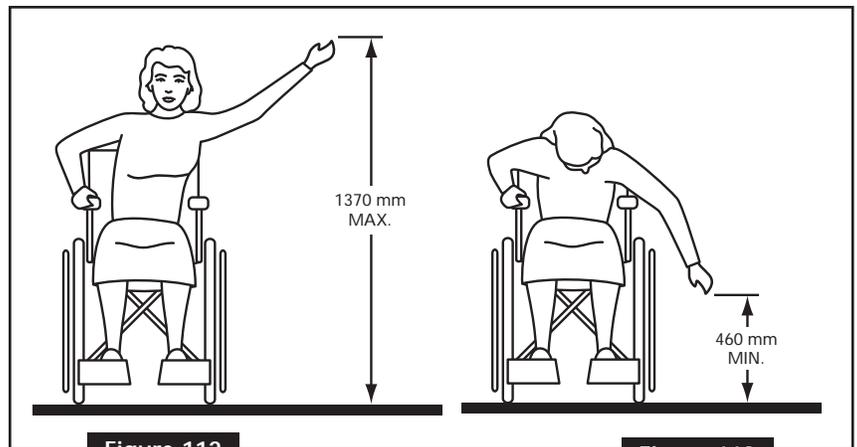


Figure 112

Figure 113

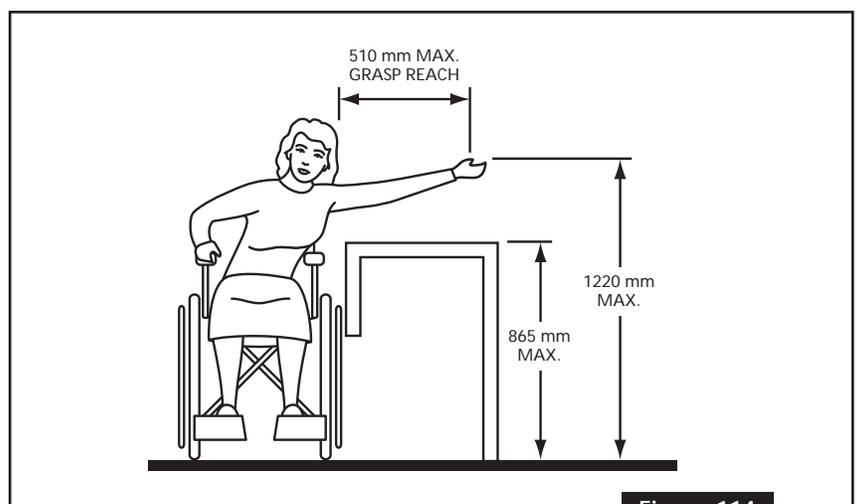


Figure 114

2.3 INTERIOR AMENITIES

- Lettering or number size should be between 13 mm and 19 mm high, for easy legibility by persons who have visual disabilities.
- Aisle spaces in front of lockers, baggage compartments and carousels should be a minimum of 1370 mm deep to permit a forward or lateral approach by users with mobility aids.
- Baggage racks or carousels for suitcases etc. should have the platform surface no higher than 460 mm from the floor.

2.3.7 Mail Boxes

Mailboxes and post boxes located in private or public settings should be accessible to persons using mobility aids.

- Post boxes in public buildings, recreational, tourist, or transit facilities should have mail slots for letters or packages mounted at 1015 mm but no higher than 1220 mm from floor level. A "D" type handle should be provided for easy finger grip by persons with limited manual dexterity.

- Mailboxes or mail slots in apartment buildings, recreational buildings and educational facilities etc., should include some accessible mailboxes, which are mounted between 610 mm and 1065 mm from the floor. A "D" type handle should be provided for easy finger grip by persons with limited manual dexterity.
- For signage and numbering of mailboxes, (See Section 2.4.16, Signage and Way-finding).

2.3.8 Mirrors

Mirrors located in public washrooms should be available to and mounted at suitable heights for use by persons in wheelchairs or scooters.

- The lower edge of mirrors over vanities and washbasins in public washrooms should be mounted no higher than 915 mm from the floor. Alternatively, a tilted mirror should be provided. (See Figure 115)
- Where suitable mirrors cannot be mounted over basins, a separate full-length mirror is recommended. The lower edge of the mirror should be mounted approximately 610 mm from the floor and extend to no less than 1830 mm high. Such mirrors should be located where there is a clear floor area of 915 mm by 1370 mm deep in front to ensure access by persons using mobility aids.

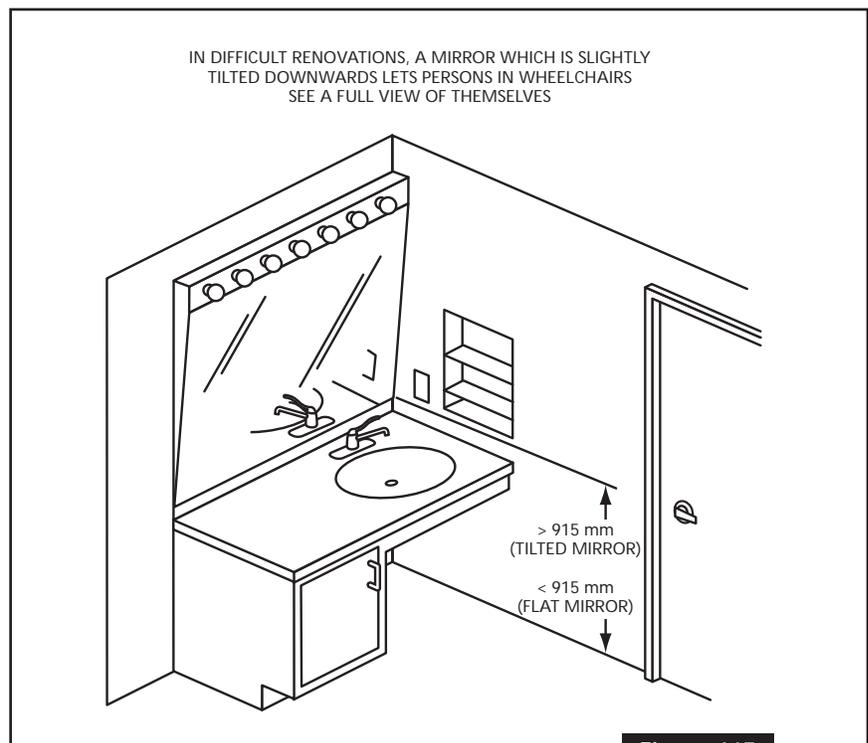


Figure 115

- Mirrors that are mounted immediately opposite doors/ openings into washrooms or elevators are not recommended as the reflections are confusing to persons who have cognitive limitations.
- Tinted mirrors or patterned mirror surfaces are not recommended as they present distorted images for some seniors and persons with low vision.
- Lighting over mirrors should be of an even quality and not act as a source of direct or reflected glare.

2.3.9 Platforms/Daises

- Platforms or daises, provided for display or presentation purposes, should be accessible to and useable by persons with mobility aids.
- Permanent or temporary ramps should be available for persons with mobility limitations and should be located so as not to constitute a tripping hazard for persons who have visual limitations.
- Ramps to platforms should comply with Section 3.8 of the Ontario Building Code.
- The surface of ramps should be non-slip (e.g., glued down carpet) and the junction with the floor should be no greater than a 13 mm rise.

2.3.10 Public Showers and Changing Rooms

Public showers and changing rooms should be designed to be accessible to people with mobility aids.

- Where shower stalls are provided, at least one stall should be 1500 mm wide by 900 mm deep with a level entry at the floor, or a rounded or beveled threshold no higher than 13 mm.
- Ensure that the floor drain is not situated in the standing or seating location. A level approach space of at least 900 mm by 1500 mm should be provided to accommodate users with mobility aids. (See Figure 116)

- Accessible showers or shower stalls should include a drop down seat at one side, mounted at a height of 438-480 mm from the floor. A horizontal grab rail is recommended to be provided and mounted 915 mm from the floor, at the centre of the long side, and the grab bar should be reachable from a seated position. (See Figures 117)
- Shower controls should include pressure controls and an automatic mixing valve so that hot water temperature does not exceed 49°C, to minimize accidental scalding.
- Telephone type showerheads are recommended on a flexible hose and mounted on an adjustable rod, to allow varying showerhead positions. (See Figure 117)

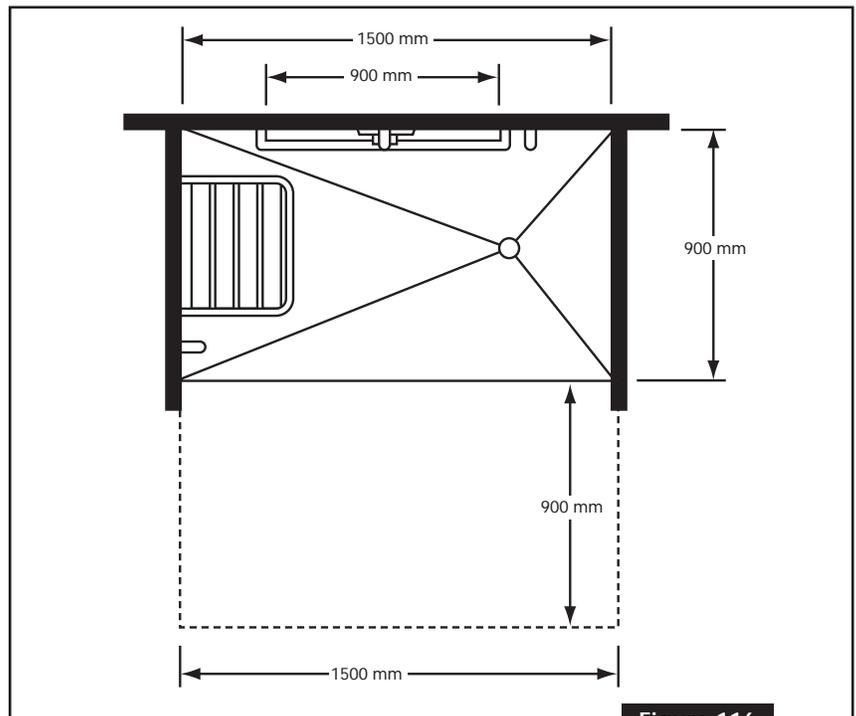


Figure 116

2.3 INTERIOR AMENITIES

- Floor drains in accessible showers should be positioned away from a seated shower user.
- Where larger accessible showers are required, (e.g., at the entrance to a pool deck area), thresholds should be no higher than 13 mm.
- Changing rooms providing aisles and access to clothes lockers should have no aisle space less than 1100 mm wide.
- Some accessible lockers should be provided for use by persons with mobility aids and mounted between 460 mm and 1220 mm high.
- Locks for accessible lockers should be easy to use with one hand and by persons with limited manual dexterity.
- Accessible public and staff washrooms should be equipped with automatic door openers whenever possible.
- The preferred side grab bar is the reversed “L” shaped type.
- The preferred faucet on basins are of the automatic type.

2.3.11 Public Washrooms

Accessible public washrooms should be designed in accordance with requirements of the Ontario Building Code, Section 3.8.

- Where unisex/family washrooms are provided, they should be located close to public washrooms.
- The provision of a baby-changing table, mounted no higher than 865 mm from floor level, should be considered.

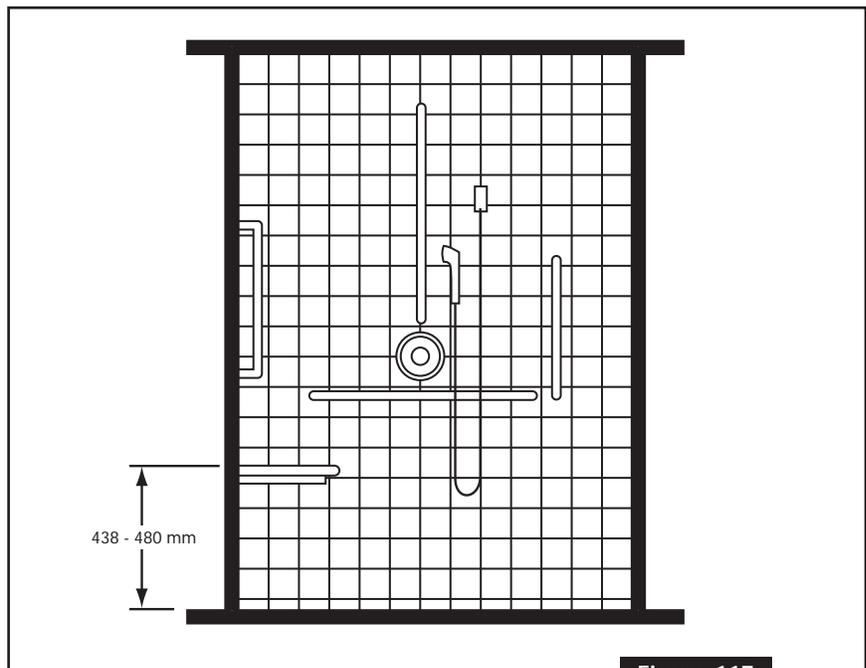


Figure 117

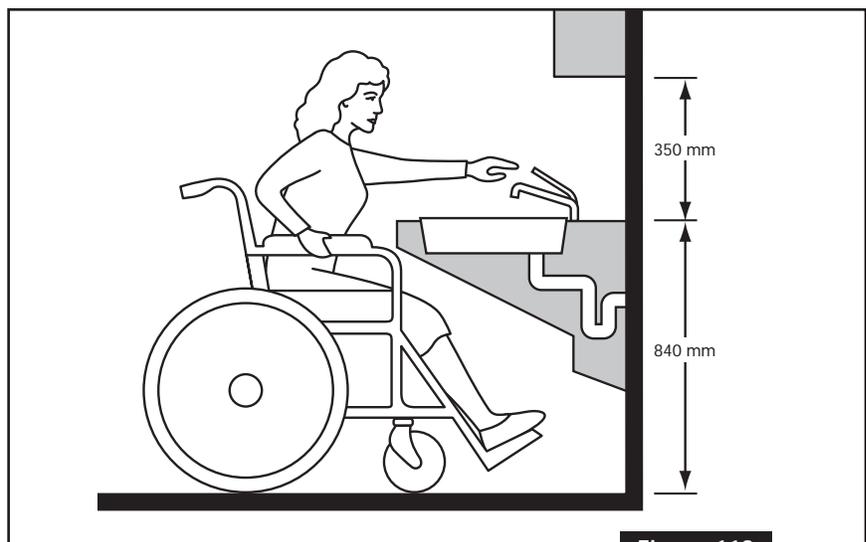


Figure 118

(See Figures 118, 119, 120 and Sections 2.3.10, Public Showers and Changing Rooms and Section 2.3.14, Washroom Accessories; See Also Part 1: Section 1.4.7, Public Washrooms)

2.3.12 Vanities and Work Surfaces

- Vanity surfaces located in public washrooms and cloak rooms, should be mounted no lower than 760 mm and no higher than 840 mm to allow easy access by users with mobility aids.
- Knee space below the accessible vanity counter or apron should be at least 735 mm high at the front edge of the apron by 205 mm deep from front edge and 760 mm wide, to allow easy access by persons using mobility aids. Note: Many scooters have higher seats than wheelchairs and a higher knee clearance may be desirable. (See Figure 120)

- Basins in accessible vanities should be mounted as far forward as possible, without encroaching on the recommended knee space clearances.
- The hot water basin temperature should be controlled, i.e. 49°C or lower. Where water temperature is higher, waste traps below basins should be insulated to prevent accidental burns. (See Figure 118)

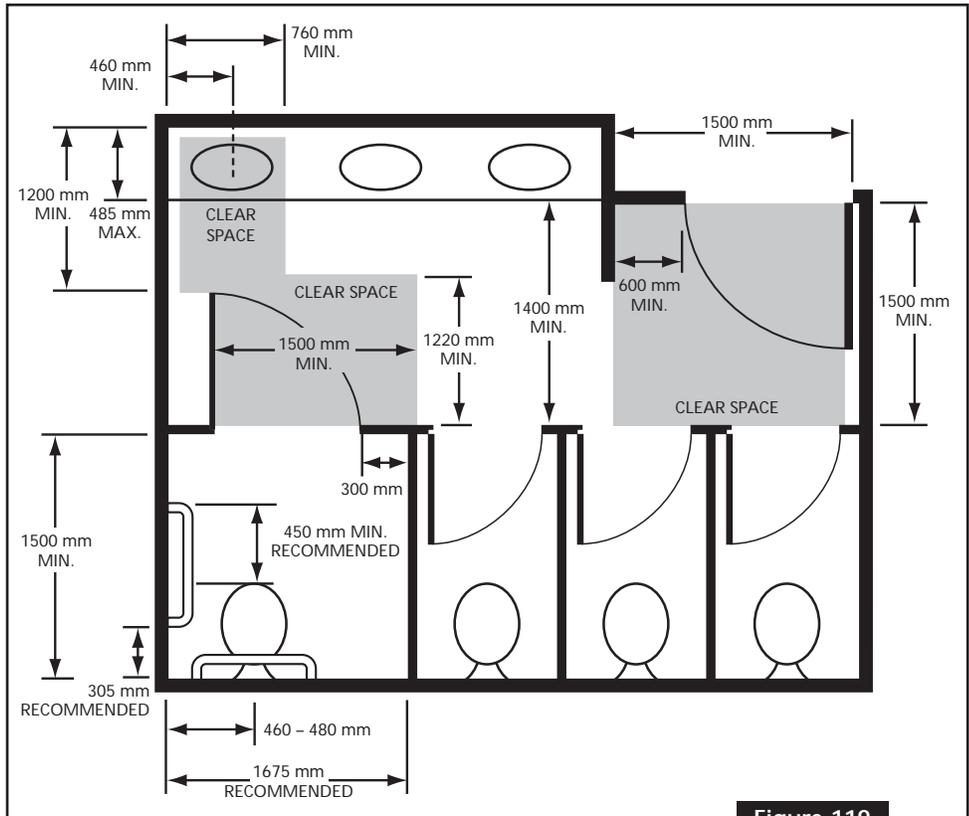


Figure 119

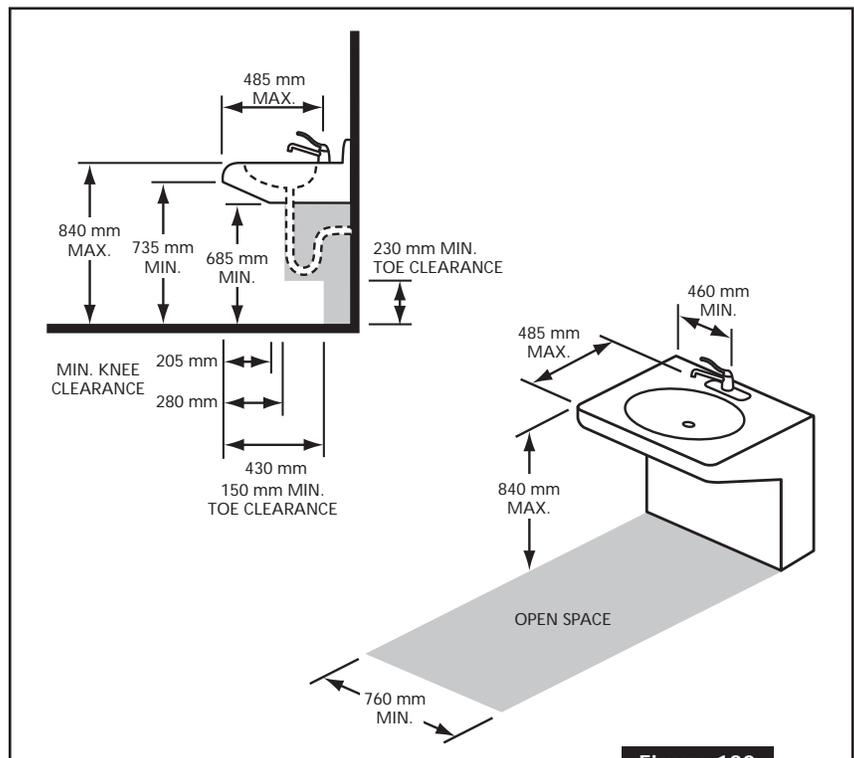


Figure 120

2.3 INTERIOR AMENITIES

- Accessible work surfaces at service or information counters, study carrels etc., should be mounted between 760 mm and 865 mm high, with clear knee space below.

2.3.13 Vending Machines

Where vending machines are provided, care should be taken to ensure that such machines are accessible to and useable by persons with mobility aids and low vision.

- Vending machine controls, dispensing areas, or other working parts should be located no higher than 1200 mm and no lower than 465 mm from the floor. (See Figure 121)
- Signage on vending machines should be in high contrast letters and at least 13 mm high, to ensure legibility by persons with visual limitations. (See Figure 122)
- Floor space in front of vending machines should be at least 1370 mm deep by 1525 mm long, to allow lateral access by persons with mobility aids, including wheelchair/scooter users.

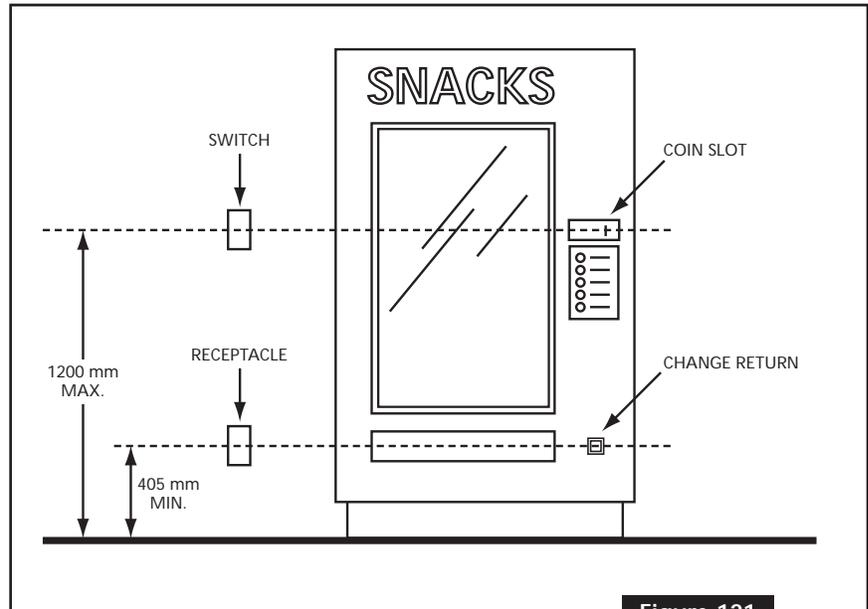


Figure 121



Figure 122

2.3.14 Washroom Accessories

- Washroom accessories, such as paper towel dispensers, soap dispensers, and waste bins etc., should have no controls, operating or dispensing components mounted higher than 1200 mm from the floor. (See Figure 123)
- Toilet paper dispenser should be mounted so they are reachable from a seated position and capable of being operated with one hand without binding and located so that the use of the toilet and grab bar is not obstructed (traditional roller to be used as an option).
- At least one mirror in public washrooms, change rooms or locker rooms is recommended to be full length as an aid to grooming.
- Faucets on basins may be automatic (preferred) or of the lever handled type, set at 205 mm on center. The single action type is preferred for use by persons with limited dexterity. (See Figure 124)
- The distance from the edge of the vanity or basin to the faucet should not exceed 485 mm for persons using mobility aids.

- Where soap dispensers are provided, they should be mounted within reach of all users, no higher than 1200 mm from floor. Dispenser should be automatic (e.g., sensors) or have buttons/controls that are easy to operate with one hand, especially by persons with limited manual dexterity.

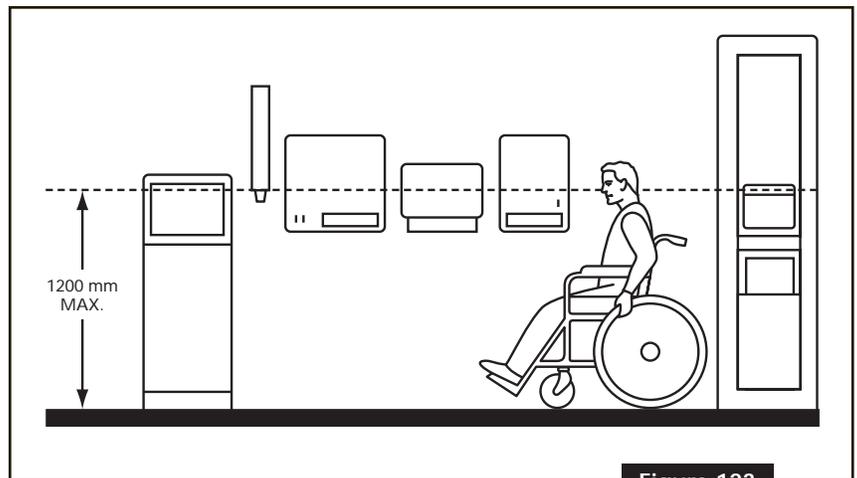


Figure 123

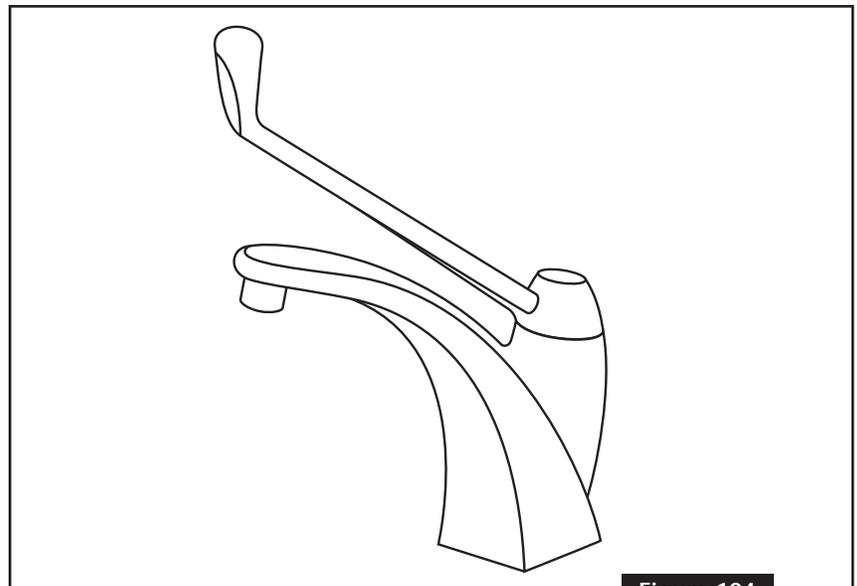


Figure 124

2.3 INTERIOR AMENITIES

2.3.15 Windows and Window Hardware

In buildings with operable windows, the opening sections should be easy to reach and operate by persons using mobility aids.

- Sill heights should ideally be no higher than 760 mm from the floor to allow vision out by persons using mobility aids or by persons who are confined to their beds. (See Figure 125)
- Horizontal transoms in windows should be designed so that they do not interrupt the eye level of seated persons (i.e., not mounted between 1070 mm and 1200 mm). (See Figure 125)
- Deep windowsills located in residential and institutional units that provide an extra surface for plants and photographs should be reachable by persons using mobility aids.
- Window opening hardware should be mounted no higher than 1065 mm, where possible.

- Where required, window hardware should be of the lever handle type (i.e., not a rotary action).
- In residential suites, opening units of windows should be designed to deflect direct drafts away from the occupants whenever possible.

- Window blinds, drapes or louvers should have operators, controls, and pull cords etc., that are accessible to persons using mobility aids, (i.e., with controls in an open approachable space), mounted no higher than 1200 mm. (See Figure 125)

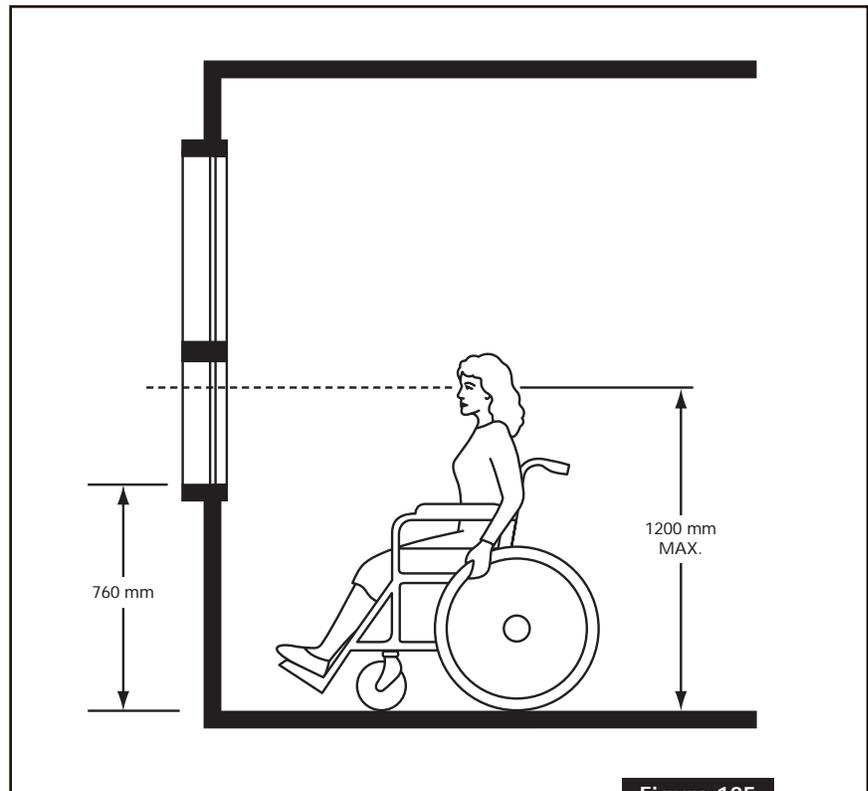


Figure 125

2.4 INTERIOR SYSTEMS AND CONTROLS

- Audible alarm signals should be accompanied by visual alarms, as an aid to persons who are deaf, deafened or hard of hearing. Note: For persons who have both visual and auditory limitations, portable-vibrating alarms should be considered.
- In all public buildings and institutions providing services or programs to seniors and persons with disabilities, a two-stage emergency alarm system is recommended, with distinctive (i.e., pulses or intermittent) audible pedestrian signals for each stage.

- Where interior doors in public buildings providing access to essential services, programs, work or support

areas are required to have closers as part of general fire-safety requirements, power assisted openers may also be desirable.

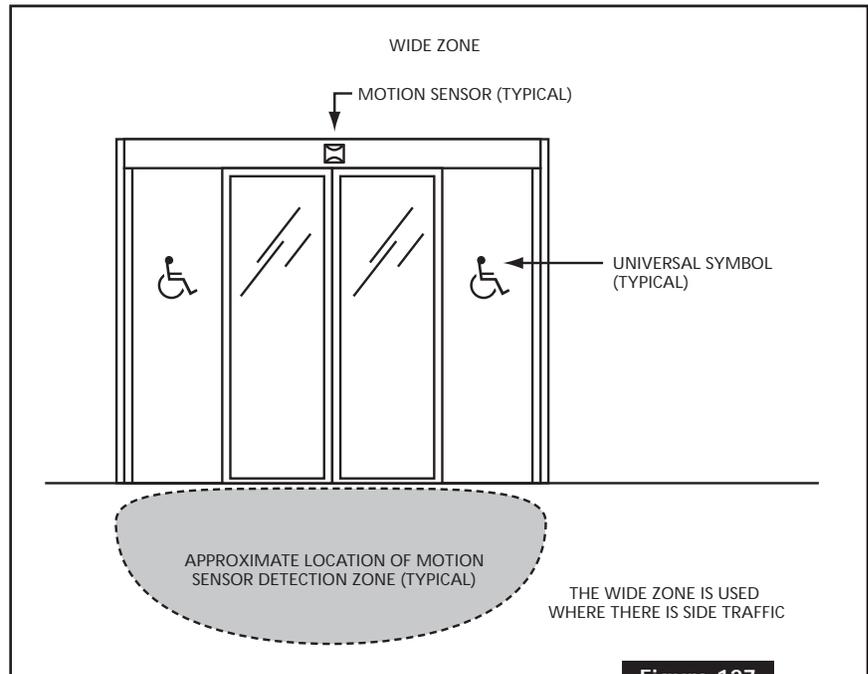


Figure 127

2.4.3 Automatic Door Openers

Persons (public, staff, etc.) with varying disabilities should be able to enter or exit the building safely and easily.

- At main entrances and at other accessible entrances to public buildings and institutions, automatic door openers or assisted door openers on both the exterior entrance and the related vestibule doors should be provided. (See also Section 2.1.3, Door Hardware, Locks and Closures and Section 2.1.5, Glazed Screens and Sidelights)

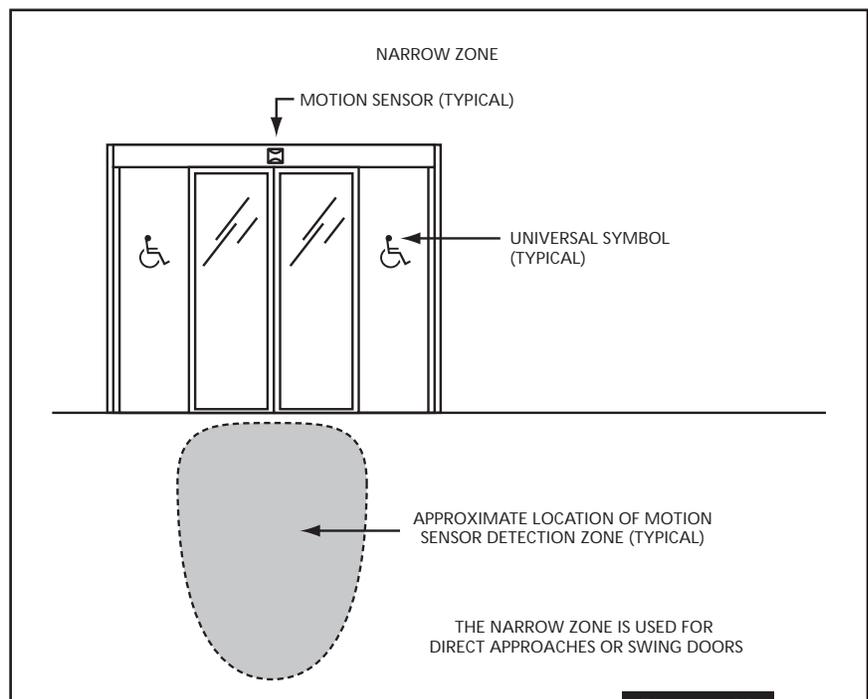


Figure 128

- The controls for power assisted doors should be located clear of the door swing where there is sufficient approach space, in areas where there is a minimum clear floor space of 1065 mm by 1525 mm for access by persons using mobility aids. Controls should be mounted between 1000 mm and 1100 mm high from floor measured from the centre of the control, preferably not on door jambs. (See also Section 2.1, Entrances)
- Where automatic detection systems are used, (such as pressure sensitive mats or light beams) the layout of the mats or light beam coverage should ensure that persons using mobility aids (e.g., wheelchairs/scooters), seniors or persons with visual limitations have time to clear the opening safely, before the door closes again. (See Figures 127 & 128)
- Where automatic exterior doors swing open toward oncoming pedestrians or are located in busy interior areas, lateral guards should be provided. Guards should extend a minimum of 305 mm beyond the swing of the door on both sides of the opening, to provide a warning to persons with visual limitations. (See Section 2.1.2, Doors and Doorways and Figure 85)

2.4.4 Card Access Systems & Security Systems

- Where card access systems are selected to enter particular facilities or spaces, the system selected should be suitable for use by persons with varying disabilities, including persons with limited manual dexterity, visual disabilities or difficulty with reaching (e.g., limited upper body movement).
- Card entry systems should be wall/post mounted, between 1000 mm and 1100 mm from the floor measured from the centre of the control card entry system.
- Where keypads or other encoded entry/exit systems are used, the buttons should be raised, mounted on a bright coloured background and include raised numerals or letters in a constant array.
- Where keypad systems are door or jamb mounted, there should be enough space (e.g., free of the door swing), to allow a person using a mobility aid to approach and use the keypad and the door safely.
- Card systems selected should have cards that are easy to use by persons who have visual limitations, either by using a distinct colour or texture on one side, or by using raised numbers, letters and Braille to ensure easy orientation and use.

- See also doors and glazed doors. (See Section 2.1.5, Glazed Screens and Sidelights)

2.4.5 Communication Systems

General (non-emergency) communication systems should be accessible to, useable and understood by persons with various sensory limitations.

- All essential two-way communication systems, utilizing voice input or output, should also include a digital display for persons with auditory or voice limitations.
- Communication systems (such as telephones and intercoms) should include at least one unit in each array with volume enhancement for persons who have hearing limitations. Systems should also include a coupling device for persons using hearing aids.
- At major information counters, enquiry and booking locations, consideration should be given to the use of a TTY telephone (i.e., text telephone with a digital display). (See Figure 129)
- Where visual input or output displays are utilized, some consideration should be given to the needs of persons who have visual limitations by providing an alternate or supplementary system, with an audio output.

- Where visual public communication systems or displays are utilized for public information purposes, (e.g., at video type terminals), an audio output, (such as voice or tape) should be considered, as well as alternate forms of essential information (e.g., large print and braille text, for persons who have visual limitations).

- In networked systems, consideration should be given to special input and output requirements for persons who have sensory limitations. See also Section 2.4.14.

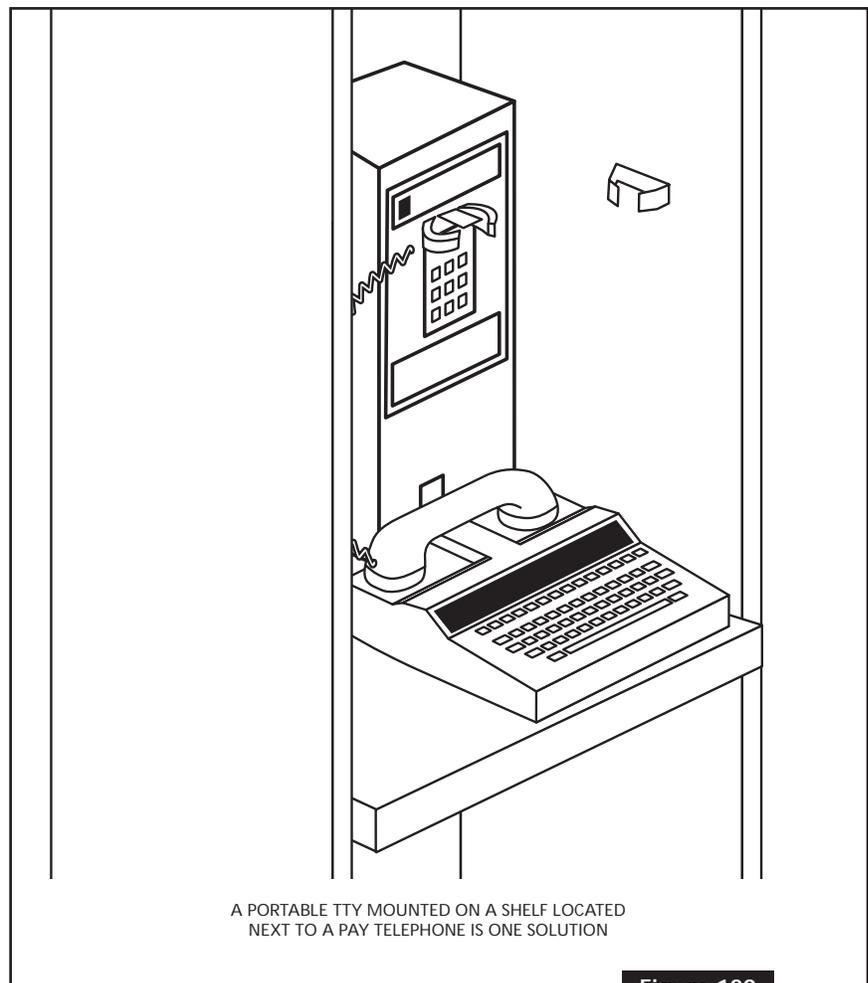


Figure 129

2.4.6 Controls and Operating Mechanisms

- All controls and operating mechanisms should be reachable and useable by persons with varying disabilities. (See Figures 130 and 131)
- All controls, operating components or dispensing slots should be mounted between 610 mm and 1200 mm from the floor, to allow easy access by persons using mobility aids.
- Controls and operating mechanisms should be clearly visible and identifiable by a distinct colour or tone compared to the background colour. The colour brightness or contrast should be 70% or greater for best visibility for persons with visual limitations. Note: Yellow on a black background is an acceptable contrast, however, grey on black provides insufficient contrast.
- Instruction information detailing the use of key controls or operating mechanisms should be clearly visible in large print text, on a highly contrasting background. Instructions should be mounted close to key controls or operating mechanisms for easy identification by all users.
- Lever type controls or raised push buttons, no smaller than 13 mm in diameter, are generally recommended.
- All light switches, thermostats and fire alarm pull stations etc., should be mounted no higher than 1200 mm.
- All duplex receptacles should be mounted no lower than 460 mm from the floor and no higher than 1065 mm (e.g., above counters or work surfaces).

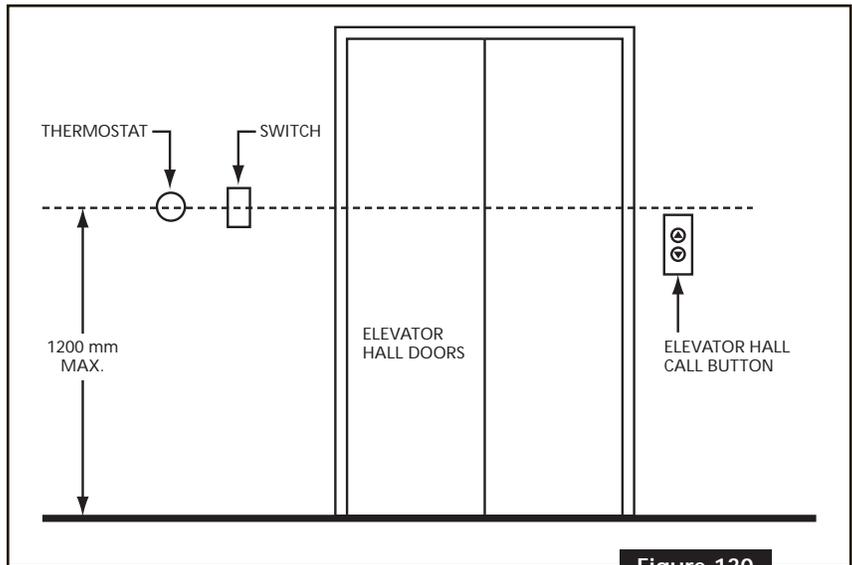


Figure 130

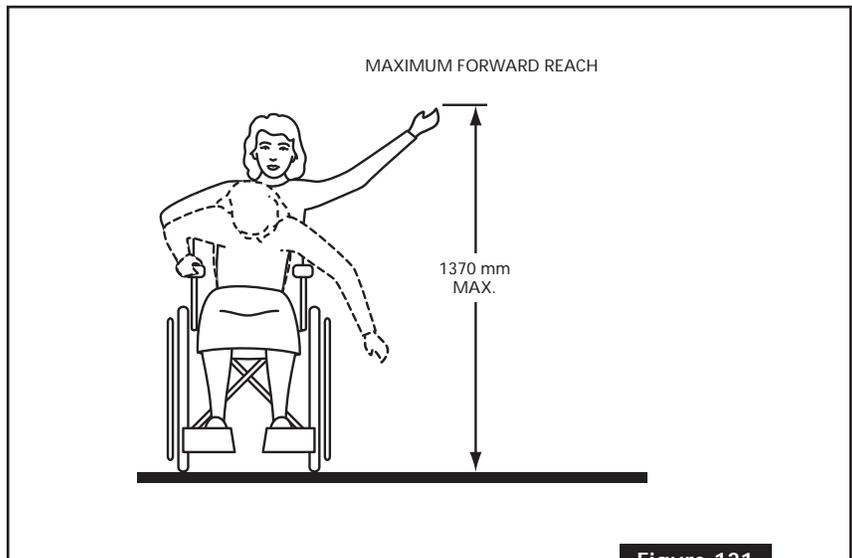


Figure 131

2.4 INTERIOR SYSTEMS AND CONTROLS

2.4.7 Electrical Power

Electrical power should be sufficient to allow supplementary lighting and communication devices to be added wherever needed to benefit various persons with disabilities who use the facility or site.

- Emergency power should be sufficient to ensure adequate emergency lighting levels, the use of elevators and other key operating components and/or systems during a power outage, in all major areas of the facility, along all paths of travel to exits and in all designated safe holding areas.
- An emergency powered duplex receptacle should be provided in all commercial, institutional, and other occupancies which facilitate overnight accommodations, designated for use by persons with disabilities.

2.4.8 Fire/Emergency Systems and Signals

Fire alarm signals should include both audible and visible components to alert persons with sensory limitations. (See also Section 2.2.6, Safe Holding Areas and Section 2.4.2, Audible Signals)

- Audible signals should provide distinctive sounds and be of sufficient power to be heard clearly above the ambient noise in the environment.

- Audible signals for two-stage evacuation should have distinct noises/sounds in each stage (e.g. be distinguishable from each other). (See Figure 132)
- Announcements regarding fire-exiting procedures should be loud enough to carry above ambient noise levels and be preceded by a distinctive sound, in order to alert building occupants.
- Visible flashing signals should be utilized. Note: the pulse of visible flashing signals should be tested to ensure that it does not trigger epileptic seizures.
- Signals should be mounted high on the walls and should be easily visible against background colour and lighting.
- In facilities serving persons who are blind or who have visual limitations, increased warning signage should be provided.
- Portable vibratory alarms should be considered to supplement auditory signals, for persons (including staff) with hearing limitations who are permanent occupants of a building or institution, or who are overnight guests in a hotel.

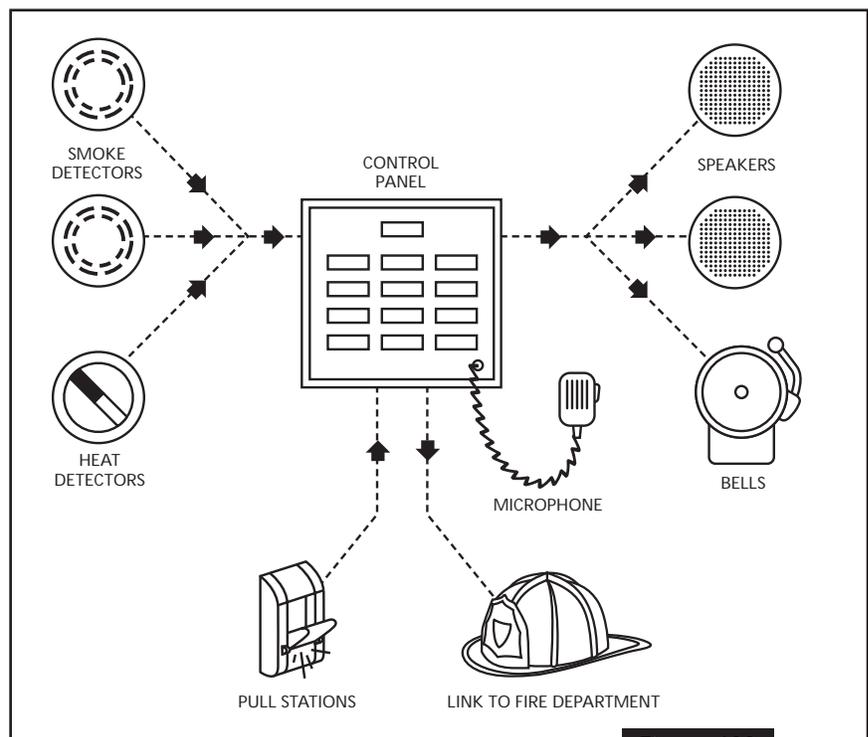


Figure 132

2.4.9 Heating, Cooling, and Ventilation Systems

Heating, cooling and ventilation systems should be designed to accommodate persons whose circulatory systems are inadequate. For instance, many seniors and persons using mobility devices have difficulty sensing temperature differences because of poor circulation or body tone. When the ambient temperature is too high or too low, they may become dehydrated or suffer from hypothermia.

- Ambient air temperature in facilities serving persons who are either: frail, seniors or persons with disabilities, should be designed to operate between 21° C and 26° C (70° F and 79° F) at all times of the year.
- The humidity in the air of residential facilities and institutions serving seniors or persons with disabilities, should be designed to operate between 30% - 40%, (especially during the winter months), to aid proper skin care.
- Mechanical, ventilation and air-cooling systems should be designed so that the air flow from diffusers/grills is not directed towards persons lying in bed or toward permanent seating or working locations.

- To minimize noise from air handling systems in meeting, work and study areas, it is recommended that fan mounts be acoustically isolated. Related ductwork should be insulated to aid persons with hearing limitations.

2.4.10 Information Systems and Directories

- Information systems providing direct information to the public need to be comprehensible to a wide variety of users, including persons with sensory disabilities. (See also Section 2.4.5, Communication Systems)
- Where essential auditory information is available, (e.g., on audiotape, by telephone or other means), it should be complemented by suitable printed material.
- Essential print information should generally be printed in large text (e.g., 12-14 pt bold) on a highly contrasting background colour. Print information should also be available in alternate formats, including braille or audiotape, for use by persons who have visual limitations.
- Information typically available on visual display screens should also be available in other formats, including audiotape or large print.
- On display monitors, consideration should be given to include an enlarging function for persons with low vision.
- Information systems designed for direct access by the general public, (e.g., video display terminals with keyboard or keypad access) should be easy to operate, require little physical effort and be mounted at a height suitable for use by persons with mobility aids (e.g., 1200 mm.)
- Push-buttons (or other controls) accessing public information systems should be clearly identifiable by colour and/or tone from the background colour, with a contrast of 70% or greater. Push-buttons or other controls should include raised numbers, numerals or symbols for easy identification by persons who have visual disabilities. (See also Section 2.4.6, Controls and Operating Mechanisms)
- Lighting levels at keyboards or other controls should be evenly distributed at no less than 200 lux (20 ft. candles).
- Visual display screens, in public information or display systems, should be mounted to ensure there is no direct glare (e.g., from artificial or natural lighting) on the surface of the screen.

2.4.11 Artificial Lighting

- Artificial lighting and natural light sources should provide comfortable, evenly distributed light at all working surfaces on the floors of all circulation routes and in all areas of potential hazard, to aid persons with low vision.
- Light sources and fixtures should be selected to minimize direct or indirect glare from nearby reflective surfaces and to ensure that persons with low vision can navigate safely.
- Lighting design should ensure that the quality of light is close to a full spectrum as possible to aid in edge and colour definition by persons who have visual disabilities. Where fluorescent or quartz light sources with a high blue content are used, they should be offset with incandescent lights. This ensures the warm end of the spectrum provides appropriate colour definition.
- Light fixtures with multiple pinpoints of high intensity light should be avoided, as they add an unnecessary source of glare and leave an after image on the retina for persons with low vision.
- Lighting should be laid out to create even distribution at floor level, and to minimize pools of light or areas of shadow. Such variations in lighting levels are confusing to many seniors and persons with low vision.

- The leading edges of stairs, steps, ramps or escalators should be evenly lit to minimize tripping hazards. Low-level lighting is also desirable in special locations, (e.g., theatres) to aid in safe navigation by all users.
- Lighting levels in elevator lobbies should be similar to the lighting levels in elevator cabs in order to minimize tripping hazards. Lighting levels in elevator lobbies are recommended to be no less than 100 lux (10 ft. candles), at the threshold of the elevator.
- Emergency lighting over interior stairs and ramps, in exits, or other paths of travel, is recommended to be whenever reasonable 100 lux (10 ft. candles) at the walking surface and 50 lux (5 ft. candles) in exterior locations.
- Lighting over directional or informational signage at public telephones, informational/service counters, automatic teller machines, or other keypad operations, should be no less than 200 lux (20 ft. candles) at the working or information surface.
- Lighting over lecterns, podiums, platforms or other speaker locations should be capable of being enhanced, even when other lighting is dimmed, to permit lip-reading and a view of any of the hand actions (i.e., from ‘signers’) used to communicate with persons who are deaf.

2.4.12 Natural Lighting

- Wherever possible, natural light should be utilized to assist in lighting entrances, corridors and major workspaces. However, care should be taken to minimize direct glare (e.g., reflected from floor or work surfaces) that is problematic for persons with visual disabilities.

2.4.13 Listening Devices

- In public meeting or assembly areas serving a number of people, consideration of the needs of persons who are deaf or hard of hearing should be included.
- An FM loop, or other assistive listening system, are recommended to be considered for all meeting rooms or assembly and entertainment areas, serving more than 35 persons. (See Figure 133)
- Where infrared assistive listening devices are used, ensure that no overhead incandescent lights cancel out the infrared signal at the receiver.
- In meeting areas, dimmer switches (or other transformer coils) should be carefully located so as not to cause electro-magnetic interference with any audio induction loops.

- Where an FM loop system, or other assistive listening device is provided in public buildings or meeting areas, portable headsets compatible with personal hearing aids should be made available to persons who may require them. (See Figure 133)
- Where an induction loop system is utilized, only half the seating area will need to be encompassed.
- Every theatre intended for viewing of motion pictures shall accommodate described video and the installation of rear-view captioning in conformance with the Ontario Building Code.
- Larger meeting rooms should be designed and furnished to allow a clear view of the speaker(s) at all times. (See also Section 2.4.1, Acoustics)

as well as in common use areas located in institutional settings.

- Public address systems should preferably be zoned so that information can be directed to key locations only, to minimize background noise in other areas of the building.
- Where public address systems are used to broadcast background music, care should be taken to ensure that it is only in selected (zoned) areas of the facility, and that the system can be switched off in localized areas, when required.
- All-point call systems should only be utilized for fire and emergency information (i.e., not for paging staff).

- Personal alarm, staff or other call systems (e.g., nurse call), should be selected with care and according to the requirements of the particular setting or user. Call systems should always be used with discretion.
- Paging systems for use by staff or other key personnel should be selected to be discreet and low in volume. Systems should only sound at devices or locations where such persons might reasonably be expected to be located. (See also Section 2.4.5, Communication Systems)

2.4.15 Telephones

- See Part 1: Section 1.4.6, Public Telephones, and Section 2.4.5, Communication Systems. (See also Figure 129)

2.4.14 Public Address Systems

- Public address systems should be easy to hear above ambient background noise, without distortion or feedback, as an aid persons with hearing or visual limitations.
- Public address speakers should be mounted above head-level and provide effective sound coverage in required areas such as corridors, assembly and meeting rooms, recreational, entertainment and educational facilities,

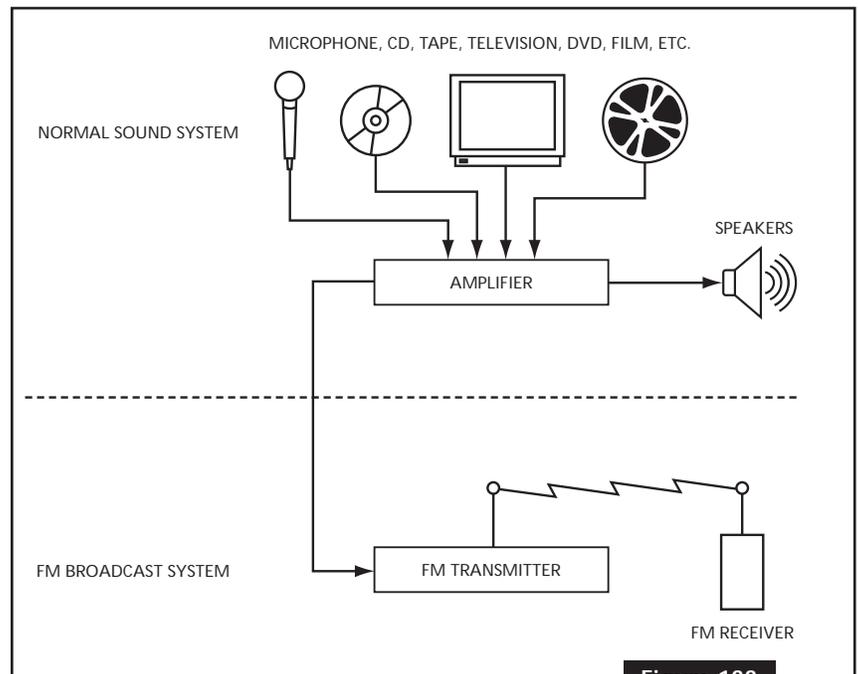


Figure 133

2.4.16 Signage and Way-finding

- Persons with visual limitations, seniors, persons with cognitive limitations and persons whose primary language is not English, may be highly dependent on a comprehensive signage system, for orientation and way-finding in large or complex buildings, where public services or programs are provided. Such signage and complementary way-finding strategies must be logical, consistent in design and distribution throughout the building and include lettering, numbers, pictograms or icons that are legible and easy to comprehend. (See Figures 134, 135, 136, 138 and 139)
- All directional signage and locational signage should be mounted at eye-level, between 1370 mm and 1525 mm high, for quick and easy identification by persons who have visual limitations. (See Figure 137)

- Room numbers or names should be mounted on the wall close to the opening side of the door, preferably within 305 mm of the doorframe as a constant reference location.



Figure 134



Figure 135

- Lettering for room numbers or names should be no smaller than 25 mm high in sans serif type print and be in a highly contrasting colour (70% or greater), compared to the background colour. Raised lettering is preferred for easy identification by persons with visual disabilities.
- Lettering or signs providing general directions should be in large size print that is legible from normal viewing distance(s). (See Figure 141)
- Directional, instructional information, or maps showing exiting details for emergency situations should be located on every floor of large buildings providing services or programs to the public.

- For Braille users, braille information should be located immediately below all room numbers and names, as well as below any major directional signs. (See Figure 142)

- In larger public facilities, a tactile map of the facility showing the distribution and location of key areas/spaces should be provided in the main entrance lobby. In large complex buildings such as hospitals, tactile maps may be required on each floor and should be located close to the major point of arrival to the floor (e.g., elevator lobby).



Figure 136

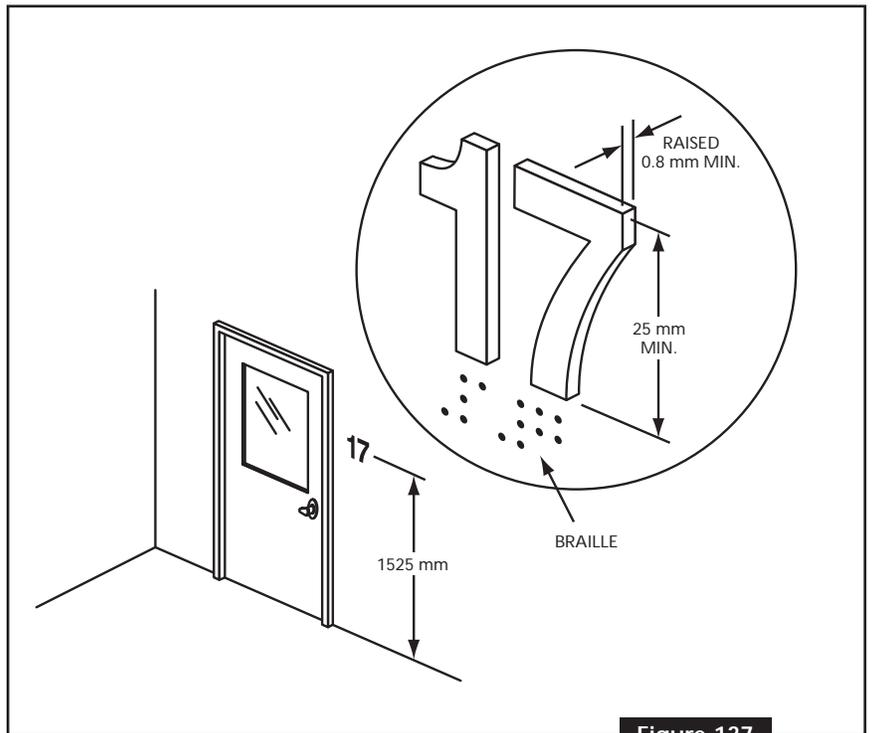


Figure 137

2.4 INTERIOR SYSTEMS AND CONTROLS

- Where special exiting instructions are provided for persons with disabilities, (e.g., directions to safe holding areas), this information should be in large print on a highly contrasting background for easy identification and legibility by persons with low vision. (See Figure 140)
- For exiting and fire alarm signage, (See OBC requirements).
- For signage relating to elevators, (See CAN/CSA B.355 and CAN/CSA B.651 Appendix C for Tactile Signage).

2.4.17 Ticketing Machines

- Both interior and exterior ticketing machines for parking, fares, or general admission etc., should be accessible to persons with limited manual dexterity, persons using mobility devices and persons with low vision.

- Ticket dispensing machines should not have operable or dispensing parts higher than 1200 mm or lower than 915 mm from floor level.



Figure 138

Figure 139



Figure 140

- Control buttons or card access locations should be easy to identify and useable by persons with low vision or limited manual dexterity. (See also Section 2.4.6, Controls and Operating Mechanisms)

2.4.18 Video Display Terminals

- See Section 2.4.10 Information Systems and Directories, Section 2.4.11(a), Artificial Lighting and Section 2.4.12(b), Natural Lighting.

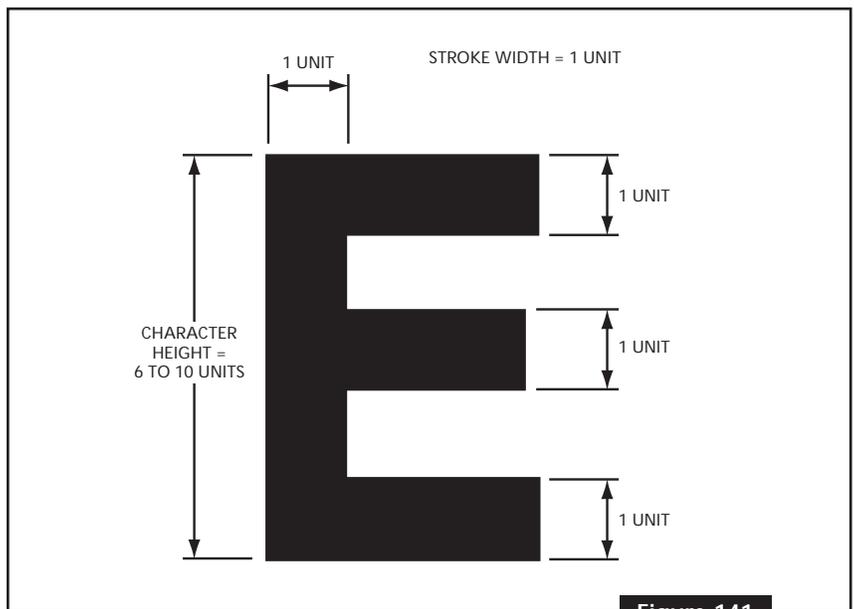


Figure 141

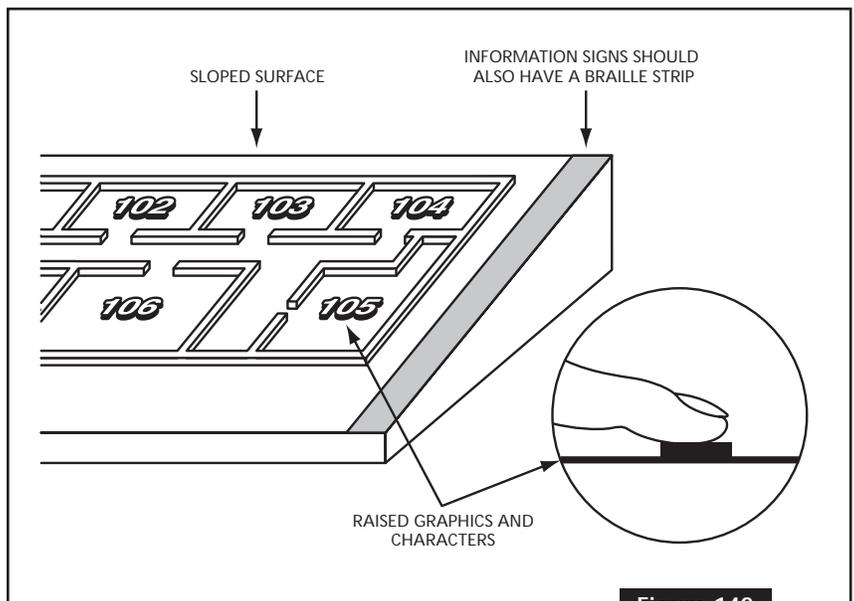


Figure 142

POLICY

Members of the public, regardless of age or disability, should be able to access and use all public facilities, services and programs. Wherever possible, staff and support areas of such facilities should be able to accommodate persons with disabilities as visitors, consultants or as employees.

2.5.1 Arenas

- Sports arenas (including all coaching and playing areas) should accommodate persons with varying disabilities, as well as persons who use mobility aids (e.g., wheelchairs and scooters).
- Accessible seating locations should have clear sight lines. Because of the increase in size of wheelchairs and scooters it is recommended the accessible seating space to be a minimum of 900 mm wide by 1500 mm deep for side approach. At least two (2) spaces should be provided together in each location with direct access to an accessible aisle or passageway. (See Part 1: Section 1.3.7, Grandstands and Viewing Areas and Figures 38 and 39)

- The minimum number of accessible seating locations is: 2 for the first 100 seats and 1 seat for each successive 100 seats.
- Access panels, with a minimum of 865 mm clear entry width, should be provided for all users to access the arena floor or ice surface.
- Changing/Locker Room accommodation for athletes or others should be designed to accommodate all persons with disabilities, including users of mobility aids. (See Figures 143, 144 and also Section 2.3.10, Public Showers and Changing Rooms)
- Public washrooms should be accessible to athletes, visitors, or staff with various disabilities.
- Staff accommodation and related support areas, offices or meeting rooms should accommodate persons with mobility aids. (See also Section 2.5.15, Meeting Areas, Assembly Rooms and Theatres)



Figure 143

Figure 144

2.5.2 ATM's / Bank Machines

- Automated Banking Machines, including display units, keyboards and signage should be securely mounted and designed for use by persons with various disabilities.
(See Figures 145 & 146)

- There should be a minimum clear floor space of deep X wide (1220 mm X 915 mm) and (685 mm) knee space, in front and underneath automated banking machines, so that persons using wheelchairs can reach them easily.
- All Automated Banking Machine related controls, switches, panels, card and cash handling devices, should be mounted no higher than (1220 mm) from the floor and be usable by persons with limited hand-eye coordination.
- Automated Banking Machine controls, switches, depositories, and display terminals should be easy to identify and use by persons with limited vision or dexterity.
- Display Terminals should include Braille instructions and large print text for persons with limited vision.
- Voice or sound cues should be provided in addition where specific sequences or instructions are to be followed.

- Volume controls should be available for persons with limited hearing wherever voice instructions are provided.

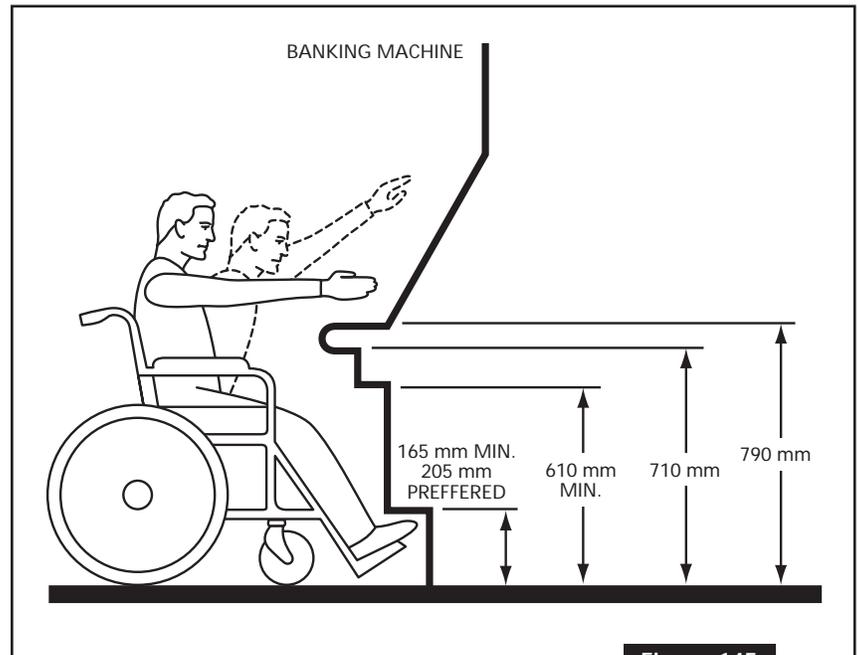


Figure 145

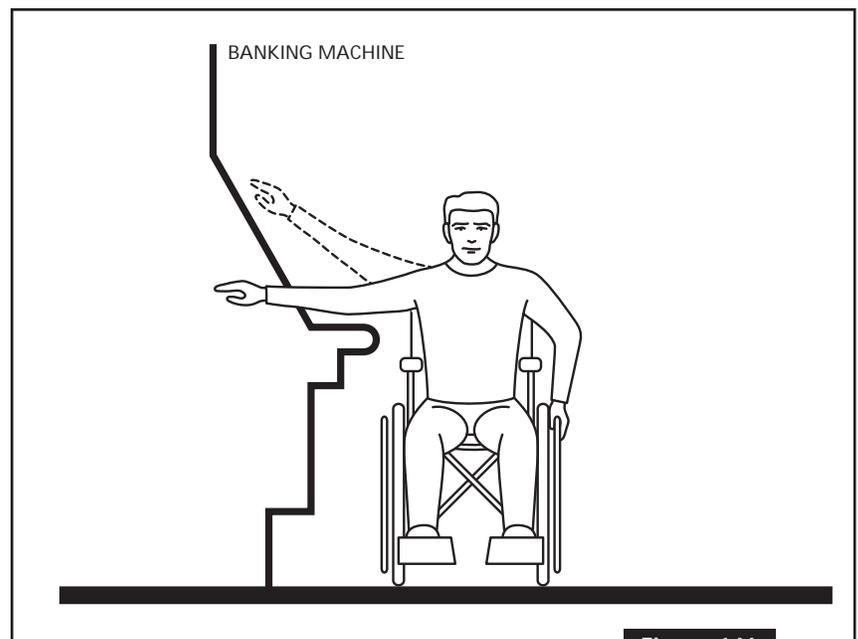


Figure 146

2.5 SPECIAL FACILITIES AND AREAS

2.5.3 Cafeterias, Restaurants, Dining Areas and Bars

- Cafeterias, restaurants, cafés, bars, and/or other areas providing food or beverage services, should be accessible to persons with varying disabilities, including persons using mobility aids.
- Accessible seating locations for persons using mobility aids should be available in all areas or levels, providing food or beverage services.
- Aisle spaces between furniture, equipment or other fixed objects should be wide enough to allow a person using mobility aids to pass, i.e., major aisles should be a minimum of 1065 mm wide. The narrowest aisle should be at least 810 mm wide. (See Figure 147)
- Where counter service is provided, at least one section of the counter should be no higher than 915 mm by 760 mm wide, to allow a person using a wheelchair or scooter to approach. (See Figure 148)
- Where cafeteria or buffet style food services are provided, displays should be accessible and mounted on surfaces no higher than 915 mm from the floor. Overhead display shelves should be no higher than 1220 mm (e.g., for desserts and salads etc.).

Cutlery, condiments, and napkin containers etc., should be mounted no higher than 1065 mm from floor level. (See Figure 148)

- Beverage dispensing areas should be accessible to persons using wheelchairs or scooters with machines that are easy to operate with one hand. (See also Section 2.4.6

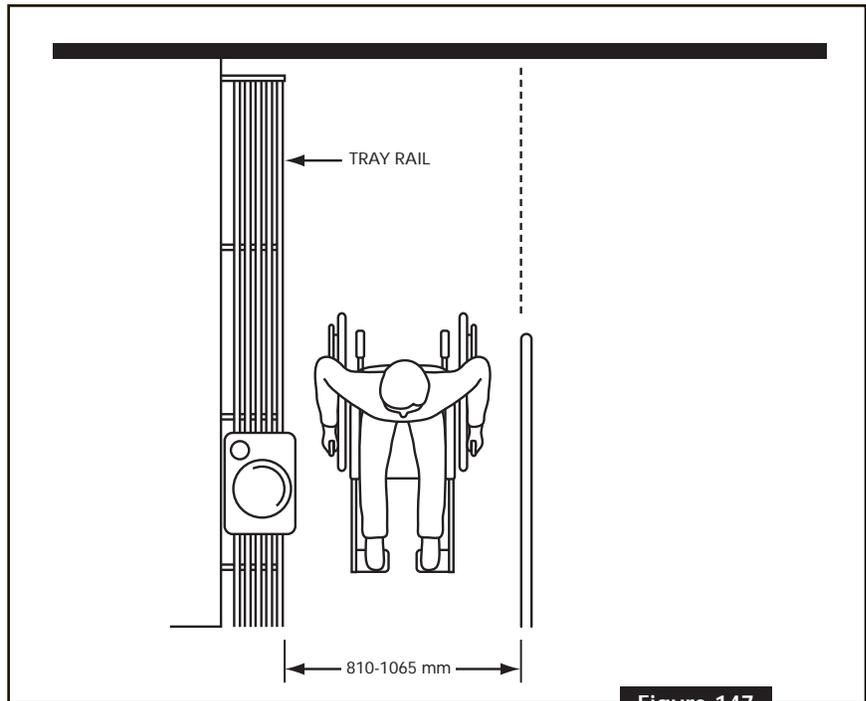


Figure 147

Controls)

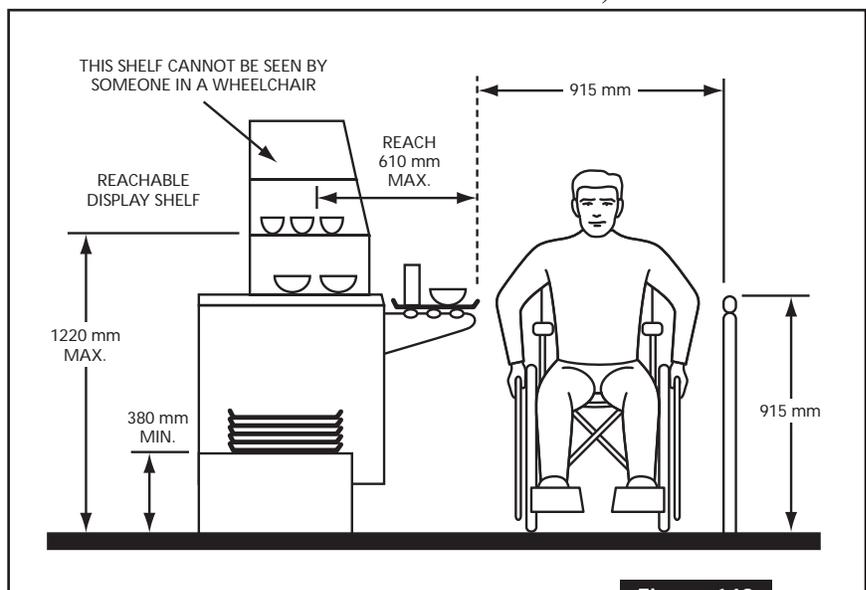


Figure 148

- Where tray rails are provided, they should be as continuous as possible to allow persons using wheelchairs or scooters to slide a tray along easily. (Note: Random access cafeteria set-ups are generally not recommended, as they are difficult for persons with visual impairments to comprehend, and difficult to use by persons who are mobility impaired).
- Cashier locations should include accessible aisles, a minimum of 915 mm wide with clear resting surfaces for trays etc. Surfaces should be mounted no higher than 915 mm from the floor. (See Figure 149)
- Where barriers and turnstiles are provided to control access, at least one accessible location should be included at a minimum of 915 mm wide.
- For queuing areas (See also Section 2.2.8, Turnstiles and Control Gates and Section 2.5.3, Cafeterias, Restaurants, Dining Areas and Bars)
- For vending machines (See Section 2.3.13, Vending Machines)
- For access to outdoor eating areas etc. (See Part 1: Section 1.3, Special Areas and Features)

2.5.4 Churches and Places of Worship

- All public areas in churches and places of worship should be accessible to persons with varying disabilities, including main areas of worship, meeting rooms, washrooms, coatrooms and offices.
- Accessible seating locations, in addition to fixed seating, should be provided for persons using mobility aids. Such locations should be distributed in various places to ensure that persons with disabilities can sit with other family members or friends. The recommended proportion of accessible seating is 2 for each 100 seating locations or 2%.

- For accessible entrances, (See Section 2.1.4, Entrances)
- For accessible washrooms, showers, coatrooms, etc., (See Section 2.3.1, Coat Closets and Coat Racks, Section 2.3.10, Public Washrooms and Changing Rooms)
- For office and meeting room areas (including classrooms, Sunday school areas, etc., (See Section 2.5.15, Meeting Rooms, Assembly Areas and Theatres)

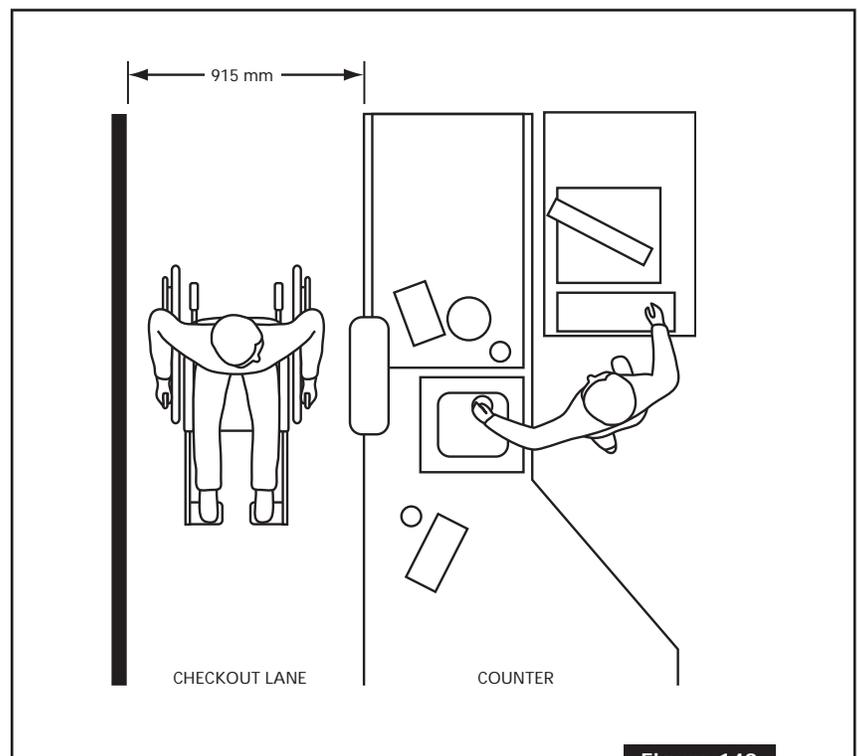


Figure 149

- For raised areas e.g.: pulpits, altars, daises, choir areas, etc., (See also Section 2.3.9 Platforms and Daises and Section 2.5.17, Schools and Continuing Education Centres)
- For public address systems and listening devices (See Section 2.4.5, Communication Systems, Section 2.4.13, Listening Devices and Section 2.4.14, Public Address Systems)
- For lighting systems (See Section 2.4.11, Artificial Lighting and Section 2.4.12, Natural Lighting)

2.5.5 Office Buildings

- Offices providing services or programs to the public should be accessible to everyone, including staff, regardless of age or disability.
- Accessible offices and workspaces should be able to accommodate persons using mobility aids in all areas of the building or site.
- All support areas and amenities provided for both the public and employees should be accessible to persons using mobility aids, as well as persons with limited vision or hearing.
- For public information areas and services (See Section 2.1.9, Waiting Areas, Section 2.3.5, Information and Service Counters, Section 2.4.5, Communication Systems and Section 2.4.10, Information Systems and Directories)

- For signage and way finding (See Section 2.4.16, Signage and Way-finding).
- For public meeting areas (See Section 2.5.15, Meeting Rooms, Assembly Areas and Theatres).
- For public washrooms (See Section 2.3.10, Public Washrooms and Changing Rooms).
- For fire and life safety (See Section 2.4.8, Fire Emergency Systems and Signals, Section 2.4.14, Public Address Systems and Section 2.6.4, Fire and Life Safety).

2.5.6 Clinics

- All facilities providing health care services to the public should be fully accessible to seniors and persons with varying disabilities.
- Public health, out-patient, physiotherapist, chiropractic clinics, doctor's offices, dental offices, diagnostic and treatment settings should be designed to be fully accessible to persons using mobility aids.
- All clinic, diagnostic, treatment or support areas, including offices, consultation and treatment cubicles, should be large enough to accommodate persons using wheelchairs/scooters with no internal aisle less than 1100 mm wide and doorway less than 865 mm wide, between walls or door stops.

2.5.7 Community Centres

- Community Centres by their very nature, offer various programs and activities to a wide range of public participants of all age groups. Amongst these are senior citizens and mothers with small children. Such centres should be fully accessible to persons with varying disabilities, both as members of the public and as employees.
- All public areas of Community Centres should be designed to be accessible to persons using mobility aids, as well as persons with sensory limitations.
- For general access requirements (See Section 2.1.4, Entrances, Section 2.1.7, Thresholds, Section 2.2.1, Aisles and Passageways and Section 2.2.2, Corridors and Hallways)
- For public meeting and assembly areas (See Section 2.5.15, Meeting Rooms, Assembly Areas and Theatres)
- For public display or exhibition areas (See Section 2.5.9, Display, Exhibition Areas, Galleries and Museums)
- For recreation facilities, swimming pools and arenas (See Section 2.5.1, Arenas, Section 2.5.10, Gymnasium, Section 2.5.11, Ice-Rinks, Section 2.5.15, Recreation Facilities and Section 2.5.23, Swimming Pools)

- For public amenities such as washrooms, showers, changing, cloakrooms, and public telephones, etc. (See Section 2.3.1, Coat Closets and Coat Racks, Section 2.3.10, Public Washrooms and Changing Rooms)
- For public libraries (See Section 2.5.13, Libraries)
- For signage and way finding (See Section 2.4.16, Signage and Way-finding)
- For building systems, heating, lighting, ventilation and communications (See Section 2.4.1, Acoustics, 2.4.5, Communication Systems, 2.4.7, Electrical Power and Section 2.4.9, Heating, Cooling and Ventilation Systems)

2.5.8 Courthouses, Detention Areas and Police Stations

- Public, administrative and holding areas of courthouses, police stations and related detention areas should be accessible to persons with varying disabilities, whether as prisoners, members of the public, advocates, counselors, or as support staff.
- All court rooms and public areas of courthouses should be fully accessible to persons using mobility aids.

- All offices, meeting rooms, holding areas, changing areas or other support facilities available to members of the legal fraternity, the police or support staff should be accessible to persons with varying disabilities.
- Special holding/detention areas and visitor areas should be designed to accommodate persons using mobility aids, including all access routes from prisoner arrival areas through to the courtroom or meeting and interview rooms.
- For general accessibility requirements, for entrances, hallways, stairs, etc. (See Section 2.1.4, Entrances, Section 2.2.1, Aisles and Passageways, Section 2.2.2, Corridors and Hallways and Section 2.2.7, Stairs and Steps)
- For assembly or meeting areas (See Section 2.5.15, Meeting Rooms, Assembly Areas and Theatres)
- For accessible washrooms, changing areas and locker rooms (See Section 2.3.10, Public Washrooms and Changing Rooms and Section 2.3.6, Lockers and Baggage Storage)
- For Signage and way finding (See Section 2.4.16, Signage and Way-finding)

2.5.9 Display, Exhibition Areas, Galleries and Museums

- All displays or exhibits whether in permanent or temporary locations, should be capable of being accessed, enjoyed and understood by persons with varying disabilities.
- Exhibition and display spaces should be fully accessible to persons using mobility aids. Aisle spaces between exhibits or study areas should be at least 1065 mm.
- Exhibits should be mounted so that a person using a wheelchair can look at the exhibit easily from a seated position. Where exhibits are displayed in horizontal or inclined cases, they should be mounted no higher than 915 mm and wherever possible, include knee space below at 700 mm high to allow a direct approach by a person using a mobility aid (e.g., to approach book displays or small object displays).
- For persons with visual limitations, tactile exhibits should be available (e.g., sculptural pieces), with nearby information printed in large print text, Braille, or provided on an audiotape.

- Where audio-information is provided for persons who are hard of hearing, some consideration of increased volume on personal cassettes as well as compatibility with hearing aids is desirable. Written text should also be available.
- Lighting in exhibit and display areas should be capable of being enhanced in key locations for specific exhibit enjoyment by persons who have visual limitations.
- Lighting at display cases should be designed to minimize reflected glare.

2.5.10 Gymnasium

- A gymnasium, whether part of an educational or a recreational setting, should be accessible and useable by persons with varying disabilities.
- The main floor or exercise areas of gymnasiums should be fully accessible to persons using mobility aids, including all related changing areas, showers, washrooms, and lockers. (See Section 2.3.10, Public Washrooms and Changing Rooms and Section 2.3.6, Lockers and Baggage Storage)
- Seating areas provided as bleachers or galleries overlooking the gymnasium floor should be accessible to persons using mobility aids.

- For persons who have visual limitations, care should be taken to ensure that there are no obstacles in the gymnasium area that might constitute a hazard (e.g., unprotected floor slots for equipment mounting, the underside of bleacher areas, signs, brackets, or equipment protruding from the walls). (See also Section 2.6.7, Obstacles)

2.5.11 Ice-Rinks

- Ice-rinks, whether indoors as part of an arena, or outdoors as part of a park's winter function, should be accessible to and useable by persons with varying disabilities.
- All public amenities and viewing areas should be accessible to persons who have varying disabilities including persons using mobility aids.
- Many persons who have visual limitations may wish to attend hockey games, listen to the plays, and enjoy the noise, smells, and camaraderie of the game. Spaces should be provided where they can optimize this desire.

2.5.12 Hospitals and Health Care Facilities

- All facilities providing health care services to the general public or to private clients should be fully accessible to persons with varying disabilities.
- All arrival and entrance areas should be fully and autonomously accessible to persons using mobility aids and to persons with visual limitations. (See Section 2.1.4, Entrances)
- All waiting, admission, diagnostic, consultation and treatment areas should be fully accessible to persons using mobility aids. (See also Section 2.1.9, Waiting Areas and 2.3.5, Information Systems and Directories)
- All essential support areas that are available to the public or clients should be accessible to persons with varying disabilities. (See Section 2.3.5, Information and Service Counters and Section 2.4.10, Information Systems and Directories)
- All client rooms for short or long-term accommodation, including any attached washrooms, clothing storage areas or lounges, should be accessible to persons using mobility aids. (See also Section 2.1.9, Waiting Areas and 2.3.10, Public Washrooms and Changing Rooms)

- Heating, ventilation and communications systems should be appropriate for persons with varying disabilities. (See Section 2.4.9, Heating, Cooling and Ventilation Systems)
- All communication systems, such as nurse calls, telephones or public address systems, should be appropriate for persons with varying disabilities. (See Section 2.4.14, Public Address Systems)
- Study tables should be designed to accommodate persons using mobility aids, with clear knee space of at least 700 mm high.
- Shelving over study carrels, tables or study counters should be no higher than 1220 mm to allow an easy forward reach over the working surface. (See Section 2.3.12, Vanities and Work Sections)
- Acoustic quality in library, reading and study areas should limit extraneous background noise, permitting comprehension by persons with limited hearing. (See Section 2.4.1, Acoustics)
- Where CD's, taped information and talking books etc. are available to seniors, children with disabilities, or persons with visual limitations as part of the libraries resource materials, a separate space should be set aside so that materials can be audited without disturbing other library users. (See also Section 2.4.5, Communication Systems)

2.5.13 Libraries

- All library areas, including checking areas, book stacks and reading/teaching spaces, should be accessible to seniors and persons with varying disabilities.
- Book return and checking area counters should be designed to be accessible to persons using mobility aids.
- Book stack areas should have aisles preferably 1065 mm wide, or a minimum of 915 mm wide, to allow easy access and maneuverability by persons using mobility aids. (See Figure 150)
- Lighting at book stacks should be mounted directly over the aisle space and provide a minimum of 200 lux (20 ft. candles) at normal working height (i.e., 915 mm approx.), as a benefit to seniors and others with low vision.

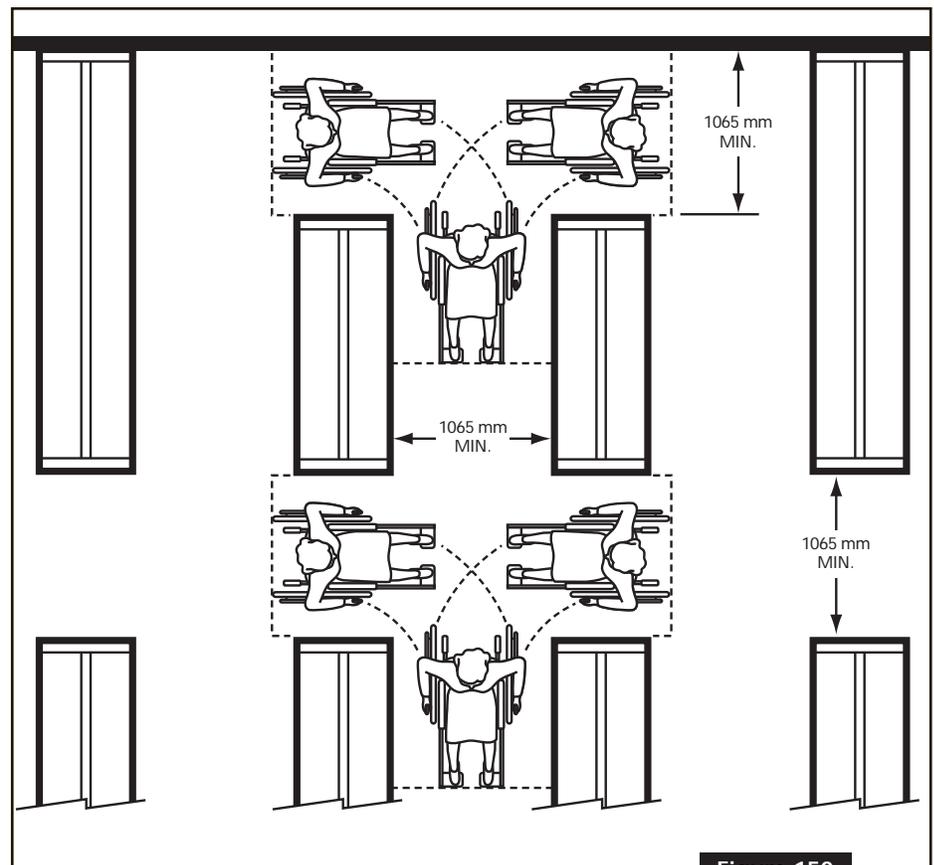


Figure 150

2.5.14 Long Term Care Facilities

- Facilities (including Retirement Houses, Homes for the Aged, Group Homes, Nursing Homes or Chronic Care Facilities) providing residential or long-term care to seniors, or persons with physical or mental disabilities, should be designed to be fully accessible to persons with varying disabilities.
- While the primary motivation is to provide a home-like environment for persons in long term care with enough activity and support space for typical programs and services, it is also critical that needed accessibility components that support reduced physical ‘ability’ or intellectual competence is integrated as subtly as possible.
- For entrances, primary circulation and public amenities (See Section 2.3.5, Information and Service Counters, Section 2.3.10, Public Washrooms and Changing Rooms, Section 2.4.6, Controls and Operating Mechanisms, Section 2.4.16, Signage and Way-finding and Section 2.6.7, Obstacles)
- For fire and life safety (See Section 2.4.8, Fire Emergency Systems and Signals, Section 2.4.14, Public Address Systems and Section 2.6.4, Fire and Life Safety)
- For interior building systems (See Section 2.4.1, Acoustics, Section 2.4.7, Electrical Power, Section 2.4.9, Heating, Cooling and Ventilation Systems and Section 2.6.5, Maintenance)
- For washrooms, showers, and bathing areas (See Section 2.3.10, Public Washrooms and Changing Rooms)
- For care and treatment areas (See Section 2.5.6, Clinics, Section 2.5.12, Hospitals and Health Care Facilities, Section 2.5.14, Long Term Care Facilities and Section 2.5.18, Seniors Housing)
- For resident activity and recreation areas (See Section 2.5.10, Gymnasium, Section 2.5.11, Ice-Rinks, Section 2.5.16, Recreation Facilities and Section 2.5.23, Swimming Pools)
- For resident dining areas (See Section 2.3.2, Door and Cupboard Hardware, Section 2.5.3, Cafeterias, Restaurants, Dining Areas and Bars and 2.5.19, Residential Kitchens)
- For interior design, furniture, finished, colour and texture (See Section 2.1.6, Mats and Mat Sinkages, Section 2.3.4, Equipment and Furniture, Section 2.6.1, Texture and Pattern, Section 2.6.2, Floor Surfaces/Textures, Section 2.6.3, Colour and Tone, Section 2.6.6, Materials and Finishes, Section 2.6.8, Pattern and Section 2.6.9, Glare and Light Sources)
- For communication systems (See Section 2.4.5, Communication Systems)
- For signage and way finding (See Section 2.4.16, Signage and Way-finding)
- For exterior areas, parking, entrances, walkways and gardens, patios, etc., (See Part 1: Section 1.2.1, Accessible Routes to Entrances, Section 1.1, Exterior Routes, Section 1.1.7, Paths, Sidewalks and Walkways, Section 1.2.1, Accessible Routes to Entrances, Section 1.2.5, Parking and Section 1.3.2, Outdoor Eating and Entertainment Spaces: Balconies and Terraces) (See Part 2: Section 2.1.1, Canopies and Weather Protection, Section 2.1.2, Doors and Doorways, Section 2.1.4, Entrances, Section 2.1.7, Thresholds and Section 2.2, Interior Routes)

2.5.15 Meeting Rooms, Assembly Areas and Theaters

- Meeting rooms and assembly areas, whether used by the public at large, by tenants or visitors to specific buildings, should all be designed to be accessible to persons with varying disabilities, including persons using mobility aids and persons with sensory limitations. (See also Section 2.2.1, Aisles and Passageways and Part 1: Section 1.3.7, Grandstands and Viewing Areas)
- Accessible seating should be distributed and integrated throughout seating areas of assembly rooms with different vantage points available to all persons with disabilities.
- All entertainment and assembly areas should be able to accommodate persons using various mobility aids. (See Figure 151)
- All meeting and assembly areas should be able to accommodate persons who have visual limitations. (See also Section Part 1: Section 1.3.7, Grandstands and Viewing Areas)

2.5.16 Recreation Facilities

- Recreational facilities providing programs or services to the general public and/or to special groups, and clubs etc. should be fully accessible to persons with various disabilities.
- All areas and amenities should be accessible to persons using mobility aids. (See Part 1: Section 1.1, Exterior Routes and Part 2: Section 2.1, Entrances)

- For persons with visual limitations in respect to circulation routes, signage and obstacles, (See Section 2.2, Interior Routes, Section 2.4.16, Signage and Way-Finding and Section 2.6.6, Materials and Finishes).
- For persons with hearing limitations (See Section 2.4.1, Acoustics, Section 2.4.5, Communication Systems and Section 2.5.15, Meeting Rooms, Assembly Areas and Theatres).

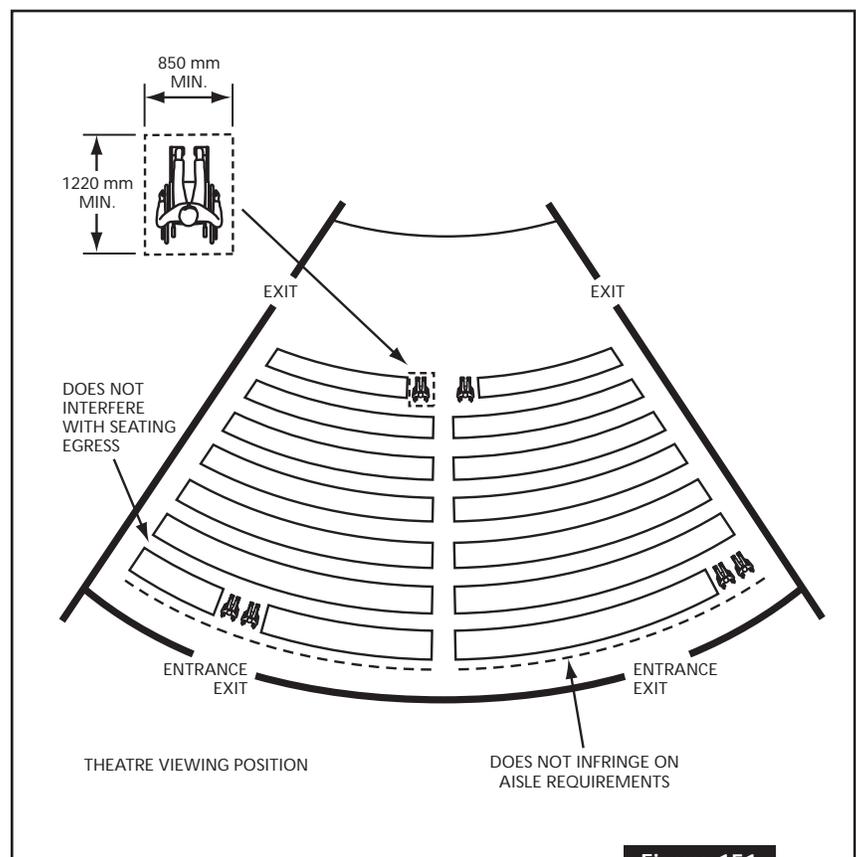


Figure 151

2.5.17 Schools and Continuing Education Centres

- Educational facilities serve a variety of age groups from pre-kindergarten children to seniors. All such facilities should be able to meet the needs of persons of all ages and with varying disabilities.
- For exterior areas, routes, playing fields, and other amenities, (See Section 2.5.1, Arenas, Section 2.5.10, Gymnasium, Section 2.5.11, Ice-Rinks, Section 2.5.16, Recreation Facilities, Section 2.5.23, Swimming Pools)
- For interior circulation and amenities (See Section 2.1.4, Entrances, Section 2.1.7, Thresholds, Section 2.2, Interior Routes, Section 2.2.2, Corridors and Hallways, Section 2.2.4, Elevators and Platform Lifts and Section 2.2.5, Interior Ramps)
- For classrooms and assembly areas, libraries, etc. (See Section 2.5.13, Libraries, Section 2.5.15, Meeting Rooms, Assembly Areas and Theatres and Section 2.5.17, Schools and Continuing Education Centres)
- For cafeterias (See Section 2.5.3, Cafeterias, Restaurants, Dining Areas and Bars)

- For swimming pools (See Section Part 1: Section 1.3.8, Outdoor Swimming Pools and Wading Pools and Section 1.3.16, Waterfront Areas) (See Part 2: Section 2.5.16, Recreation Facilities and Section 2.5.23, Swimming Pools)
- For Gymnasium (See Section 2.5.10, Gymnasium)
- For building services and systems (See Section 2.4.1, Acoustics, Section 2.4.7, Electrical Power, Section 2.4.9, Heating, Cooling and Ventilation Systems and Section 2.6.5, Maintenance)
- For Signage (See Section 2.4.16, Signage and Way-finding)

2.5.18 Seniors Housing

- Seniors housing projects typically accommodate persons from ages 55 to 95 and as many as 25% may have some form of physical disability. In many cases, younger persons with disabilities are also part of the specific population of tenants and have traditionally been assigned "accessible" units. However, to accommodate the needs of all seniors who continue to age and may accrue functional disabilities (particularly in those age groups over 75), it is wise to design the whole facility to be "universally accessible", i.e. useable by anyone with physical, sensory, or cognitive limitations.

- For exterior areas and amenities (See Part 1, Section 1.2, Arrival and Departure Areas and Section 1.4, Outdoor Amenities).
- For interior routes and amenities (See Part 2, Section 2.2, Interior Routes and Section 2.3, Interior Amenities).
- Within individual apartment units, it is recommended that all hallways to bedroom and bathroom doorways be a minimum of 1065 mm wide to provide sufficient clearance for users with mobility aids (note: a minimum of 810 mm between door stops is recommended).

2.5.19 Residential Kitchens

- All kitchens, kitchenettes or counter areas used for food preparation should be made accessible to persons using mobility aids, with aisles between counters no less than 1065 mm wide. Where possible, turning space for a wheelchair/scooter should also be available in dead end areas. A turning space of 1500 mm in diameter should be provided with clear knee space below counters. Suitable turning space and knee space below counters allows free movement and approach by persons using wheelchairs/scooters. (For variations in layout, see Figures 152 and 153).

2.5 SPECIAL FACILITIES AND AREAS

PART 2: INDOOR AREAS

- In accessible kitchens and kitchenettes, all cupboards, cabinets and pantries should be designed to be accessible to persons using mobility aids, with upper shelves no higher than 1370 mm from the floor for easy reach by persons using mobility aids. (See Section 2.3.2, Door and Cupboard Hardware)
- Kitchen stoves ideally should have front or side controls to minimize burns. Burns may occur from reaching over hot items or open burners. Automatic off-switches should be provided where possible, to control unattended/unused burners.
- Duplex receptacles (e.g., power outlets), where mounted above counter height, should generally be no higher than 1065 mm from floor level. Duplex receptacles should be located so that loose electrical cords do not cause a potential tripping hazard, especially for persons with visual limitations.
- Clear counter space, a minimum of 300 mm wide should be provided on both sides of stoves for safe operation.
- Where microwave ovens are installed, they should be located at counter height with a clear level area of counter in front, allowing easy transfer of food items. In general, larger microwave

and convection ovens are preferred by many persons with disabilities.

- Additional lighting should be provided over the sink, cooking and work surfaces to ensure safe use of facilities by persons with low vision or limited dexterity.
- For persons using mobility aids, consider the use of side-by-side refrigerator/freezer units to facilitate easier access.

- Generally, many persons with disabilities prefer "open concept" kitchens – a design that provides easier access, improved lighting conditions and overall greater manoeuvrability, especially for persons using mobility devices.

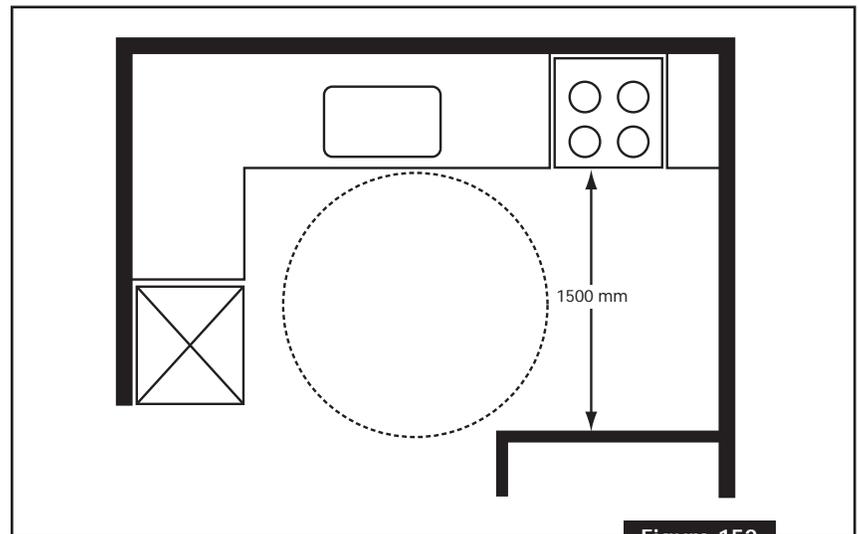


Figure 152

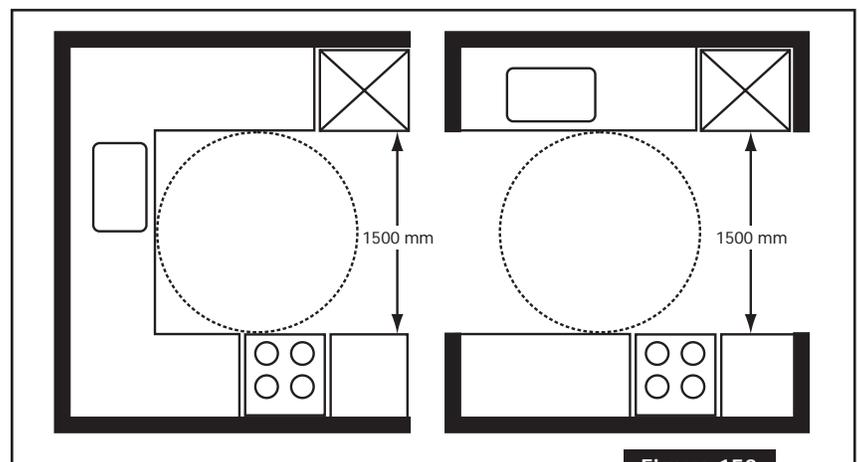


Figure 153

**2.5.20 Residential
Bathrooms**

- Bathrooms, washrooms or shower areas should be large enough to accommodate persons using mobility aids or a commode chair. Consideration should be given to providing space for a wheelchair accessible shower, in lieu of a standard bathtub. Where a bathtub is provided, a transfer seat, level with the bath rim and at least 380 mm (deep) is recommended at the end located opposite of the controls. A 915 mm long horizontal grab-rail, mounted at 835 mm high on the long sidewall, is recommended to provide stability in entering, exiting or standing while in the tub. (For variations in layout, see Section 2.3.10, Public Showers and Changing Rooms and Figures 118, 119, 120 & 154)
- Bathtubs and showers should have a non-slip finish in the standing area.
- The preferred side grab bar is the reversed “L” shaped type.
- Lighting levels in bathrooms should be evenly distributed and no less than 100 lux (10 ft. candles).

- Controls for bathtubs should ensure that the hot water temperature in the showerhead or faucet does not exceed 49° C to minimize accidental scalding. For faucets and mirrors etc., (See Section 2.3.14, Washroom Accessories)

- Faucets and controls should be of the "single-lever action" handle type so that they are easy to use by persons with limited strength or grasp.

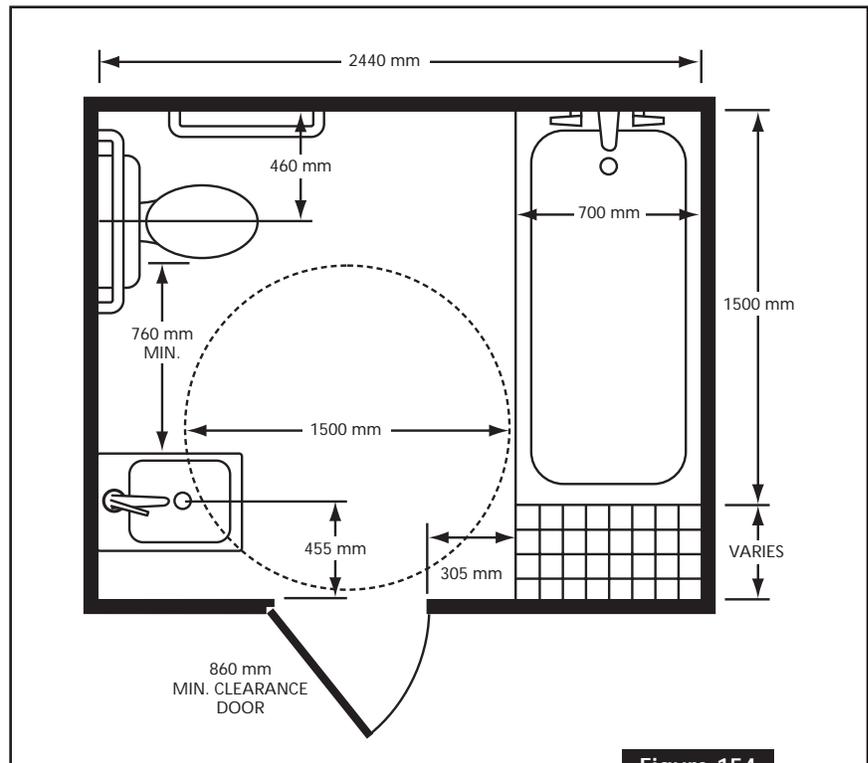


Figure 154

2.5.21 Residential Bedrooms

- Ensure that enough circulation space is available for persons using wheelchairs or scooters in the master bedroom, at doorways, at closets and beside the bed, to allow easy access and transfer. (See Figure 155)
- For hardware on doors, closets, and cabinetwork, and windows. (See section 2.1.3, Door Hardware, Locks and Closers and Figures 87 and 88)
- All interior routes should be accessible to persons using mobility aids. (See Section 2.2, Interior Routes)
- For information and communications services (See Section 2.3.5, Information and Service counters, Section 2.4.5, Communication Systems and Section 2.4.10, Information Systems and Directories)
- For restaurants, cafes and bars (See Section 2.5.3, Cafeterias, Restaurants, Dining Areas and Bars)
- For cinemas and theatres (See Section 2.5.15, Meeting Rooms, Assembly Areas and Theatres)

- For interior lighting (See Section 2.4.11, Artificial Lighting and Section 2.4.12, Natural Lighting) and for Public Telephones (See Part 1: Section 1.4.6, Public Telephones)
- For fire and life safety strategies, alarms, etc. (See Section 2.4.8, Fire Emergency Systems and Signals, Section 2.4.14, Public Address Systems and 2.6.4, Fire and Life Safety)

2.5.22 Shopping Centres and Malls

- Shopping Centers and Malls should be designed to accommodate persons of all ages and disabilities.
- For exterior areas, parking and pedestrian routes to entrances. (See Part 1: Section 1.1.6, Lay-Bys for Vehicles, Figure 11, Section 1.1.7, Paths, Sidewalks and Walkways, Figures 12 and 13, Section 1.1.8, Pedestrian Routes, Figures 14 and 15 and Section 1.2.5, Parking, Figures 25, 27 and 28)
- For exterior amenities (See Part 1, Section 1.4, Outdoor Amenities)
- For signage and way finding (See Section 2.4.16, Signage and Way-finding)

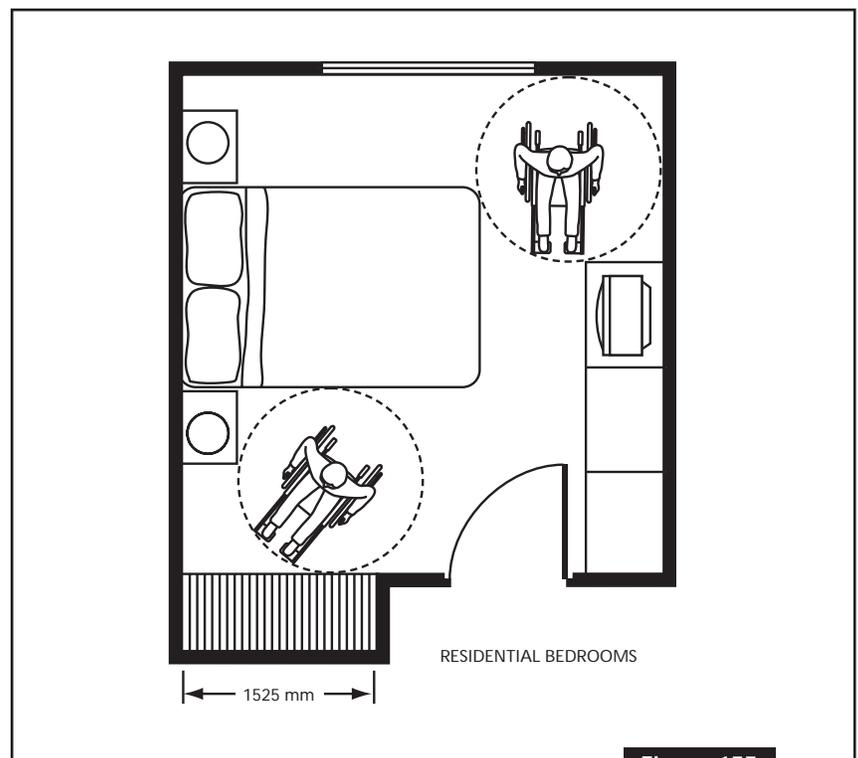


Figure 155

2.5 SPECIAL FACILITIES AND AREAS

- For interior design, materials, finishes, colour, and texture (See Section 2.1.6, Mats and Mat Sinkages, Section 2.3.4, Equipment and Furniture, Section 2.6.1, Texture and Pattern, Section 2.6.2, Floor Surfaces/Textures, Section 2.6.3, Colour and Tone, Section 2.6.6, Materials and Finishes, Section 2.6.8, Pattern and Section 2.6.9, Glare and Light Sources)
- For general maintenance of interior areas (See Section 2.4.7, Electrical Power, 2.4.9, Heating, Cooling and Ventilation Systems and Section 2.6.5, Maintenance)

2.5.23 Swimming Pools

- Indoor swimming pools and related amenities, whether as part of a recreational complex, community centre, educational facility, or as part of a recreational area in a residential complex, should all be accessible to persons with varying disabilities.
- For general accessibility requirements (See Figures 40 and 41) also (See Part 1, Section 1.2, Arrival and Departure Areas and Section 1.3.8, Outdoor Swimming Pools and Wading Pools).
- All pool area floor surfaces should be easy to clean, non-glare, non-slip and finished with a light colour finish, e.g.: matte ceramic tile.

- For Building Systems generally (See Section 2.4.7, Electrical Power, Section 2.4.9, Heating, Cooling and Ventilation Systems and Section 2.6.5, Maintenance)
- For Public Swimming Pools a Unisex Change room/Washroom should be considered so that assistance can be provided when needed, for persons of the opposite sex. (See Figure 156)

- It should be noted that where pools are to be used for special programming, (e.g., seniors swimming programs, mothers and babies / learn-to-swim programs, etc.), the ambient temperature of the water should be able to be increased by at least 6° C e.g. to 27° C, to improve comfort levels for less active users.

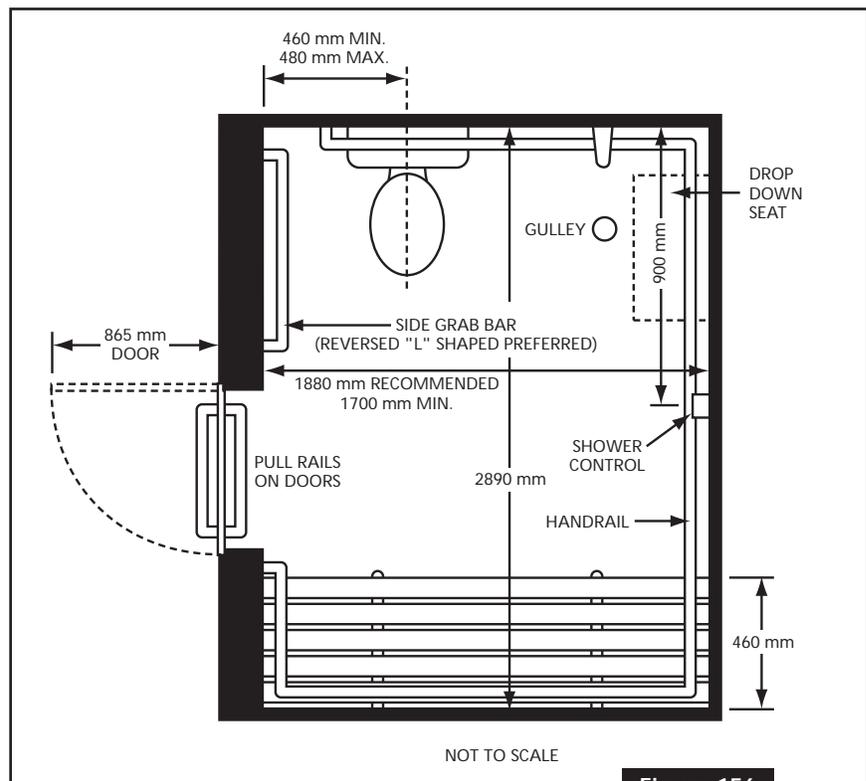


Figure 156

- Ambient air temperature in pools should generally be no lower than 25° C and no higher than 32° C.
- Lighting over pool and deck areas, as well as in showers and changing areas, should be a minimum of 200 lux (20 ft. candles), at deck or floor surface. Fixtures over pool areas should be selected and positioned to minimize reflected glare off the pool surface. Fixtures should also be positioned for easy re-lamping. (See also Section 2.6.5, Maintenance)
- Natural daylight in pool areas should be controllable to minimize glare off the pool surface, especially from south and west sunlight.
- Acoustic quality in the pool area should minimize echoes and unnecessary noise, as a benefit to persons who are vision or hearing impaired.
- Signage in pools should be suitable for persons with low vision.
- Exterior patios and landscaped areas adjacent to indoor pool areas should be accessible to wheelchair users. (See Part 1: Section 1.3.2, Outdoor Eating and Entertainment Spaces: Balconies and Terraces)

2.5.24 Theatres and Media Display Areas

- All theatre or assembly areas providing live performances, films, music or educational programming should be designed to be accessible to and useable by a wide range of persons, including those with varying disabilities, in a variety of seating locations, and price ranges.
- For general access, amenities, and support areas (See Section 2.1.4, Entrances, Section 2.1.7, Thresholds, Section 2.2, Interior Routes)
- For seating accommodation, equipment, and furniture (See Section 2.3.4, Equipment and Furniture, Part 1: Section 1.3, Special Areas and Features)
- For general building systems, heating, lighting, ventilation, controls, etc., (See Section 2.4.1, Acoustics, Section 2.4.5, Communication Systems, Section 2.4.7, Electrical Power, Section 2.4.9, Heating, Cooling and Ventilation Systems and Section 2.6.5, Maintenance)
- For acoustics, communications systems, and listening devices (See Section 2.4.1, Acoustics, Section 2.4.5, Communication Systems and Section 2.4.13, Listening Devices)

- For fire and life-safety (See Section 2.4.8, Fire Emergency Systems and Signals, Section 2.4.14, Public Address Systems and 2.6.4, Fire and Life Safety)
- Where multi-media or inter-active media presentations are to be provided, every attempt should be made to ensure that persons using mobility devices have access to needed controls (See Section 2.4.6) and that persons with sensory limitations can receive the transmitted information through alternate modes (e.g., by both vision and hearing, as well as through large text or Braille material).
- For fixed theatre seating, a variety of seat sizes and designs should be considered, (e.g., wider seats and seats with flip up arms at the end of aisles to assist persons transferring from their wheelchair or scooter).

2.5.25 Transit Settings

- Transit terminals, serving one or more modes of transit (e.g., buses and trains), should have all levels, facilities and amenities accessible to persons using mobility aids and others with varying disabilities.
- For general accessibility criteria for all exterior areas and amenities (See Part 1: Section 1.2.2, Bus/Public Transit Shelters and Section 1.2.3, Bus Stops)
- For interior routes and public amenities generally (See Section 2.2, Interior Routes, Section 2.3, Interior Amenities and Part 1: Section 1.4, Outdoor Amenities)
- For ticketing, information, or sales counter areas (See Section 2.3.5, Information and Service Counters, Section 2.4.10, Information Systems and Directories and Section 2.4.17, Ticketing Machines)
- For passenger queuing areas, passenger ticketing, and information, etc. (See Section 2.3.5, Information and Service Counters, Section 2.4.10, Information Systems and Directories and Section 2.4.16, Ticketing Machines)
- For waiting areas, seating and luggage holding areas (See Section 2.3.6, Lockers and Baggage Storage)
- For boarding areas generally (See Section 1.2, Arrival and Departure Areas)
- For public washrooms (See Section 2.3.10, Public Washrooms and Changing Rooms)
- For food service areas, vending machines, etc., (See Section 2.3.13, Vending Machines)
- For communications and information systems (See Section 2.4.2, Audible Signals, Section 2.4.5, Communication Systems and Section 2.4.10, Information Systems and Directories)
- For Signage and way finding (See Section 2.4.16, Signage and Way-finding)
- For public telephones (See Part 1: Section 1.4.6, Public Telephones)
- Where train platforms or other boarding platforms are provided, they should allow safe access for persons using mobility aids and where possible, provide level access to the train or bus floor surface.
- For persons who have visual limitations, a tactile warning surface at least 610 mm deep should be provided at the edge of the platform. (See Part 1: Section 1.2.2, Bus/Public Transit Shelters and Section 1.2.3, Bus Stops, also See Figure 157)

- Lighting levels in all boarding areas should be at least 100 lux (10 ft. candles) at the platform or boarding surface level. Lighting levels in all ticketing areas or at ticketing machines should be at least 200 lux (20 ft. candles).
- Warning signals, required to advise of approaching vehicles, should be both visible and audible to assist travellers with visual or hearing limitations. (See also Section 2.4.2, Audible Signals)
- Where special lifting devices are used, either on the vehicle or at the boarding point, enough free space should be provided around the boarding point for waiting passengers using mobility aids (e.g., wheelchairs and scooters).
- Seating should be provided for seniors and persons with limited stamina on the platform or close to the boarding area.
- For general safety, emergency, and fire alarm systems (See Section Part 1: Section 1.6.10, Safety and Security and Part 2: Section 2.4.8, Fire Emergency Systems and Signals, Section 2.4.14, Public Address Systems and Section 2.6.4, Fire and Life Safety)

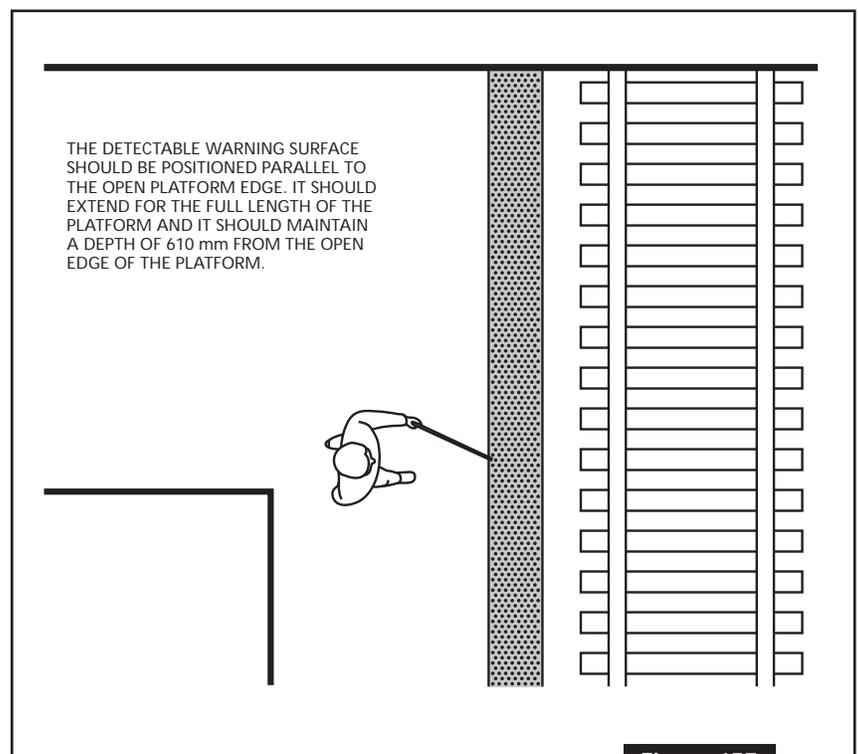


Figure 157

POLICY: (SAFETY)

In public buildings and particular residential and institutional environments designed for seniors or others with disabilities, the safety of residents is of particular concern. Therefore, everything that can be done to eliminate or minimize obstacles or hazards to normal safe access and use must be considered, as well when a specific emergency may arise.

2.6.1 Texture and Pattern

- People with low vision or who are legally blind, are frequently dependent upon tactile and visual cues in the environment, both to find their way in complex settings, but also to be forewarned about potential hazards. Way-finding strategies (e.g., signage systems) should utilize at least 70% (or greater) contrast. Note: One exception is the use of bright yellow, which is acceptable at 40% contrast.
- Persons who are blind and use a cane or a dog to assist them are particularly dependent on texture at the walking surface, the acoustic quality of the space, and the availability of Braille or other tactile information etc. to alert them. However, persons with visual limitations are more dependent on contrast and colour and the amount

of light to determine where they are and whether hazards are present.

2.6.2 Floor Surfaces/Textures

- Interior and exterior floor/paving surfaces should be of a non-slip and low-glare material.
- All level changes, whether at stairs, steps, escalators or ramps should be marked by both distinct colours/tones and textural changes at the walking surface. Changes in texture should occur, at least 915 mm, or one pace, before the actual level change. (See also Figure 21). Note: Bright ('industrial') yellow or other saturated colours from the warm end of the spectrum are most visible to persons with low vision.

- Suitable warning textures for interior use include: raised domes, dots or squares (e.g., as found in some vinyl floor coverings); deeply grooved concrete, terrazzo or other stone like materials (e.g., with closely centred grooves, at right angles to the path of travel); and applied non-slip strips (e.g., carborundum strips).
- Modern textures can also be used on wall surfaces as part of the overall way-finding strategy.
- Supplementary textural cues can also be provided (e.g., by using different floor textures or materials in major and minor interior routes) as an aid to persons who are blind or who have visual limitations.

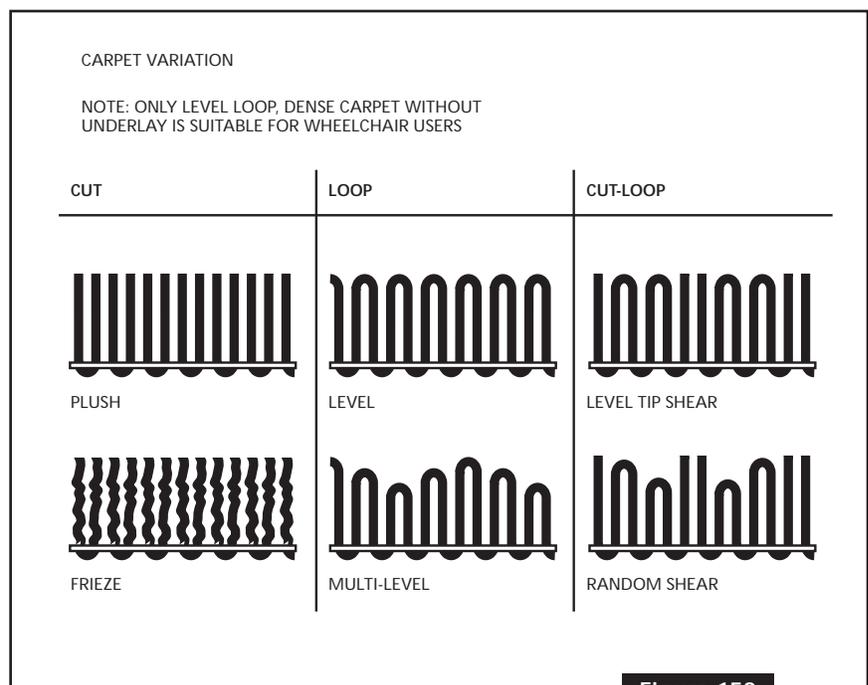


Figure 158

- Clearly defined boundaries of carpeting or floor tile can enhance way-finding by defining the junction between walls and floors and by indicating doorway recesses, corridor intersections or projecting hazards, etc.
- Where carpet is used in areas accommodating wheelchair traffic a level loop pile of non-static nylon (or better) is recommended with a pile height no greater than (6mm). A glue-down installation is preferred. (See Figure 158)

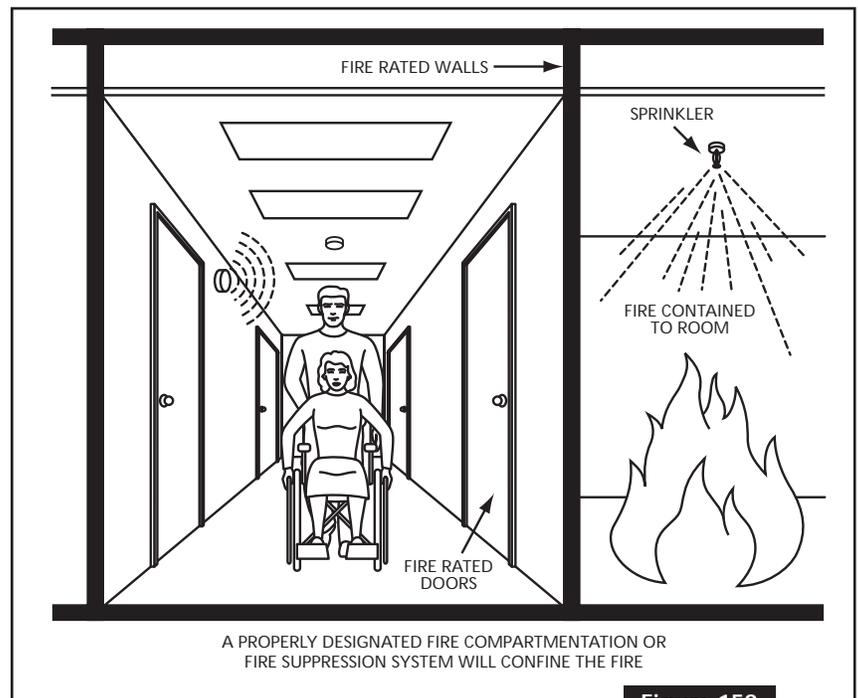
2.6.3 Colour and Tone

- For signage, the use of bright colour or highly contrasting tones is an essential part of a suitable way-finding strategy for persons with low vision, minimum 70% contrast (except where ‘industrial yellow is used) in which case 40% contrast. Colour can be used as a background for signage, located on walls at eye level. This band of colour is easier to follow than monolithic wall colours and can be used as a constant location for all essential signs.
- End walls or return walls in long corridors can also be defined by the use of highly contrasting colours or tones, to denote a change of direction or the end of the space.

- Baseboards in monochromatic environments should be highly contrasting (70% or higher) with wall and floor colours to provide needed boundary definition for persons with low vision.
- For seniors with vision loss, colours in the warm end of the spectrum are easier to distinguish. Colours such as pastel blue or grey should be avoided.

2.6.4 Fire and Life Safety

- In buildings used by seniors or people with disabilities (e.g., visitors, residents or employees) it is important to ensure that a comprehensive evacuation plan and operational strategies are in place in case of a fire or other emergency, since it is generally considered that such persons may be at greater risk and may be less able to autonomously evacuate than the general public. (See Figures 159 & 160)



- In buildings where persons with disabilities are employed or are frequent visitors, a fire and life safety plan that will address the needs of all building users is recommended.
- All public buildings with floors above or below grade should develop a fire-safety and emergency plan, indicating in detail the preferred 'evacuation' or 'holding' area strategies for persons with disabilities - whether as employees or visitors.
- Such strategies may include separating certain areas of the building, to allow for 'horizontal exiting' to a safe area on the same floor, or the creation of 'safe holding areas' in the same general area. (See Figures 161, 162 and 163)
- Where safe-holding areas are provided, they should be equipped with emergency lighting, a two-way communication system, as well as separate ventilation so that they can be used when normal building systems are shut down. Such areas need to have a minimum one-hour protective enclosure.

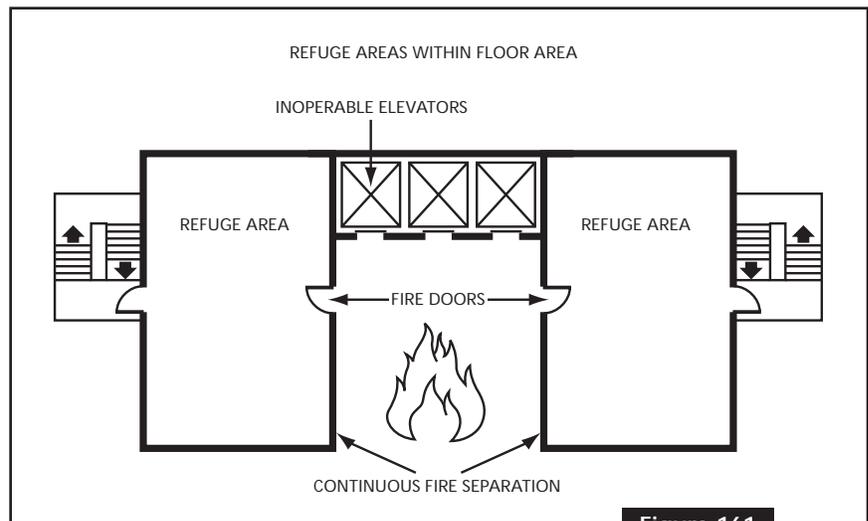


Figure 161

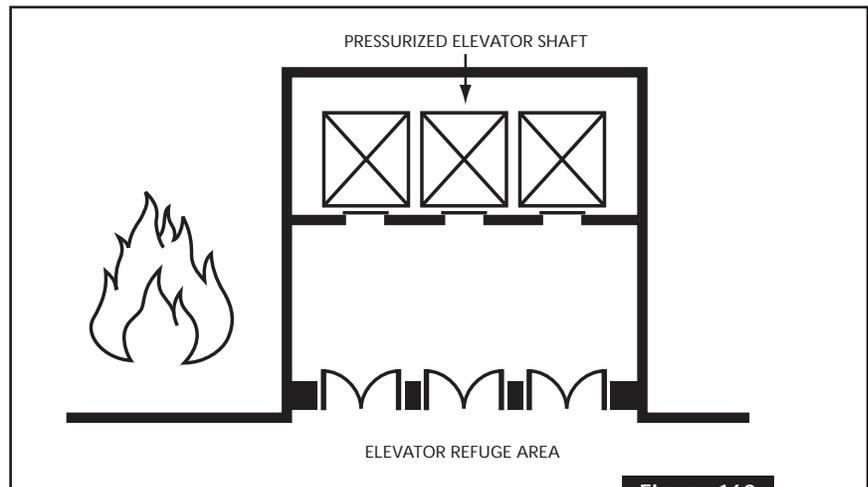


Figure 162

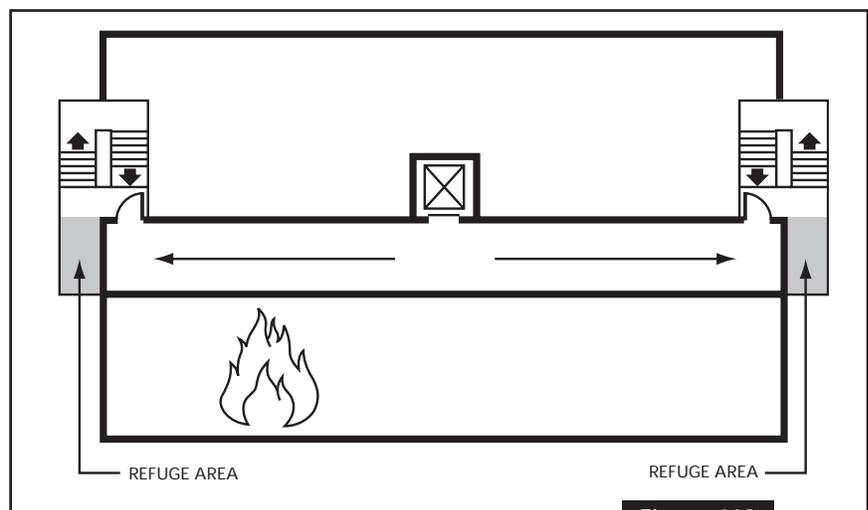


Figure 163

- Where a regular population of seniors or persons with disabilities is present in a building (e.g., institutions, or seniors residences) the fire alarm system should be a 2-stage system linked directly to the fire hall (wherever possible) to ensure timely fire department response. Alternatively, direct connection to a commercial security company should be provided.
- Specific strategies to provide early warning of emergency situations may also be desirable for persons with hearing limitations, e.g., a portable vibrating alarm, or a flashing light at their workstation may be necessary, in addition to general visible and audible alarms. This strategy may also be desirable in accessible hotel accommodation.
- Since evacuation of persons using mobility aids (e.g., wheelchairs/scooters) from floors above or below grade is extremely difficult in large buildings, consideration should be given to the inclusion of a fire fighter's elevator that can be operated by fire department personnel during a fire or other emergency. (See also Section 2.2.4, Elevators and Platform Lifts and Section 2.2.6, Safe Holding Areas)

2.6.5 Maintenance

Despite all good intentions during the design stage of creating fully accessible environments, the success of the eventual project is largely dependent on decisions made by facility managers regarding space utilization, security and maintenance issues.

Training for maintenance staff should address the following potential barriers:

- Objects added to the environment, including waste containers, recycling bins, planters, vending machines, dispensers, staff equipment and furniture etc., which can result in tripping hazards and limited movement for persons who have visual limitations, along paths of travel. Aisle and corridor widths can also be obstructed limiting the manoeuvrability of persons using mobility aids (e.g., wheelchairs and scooters).
- Temporary signs on stands or mounted on walls and doors can add confusion for persons with low vision.

Similarly:

- Decisions on energy conservation often result in reduced lighting levels, potentially inhibiting the safe movement through buildings for all users.

- Maintenance staff may decide to wax or seal a typically non-glare floor surface (e.g., matte ceramic tile finish) using a high gloss polish/finish. This unwittingly results in potential glare problems for persons with visual limitations in cases where surface reflects glare from overhead or adjacent natural lighting sources. High gloss finishes on some floor surfaces also results in potential slipping hazards for all users, especially persons with low vision.
- Maintenance staff may add runners or mats on floors in entrances, hallways and corridors during winter conditions, in an attempt to minimize tracking. However, the layout may be disorienting for persons with low vision and it may also inhibit movement by persons using mobility aids (e.g., where mats become rolled or bunched up accidentally).
- It is therefore recommended that maintenance manuals be developed to include information regarding the specific needs and barriers faced by people with disabilities.

2.6.6 Materials and Finishes

- The selection of flooring materials can be critical to the safe and easy movement of persons using mobility aids, amputees as well as persons with low vision.
- Carpet floor finishes in paths of travel should be suitable for persons using mobility aids (e.g., low level loop construction, preferably 10 or 12 gauge, with use of non-static fibres). Carpet should be firmly glued down to the sub-floor.
- Where hard, monolithic materials are selected for floor finishes, they should be non-slip and non-glare. (See also Section 2.6.2, Floor Surfaces/Textures and Section 2.6.9, Glare and Light Sources)
- Where floor tiles, bricks or pavers are used internally, joints should be no wider than 6mm and placed level to prevent potential tripping hazards, especially for persons with visual limitations.
- Ceramic tile used in washrooms, changing areas or on pool decks should have non-slip and non-glare finishes.
- Wall surfaces in corridors, adjacent to stairs, ramps or any part of the normal path of travel should be of non-abrasive finish. (See Section 2.6.3, Colour and Tone)

2.6.7 Obstacles

- For persons who are blind, have low vision or use a mobility aid, unexpected

obstacles in their normal path of travel throughout a building can constitute a major hazard. (See Section 2.6.5, Maintenance)

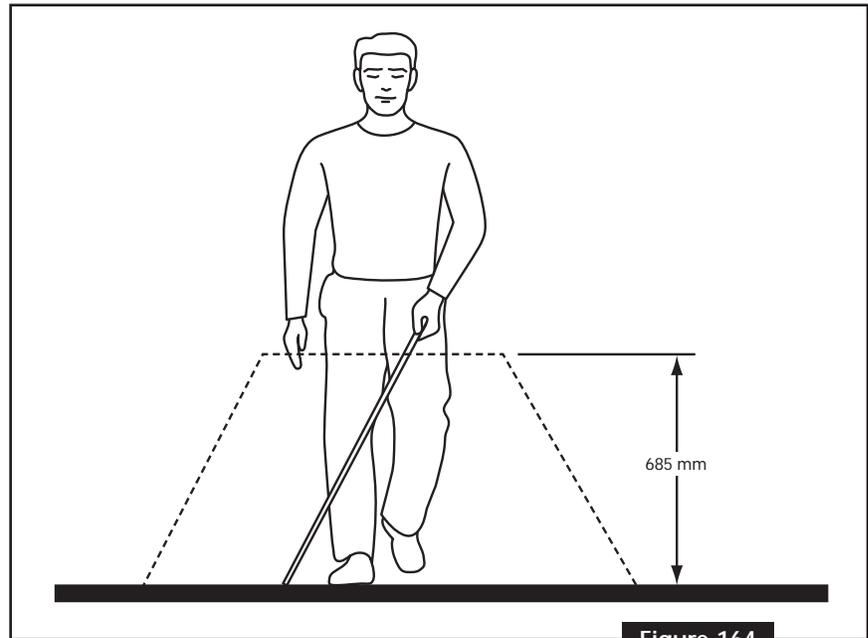


Figure 164

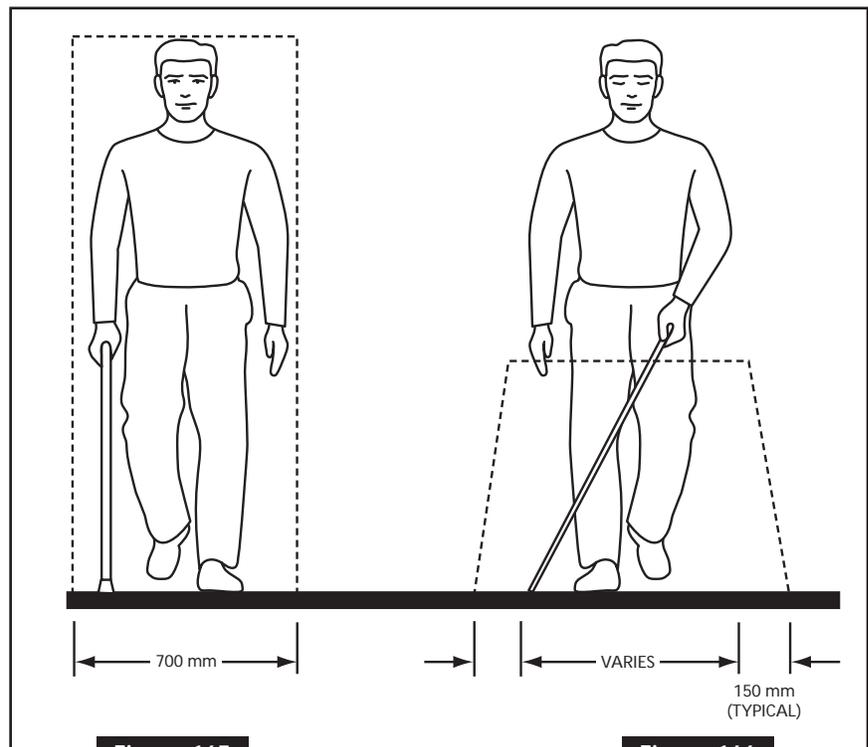


Figure 165

Figure 166

- Ensure that all items of furniture, equipment and displays are stable and will not move or tip over when touched by someone requiring support.
- Ensure that all temporary or permanent waste and recycling containers are located in constant locations to one side of the path of travel.
- Ensure that all items of equipment (e.g., telephones, computers, video display terminals, printers and fax machines) are located to one side of the normal path of travel and are cane detectable. (See Figures 164, 165 and 166)
- Ensure that all signage, signage supports, or other information strategies do not intrude into normal walking areas. (See Figure 167)
- Ensure that all permanent or temporary barriers that control people's movement (e.g., queuing lanes) are firmly mounted to the floor, and are stable for seniors or other persons who might need them for support.
- Ensure that all maintenance or repair equipment (e.g., ladders and carts) is located away from normal paths of travel.
- Ensure that all temporary barriers and hoardings, used to protect work sites or maintenance activities, are

substantial, securely mounted, continue to floor level and are cane detectable. (See Figure 168)

- Ensure that all loose wires, rugs or any potential tripping hazards at the floor level are removed or made secure.

- Ensure that all essential and occasional furniture, equipment, planters, drinking fountains, counters and vending machines do not intrude into normal paths of travel. (See Part 1: Section 1.4, Outdoor Amenities)

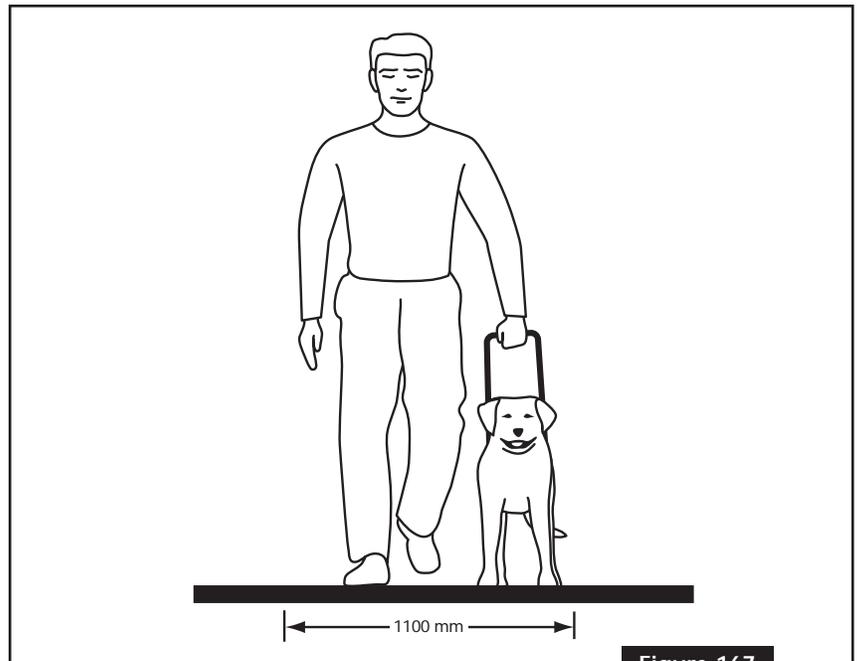


Figure 167

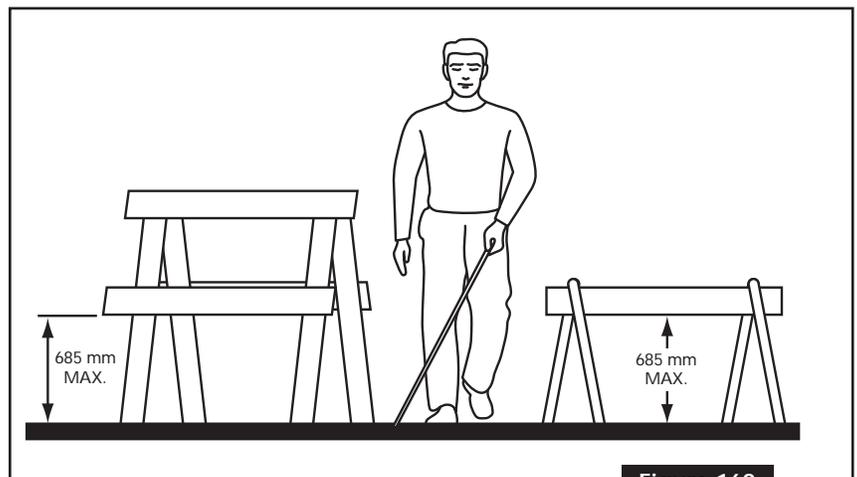


Figure 168

- Ensure that all permanent or temporary barriers that control people's movement (e.g., queuing lanes) are firmly mounted to the floor and are stable for seniors or other persons who might need them for support.

2.6.8 Pattern

- Caution is recommended in the selection of heavy or distinct patterns on walls or floors since these can add visual confusion to settings for persons with low vision or for persons with psychiatric disorders, if over-used. Simple, repetitive and non-directional patterns with low contrast are preferred (e.g., for carpeting, floor tiles, wall papers etc.) in order to produce the least amount of visual confusion.

2.6.9 Glare and Light Sources

- (See Section 2.4.11, Artificial Lighting, Section 2.4.12, Natural Lighting and Section 2.6.9, Glare and Light Sources)

- Direct or reflected glare off of floor, wall or worktop surfaces is a major problem for persons with visual disabilities. Therefore, every attempt should be made to select light sources, materials, and finishes that do not add to the problem. Natural daylight should be controlled (e.g., on west and south west exposures).
- Monolithic floor surfaces such as stone, granite, marble or terrazzo should be selected in a matte or honed finish to minimize reflected glare. (See Section 2.6.2, Floor Surfaces/Textures and Section 2.6.9, Glare and Light Sources)
- Floor finishes such as vinyl, quarry and glazed tile, mosaics or other composition materials should also be in matte or satin finishes. High gloss finishes should be avoided at all times.
- Wall finishes such as paint, vinyl wall coverings, stone, marble, wood, plastic laminate etc., should be in matte or satin finishes only.
- Where direct sunlight may cause glare, curtains, blinds or sunscreens should be used to shield natural light sources.
- Light fixtures should be selected so that no direct glare is created (e.g., with diffusers, lenses, or recessed light sources). (See Section 2.4.11, Artificial Light and Section 2.4.12, Natural Light)
- Where surface mounted fluorescent ceiling lights are used (e.g., in corridors), it is generally recommended that they have darkened sides (e.g., no wrap-around lenses should be used) and that they are positioned at right angles to the path of travel. Alternatively, they can be used in coves or valance type lighting at the sides of the corridor. This ensures that the light source is not visible from normal walking paths.
- Supplementary lighting sources can be used to enhance special features at key locations (e.g., with upward and downward light components only).
- High intensity light sources such as quartz, halogen or other pin-point sources (e.g., chandeliers) should be used with extreme caution. Such lighting sources are generally not recommended in circulation routes, dining or assembly areas because they are problematic for persons with low vision and produce reflected points of glare on shiny surfaces.

APPENDICES

APPENDIX A: ACKNOWLEDGEMENTS

The City of Toronto would like to thank the following individuals for their advice, input and participation throughout the consultation process.

City Departments

Shirley Hoy, Chief Administrative Officer
Joan Anderton, Commissioner,
Corporate Services
Paula M. Dill, Commissioner,
Urban Development Services
Eric Gam, Commissioner,
Community and Neighbourhood Services
Barry Gutteridge, Commissioner,
Works and Emergency Services
Joe Halstead, Commissioner,
Economic Development, Culture and Tourism
Joseph P. Pennachetti, Chief Financial Officer
and Treasurer, Finance

City of Toronto Community Advisory Committee on Disability Issues

Councillor Joe Mihevc, Chair
William G. Alexander
Michele Amerie, Co-Chair
Carla Baudot
William A.L. Brown, O.M.C.
Lyle L. Kersey
Janice Martin
Robert Morassuti
Al Reeves, Co-Chair
Gerald R. Roberts
Jennifer Shin
Elsa Tesfay
Terri Hulett
David E. Senf
Bernita Lee, Coordinator

Consultants

Pamela Cluff, Principal,
Associated Planning Consultants
David Chan, Architectural Technologist
Kevin Final, Researcher and Writer
Boyd Hipfner, Canadian National Institute
for the Blind (CNIB)
Shane Holten, Urban Planner
Julie Holten, Social Researcher
Chris Kenopic, Ontario Association
for the Deaf (OAD)
Rick Mugford, Architect

City of Toronto Staff

Dylan Aster, Building,
Urban Development Services
Jo-Anne Barnard, Human Resources,
Corporate Services
Lorene Bodiam, Parks & Recreation,
Economic Development Culture & Tourism
Mike Brady, Transportation Services,
Works and Emergency Services
John Bryson, Technical Services,
Works & Emergency Services
Grace Buttino, Policy & Development,
Economic Development Culture & Tourism
Jane Byers, Human Resources, Corporate Services
Walter W. Chandon, Emergency Medical
Services, Works & Emergency Services
David Craig, Fire Services,
Works and Emergency Services
Anita De Castro, Facilities and Real Estate,
Corporate Services
Geoff Eden, City Planning,
Urban Development Services
Peter Fay, Service Improvements & Innovation,
Corporate Services

APPENDIX A: ACKNOWLEDGEMENTS

City of Toronto Staff (continued)

Ruthanne Henry, Policy & Development,
Economic Development Culture & Tourism
Kim Jeffreys, Human Resources,
Corporate Services
Linda Kelland, Facilities and Real Estate,
Corporate Services
Sgt. Brian Keown*, Toronto Police Service
Wendy Kwong, Public Health,
Community & Neighbourhood Services
Bernita Lee, Strategic & Corporate Policy,
Chief Administrator's Office
Linda E. Lee, Transportation Services,
Works and Emergency Services
Catherine Leitch, Strategic and Corporate Policy,
Chief Administrator's Office
Franco Lora, Culture,
Economic Development Culture & Tourism
Joanne Lynch, Building,
Urban Development Services
Cheryl MacDonald, Social Development &
Administration, Community & Neighbourhood
Services
Julie Mathien, Social Development &
Administration, Community &
Neighbourhood Services
Daniel McLaughlin, Policy & Development,
Economic Development, Culture & Tourism
Paul Meleta, Building, Urban Development Services
Gerry Mitchell, Technical Services,
Works and Emergency Services
Tony Pagnanelli, Technical Services,
Works & Emergency Services
Ross Paterson*, Policy & Research,
Urban Development Services

Ceta Ramkhalawansingh, Strategic & Corporate
Policy, Chief Administrator's Office
Karen Raybould, Human Resources,
Corporate Services
Tim Rees, Strategic and Corporate Policy,
Chief Administrator's Office
Robert Stephens, City Planning,
Urban Development Services
Diane Stevenson, Policy & Development,
Economic Development Culture & Tourism
Harvey Tham, Financial Planning, Finance
Nicolas Zala, Facilities and Real Estate,
Corporate Services
Sandra Zavaglia, Solid Waste Management,
Works and Emergency Services

In Memoriam

Sgt. Brian Keown

Members of the Advisory Committee are especially thankful for Brian's valuable contribution.

*Brian and Ross sadly passed away before these guidelines were completed.

APPENDIX A: ACKNOWLEDGEMENTS

ACKNOWLEDGEMENTS

The City of Toronto would like to thank all participants who contributed their time by providing input into the preparation of these new Accessibility Design Guidelines.

All participants involved were committed to creating a practical planning and design resource that will ensure greater freedom of access and use to all buildings and sites in the City of Toronto.

Three reference documents include:

- City of Toronto, Accessibility Design Guidelines (ADG 1991)
- City of North York, Barrier Free Design Guidelines (1996-1997)
- Cities of Markham, Vaughan and Richmond Hill, Barrier Free Design Guidelines (1998)

Drawing Credits

Drawings were selected from a variety of sources including:

- 1) ADA, 1991, Vol. 56, No. 144
- 2) APC Inc., Richmond Hill Guidelines
- 3) CAN/CSA September 1990
- 4) CAN/CSA B651-190
- 5) Design for Accessibility, Sorenson
- 6) Guide to OBC, 1997.
- 7) OBC Appendices
- 8) Pedestrian Crosswalk Signals, 1987
- 9) Site Planning Design for the Elderly
- 10) Sports and Recreation Provisions, 1984.
- 11) Universal Access to Outdoor Recreation

APPENDIX B: DEFINITIONS

The following definitions were adapted from "Planning A Barrier Free City of Toronto: A Statement of Planning Principles" (revised edition, July 2001), prepared by the former Toronto Joint Citizen's Committee for People with Disabilities and endorsed by City Council¹.

1. Physical Disabilities:

Involve restricted mobility (e.g., limited ability to walk, move about, stand for long periods, or to carry objects) or restricted agility (e.g., limited ability to bend, dress, feed oneself, or to manipulate objects).

2. Auditory Disabilities:

Involve having partial or no hearing. For some individuals, the loudness of the sound will determine whether it is heard, for others, it depends on the type of sound (e.g., consonants versus vowels, or the intonation. In other situations, individuals may also become confused by certain sounds due to excessive background noises.

3. Visual Disabilities:

Involve complete blindness, limited or residual sight. It may involve a loss of visual clarity/acuity or a decrease in the size of the visual field.

4. Intellectual and Learning Disabilities:

The type of cognitive impairment can vary widely, from severe intellectual disabilities, to the inability to remember, to the absence or impairment of specific cognitive functions (e.g., language).

5. Psychological Disabilities:

Psychological impairments may be hidden or apparent. In many cases, they have little or no effect on learning. They may appear in actions of indifference or other types of mood swings. However, the stigma that everyone with an emotional impairment will be 'disruptive' in social settings is a fallacy. The causes of psychological disabilities are wide ranging but common forms are evident in individuals experiencing depression, anxiety or stress.

6. Situational Disabilities:

Persons who are at a disadvantage because of age, size, language or culture in specific settings are examples of persons who are situationally disabled.

Care is required in assessing existing environments or designing new settings to ensure that consideration of all of these variables has been undertaken.

7. Universal Design:

Universal Design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. The intent of the universal design concept is to simplify life for everyone by making products, communications, and the built environment more usable by more people, while emphasizing dignity and independence by providing those features that will allow people to function in their day-to-day setting without assistance, at little or no extra cost. The Universal Design concept targets all people of all ages, sizes, and abilities.

(Copyright 1995: The Centre for Universal Design, NC State University)

¹Clause embodied in Report Number 13 of the Administration Committee, as adopted by the Council of the City of Toronto, at its meeting held June 7th, 8th and 9th, 2000.

APPENDIX C: LEGISLATIVE OVERVIEW

1. Ontario Building Code

The **Ontario Building Code** (OBC 1997) is the formal mandatory legislation governing the construction of all new buildings in Ontario. At the municipal level, the OBC requirements are administered and enforced by the Building Division of the Urban Development Services Department. The OBC is currently under review, (including Section 3.8 of the code which details barrier free design) and address accessibility under a variety of headings, such as parking, entrances, public routes, ramps, stairs, elevators, washrooms and other features.

2. Ontarians with Disabilities Act 2001

On December 14th 2001, The **Ontarians with Disabilities Act 2001** (ODA) was passed to "improve access and opportunities for people with disabilities". The ODA is designed so that municipal staff, government ministries and agencies, transportation providers, the private sector and people with disabilities can work together in making Ontario a more accessible province. Formal regulations under the ODA were not finalized at the time of publication of these guidelines, however all municipalities are expected to develop formal action plans outlining strategies to identify, remove and prevent barriers to persons with disabilities. These new Accessibility Guidelines are an important part of the City of Toronto's response to that challenge.

3. Ontario Human Rights Code

Under the **Ontario Human Rights Code**, people with disabilities have the right to be free from discrimination in employment, services, goods, facilities and housing. The code promotes the full participation of persons with disabilities in society, participation in daily living activities that is often hindered or prevented by barriers occurring during the planning, design and development process.

The policy statements and accessibility provisions found in these guidelines brings the intentions of the Human Rights Code into practice by encouraging inclusive design approaches to all development projects across the City of Toronto.

APPENDIX D: BIBLIOGRAPHY

- Associated Planning Consultants Inc., Joint Municipal Guidelines for Accessibility for the Corporation of the Town of Markham, Town of Richmond Hill / City of Vaughan. Toronto, APC Inc., 1998.
- Boundless Playgrounds Publication, High Expectations Playgrounds for Children of All Abilities.
www.boundlessplaygrounds.org
- Bowland, Adelyn; Nakatsu, Constance; O'Reilly, James, Annotated Human Rights Code 1993. Thomson Canada Ltd, 1992.
- Canadian Parks and Recreation Association – Definition of Children's Play
www.cpra.ca
- Carstens, Diane Y., Site Planning & Design for the Elderly: Issues, Guidelines, and Alternatives. New York, Van Nostrand Reinhold, 1985.
- City of Toronto, Bill 125: The Ontarians with Disabilities Act. A Submission to the Legislative Assembly of Ontario Standing Committee on Financial and Economic Affairs. Community Advisory Committee on Disability Issues, 2001.
- City of Toronto, Ontarians with Disabilities Act (ODA) – Submission of a City of Toronto Accessibility Plan. Policy and Finance Committee, Report No. 9, Clause 2, September 22, 23, 24 and 25, 2003.
- City of Toronto, Toronto Official Plan: Chapter 3, Building Successful Neighborhoods – The Public Realm. Urban Development Services, May 2002 (Draft).
- CSA International, CAN/CSA-B651-95 Barrier Free Design. CSA International, 1996.
- CSA International, CAN/CSA-B651-M90 Barrier Free Design. CSA International, 1990.
- Designable Environments Inc., City of London Facility Accessibility Design Standards. Designable Environments Inc., 2001.
- Federal Register, ADA Accessibility Guidelines for Buildings and Facilities, 1991, Vol. 56, No. 144. U.S. Government Printing Office, 1991.
- Guide de Référence en Accessibilité pour les équipements de Loisir.
www.altergo.net/documents/Guide_ref_acc_equip_loisirs.pdf
- Holten, Shane, Planning A Barrier Free City of Toronto: A Statement of Planning Principles. Report prepared for the Toronto Joint Citizen's Committee For People With Disabilities, 2001 (Revised).
- Ministry of Municipal Affairs and Housing, Illustrated Guide to the Ontario Building Code 1997. Ontario, Ministry of Municipal Affairs and Housing, 1997.
- Ministry of Municipal Affairs and Housing, Ontario Building Code – Part 3.8. Ontario, Ministry of Municipal Affairs and Housing, 1997.

APPENDIX D: BIBLIOGRAPHY

North York Interior Barrier-Free Access Working Group, Interior Barrier-Free Accessibility: Design Guideline-Policy Handbook. City of North York, 1996-1997.

Ontario Parks Association. Playability Tool Kit: Building Accessible Playspaces, 2001.
www.opassoc.on.ca/toolkit.asp

PLAE Inc., A Design Guide: Universal Access to Outdoor Recreation. California, PLAE Inc., 1992.

Province of Ontario Legislative Assembly, Bill 125: Ontarians With Disabilities Act. Legislative Assembly of Ontario, December 14th 2001 (Date of Royal Assent).

Sorenson, Robert J., Design for Accessibility. U.S.A., McGraw-Hill Inc., 1979.

The Access Board, A Guide to the Americans with Disabilities Act Accessibility Guidelines for Play Areas
www.access-board.gov/play/guide/intro.htm

Thomson, Neil, Editor, Sports & Recreation Provision for Disabled People.
London, The Architectural Press Ltd., 1984.

CITY OF TORONTO

Mayor David Miller,
Office of the Mayor

Councillor Gerry Altobello,
Ward 35 Scarborough Southwest

Councillor Brian Ashton,
Ward 36 Scarborough Southwest

Councillor Maria Augimeri,
Ward 9 York Centre

Councillor Bas Balkissoon,
Ward 41 Scarborough-Rouge
River

Councillor Sandra Bussin,
Ward 32 Beaches-East York
(South)

Councillor Shelley Carroll,
Ward 33 Don Valley East

Councillor Raymond Cho,
Ward 42 Scarborough-Rouge
River

Councillor Olivia Chow,
Ward 20 Trinity-Spadina

Councillor Gay Cowbourne,
Ward 44 Scarborough East

Councillor Janet Davis,
Ward 31 Beaches-East York

Councillor Glenn De
Baeremaeker,
Ward 38 Scarborough Centre

Councillor Michael Del Grande,
Ward 39 Scarborough-Agincourt

Councillor Frank Di Giorgio,
Ward 12 York South-Weston

Councillor Mike Feldman,
Ward 10 York Centre

Councillor John Filion,
Ward 23 Willowdale

Councillor Paula Fletcher,
Ward 30 Toronto-Danforth

Councillor Rob Ford,
Ward 2 Etobicoke North

Councillor Adam Giambrone,
Ward 18 Davenport

Councillor Mark Grimes,
Ward 6 Etobicoke-Lakeshore

Councillor Suzan Hall,
Ward 1 Etobicoke North

Councillor Doug Holyday,
Ward 3 Etobicoke Centre

Councillor Clifford Jenkins,
Ward 25 Don Valley West

Councillor Norm Kelly,
Ward 40 Scarborough-Agincourt

Councillor Peter Li Preti,
Ward 8 York West

Councillor Gloria Lindsay Luby,
Ward 4 Etobicoke Centre

Councillor Giorgio Mammoliti,
Ward 7 York West

Councillor Pam McConnell,
Ward 28 Toronto Centre-
Rosedale

Councillor Joe Mihevc,
Ward 21 St. Paul's West

Councillor Peter Milczyn,
Ward 5 Etobicoke-Lakeshore

Councillor Denzil
Minnan-Wong,
Ward 34 Don Valley East

Councillor Howard Moscoe,
Ward 15 Eglinton-Lawrence

Councillor Frances Nunziata,
Ward 11 York South-Weston

Councillor Case Ootes,
Ward 29 Toronto-Danforth

Councillor Cesar Palacio,
Ward 17 Davenport

Councillor Joe Pantalone,
Ward 19 Trinity-Spadina

Councillor Jane Pitfield,
Ward 26 Don Valley West

Councillor Kyle Rae,
Ward 27 Toronto
Centre-Rosedale

Councillor Bill Saundercook,
Ward 13 Parkdale-High Park

Councillor David Shiner,
Ward 24 Willowdale

Councillor David Soknacki,
Ward 43 Scarborough East

Councillor Karen Stintz,
Ward 16 Eglinton-Lawrence

Councillor Michael Thompson,
Ward 37 Scarborough Centre

Councillor Michael Walker,
Ward 22 St. Paul's

Councillor Sylvia Watson,
Ward 14 Parkdale-High Park