



**DEPARTMENT OF PUBLIC WORKS**

**STANDARD ELECTRICAL, MECHANICAL AND**

**ARCHITECTURAL GUIDELINE FOR THE**

**DESIGN OF ACCESSIBLE BUILDINGS**

**(FACILITIES FOR DISABLED PERSONS)**

**MARCH 2001**

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## 1.0 GENERAL DESIGN ELEMENTS

### 1.1 Floor or Ground Surfaces

Floor and ground surfaces to be stable, firm and slip resistant.

Carpet, carpet tiles or other floor finishes are to be securely attached and level across all types of pile. Pile height of carpets shall not exceed 13mm.

Openings in the floor finish or ground surfaces shall not exceed a 13mm diameter, and where the opening is elongated, the long dimension is to be placed perpendicular to the dominant direction of travel.

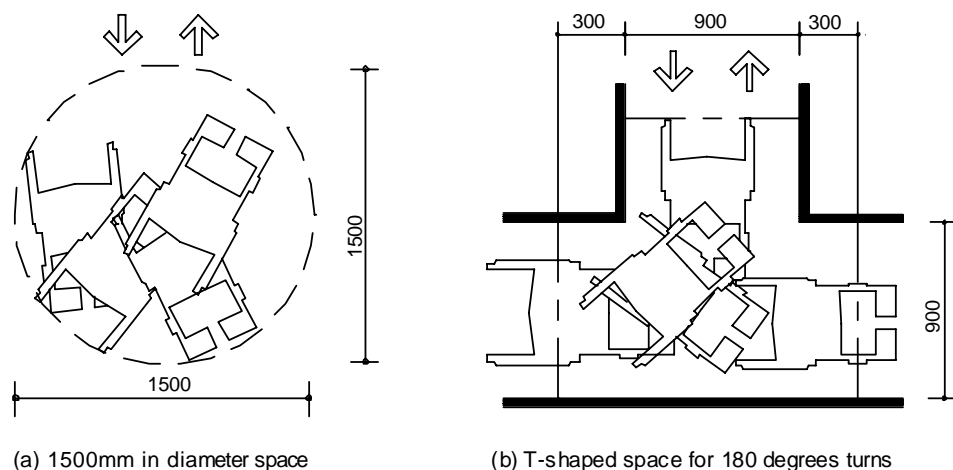
### 1.2 Changes in Level

A maximum vertical change in level of 8mm shall be permitted. Changes in level between 8mm and 15mm shall be bevelled with a slope not steeper than 1:3. Changes in level greater than 15mm shall be ramped. (See Item 3.4)

### 1.3 Wheelchair Turning Space

Floor or ground surfaces of a wheelchair turning space shall have a slope of no more than 1:40, and changes in level are not permitted.

The turning space shall be either circular or T-shaped. A circular space shall have a diameter of 1500mm, which is permitted to include knee and toe clearance. (See Figure 1.3a) The option of a T-shaped space shall comprise a 1500mm square with arms and base 900mm wide minimum. Each arm of the T shall be clear of an obstruction 300mm minimum in each direction and the base shall be clear of obstruction 600mm minimum. Such T-shaped space shall be permitted to include knee and toe clearance only at the end of either the base or one arm. (See Figure 1.3b)



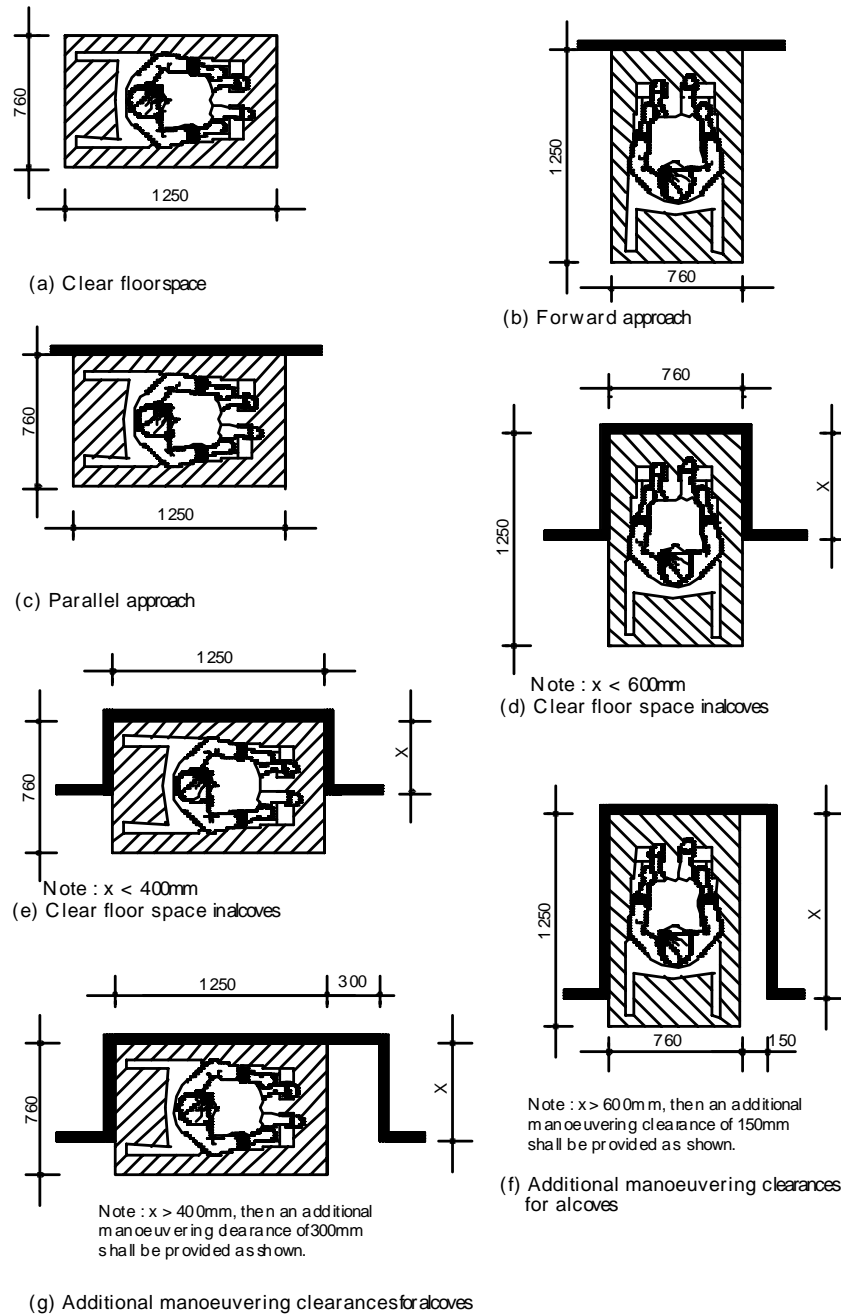
**FIGURE 1.3 WHEELCHAIR TURNING SPACE**

## 1.4 Clear Floor or Ground Spaces

Clear floor or ground space shall be positioned for either forward or parallel approach to an element. It should measure 760mm x 1250mm minimum, and is permitted to include knee and toe clearances. (See Item 1.5)

The floor or ground of such a space is to be not steeper than 1:40 and shall comply with other stipulations for floor and ground surfaces. (See Item 1.1)

One fully unobstructed side shall adjoin or overlap with an accessible route or adjoin another clear floor or ground space. See Figure 1.4 for manoeuvring clearances where a clear space is located in an alcove, or otherwise obstructed.



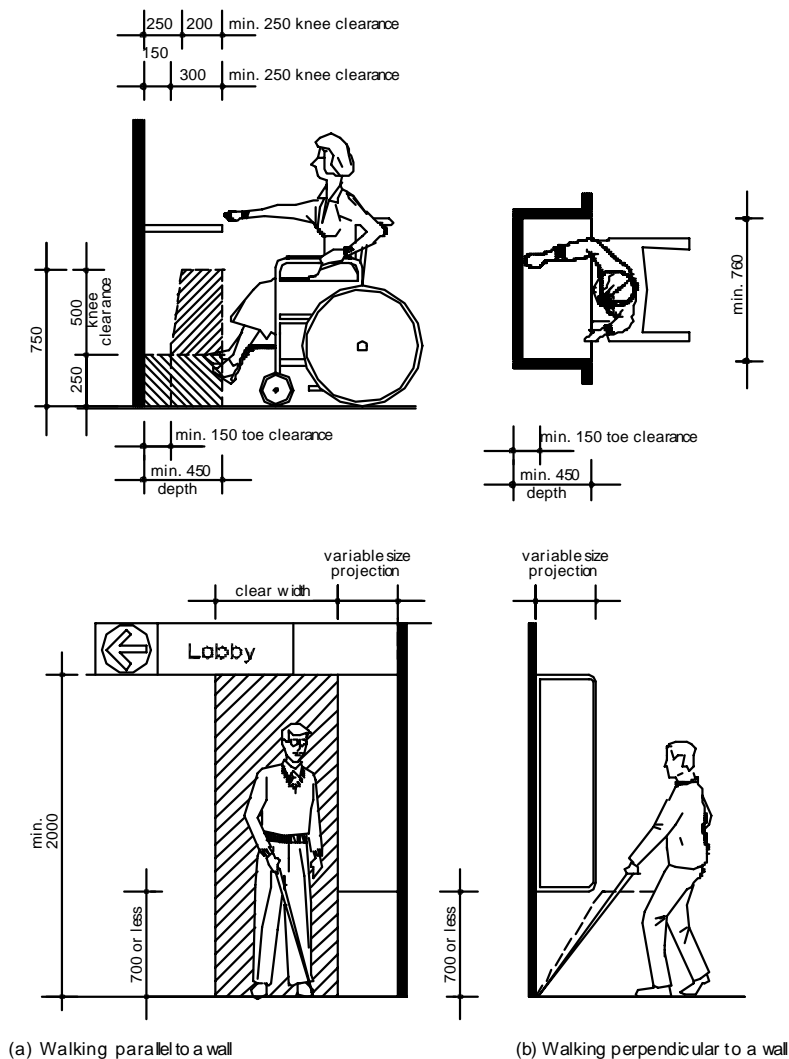
**FIGURE 1.4 MINIMUM CLEAR FLOOR SPACE FOR WHEELCHAIRS**

## 1.5 Toe and Knee Clearance

Toe clearance is considered to be that space under an object 250mm above the floor or ground, shall extend 650mm under an object, with minimum width of 760mm. (See Figure 1.5)

Where toe clearance is required at an element as part of the clear floor space, the clearance shall extend 450mm minimum beneath the element. Space extending more than 150mm beyond the available knee clearance at 250mm above the floor or ground shall not be considered toe clearance.

Knee clearance is that space under an object between 250mm and 750mm above the floor or ground, which has a minimum width of 760mm. Where knee clearance is required as part of clear floor space, the knee clearance shall be 300mm minimum in depth at 250mm above the ground, and 200mm minimum in depth at 750mm above the floor or ground.



**FIGURE 1.5 TOE AND KNEE CLEARANCES**

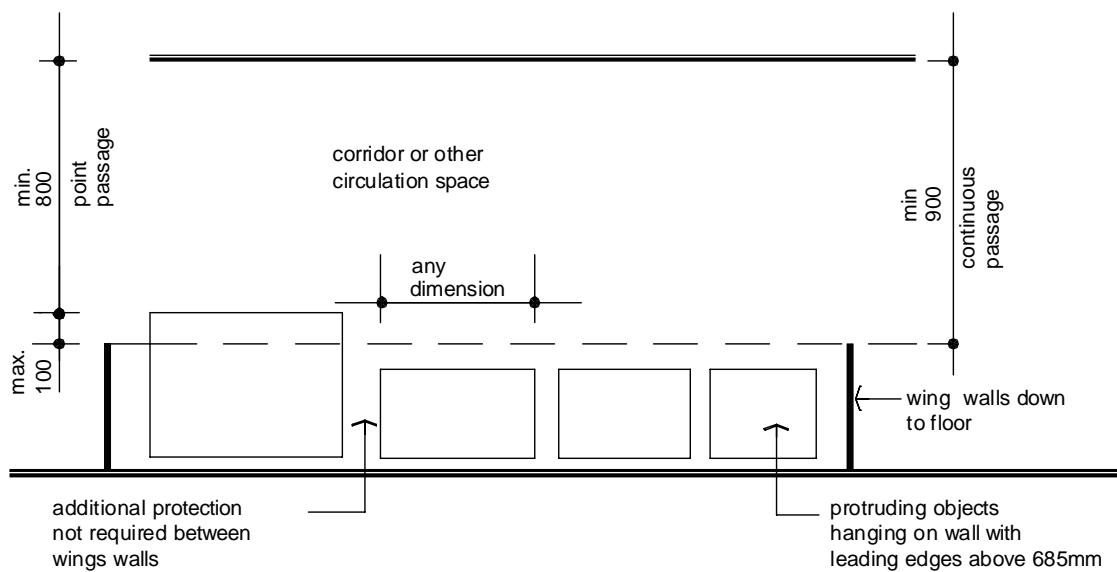
## 1.6 Protruding Objects

Objects with leading edges between 700mm and 2000mm above the floor or ground shall protrude no more than 100mm into the clear width or circulation space including handrails.

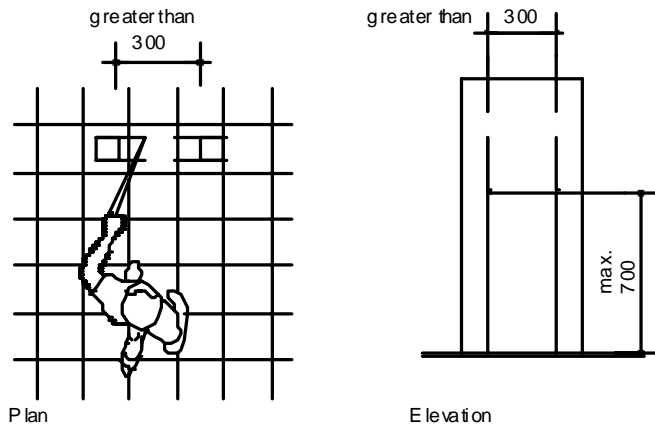
Free-standing objects mounted on posts shall overhang 300mm maximum where located between 700mm and 2000mm above the ground. Where a sign or other feature is mounted between two posts and the clear distance between the posts exceeds 300mm, the lowest edge of the sign shall be between 700mm and 2000mm above the floor or ground.

Guardrails or other detectable barriers shall be provided where the vertical clearance is less than 2000mm high. The leading edge of such guardrail or barrier shall be located 700mm maximum above the floor.

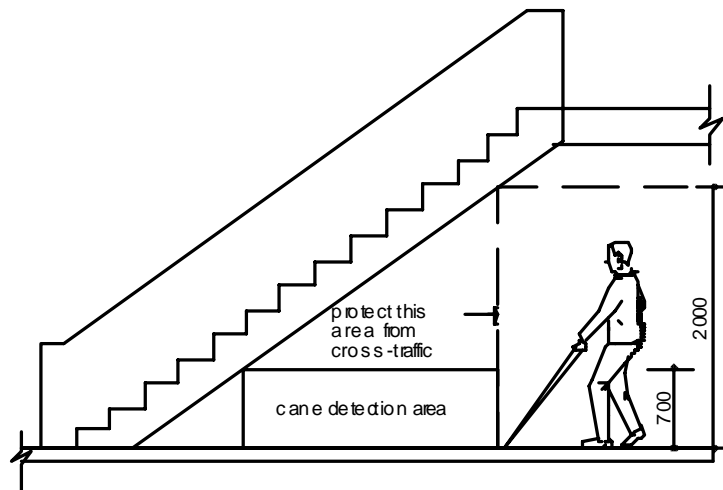
Protruding objects shall not reduce the clear width required for accessible routes. (See Figures 1.6.1, 1.6.2 and 1.6.3)



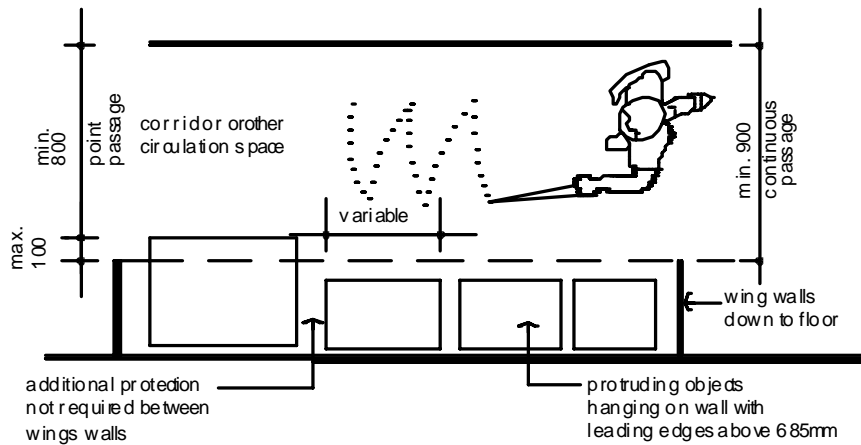
**FIGURE 1.6.1 BASIC PROTRUDING OBJECTS**



(a) Signage on two posts



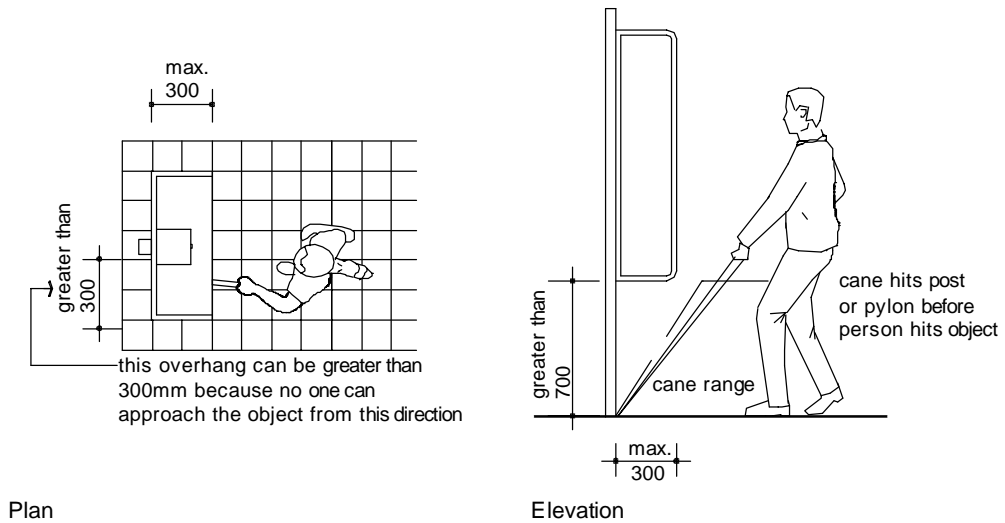
(b) S offits to staircases



(c) Objects in a passage

**FIGURE 1.6.2 OVERHANGING PROTRUDING OBJECTS ON POSTS**





**FIGURE 1.6.3 OBJECTS MOUNTED ON POSTS OR PYLONS**

## 1.7 Reach Ranges

### a) Forward Reach

#### Unobstructed Forward Reach:

Where a clear floor space allows for only a forward approach to an object, and is unobstructed, the high forward reach shall be maximum 1200mm and the low forward reach shall be minimum 400mm. (See Figure 1.7.1)

#### Obstructed High Reach:

Where a clear floor space allows only for a forward approach to an object, and the high forward reach is over an obstruction, the clear floor space shall extend beneath the object for a distance not less than the required reach depth over the obstruction.

Furthermore, where

High Forward Reach	Reach Depth
1200mm	500mm
1100mm	650mm

### b) Side Reach

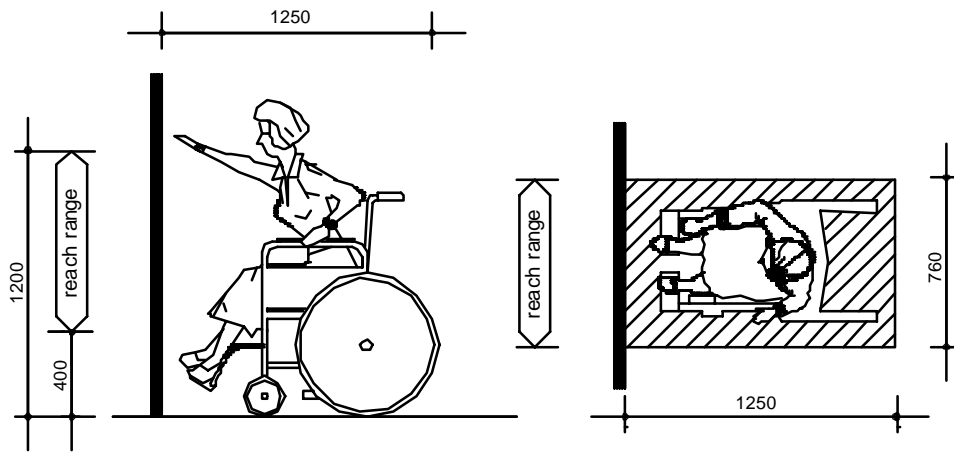
#### Unobstructed

Where a clear floor space allows a parallel approach to an object, and the depth of any obstruction between the clear floor and the object is 250mm maximum, the high side reach shall be 1200mm maximum, and the low side reach shall be 400mm above the ground. (See Figure 1.7.2)

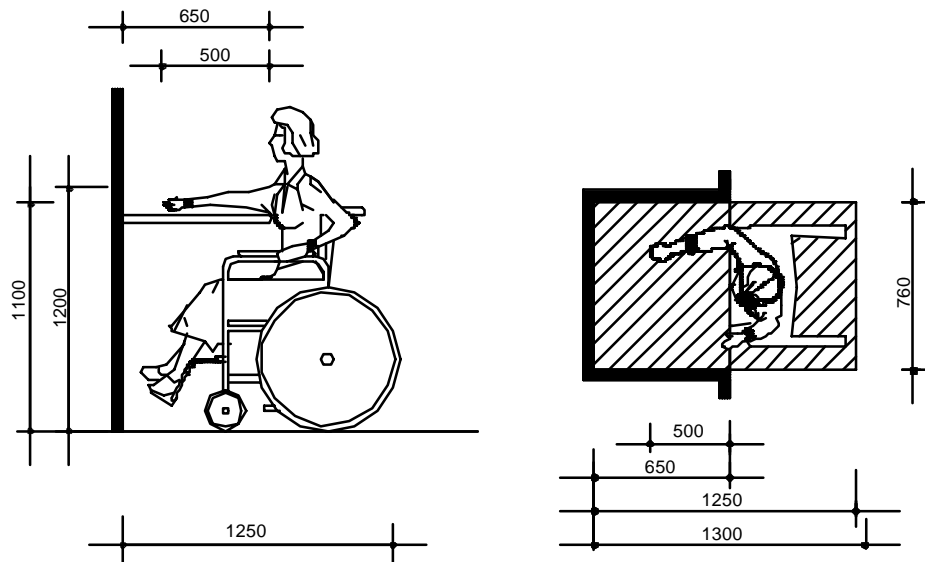
#### Obstructed High Reach

Where a clear floor or ground space allows a parallel approach to an object and the high side reach is over an obstruction, the height of the obstruction shall be 850mm maximum and the depth of the obstruction shall be 600mm maximum, and where:

High Side Reach	Reach Depth
1350mm	250mm
1200mm	500mm

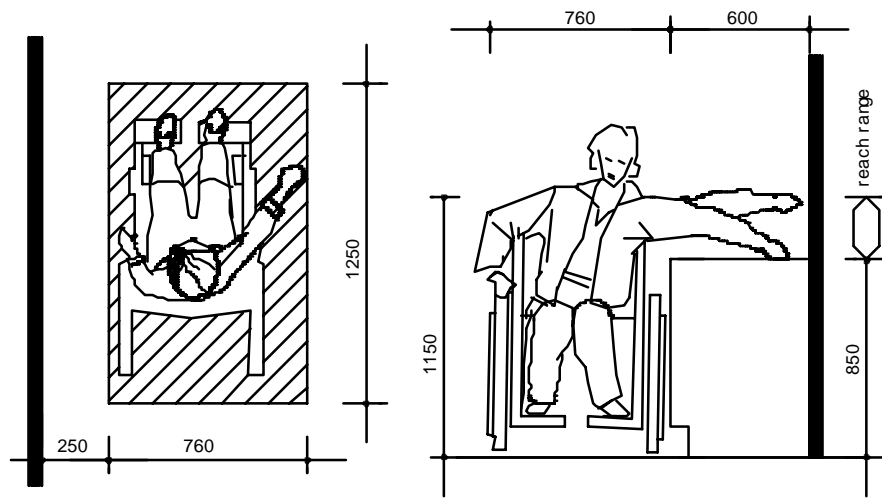


(a) High forward reach limit



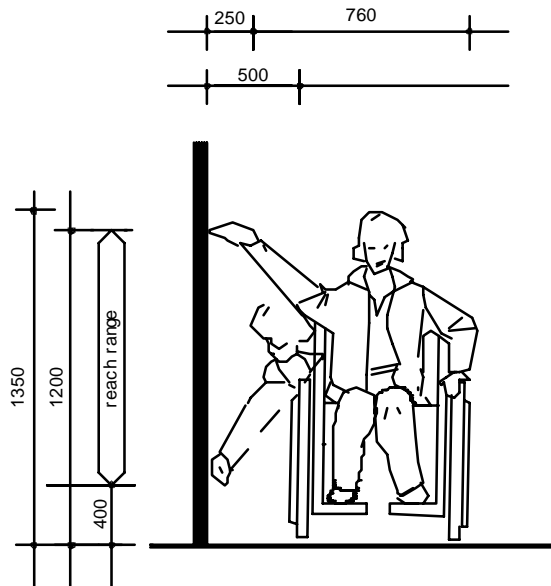
(b) Maximum forward reach over an obstruction

**FIGURE 1.7.1 FORWARD REACH RANGES**



(a) High and low Side reachlimit

(b) Maximum side reach over obstruction



(b) High and low Side reachlimit

**FIGURE 1.7.2 SIDE REACH RANGES**

## 1.8 Control and Operating Mechanisms

A clear floor or ground space shall be provided in front of the controls or operating mechanism. The height of the mechanisms shall be placed within one or more of the reach ranges noted in Item 1.7, with the exception of special equipment which dictates otherwise, or equipment that is not normally intended for use by the building occupants.

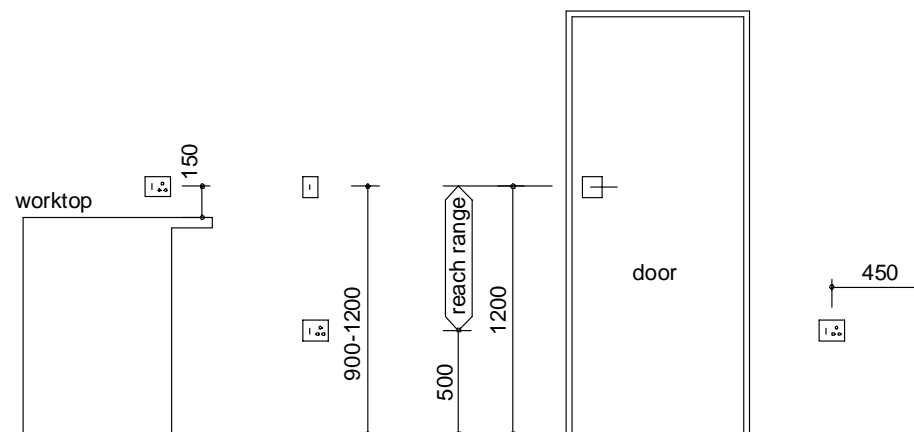
The controls and operating mechanisms shall be operable with one hand, and shall not require tight grasping, pinching, or twisting of the wrist.

Window and door controls (locking and opening) shall be of the lever type, readily accessible less than 1200mm above the finished floor level, operable with one hand, and not obstructed by fittings or appliances.

All light switches shall be horizontally aligned with door handles and other fixtures and fittings (other than socket outlets) between 900mm and 1200mm above the finished floor level. The recommended height is 1000mm. (See Figure 1.8)

Rocker action, toggle or push-pad switches that operate in the vertical plane shall be used. Push buttons and toggle light switches shall project clear of the switch plate and shall have a width of at least 10mm.

General purpose sockets outlets (power points) shall be fixed at least 500mm above the finished floor level, 150mm above work top level and at least 450mm from corners. (See Figure 1.8)



**FIGURE 1.8 HEIGHT FOR SWITCHES AND SOCKETS**

## 2.0 GENERAL SITE AND BUILDING ELEMENTS

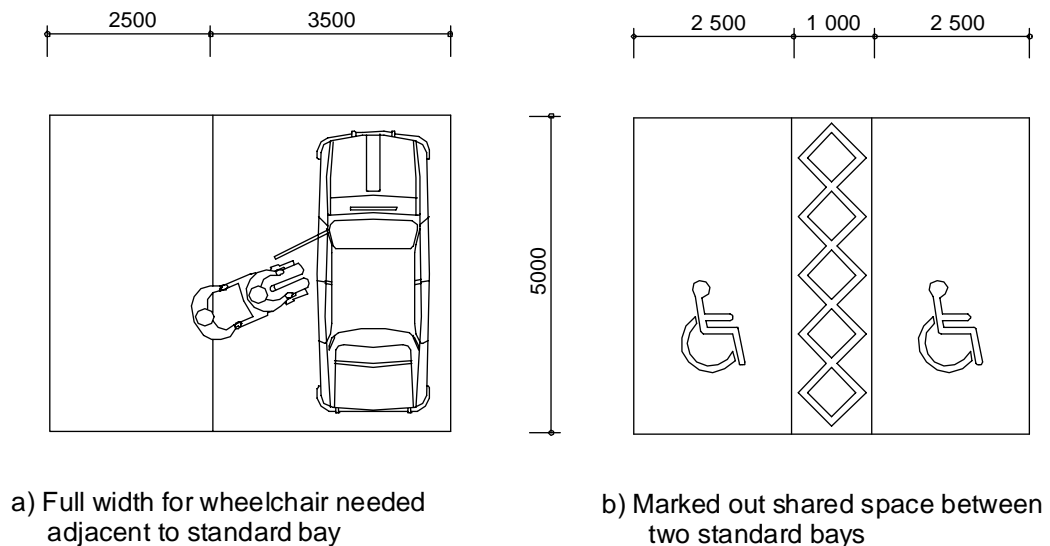
### 2.1 Parking Spaces

Accessible parking spaces serving a particular building shall be located on the shortest accessible route from adjacent parking to an accessible entrance. Not greater than 50 metres from the entrance.

In buildings with multiple entrances with adjacent parking, accessible parking spaces shall be dispersed and located closest to the accessible entrances.

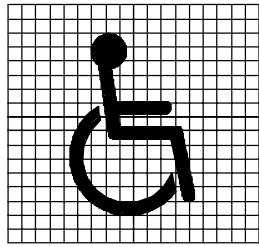
In parking facilities that do not serve a particular building, accessible parking spaces shall be located on the shortest accessible route to an accessible pedestrian entrance of the parking facility. Not greater than 50 metres from the entrance.

Parking bays are to be the standard length and no narrower than 3500mm. Alternatively, a situation can exist where two adjacent bays of the standard width of 2500mm can be separated by an access aisle of 1000mm. Their ground surfaces are to be no steeper than 1:40, with no changes of level. (See Figure 2.1.1)

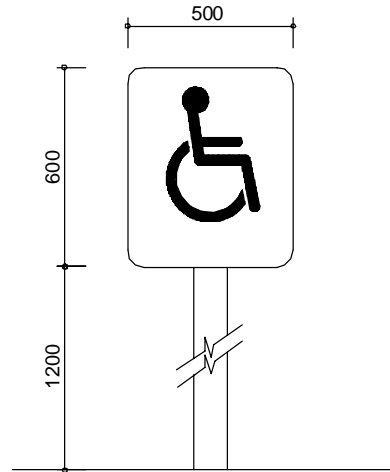


**FIGURE 2.1.1 ACCESSIBLE PARKING BAYS**

The parking spaces are to be identified by signs incorporating the International Symbol of Accessibility, on both the ground surface in yellow road marking paint at least 1000mm in length and width, and a post mounted sign in front of the bay at a minimum height of 1200mm above the ground surface measured to the bottom of the sign. (See Figure 2.1.2)



a) International symbol for accessibility



b) Parking reservation signage for disabled persons

**FIGURE 2.1.2 SIGNAGE FOR ACCESSIBLE BAYS**

The table below indicates the number of accessible parking bays required.  
Accessible Parking Spaces:

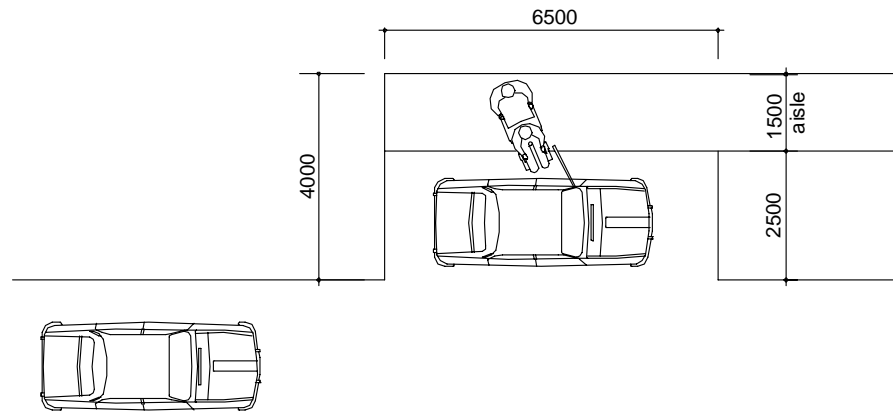
Total Number of Parking Spaces Provided	Minimum Number of Accessible Parking Spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2 % of total
1001 and over	20 plus 1 for each 100 over 1000

Rehabilitation facilities and outpatient physical therapy facilities require 20% of patient and visitors bays to be accessible.

## 2.2 Passenger Loading Zones

Passenger loading zones shall provide a vehicle pull-up space of 2500mm minimum in width, 6500mm minimum in length and an adjacent access aisle. The access aisle is to be 1500mm wide and run the length of the vehicle pull-up spaces that it serves and be contiguous with a main accessible route into the building or complex.

The ground and floor surface of passenger loading zones (and the access aisles serving them) shall have surface slopes not steeper than 1:40, with no changes in level permitted. Access aisles shall be at the same level as the parking bays they serve.



**FIGURE 2.2 PASSENGER LOADING ZONES**

### **3.0 ACCESSIBLE ROUTES AND ACCESSIBLE MEANS OF EGRESS**

#### **3.1 Accessible Routes**

An accessible route shall consist of one or more of the following: walking surfaces with a slope not steeper than 1:20, no stepped changes in level greater than 15mm, which runs contiguously through doorways, up ramps, elevators, and platform (wheelchair) lifts, from the point arrival to the component of the building or complex to be accessed.

At least one accessible route shall be provided within the boundary of the site from public transportation stops, accessible parking spaces, passenger loading zones, and public streets or pavements, to the accessible building entrance they serve.

At least one accessible route shall connect accessible buildings, facilities, elements and spaces that are on the same site.

At least one accessible route shall connect each level in multi-storey buildings and facilities, including mezzanines.

Where direct access to a building is provided for pedestrians from an enclosed parking garage, at least one direct entrance from the garage to the building shall be accessible.

At least 50% of public entrances shall be accessible, and at least one accessible entrance shall be a ground floor entrance.

At least one accessible entrance shall be provided to each tenancy in a facility.

If a service entrance is the only entrance to a building or a tenancy in a facility, that entrance shall be accessible.

Accessible entrances shall be identified by the International Symbol of Accessibility, and directional signs indicating the location of the nearest accessible entrance shall be provided at inaccessible entrances.

#### **3.2 Walking Surfaces**

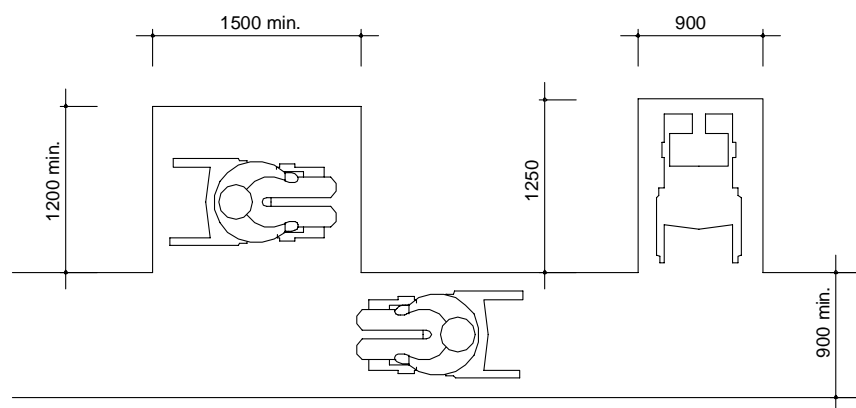
Floor or ground surfaces shall comply with Item 1.1. Changes in level shall comply with Item 1.2.

The running slope of walking surfaces shall not be steeper than 1:20, and the cross-slope not steeper than 1:40.

The clear width of walking surfaces shall be a minimum of 900mm. If the clear width is less than 1500mm, an accessible route shall be provided with passing spaces at intervals of 50 metres (maximum) and of plan size 1500mm long by 1200mm wide (minimum), or an intersection of two walking surfaces which provide a T-shaped space as described in Item 1.3. (See Figure 3.2)

Protruding objects as noted in Item 1.6 shall not reduce the required clear width of an accessible route.





**FIGURE 3.2 PASSING POINT ON AN ACCESSIBLE ROUTE**

### **3.3 Doors and Doorways**

Each accessible entrance to a building or facility shall have at least one accessible door or doorway.

Within a building or facility, at least one door or doorway serving each accessible room or space shall be accessible.

Revolving doors and turnstiles shall not be part of an accessible route.

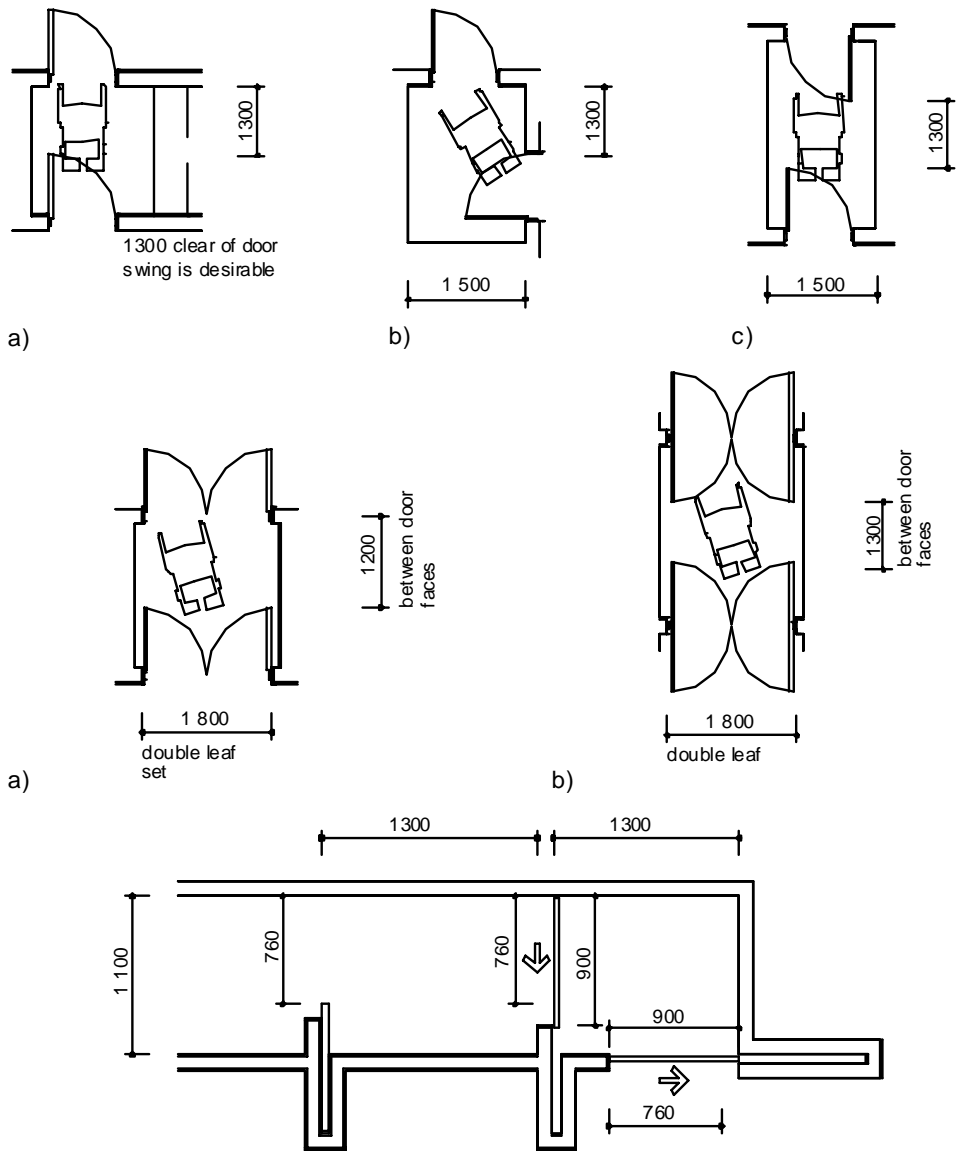
Doors and doorways shall have a clear opening width of 760mm minimum clear width from the most protruding edge of the door to the most protruding edge of the frame on the opposite side, regardless of whether the door is hinged, pivot, sliding and double door type.

Where double leaf doors are provided, at least one of the active leaves of doorways shall comply with the requirements for clear width and manoeuvring clearances. (See Figure 3.3.1)

Openings at doorways deeper than 300mm in front of or on the far side of the door shall provide a clear opening width of 900mm. (See Figure 3.3.2)

Where a doorway opens into an access route that is restricted in width, the table of relative values in Figure 3.3.2 will apply.

At maneuvering clearances through doorways, lobbies and adjacent routes, a clear space of 1300mm from the full extent of the door swing or combination of door swings should be allowed with single doors and 1200mm clear space should be allowed with double doors.



**FIGURE 3.3.1 CLEAR WIDTH OF DOORWAYS**

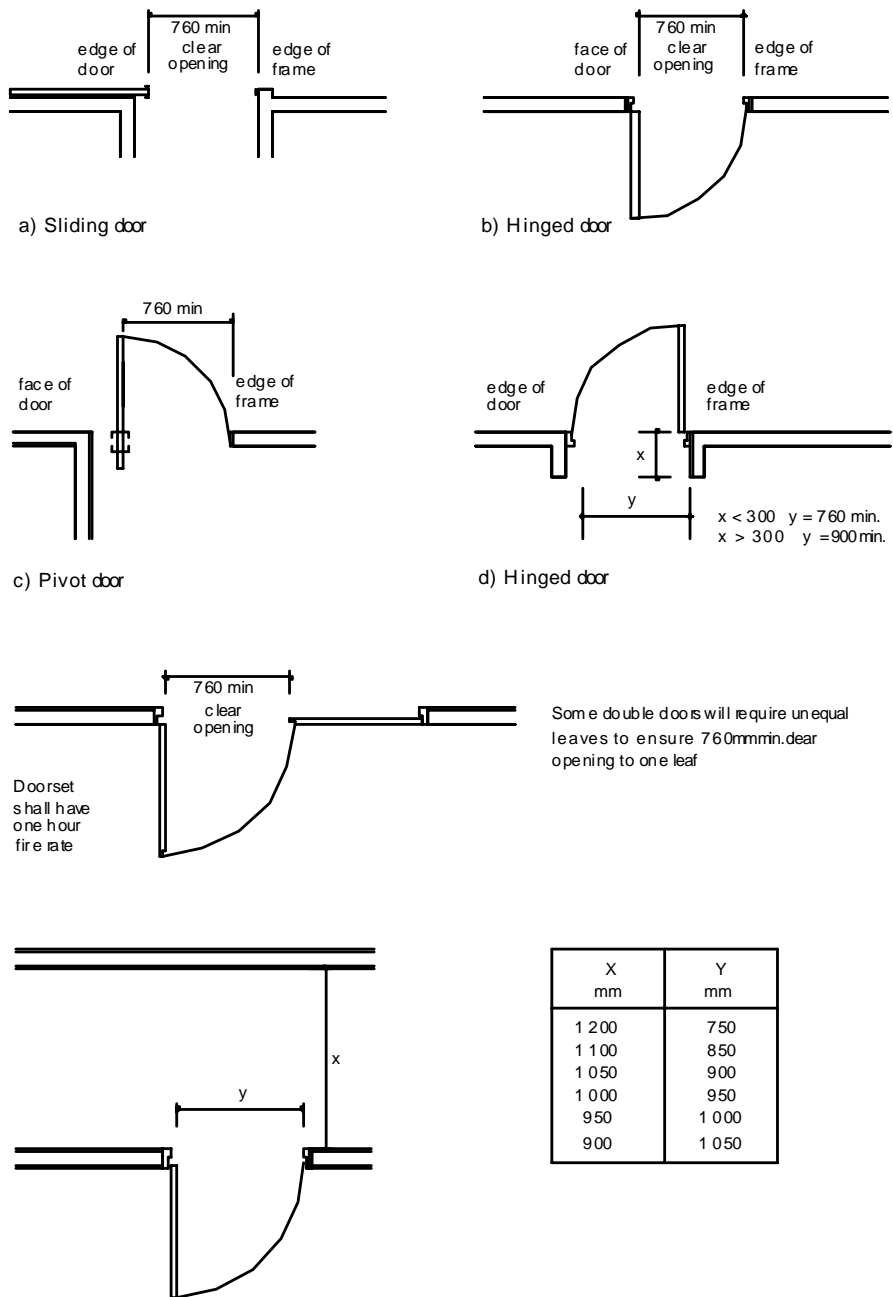
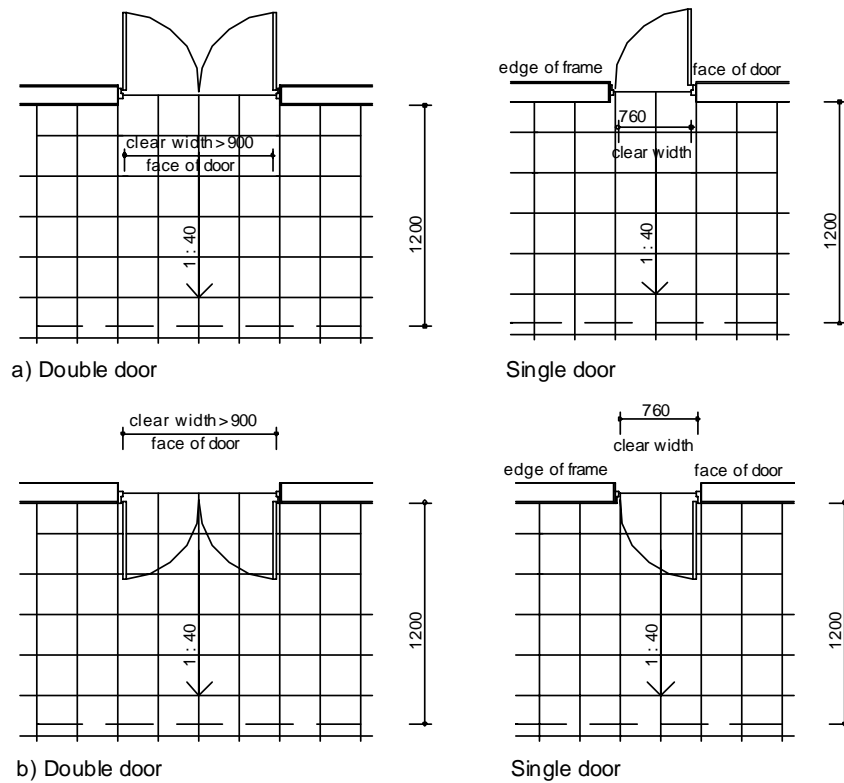


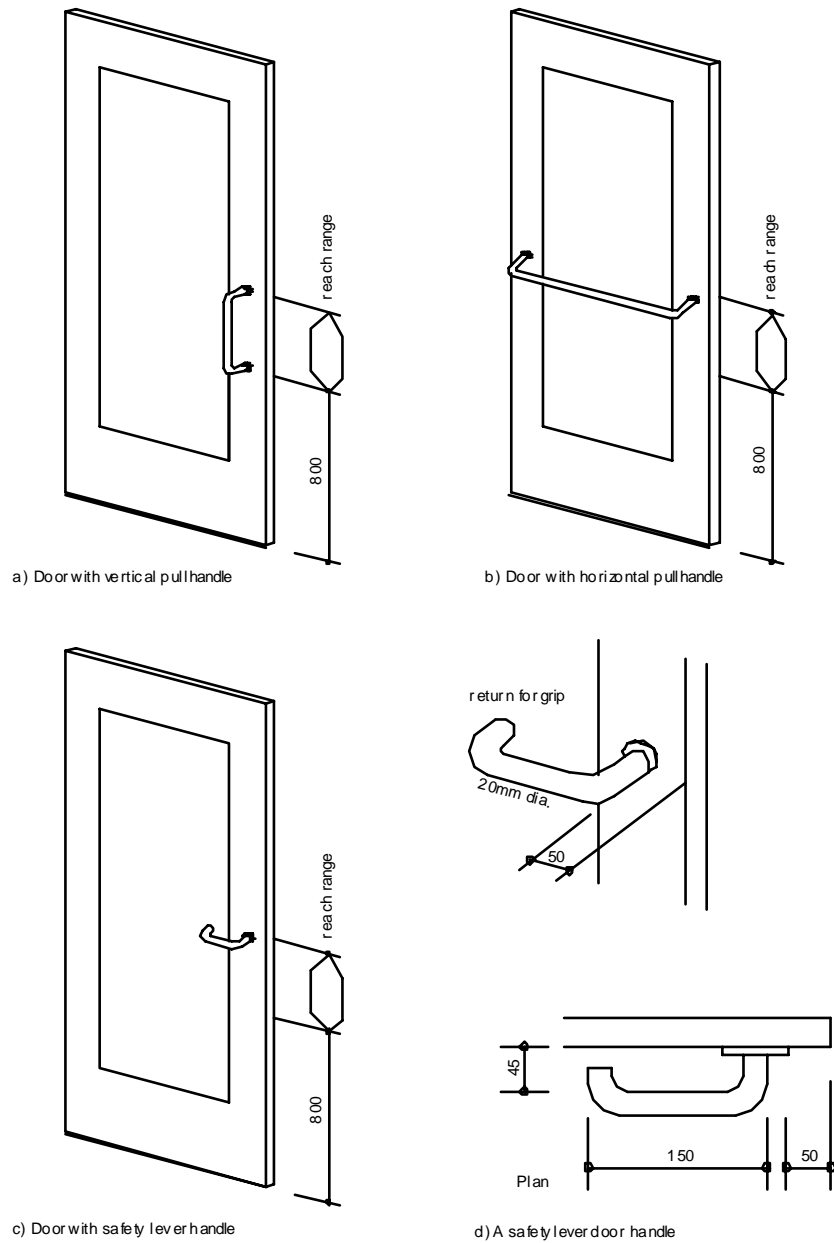
FIGURE 3.3.2 DOOR WIDTHS RELATED TO CLEAR WIDTH OF ADJACENT ROUTE

The external access space in front of door shall not have a gradient greater than 1:40 for 1200mm clear of the full extent of the door swing. (See Figure 3.3.3) Any difference in level of the surface of a floor at the threshold shall be not more than 15mm. (See Item 1.2)



**FIGURE 3.3.3 GRADIENT APPROACHES TO DOORWAYS**

Any handle fitted to a door leaf of any door in an emergency route or in a feeder route or in any compartment containing toilet facilities for use by disabled persons shall be of the lever type at least 150mm long, preferably in a "D" shape. All handles shall be installed at a height of between 800mm and 1200mm above floor level. Where horizontal or vertical pull-bars are used, the bar (or a portion thereof) must be at a height between 800mm and 1200mm. (See Item 1.7 and Figure 3.3.4)

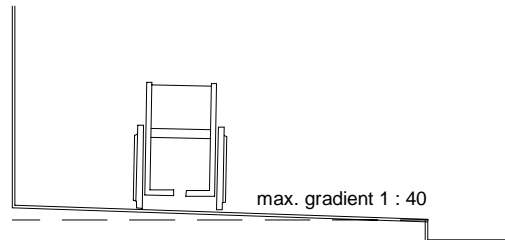


**FIGURE 3.3.4 TYPES OF ACCESSIBLE DOOR HANDLES AND POSITIONS**

### 3.4 Ramps

Walkways and ramps shall have a gradient, measured along the centre-line, not steeper than:  
 1 : 12 where the difference in level of the ends of the ramp exceeds 400mm; or  
 1 : 10 where the difference in level of the ends of the ramp is less than 400mm.

The ramp shall have a clear trafficable surface not less than 1100mm wide. The cross-slope of ramp runs shall not be steeper than 1:40. A cross-slope should not be provided unless absolutely necessary and then the cross-fall should always be minimised. (See Figure 3.4.1)

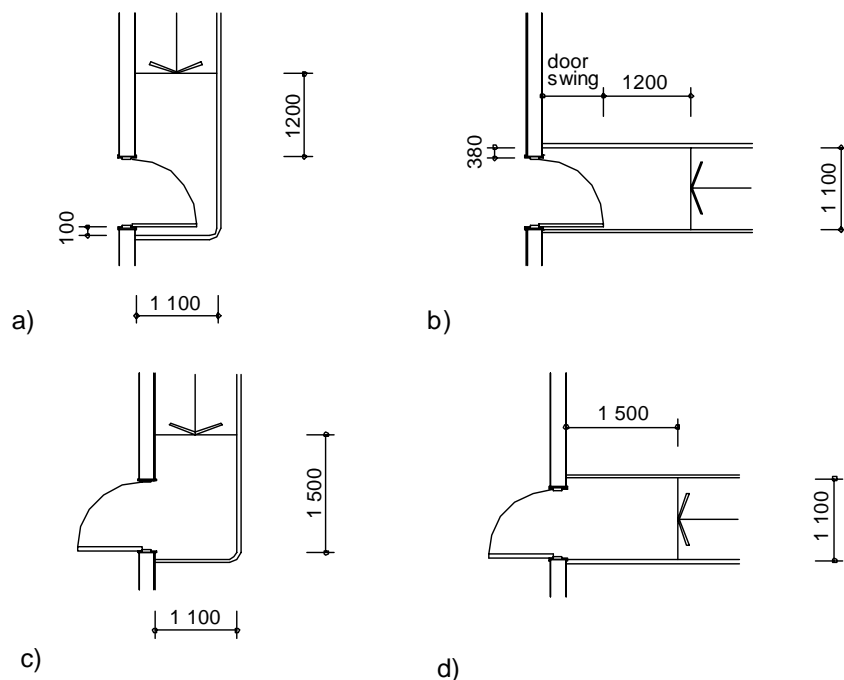


**FIGURE 3.4.1 CAMBER ON WALKWAYS AND RAMPS**

The floor or ground surfaces shall be firm, stable and slip-resistant as per item 1.1. Changes in level, other than the ramp run and cross-slope, are not permitted.

Landings shall occur at the top and bottom of each ramp run - at no more than a 1000mm vertical rise - and shall be at least 1200mm in length. The width of the landing shall be at least the same width of the ramp run leading to the landing.

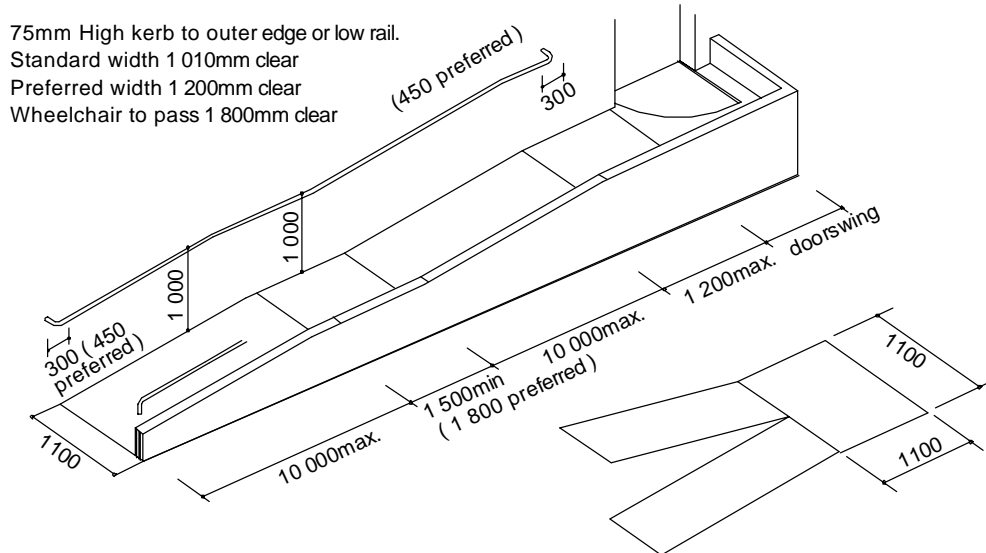
Where doorways are located adjacent to a ramp landing, manoeuvring clearances shall be observed, but may overlap with the required landing area. (See Figure 3.4.2)



**FIGURE 3.4.2 TYPICAL RAMP LAYOUTS**

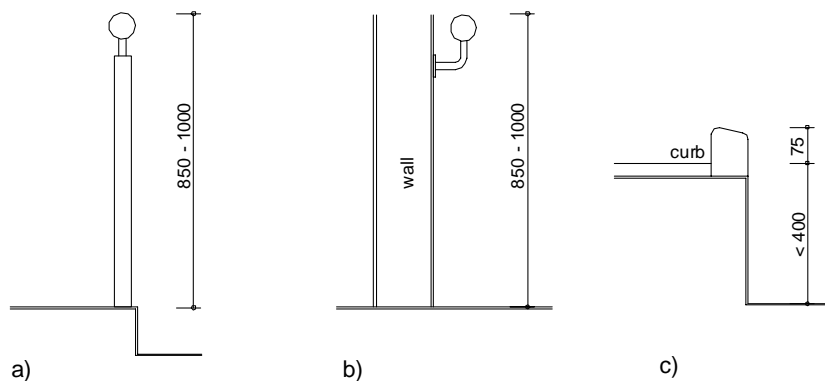
Where the gradient is steeper than 1:15 a handrail shall be provided on both sides of the ramp. If the ramp is wider than 2000mm a central handrail can be substituted.

Ramps that change direction between runs through 90 degrees at landings shall have a 1200x1100mm (minimum) landing. Where a ramp changes direction through 180 degrees, the landing at the switchback shall be at least 1200mm wide. (See Figure 3.4.3)



**FIGURE 3.4.3 MANOEUVERING CLEARANCES AT LANDINGS**

Where the difference in level between a ramp and any floor or ground level at the side of the ramp exceeds 400mm, balustrades shall be provided. Where the difference in level is less than 400mm a raised kerb of not less than 75mm high shall be provided, measured vertically from the surface of the ramp. (See Figure 3.4.4)



**FIGURE 3.4.4 HANDRAIL AND KERBS TO THE SIDE OF RAMPS**

Where only a handrail is used for edge protection and no raised kerb is provided, the handrail shall have a horizontal rail set at a height no greater than 300mm from the surface of the ramp.

Outdoor ramps and outdoor approaches to ramps shall be designed so that water does not accumulate on walking surfaces.

### 3.5 Kerb Ramps

Kerb ramps or cuts shall be provided at all steps in level at roadsides pavements or walkways.

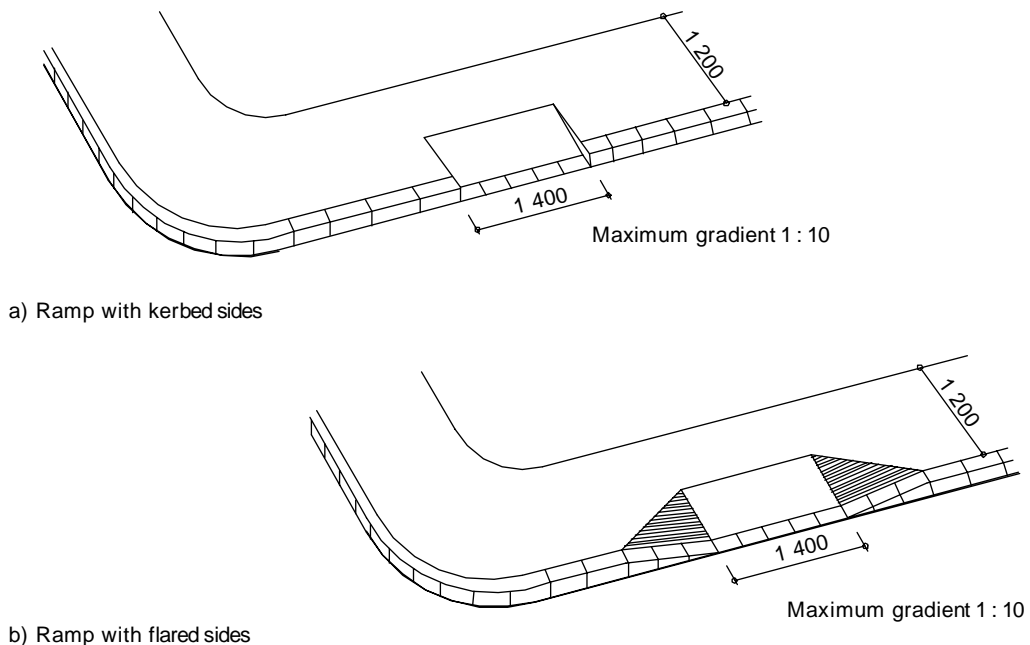
Kerb ramps with returned kerb shall be permitted where pedestrians would not normally walk across the ramp, no handrails or kerbs are required at these returns.

Kerb ramps shall be in line with the intended direction of travel, but kerb ramps are not to be provided on the 45° diagonal of a roadway intersection. (See Figure 3.5)

Kerb ramps located where pedestrians must walk across the ramp shall have flared sides, which are not to be steeper than 1:10. Where the width of the walking surface at the top of the ramp is less than 1200mm, the flared sides shall be not steeper than 1:12.

The counter slopes of adjoining gutters and road surfaces immediately adjacent to a kerb ramp shall not be steeper than 1:20. The adjacent surfaces at transitions of kerb ramps to walkways, gutters and streets shall be at the same level. (See Item 1.1, 1.4 and 3.2)

Visible and/or audible and/or tactile warnings shall be used in conjunction with kerb ramps where it enters the line of vehicular traffic or cycle ways. (See Item 5.5)



**FIGURE 3.5 DIFFERENT CONFIGURATIONS OF KERB RAMPS**

### 3.6 Stairways

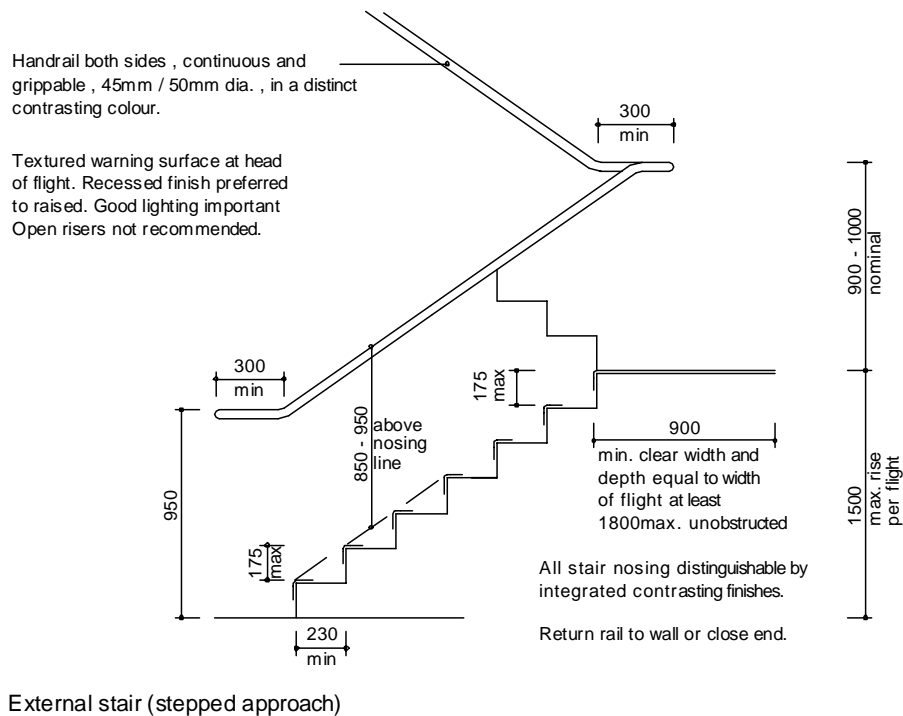
Interior and exterior stairs that are part of a means of egress that will not be regarded as an accessible route but may be used by persons with limited mobility impairments or persons who have visual impairment shall comply with the following:

Risers and treads of uniform heights and depths respectively and risers shall be between 100mm and 175mm in height, while treads shall be 230mm minimum in depth, from riser to riser. (See Figure 3.6) Open risers are not permitted. Treads are to be stable, firm and slip-resistant. (See Item 1.1) The radius at the leading edge of the tread shall be not greater than 10mm.



Outdoor stairs and outdoor approaches to stairs shall be so designed so that water will not accumulate on walking surfaces.

Refer to Item 3.7 for handrail specifications.



**FIGURE 3.6 STAIRCASES**

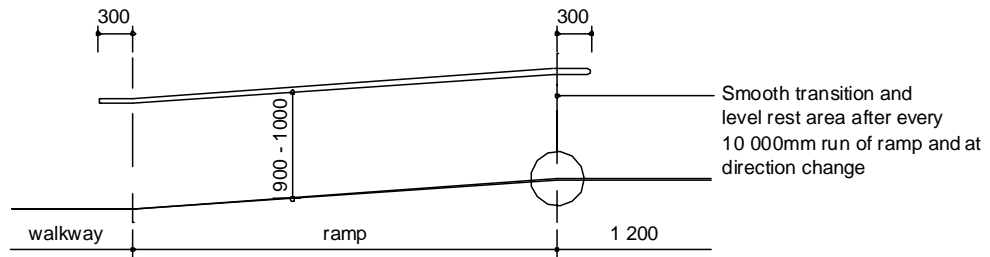
### 3.7 Handrails

Handrails are to be provided on both sides of stairs and ramps (subject to Item 3.4), and are to be continuous along the full length of each flight or ramp run. The top of the gripping surface shall be at a height between 850-950mm, vertically above stair nosings or 850-1000mm above ramp surfaces and 900-1000mm above stair landings. This height shall remain consistent along the length of the stair / ramp.

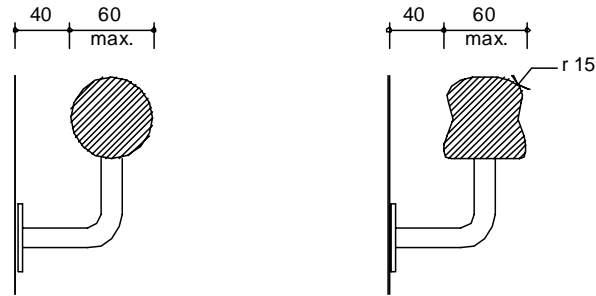
Handrails shall have circular cross-section with an outside diameter between 40-60mm. If the cross-section is not circular, it shall have a perimeter dimension between 100- 150mm and a horizontal cross-section dimension of 40-60mm in the top 40 % of the cross section of the rail.

The gripping surface of handrails shall be continuous, without interruption - the exception being handrail brackets or balusters attached to the bottom surface of the handrail. The surface of the handrail and wall or any other surface adjacent to them shall be free of any sharp or abrasive elements, and the handrail shall be fixed firmly and not rotate within its supports or brackets. (See Figure 3.7)

Handrails shall extend beyond the first and last stair risers on each flight and start end and landing lines of ramp runs, except on the inside turn of switchback or dogleg staircase and ramps. Top and bottom extensions of a ramp or staircase are to be 300mm minimum at a height between 900 and 1000mm on staircases and 850 to1000mm on ramps. The handrail shall return to the wall, guard or the walking surface or shall be continuous to the handrail of an adjacent ramp run.



a) Elevation of handrail



b) Typical profiles of handrail

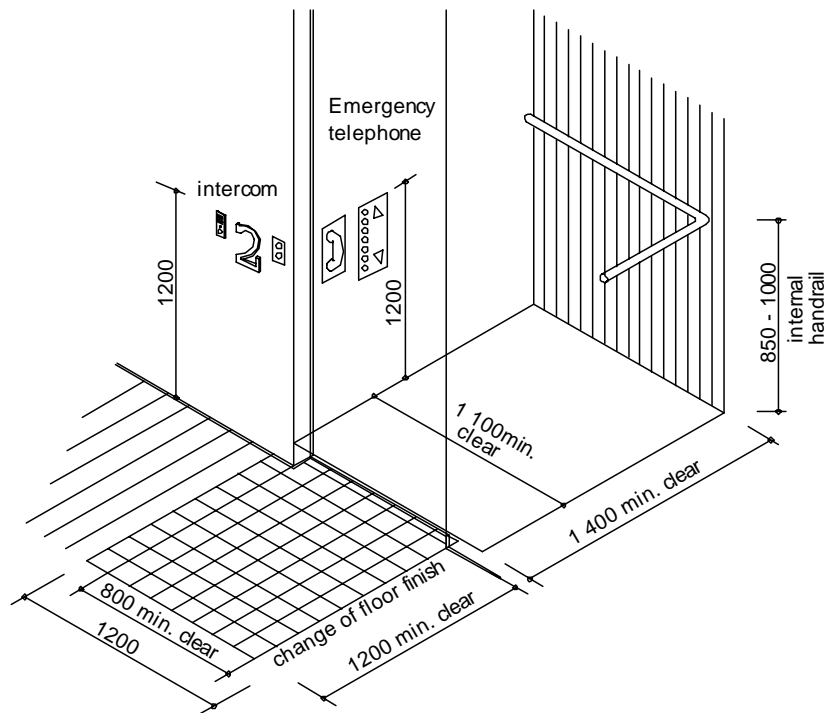
**FIGURE 3.7 DIMENSIONS AND PROFILES OF TYPICAL HANDRAILS**

### 3.8 Elevators

Where a passenger lift installation is provided there shall be not less than one lift that shall have a minimum internal dimension of 1100mm in width and 1400mm in depth. The lift shall have a doorway with an unobstructed width of not less than 800mm and it shall be fitted with handrails on two sides at a height of between 850mm to 1000mm above the finished floor of the lift. (See Figure 3.8)

Where such a lift is operated automatically and it is recommended that it is such, audible and visual warnings shall be provided in the lift lobby and in the car itself to indicate the movements of the elevator. Lifts shall meet all the requirements of Item 1.1, 1.4, 1.5 and 1.7 and designed to be operated by the wheelchair user without assistance. Clear space in terms of Item 1.4 must be provided at the entrance and egress to the lift and must be directly linked to an accessible route.

Call buttons should be at least 20mm in smallest dimension. All controls shall have raised tactile characters or Braille numbering. Tactile character should be raised by 5mm and stand 15mm high, but no greater than 50mm in height or grade two Braille shall be used for call buttons. At existing lift installations plates applied to the immediate left of the control buttons are an acceptable alternative.



**FIGURE 3.8 MINIMUM LIFT DIMENSIONS**

Any control to be operated by a passenger in such an elevator shall be positioned not higher than 1200mm above the floor finish of such an elevator. Emergency buttons should be grouped at the bottom of the control panel and be located no higher than 900mm above the floor finish of such an elevator.

Every accessible elevator installation shall be fitted with an emergency intercom system located below 1000mm in height from the floor surface, with tactile or Braille control buttons.

All controls and the intercom system shall be located to comply with Item 1.4.

The light level on the control panel in such a lift shall be not less than 50 lux.

### **3.9 Wheelchair or Platform Lifts**

Wheelchair or platform lifts shall be permitted to provide an accessible route to any low occupancy areas including places of assembly, where the estimated occupancy is less than 50.

Wheelchair lifts shall meet all the requirements of Item 1.1, 1.4, 1.5 and 1.7 and designed to be operated by the wheelchair user without assistance. Clear space in terms of Item 1.4 must be provided at the entrance and egress to the lift and must be directly linked to an accessible route.

### **3.10 Accessible Means of Emergency Egress**

All accessible spaces shall be provided with not less than one additional means of egress, besides the accessible route used to originally access the space. By implication each accessible portion of a building or complex shall be served by not less than two accessible means of egress.

Each accessible means of egress shall be continuous and shall consist of one or more of the following components: accessible routes and or smoke free exit stairways with areas of refuge. In addition a place of refuge shall be provided on all accessible means of egress at not greater than 50 metre intervals measured horizontally and 5 metre intervals measured vertically.

Exit stairways to be considered part of an accessible means of egress shall be smoke free zones and conform to Item 3.6. Furthermore they shall have a clear width of 1100mm minimum between handrails, and shall either incorporate an area of refuge within an enlarged floor-level landing, or be directly accessed from an area of refuge complying with 3.11.

### **3.11 Areas of Refuge**

Areas of refuge are not required in buildings or facilities that are protected throughout by a supervised automatic sprinkler system.

Each area of refuge shall be accessed from the space it serves by an accessible route that serves as an accessible means of egress. The maximum travel distance to an area of refuge shall not exceed the travel distance permitted to a fire escape route for the specific occupancy as required by the National Building Regulations.

Every area of refuge shall have direct access to horizontal accessible means of egress or smoke free exit stairway complying with Item 3.10.

Each area of refuge shall be sized to accommodate one wheelchair space for every 50 occupants or portion thereof, based on the occupant load of the area to be served by this means of egress. Such wheelchair spaces shall not overlap the required means of egress width.

Access to any required wheelchair space shall not be through more than one adjoining wheelchair space.

An area of refuge shall have a smoke and fire resistance of one hour, and shall comply with the National Building Regulations in terms of the requirements for emergency routes and feeder routes. Where an elevator lobby is used as an area of refuge, it shall also meet these requirements.

Areas of refuge shall be equipped with an accessible two-way communication system between the area of refuge and a central control point, the communication system shall have both audible and visible signals located below 1000mm in height from the floor surface, with tactile or Braille control buttons. In each area of refuge, instructions on the use of the area under emergency conditions shall be posted adjacent to the communications system, and shall include:

3.11.1 Directions to other means of egress.

3.11.2 Advice that persons able to use the exit stairs do so as soon as possible unless they are assisting others.

3.11.3 Information on planned availability of assistance in the use of the stairs for those persons who require assistance or the supervised operation of elevators and how to summon such assistance.

3.11.4. Directions for use of emergency communications system.

Each area of refuge shall be identified by a tactile sign stating Area of Refuge and including the International Symbol of Accessibility. (See Item 5.1) A sign shall be located at each door providing access to the area of refuge, the sign shall be illuminated as required for exit signs where exit sign illumination is required.

## PLUMBING ELEMENTS AND FACILITIES

### 4.0 Water Closets and Toilet Compartments

Where toilet facilities are accessible to wheelchair users, at least one toilet compartment in each bank of same-sex toilets shall be accessible.

The preferred facility is a separate unisex WC facility, incorporating a water closet and a wash-hand basin. The dimensions of this WC compartment are critical. The size of a cubicle shall be at least 1700mm x 1600mm, with a door that shall open outwards or a sliding door. An inward-opening door can be provided where there is a 1200mm internal diameter clear of all fittings, fixtures and the line of the door swing. The door shall be openable from the outside in case of an emergency.

Refer to Figures 4.1.1 to 4.1.3 illustrating the variations between external cisterns, under-wall cisterns and flush-valve types of WC's.

For manoeuvring clearances through lobbies and doors into a WC compartment refer to Item 3.3.

There shall be free width to one side of the WC of at least 800mm to facilitate lateral transfer from a wheelchair to the WC. The rim of the WC bowl shall be a minimum of 480mm above the floor level, with the seat approximately 500mm to facilitate the transfer from a wheelchair. The seat lid is to be removed.

A hand-hand basin shall be provided in a position where a person seated on the WC can use it. (See Item 4.4)

The toilet paper holder shall be located as indicated on the sidewall closest to WC seat, in an easily accessible position that does not interfere with the use of the grab rails.

A fixed mirror shall be provided with its lower edge not higher than 900mm above floor level.

Hand-drying facilities, a disposal bin, incinerator and any other facilities provided shall be accessible to a wheelchair user.

A 200mm lever extension to the flush handle is to be fitted to both under wall cistern, external cistern and flush-valve type WC's. Such extensions are to be located away from the sidewall. Where push-pad controls are used as an alternative to the lever flush handle, these are to be larger than a 100mm diameter.

Taps and water-mixing controls intended for use by disabled people shall be of the lever type, with a lever at least 100mm long. All hot water taps shall be located on the left-hand side of the basin and marked with a raised tactile dot.

Grab rails are to be provided as shown on Figures 4.1.1 to 4.1.3. and detailed in Figure 4.2, also see Item 4.2.

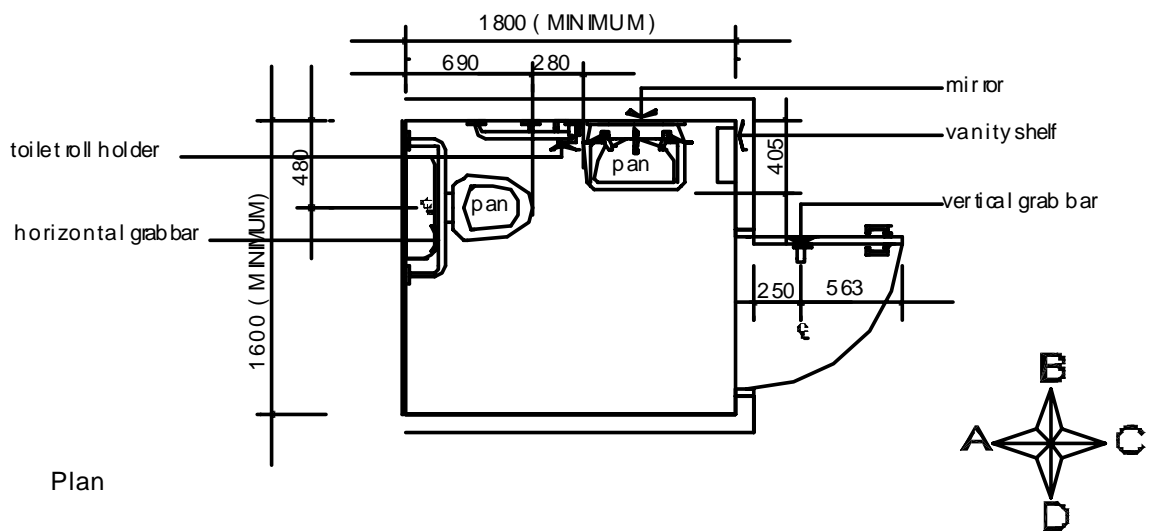
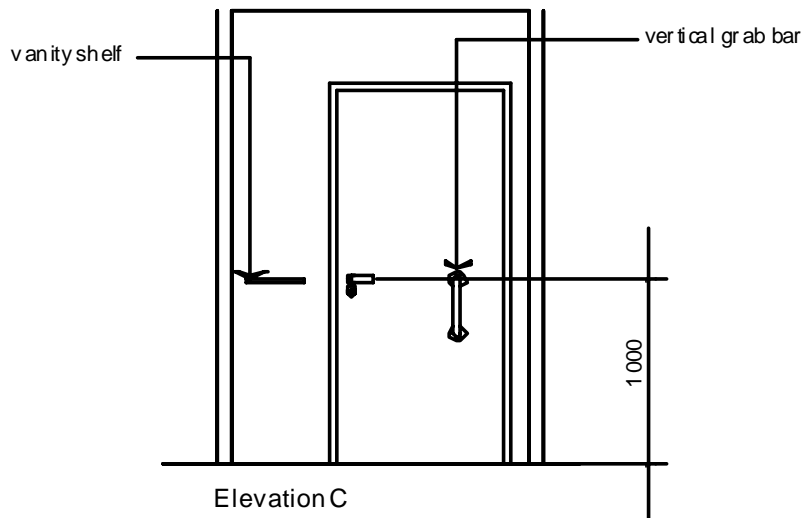
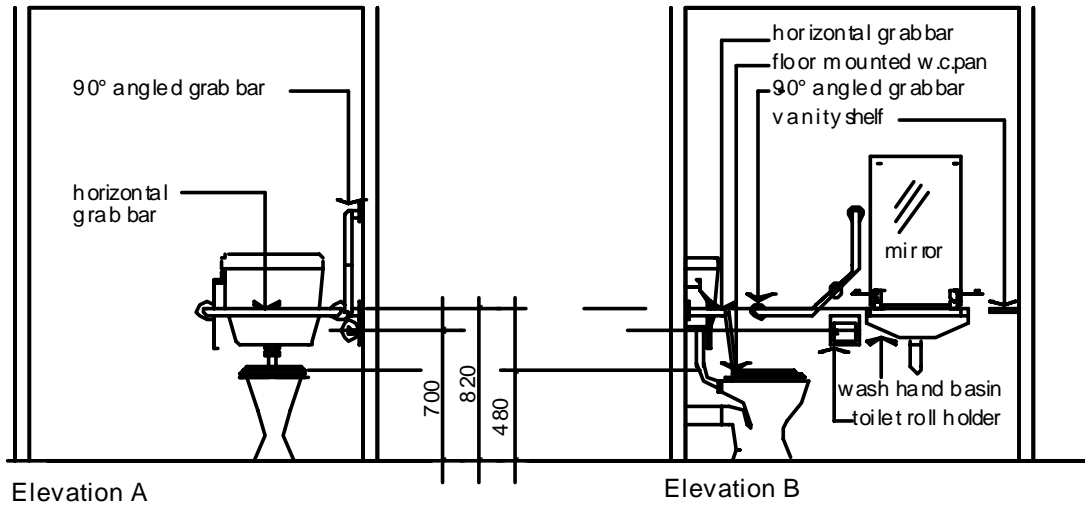
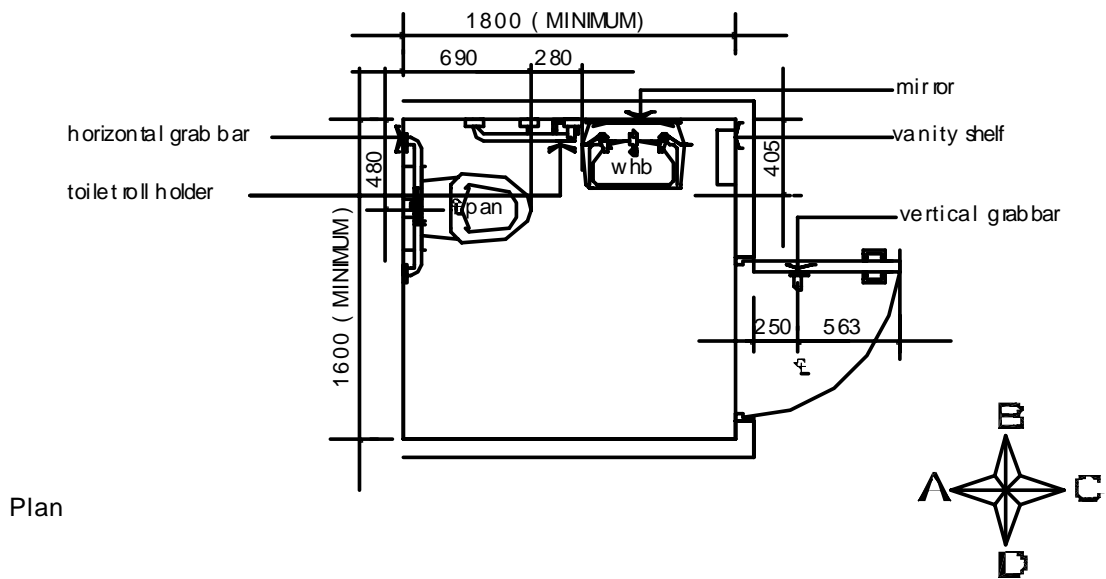
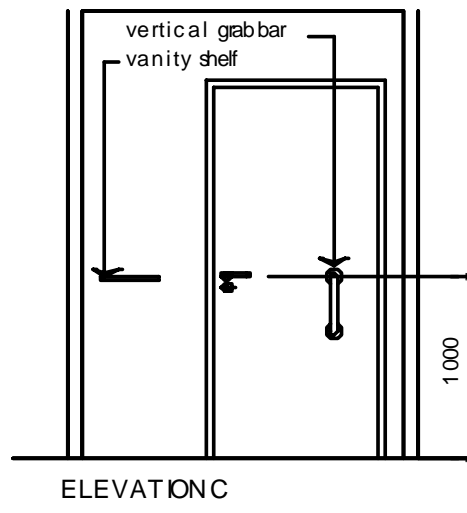
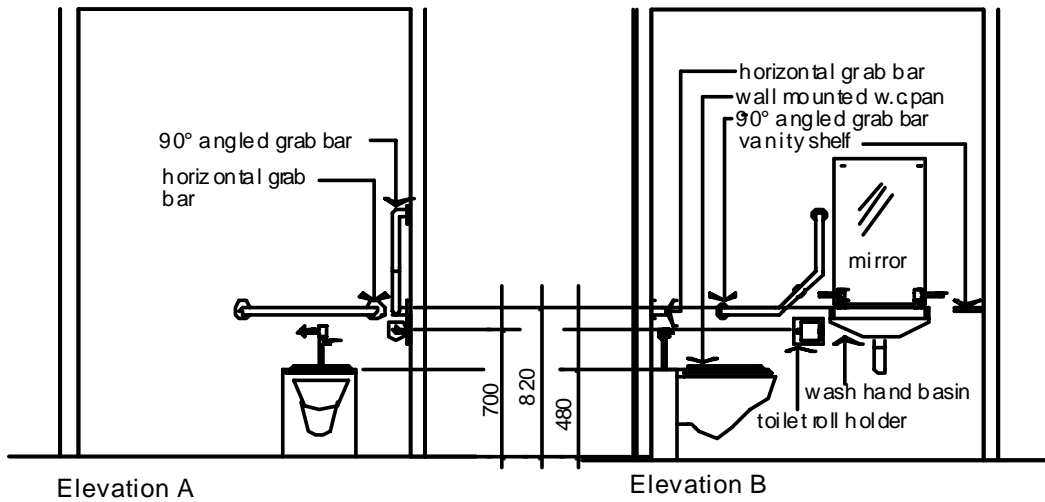


FIGURE 4.1.1 ACCESSIBLE TOILET WITH FLOOR MOUNTED PAN AND CISTERN



**FIGURE 4.1.2 ACCESSIBLE TOILET WITH WALL HUNG PAN AND FLUSHVALVE**



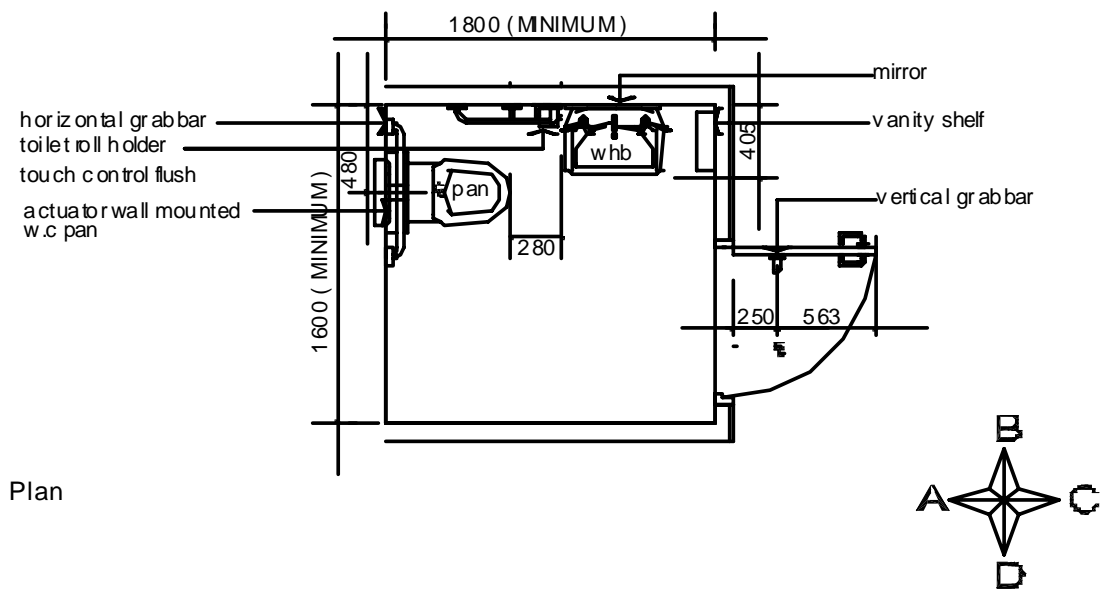
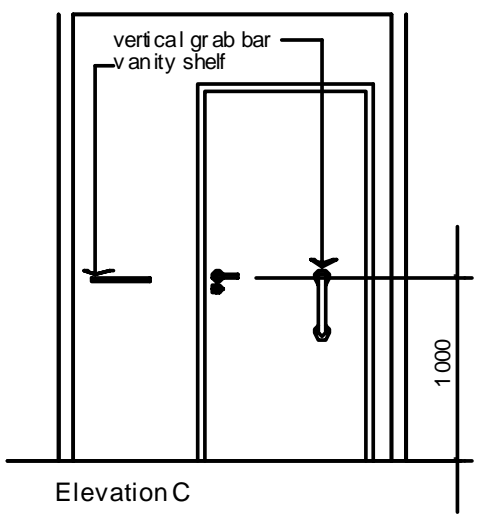
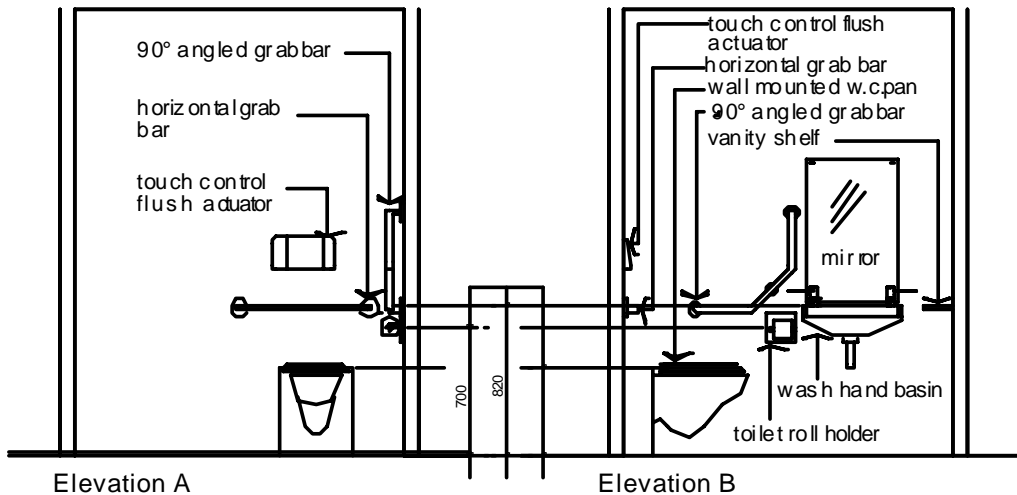
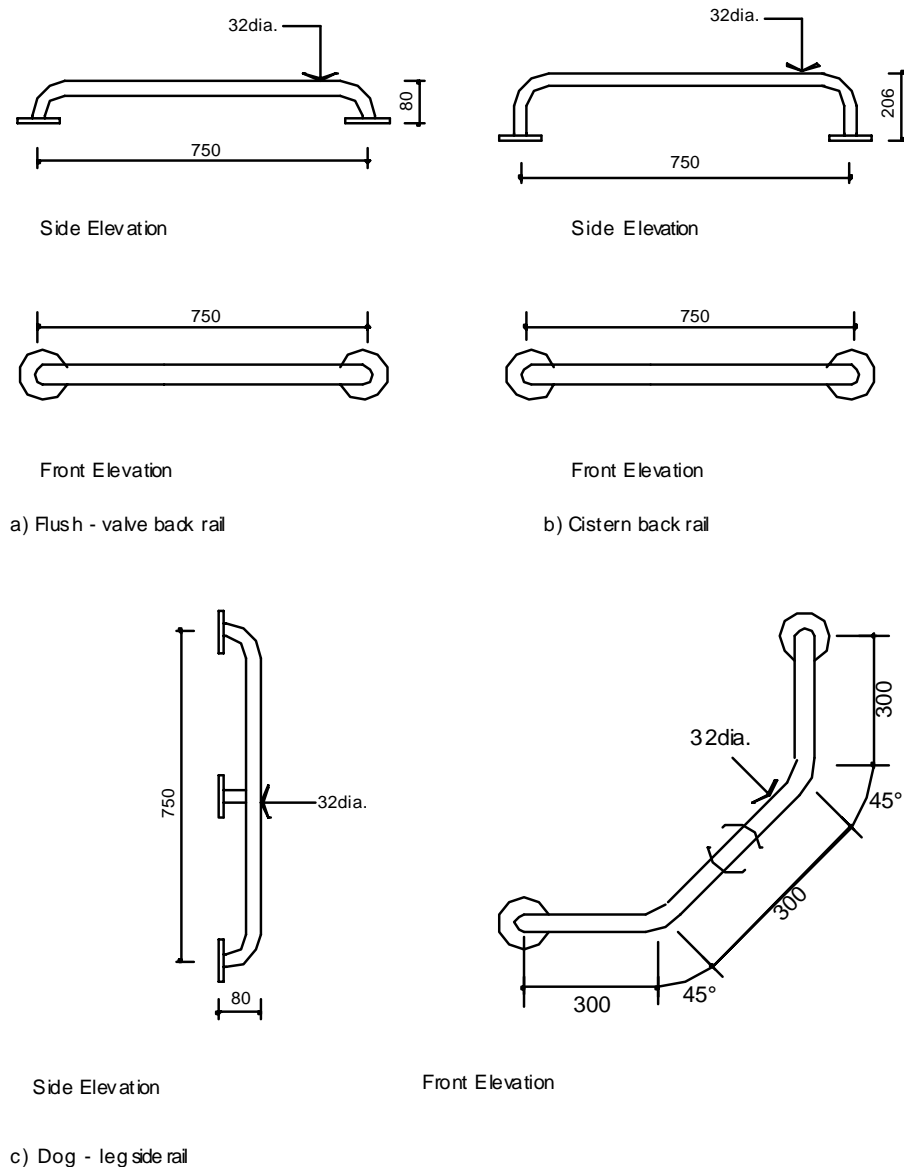


FIGURE 4.1.3 ACCESSIBLE TOILET WITH WALL HUNG PAN AND UNDERWALL CISTERN

## 4.2 Grab Bars

All grab bars shall be constructed of stainless steel or other suitable non-corrosive metal tube with an outside diameter of 32mm, with a suitable brushed, polished or epoxy powder coated finish that can be easily cleaned. The correct back grab bar must be selected for external cisterns, flush-valve systems or under wall cisterns. The back and side grab-rail may be an integral unit. The cranked grab bar must be installed in the correct orientation as shown on the respective elevation.

Grab bars shall be fixed to the wall such that they can support a vertical force of 1 Kilo Newton at any point on the grab bar.



**FIGURE 4.2 STANDARD GRAB BAR DETAILS**

## 4.3 Urinals

Urinals shall be stall-type or wall-hung type with the rim 400mm maximum above the floor. Clear floor or ground space shall be provided for forward approach. (See Item 1.4) Flush controls shall be hand operated or automatic. (See Item 1.8)

#### **4.4 Wash-hand Basins, Vanities and Sinks**

Where sinks are to be provided, at least 5%, but not less than one, provided in accessible spaces, shall be accessible. Sinks shall be mounted with the front of the higher rim or counter surface 850mm maximum above the ground or floor space.

A clear floor space, positioned for forward approach shall be provided. (See Item 1.4) Knee and toe clearances apply. (See Item 1.5)

Taps shall be of the lever type, with the lever arm at least 100mm in length and shall be operable with one hand and comply with Items 1.8 and 4.1.

The sink bowl shall be 165mm deep maximum. Multiple sinks shall have at least one compartment complying with this stipulation.

Hot water supply and drain pipes under sinks shall be insulated, clad or otherwise configured to protect against direct contact. There shall be no sharp or abrasive surfaces on or under sinks.

#### **4.5 Seats**

The depth of a removable in-tub seat shall be between 350mm and 400mm. The seat shall be capable of secure placement. The depth of a permanent seat at the head end of the bath tub shall be 350mm minimum. The top of bathtub seats shall be at 480mm above the bathroom floor.

Where a seat is provided in a roll-in shower compartment, it shall be a folding type and shall be mounted on the wall adjacent to the controls. Seats shall be rectangular or L-shaped, and the top edge of the seat shall be fixed at a height of 480mm to 500mm above the bathroom floor. The seat shall be located to facilitate the transfer from a wheelchair directly adjacent to the seat.

The rear edge of a rectangular seat shall be 50mm maximum from the wall, and the front edge between 350mm and 400mm from the seat wall. The side edge of the seat shall be 50mm maximum from the back and the adjacent side wall. L-shaped seats shall comply with the specifications of a rectangular shaped seat.

The structural strength of the seat shall be such that the allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 1 Kilo Newton is applied at any point on the seat, fastener mounting device or supporting structure.

#### **4.6 Shower Compartments**

Roll-in shower compartments are the preferred first option to provide a fully accessible ablution facility to address the needs of the broadest range of users. A shower compartment should always be provided before a bathroom in public facilities.

The door to the bathroom can slide or open outwards. Should the door open inwards, there should be a clear space of a 1200mm diameter within the compartment that is free of fixtures, fittings and clear of the door swing.

The configuration of the shower should include a wash-hand basin and WC, with a roll-in shower comprising of a fold down seat, which allows for lateral transfers. (See Figure 4.6)

All taps and mixer controls shall be of a lever type located on the sidewall adjacent to the seat. The shower shall be fitted with a hand shower attachment (not a fixed rose) with a sliding or fixed peg points. Where fixed peg points are provided at least two pegs at a high and low point should be provided.

A straight grab bar should be located to the side of the seat and cranked grab bar to the adjacent sidewall. For positions and dimensions, see Figures 4.2 and 4.6.

Wash-hand basins and vanity basins should always be located within reach of the WC and

comply with Item 4.4.

WC's should be located within the bathroom to permit side access with sufficient free side space, fitted with grab bars and other fittings to comply with Item 4.1

#### **4.7 Bathrooms**

Bathrooms should only provided in addition to shower compartments or in combination with roll-in showers.

Inside the bathroom the layout shall allow for a lateral transfer to the bath and the WC. The preferred configuration within a bathroom is a roll-in shower and bath, with wash-hand and WC.

The door to the bathroom can slide or open outwards. Should the door open inwards, there should be a clear space of a 1200mm diameter within the compartment that is free of fixtures, fittings and clear of the door swing.

Baths shall have the rim at 500mm above the floor level, with a 350mm wide seat at the one end, which allows a lateral transfer. (See Item 4.5) Sufficient clear space should be allocated to permit this transfer to take place from a wheelchair located adjacent to the bath. All taps and mixer controls shall be of a lever type located midway on the side of the bath to facilitate access. Baths should be fitted with a hand shower attachment in addition. A "T" Grab bars shall be provided to the side of the bath. (See Figures 4.2 and 4.7)

Wash-hand basins and vanity basins should always be located within reach of the WC and comply with Item 4.4.

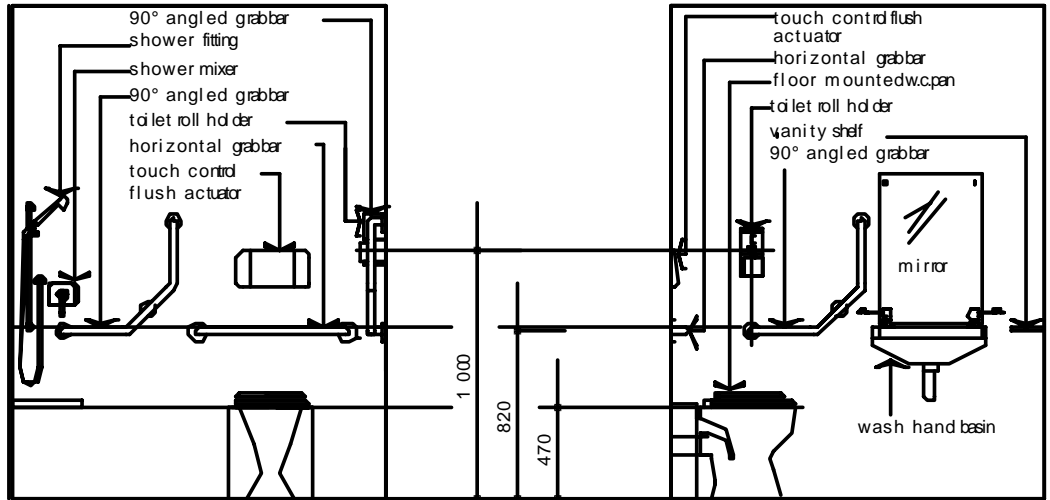
WC's should be located within the bathroom to permit side access with sufficient free side space, fitted with grab bars and other fittings to comply with Item 4.1

#### **4.8 Laundry Equipment**

Where washing machines and clothes dryers are required to be accessible, a clear floor or ground space complying with Item 1.4 shall be positioned for parallel approach. The clear floor or ground space shall be centred on the appliance.

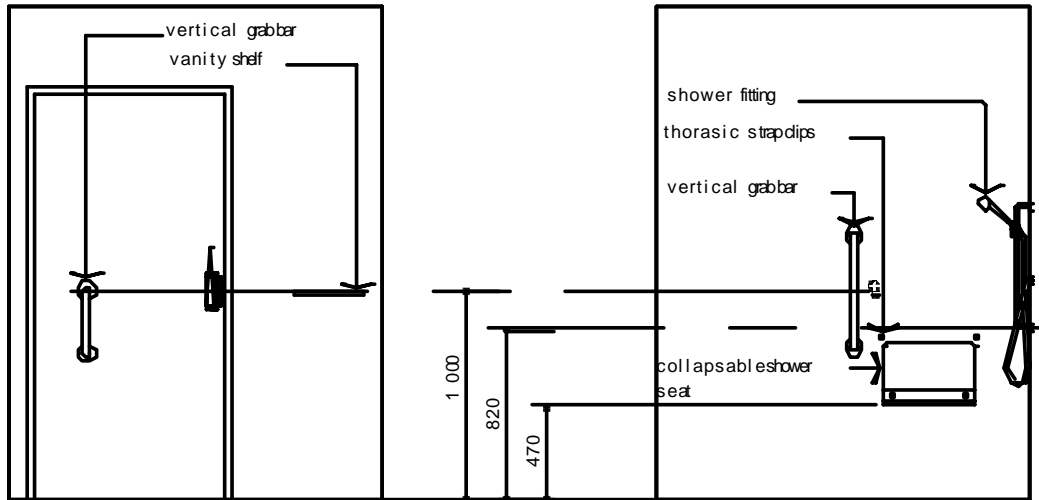
Controls and operating mechanisms (doors, lint screens, detergent and bleach compartments) shall comply with Item 1.8.

Top loading machines shall have the door to the laundry compartment located 865mm maximum above the floor. Front loading machines shall have the bottom of the opening to the laundry compartment located between 400mm and 850mm above the floor.



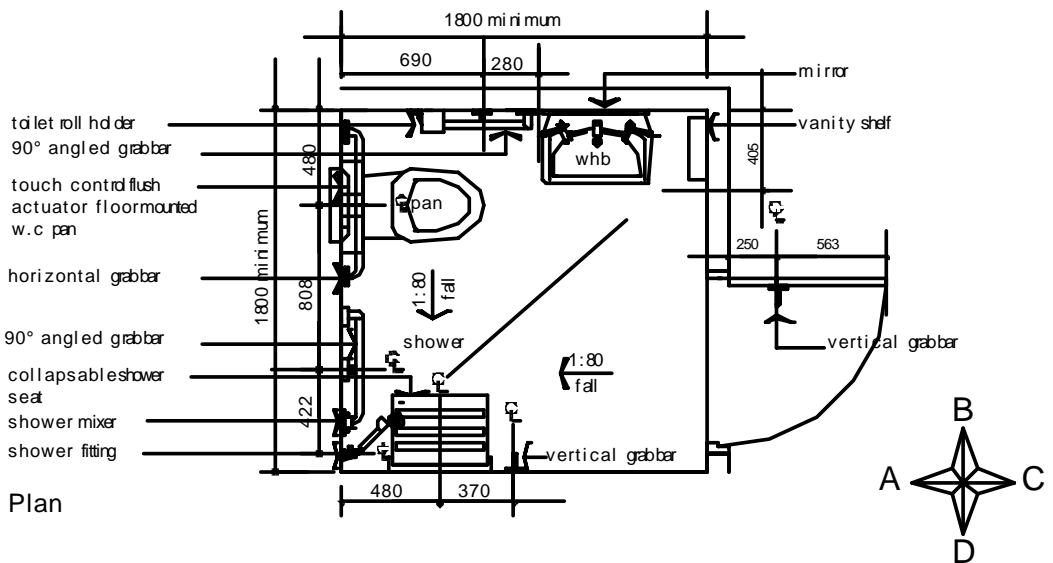
Elevation A

Elevation B



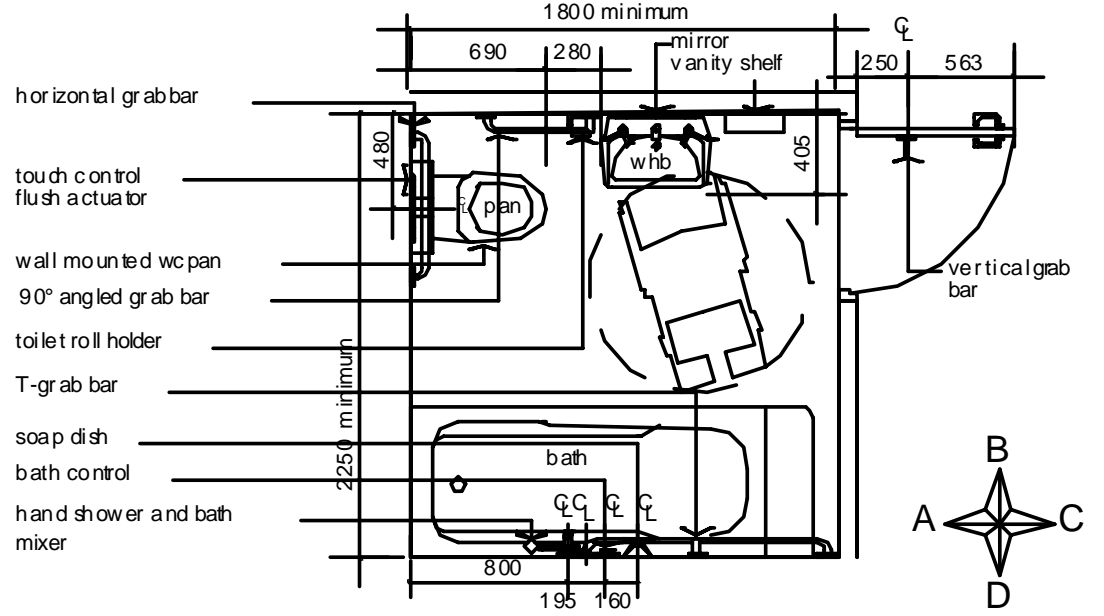
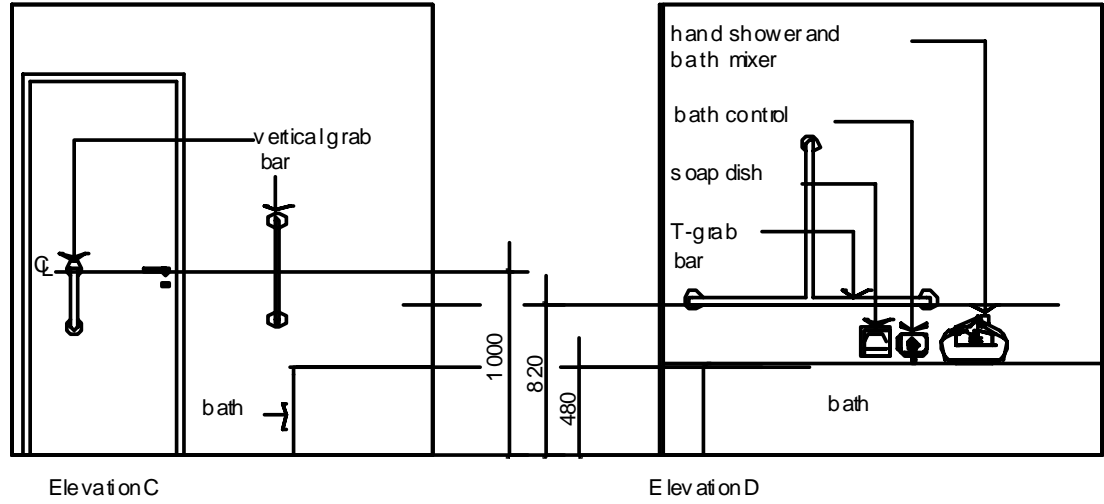
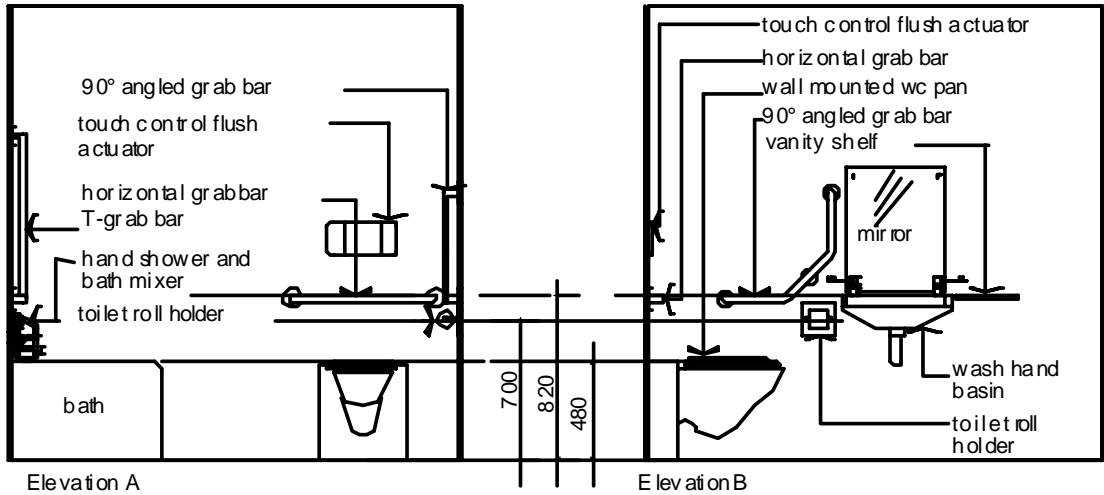
Elevation C

Elevation D



Plan

FIGURE 4.6 TYPICAL WC, SHOWER AND SHOWER LAYOUT



**FIGURE 4.7 TYPICAL WC, SHOWER AND BATH LAYOUT**

## 5.0 COMMUNICATION ELEMENTS AND FEATURES

### 5.1 Signs

Letters shall have a width to height ratio between 3:5 and 1:1 and a stroke width to height ratio between 1:5 and 1:10. The minimum character height to viewing distance ratio for signage shall be 1:30 and the minimum height of character for signage suspended overhead shall be 75mm. All signs shall utilise a high contrast between the background and the lettering. (See Figure 5.1.1)

Where exterior or interior signs and pictograms are provided as permanent directional route information, designations or descriptions of spaces and rooms, the signs shall be tactile or in the case of pictograms, shall have tactile text descriptors.



a) Contrast of colours of the sign



Signs shall be consistent thorough and continuous along routes , to provide reassurance.

Lettering and motifs shall be within hand reach , with attention paid to size , style and colour.

b) Typical access sign

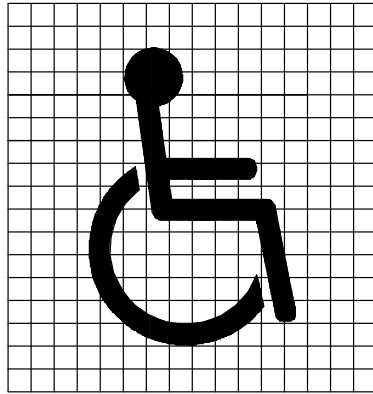
#### FIGURE 5.1.1 TYPICAL ACCESS SIGNAGE

Signs also refer to signs providing direction to or information about permanent interior spaces of the site and facilities. Building directories, personnel names, company or occupant names and menus need not have tactile text descriptors if Braille directories cards are provided on request.

All signs that are required to have tactile text descriptors, shall have raised tactile characters or Braille lettering. Tactile character should be raised by 5mm and stand 15mm high, but no greater than 50mm in height or grade two Braille shall be used.

Where tactile signage is required it should be located on the wall adjacent to the latch or lock of the door. The sign shall be mounted with the top edge at a height of 1500 mm from the floor finish.

The international symbol of accessibility and hearing loss shall be used in conjunction with all signage to indicate the availability and existence of facilities and accessibility. (See Figure 5.1.2)



a) International symbol of accessibility    b) International symbol of hearing loss

### FIGURE 5.1.2 INTERNATIONAL SYMBOL OF ACCESSIBILITY AND HEARING LOSS

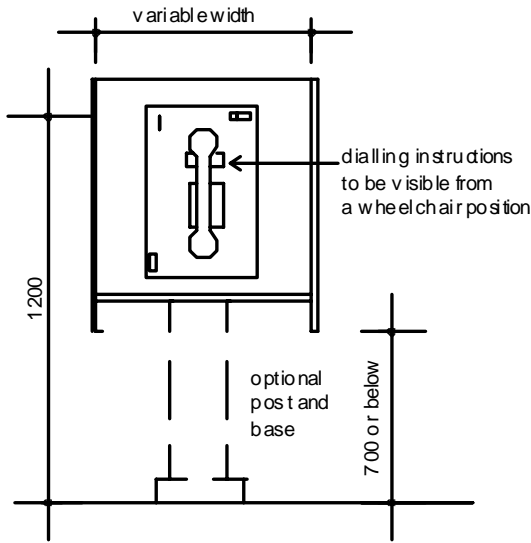
#### 5.2 Telephones

Where public pay telephones, public closed-circuit telephones, or other types of public telephones are provided accessible public telephones shall also be provided. One wheelchair-accessible telephone shall be provided per floor of a building for every one or more telephones provided on the same floor, or for every bank of telephones provided per floor. Where two or more banks of telephones exist, one wheelchair accessible phone per bank shall be provided.

Accessible telephones shall be positioned such that the top of the handset is not higher than 1200mm above floor level. Dialling instructions shall be visible from a line of sight no higher than 1200mm measured vertically. Telephones shall have large push-button controls, with the number five marked with a raised tactile dot.

A clear floor space shall be provided in front of the telephone and shall not be restricted by bases, enclosures or fixed seats. (See Item 1.4) For a freestanding telephone, pedestal or wall-mounted, where a parallel approach is provided, the distance from the edge of the telephone enclosure to the face of the telephone shall be 250mm maximum. Where a forward approach is provided, the distance from the front edge of a counter within the enclosure to the face of the telephone is 500mm maximum. (See Figure 5.2)

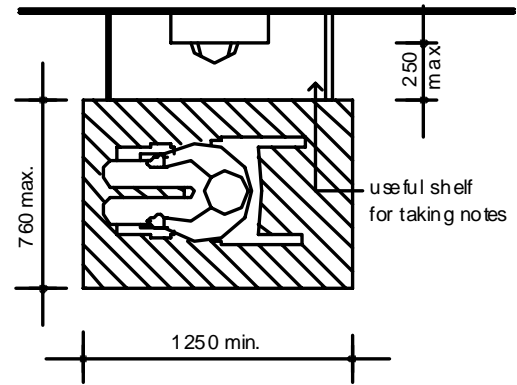




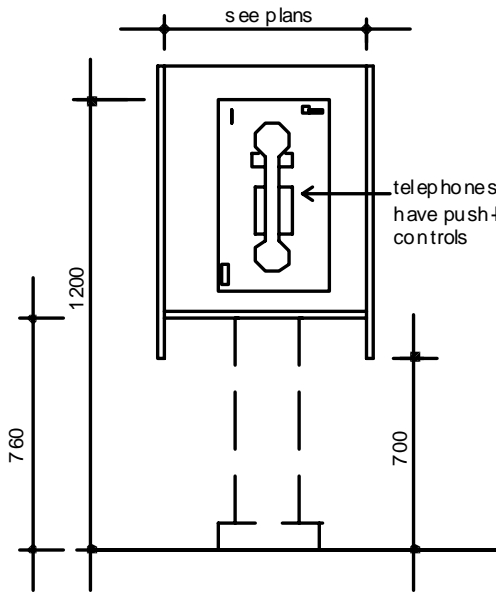
\* height to highest operable parts which are essential to basic operation of telephone.

Elevation

(a) Side reach possible



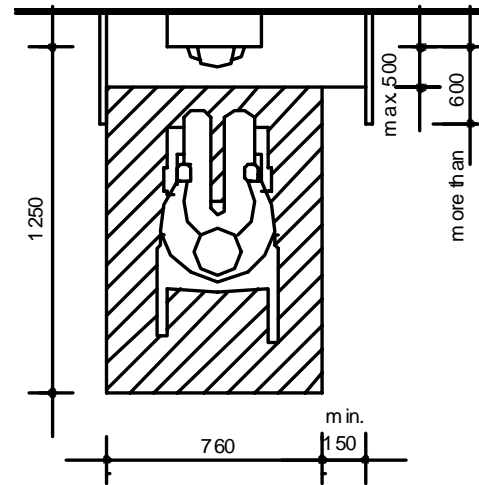
Plan



\* height to highest operable parts which are essential to basic operation of telephone.

Elevation

(b) Forward reach required



Plan

**FIGURE 5.2 MOUNTING HEIGHTS AND CLEARANCES FOR TELEPHONES**

### **5.3 Text Telephones**

Text telephones are provided by a range of electronic equipment that employs interactive graphic (typed) communications through the transmission of coded signals across the standard telephone network. Other terms are used to refer to these devices that include Teldem Modems, TTY's and TTD's.

Where four or more public telephones are provided at a bank of telephones, at least one public text telephone shall be provided at that bank. A text telephone shall not be required at banks of telephones located within 60 metres of and on the same floor as a bank of telephones containing a public text telephone.

Where four or more public telephones are provided on a floor of a building, in a building or on a site, at least one public text telephone shall be provided on that floor, building or site.

Where more than two public telephones are provided at a public rest stop, emergency road stop or service plaza, at least one public text telephone shall be provided.

Where a public telephone is provided in or adjacent to a hospital emergency room, hospital recovery room, or hospital waiting room, at least one public text telephone shall be provided at each such location.

Public text telephones shall be identified by the International Symbol of Hearing Loss adjacent to the telephone symbol and directional signs indicating the location of the nearest public text telephone shall be provided at all banks of public pay telephones not containing a public text telephone. These signs shall comply with Item 5.2.

### **5.4 Detectable Warnings**

This warning shall be a standardised surface feature built in or applied to walking surfaces or other elements to warn visually impaired people of hazards on a circulation path.

The standard external detectable warning shall be a strip 600 mm wide, with a surface dotted with truncated domes, where the dome shall have a diameter of 25mm, a height of 5mm and be set at centre-to centre spacing of 60mm. The truncated dome surface shall contrast visually with adjoining walking surfaces, either light on dark or dark on light. The material used to provide contrast shall be an integral part of the truncated dome surface.

Detectable warnings in interior locations shall differ from adjoining walking surfaces in resiliency or sound-on-cane contact that is 600mm wide and be provided on the walking surface at edges. The tactile surface shall provide equivalent detectability underfoot to that provided by the truncated dome surface, and shall provide a colour contrast of either light on dark or dark on light.

Equivalent detectability of edges by other construction, technology or means that will ensure equivalent or superior and reliable communication of the impending change to pedestrians who are blind or visually impaired. The information communicated must include 610mm of advanced warning of the edge and the precise orientation of the edge in relation to the pedestrian.

## 5.5 Assistive Listening Devices

Assembly areas having fixed seating shall have an assistive listening system where the area is equipped with an audio amplification system or the area has a capacity of 50 or more persons.

Other assembly areas shall have an assistive listening system, or an adequate number of electrical outlets or other supplementary wiring necessary to support a portable assistive listening system.

Receivers for assistive listening systems shall be provided in accordance with the table below:

Capacity of Fixed Seating in assembly Areas	Minimum Required Number of Receivers
50 or less	2
51 to 500	2, plus 4 for each total seating capacity increase of 100 above 51
501 to 1000	20, plus 3 for each total seating capacity increase of 100 above 501
1001 to 2000	35, plus 2 for each total seating capacity increase of 100 above 1001
over 2000	55, plus 1 for each total seating capacity increase of 100 above 2000

Where assistive listening systems are provided, signs shall be provided to inform patrons of the availability of the system. The signs shall be located at ticket offices or windows, where these are provided. The signs shall comply with Item 5.2, and shall include the International Symbol for Hearing Loss.

Individual fixed seats served by an assistive listening system shall have a complete view of the stage, playing area or cinema screen.

Induction loops, infrared systems, FM and AM radio frequency systems, hardwired earphones and other equivalent devices shall be permitted as acceptable assistive listening systems.

Receivers required to be hearing aid compatible shall interface with T-coils in hearing aids either through the provision of neck loops or a hearing-aid compatible headset.

## 5.6 Automatic Teller Machines and Fare Machines

Where automatic teller machines or self-service fare vending, collection or adjustment machines are provided, at least one machine of each type at each location where such machines are provided shall be accessible. Where bins are provided for envelopes, waste paper or other purposes, at least one of each type shall comply with Item 7.4.

A clear floor space shall be provided in compliance with Item 1.4. from both front and side approach. Control and operating mechanisms shall comply according to Item 1.8. Each control and operating mechanism shall be able to be differentiated by sound or touch.

Specialist details for the Input and Output processes of automatic teller machines.

## **5.7 Fire Alarm Systems**

Where fire alarm systems are provided in public-use or common-use areas to alert occupants, the alarm shall provide both audible and visual signals. Where accessible guest rooms are required, fire alarm systems for those rooms shall be specifically designed to draw the attention of visually impaired or deaf guests. All alarm systems and evacuation procedures are to be available in print and Braille on request.

For a detailed elaboration of fire alarm systems (audible alarms and visual alarms, light pulse characteristics, dispersion, mounting height, spacing allocation and minimum intensity, corridor spacing allocation and minimum intensity) refer to National Building Regulations.

## 6.0 SPECIAL ROOMS AND SPACES

### 6.1 Wheelchair Spaces in Assembly Areas including Auditoria, Halls, Cinemas, Places of Education and Sports Facilities

The ground or floor surface of wheelchair spaces shall have a slope not steeper than 1:50, and changes in level are not permitted.

A single wheelchair space shall be 900mm minimum in width. Where multiple adjacent wheelchair spaces are provided, each space shall be 850mm minimum in width. Where a wheelchair space can be entered from the front or rear, the space shall be 1250mm minimum in depth, but where it can only be entered from the side, the wheelchair space shall be 1500mm in depth.

One side of the wheelchair space shall adjoin an accessible route or adjoin another wheelchair space. However, access to any wheelchair space may not be through more than one wheelchair space.

At least one seat for a companion shall be provided beside each wheelchair space.

Wheelchair spaces shall provide lines of sight comparable to those of all viewing areas.

The number of accessible wheelchair spaces to be provided shall be in accordance with the table below:

Capacity of Seating in Assembly Areas	Minimum Required Number Of Wheelchair Spaces
50 or less	2
51 to 100	4
101 to 300	5
301 to 500	6
Over 500	6 plus 1 additional space for each total seating capacity increase of 200

### 6.2 Dressing, Fitting and Locker Rooms

Where dressing rooms or locker rooms are provided, at least 5%, but not less than one, of each type of use in each cluster shall be provided, and where only unisex rooms are provided, an accessible unisex room shall be permitted.

Dressing and fitting rooms shall have wheelchair turning space complying with Item 1.3. No doors shall swing into a wheelchair turning space.

Any fixed furniture shall comply with Items 7.1 and 7.2.

Accessible coat hooks and shelves within the room shall be located within one of the reach ranges specified in Item 1.7. Where provided, a dressing shelf shall be situated between 900mm & 1100mm above the floor.

### **6.3 Medical Care Facilities, Treatment or Consulting Rooms**

In licensed medical care facilities where consulting, diagnosis, medical treatment or care takes place the facilities shall be accessible and comply with the design criteria in Section 1.0 and where accommodation is provided, accessible patient or resident sleeping rooms shall be provided.

In general purpose hospitals, psychiatric facilities and detoxification facilities, at least 20%, but not less than one, of the patient sleeping rooms shall be accessible.

In hospitals and rehabilitation facilities that specialise in treating conditions that effect mobility, and in units within hospitals and rehabilitation facilities which specialise in treating conditions that effect mobility, 100% of the patient sleeping rooms shall be accessible.

In long-term facilities, at least 50%, but not less than one, of the resident sleeping rooms shall be accessible.

A wheelchair turning space shall be provided in accordance with Item 1.3, but shall not overlap with or extend beneath the bed. A clear floor or ground space shall be provided on either side of the bed, and shall be positioned for parallel approach to the side of the bed.

Toilet and bathing facilities that are provided as part of patient or resident sleeping rooms shall be provided in accordance with Section 4.0.

Where operable windows are provided, at least one window shall comply with Item 1.8.

### **6.4 Transient Lodging Guest Rooms**

Where guestrooms are altered or added, these requirements apply only to these altered or added rooms.

Entrance and passage doors and doorways into and within all guestrooms shall provide clear width in accordance with Item 3.3.

Living and dining rooms areas, as well as exterior spaces, including patios, terraces and balconies that are part of the guestroom, shall be accessible.

Not less than one sleeping area shall a clear floor space (see Item 1.4) on both sides of the bed, and shall be positioned for parallel approach to the side of the bed (except where a single clear floor space, positioned for parallel approach, is provided between two beds).

Not less than two toilets (either in a toilet stall or in a W.C compartment) and one bathtub or shower shall comply with Section 4.0.

Kitchens, kitchenettes and wet bars shall provide a clear floor space (complying with Item 1.4) at sinks, appliances, cabinets and counters. At least 50% of shelf space in cabinets shall comply with Item 7.4. Any control and operating mechanisms for the use of appliances shall comply with 1.8, and 50% of shelf space in refrigerators and freezers shall be within at least one of the reach ranges in Item 1.7.

Where operable windows are provided, at least one window shall comply with Item 1.8.

Where guestrooms are required to have accessible communication features, visual alarms shall be provided. Furthermore, visual notification devices shall be provided to alert occupants of incoming phone calls and a door knock or bell. Notification devices shall not be connected to visual alarm signal appliances. Permanently installed telephones shall have volume controls and shall have the facilities to facilitate the use of a TTY.

The required number of accessible guest rooms is outlined in the table overleaf.

**Accessible Guest Rooms**

Total Number of Guest Rooms Provided	Minimum Number of Accessible Rooms without Roll-in Showers	Minimum Required Number of Accessible Rooms with Roll-in Shower	Total Number of Required Accessible Rooms
1 to 25	1	0	1
26 to 50	2	0	2
51 to 75	3	1	4
76 to 100	4	1	5
101 to 150	5	2	7
151 to 200	6	2	8
201 to 300	7	3	10
301 to 400	8	4	12
401 to 500	9	4	13
501 to 1000	2% of total	1% of total	3% of total
1001 and over	20 plus 1 for each 100 over 1000	10 plus 1 for each 100 over 1000	30 plus 2 for each 100 over 1000

**Accessible Beds**

Total Number of Beds in a Guest Room	Minimum Req. Number of Accessible Beds
4 to 25	1
26 to 50	2
51 to 75	4
76 to 100	5
101 to 150	7
151 to 200	8
201 to 300	10
301 to 400	12
401 to 500	13
501 to 1000	3% of total
1001 and over	30 plus 2 for each 100 over 1000

**Guest Room with Accessible Communication Features**

Total Number of Guest Rooms Provided	Minimum Req. Number of Guest Rooms with Accessible Communication Features
1 to 25	2
26 to 50	4
51 to 75	7
76 to 100	9
101 to 150	12
151 to 200	14
201 to 300	17
301 to 400	20
401 to 500	22
501 to 1000	5% of total
1001 and over	50 plus 3 for each 100 over 1000



## 7.0 BUILT-IN FURNISHING AND EQUIPMENT

### 7.1 Seating at Tables, Counters and Work Surfaces

Where seating at fixed or built-in tables, counters or work surfaces is provided in accessible spaces, at least 5%, but no less than one, of the seating shall comply.

Where food or drink is served for consumption at counters exceeding 865mm in height, a 1525mm minimum length portion of counter shall comply, or service shall be provided at accessible tables in the same area.

In new construction, and where practicable in alteration, accessible fixed or built-in seating at tables, counters or work surfaces shall be distributed throughout the space or facility containing such elements.

A clear floor or ground space complying with Item 1.4 shall be positioned for forward approach. Knee and toe clearances shall apply.

The tops of tables and counters shall be between 710mm and 865mm above the ground.

### 7.2 Benches

Where benches are required to be accessible (according to Item 7.1), a clear floor space complying with Item 1.4 shall be provided and positioned for parallel approach to an end of the bench seat.

Benches shall have seats that are between 510mm and 610mm in depth, and 1065mm minimum in length. Bench shall be fixed to the wall along the longer dimension.

The bench shall be between 430mm and 485mm above ground or floor level.

Where installed in wet locations, the surface of the bench shall be slip-resistant and shall not accumulate water.

### 7.3 Sales and Services Counters

Where checkout aisles are provided, accessible checkout aisles shall be provided in accordance with the table below.

Total Checkout Aisles of Each Function	Minimum Number of Accessible Checkout Aisles of Each Function
1 - 4	1
5 - 8	2
9 -15	3
15 +	3, plus 20% of additional aisles

Where checkout aisles serve different functions, at least one accessible aisle shall be provided for each function. Where checkout aisles are dispersed throughout the building or facility, accessible checkout aisles shall also be dispersed.

Accessible checkout aisles shall be identified by the International Symbol of Accessibility, unless all such aisles are accessible.

The checkout aisle shall comply with Item 3.2, while the counter surface height shall be 965mm maximum above the finished floor or ground. The top of the counter edge protection shall be 51mm maximum above the top of the counter surface.

Where counters are provided for sales or distribution of goods or services (point of sale and service counters), at least one of each type shall have a portion of the counter 915mm minimum in length and 915mm maximum in height above the finished floor level. In alterations where it is technically not feasible for existing counters to comply, an auxiliary counter complying with the above shall be provided.

Where self-service lines are provided, at least 50%, but not less than one, of each type (self-service shelves and dispensing devices for tableware, dishware, condiments, food and beverages) shall be provided, such that they comply with the specifications for reach ranges in Item 1.7, and so that tray slides are situated between 710mm and 865mm above the floor or ground.

Queuing and waiting lines servicing accessible counters or check-out aisles shall comply with the specifications for walking surfaces detailed in Item 3.2.

#### **7.4 Storage**

Where fixed or built-in storage elements such as cabinets, shelves, medicine cabinets, closets and drawers are provided in accessible spaces, at least one of each type shall comply with the specifications set out below.

Where lockers are provided in accessible spaces, at least 5%, but not less than one, of each type shall comply.

Self-service shelves and display units in mercantile occupancies or shelving in stack areas of libraries shall be located on an accessible route (see Item 3.1), but shall not be required to comply with the stipulations for reach ranges (see Item 1.7).

Where coat hooks or folding shelves are provided in inaccessible toilets, WC compartments or in dressing or fitting rooms, at least one of each type shall be provided in accessible spaces of the same nature.

Where such accessible storage elements are required, a clear ground or floor space shall be provided. (See Item 1.4) The storage facilities shall comply with at least one of the reach ranges outlined in Item 1.7, while clothes rods shall be 1370mm maximum above the ground or floor.

Hardware for storage facilities shall comply with the stipulations for control and operating mechanism as outlined in Item 1.8.

**8.0 TRANSPORTATION FACILITIES**

**8.1 Bus Stops And Terminals**  
RESERVED

**8.2 Fixed Facilities and Stations**  
RESERVED

**8.3 Airports**  
RESERVED

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