Barrier Free
New Zealand Trust

Accessibility Design Guide
and
Self-Assessment Checklist

Prepared for

SPORT NEW ZEALAND

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Accessibility Design Guide and Self Checklist
Sport New Zealand

This report has been prepared for Sport New Zealand by

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Revision Schedule

Rev #	Date	Status
001	03/09/2013	Draft
002	21/10/2013	Draft – Consultation issue to selected disability sector groups.
003	29/11/2013	Draft – Consultation issue to selected facilities managers
004	04/02/2014	Draft – Used in trial audit
005	31/03/2014	First Issue

Disclaimer

Only Building Consent Authorities (BCA's) are authorised by the Ministry of Business, Innovation, and Employment (MBIE) to certify compliance under the New Zealand Building Act 2004 (NZBA). Ultimately this guide is intended as an aid for providing accessible facilities by implementing the legal provisions for accessibility and does not include assessment of specialist electronic building services. It should always be used in conjunction with the appropriate standards for the purpose of providing access for people with disabilities. Every effort has been made to ensure that this report is accurate and comprehensive, however it should not be used as a standalone basis for contracting goods or services.

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SPORT NEW ZEALAND: ACCESSIBILITY INTRODUCTION

"People don't have disabilities, they have impairments. It is the environment that we live in and the barriers it may present which consequently creates disability".

A successful public or recreation space is one where all people within a community can be engaged in activities; where the space will be satisfying to be within, have a good image, and one which is a friendly place where people go meet each other and take visitors.

Accessibility of a building and the usability of its facilities for all people regardless of ability level will play a fundamental role in achieving this, and as such accessibility is a main contributor to the wellbeing of a community and the success of any public or recreation space.

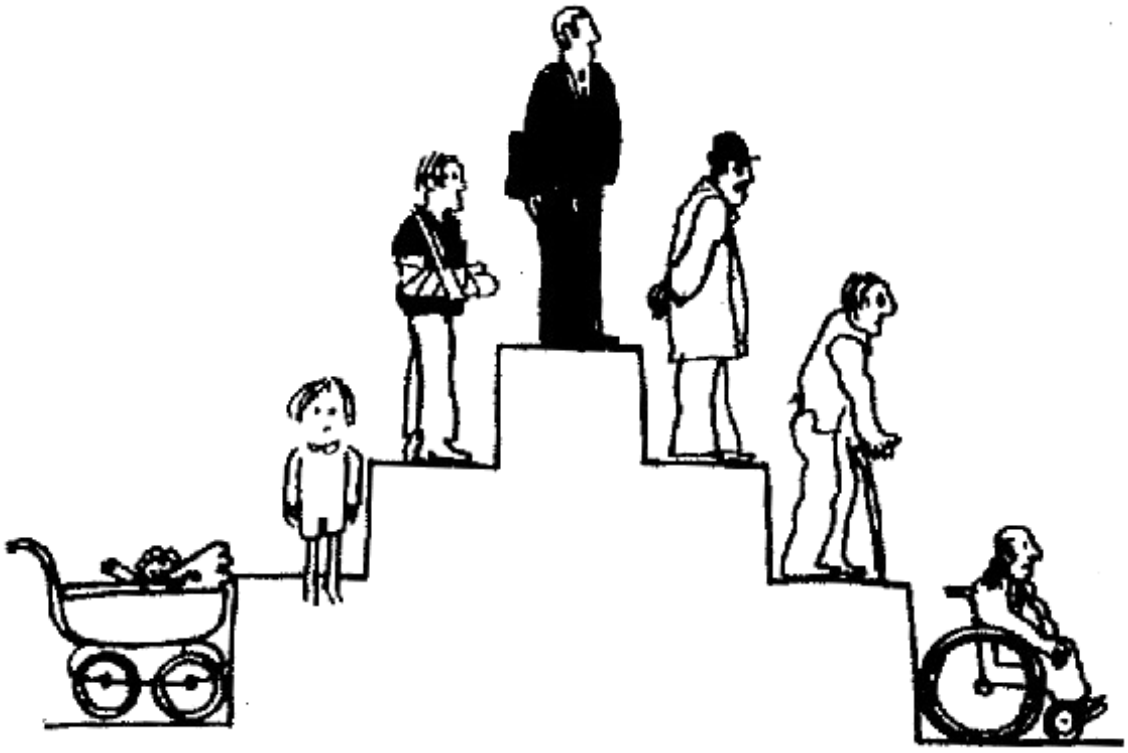
Additionally with age comes a higher need for good accessibility, and we have an aging population in New Zealand. Around 14% of our population was aged 65+ in 2012 - this figure is set to almost double, reaching 23% by 2036. The figures from Statistics NZ support this statement, and reinforce the importance about designing for tomorrow's needs, today.

Sport New Zealand has identified the importance of accessibility and has engaged Barrier Free NZ Trust to consult with disability groups, facilities managers and ground level staff to gain an understanding of the successes for accessibility currently at facilities throughout New Zealand and also to identify any common barriers to participation, accessibility, or usability which may be improved upon.

This design guide and its audit tools are aimed at guiding facilities owners/managers towards ensuring the minimum required levels of access provisions are provided, and also encourages them to go beyond these minimums following industry best practice and 'fit for purpose' design - in doing so this will help facilities throughout New Zealand to be successful public recreation spaces.

This design guide and checklist has been developed so that it may be used on anything ranging from an existing space or building to 'conceptual stage' design drawings. While substantial, the detail within this guide is not fully comprehensive, and it is advised that full reviews on accessibility by an accredited Barrier Free Advisor are undertaken once any design has entered its final concept and developed design stages.

Additionally to get the most from this guide an 'accessibility assessment and upgrade plan' should be considered, to help ensure that all facilities and services are upgraded over time to become more accessible.



Remember that everyone is functionally disabled at some time in their life

THE ACCESSIBLE JOURNEY

The concept of the "Accessible Journey" provides a comprehensive framework and mechanism for creating barrier free built environments and for addressing how effectively access requirements for people with disabilities have been implemented.

The "Accessible Journey" is a theoretical path of travel that links the three primary components of built environments design and construction.

Buildings > Public Spaces > Transport Systems

These three primary components must be connected in an accessible way; otherwise the route fails and becomes a barrier in itself.

THE ACCESSIBLE ROUTE

This is where the Accessible Journey principles are applied to an individual building or space, and can be defined as:

Approachability > Accessibility > Usability

These three practical design principles relate to the concept of the Accessible Journey to an individual building or space.

In doing so they connect the legislative requirements for access to the specific compliance detail of the “Accessible Route”

LEGISLATION AND REFERENCED DOCUMENTS

The following list of hyperlinks should assist with locating the documents referenced in this guide.

The NZ Building Code Compliance Documents

NZS4121:2001

RNZFB Accessible Signage Guidelines

Sport New Zealand Guidelines for Aquatic Flooring Surfaces

SPECIAL THANKS

The following organisations kindly provided feedback during the creation of this document:

HOW TO USE THIS GUIDE

1. Preparation for the audit (desk study)

Before you head out onsite you should gather as much background information on the building as you can.

This includes:

- Obtain information such as site and floor plans.
- Check if it is listed as a historic or significant building.
- Determine the age of the building (check if current features of the building were complaint at the time of the design/build).
- Are there existing access reports for the building?
- Is the building occupied?
- Who should you contact to arrange access?
- Will access be limited by time constraints?
- Is physical access limited in any way?
- Do you need to wear personal safety equipment?
- Do safety regulations require you to be accompanied in any areas on site?
- Consider using Google street view to scout the building's exterior prior to your visit, and Google earth/maps to identify car park, bus stop locations, and access points.

By being able to identify what you are likely to encounter in the building and becoming familiar with the buildings layout and accessible route prior to arriving, you can efficiently plan your audit to minimise wasted time.

> ***TIP:*** *Where multiple car park blocks, entrances, ramps, pools or stairs, etc., are present, we recommend printing extra sections of this guide.*

When planning your onsite visit, ensure you consider travel time and the amount of time the visit will take so that all aspects of the visit can be undertaken during daylight hours. If possible arrange with the tenant/operator to send out a group email letting the building occupants know you will be in the building and what you will be doing.

2. Recommended equipment for undertaking an audit

Having the right tools for the job means that your investigation can be more accurate, and minimise the time you will need to spend onsite.

Typically gear which you need consists of:

- Measuring tape, Smart level, laser measuring tool and a spring balance to measure door closer forces.
- Digital Camera, with decent resolution, plenty of storage and spare batteries.
- A clipboard, pad, pen, pencil, eraser, and a few highlighters.
- A copy of the building plans.
- A few blank Barrier Free checklists.
- Cell phone and list of contact numbers for the building owner, client, etc.

Other gear you might need:

- Safety equipment, e.g. safety boots, hi-vis vest and a hardhat *(always check if required).*
- Weather protective clothing.
- Food and drink.

> ***TIP:*** *If you're undertaking the audit alone, taking a small backpack to keep everything in might be handy. Ask the Client if they can arrange for you to have a secure base to work from.*

3. Methodology

Your methodology will develop as you audit more buildings, and write more reports. Over time it will become more refined and suited to the way you operate. However the best starting methodology for

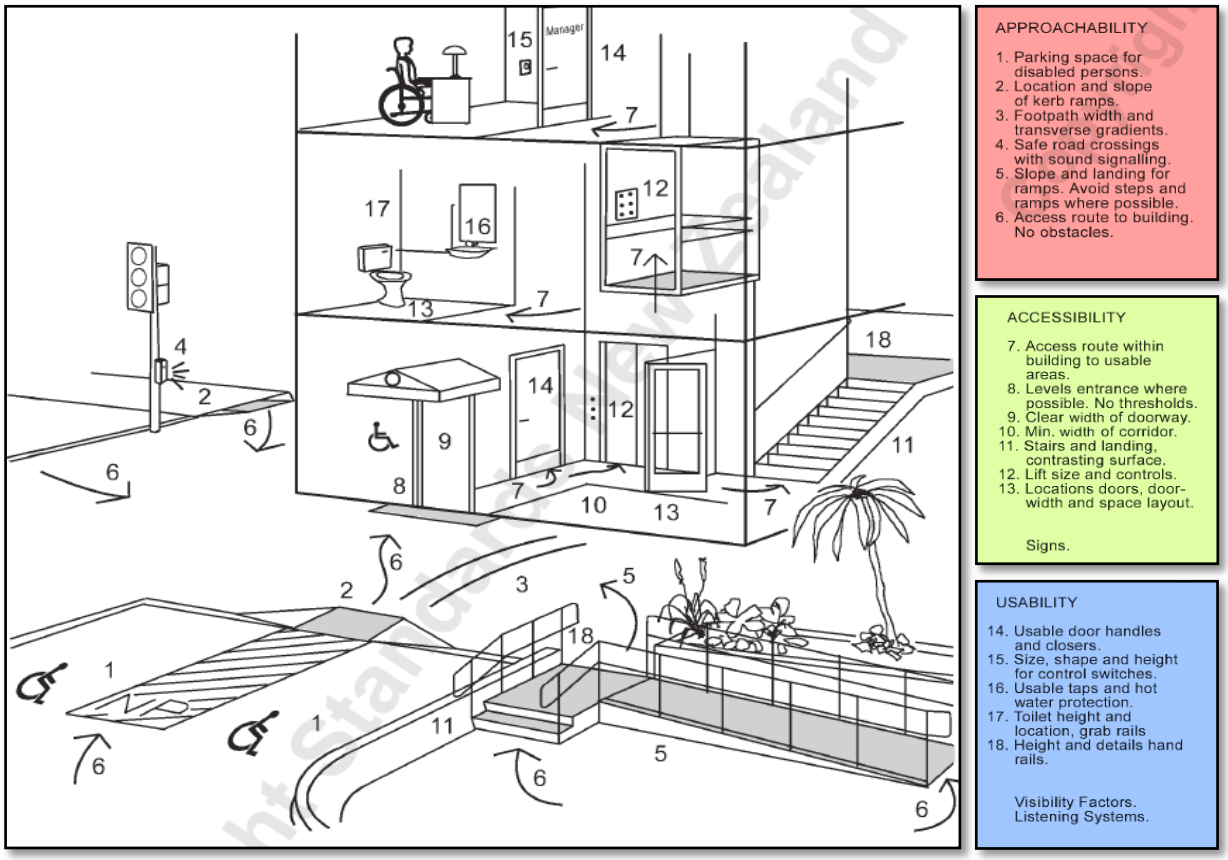
someone new to Accessibility Audits is to apply this checklist to each stage or area of the building which is encountered on the accessible journey.

The accessible journey typically starts like this:

1) Access off the road.
2) Car parking.
3) Bus stops
4) Route to entry.
5) Entrance.
6) Reception.

TIP: *Typically your audit briefs will be to work on an "As-Is" Basis. Ignore what has been done to the building in the past, and anything that is proposed. Your report must be a clear snapshot of the current building, as is, where is.*

The below diagram from NZS4121:2001 explains the stages along an accessible route:



Applying all the relevant checklist items to each of these stages or areas as they would be likely encountered by a person working or visiting the building will ensure your collected data will be accurate and complete.

4. **Conducting the Accessibility Audit**

When you arrive at the building make sure that you introduce yourself to the appropriate onsite contact. Have this person show you around the site and identify any secure areas, alarmed doors or safety hazards.

> ***TIP:*** *It's critical the building occupants know you are around and what you're doing, as entering spaces such as the bathrooms, or changing rooms of the opposite gender is always a delicate situation which must be handled with professionalism. Always knock first and call out to check no one is within the facility before entering*

Now you are ready to take the checklist and apply it to the building. For your first few audits this will mean you are directly following the checklist, it is helpful to audit the building in a logical order which is best done by following the accessible route.

Work through the checklist sections and beside each detail note:

Y: Yes (complies with requirement)
N: No (does not comply with requirement)
N/A: Not applicable.

For example:

Ground coverings and stair tread surfaces that are stable, firm and slip resistant under all normal environmental conditions? (Refer to surface finishes later in checklist.)	**Y**
No isolated columns, bollards or built in furniture restricting the 1200mm minimum corridor width? (All columns and bollards must clearly contrast with their surroundings.)	**N**
No street furniture protruding into minimum accessible route width clearances? (Street furniture should clearly contrast with its surroundings.)	**N/A**

Make sure you take locational notes, photos and record accurate measurements as these are critical when it comes to reporting back on your findings.

> ***TIP:*** *Make sure your photos are zoomed out and take in the surrounding area rather than just being a close-up which could be anywhere in the building - once a photo is taken you cannot zoom out, but you can always zoom into a specific area of that photo using your computer later.*

Before you leave the site, review what you have done and complete any outstanding checks. Once you have finished and done a final check, pack up all your equipment and sign out at Reception or with your site contact.

Good luck!

1.0 ACCESSIBLE ROUTES AND INDOOR HAZARDS

An '**accessible route'** is defined as being "*a route that is usable by people with disabilities. It shall be a continuous route that can be negotiated unaided by a wheelchair user, walking device or by a person with a guide dog. The route shall extend from street boundary and car parking area to those spaces within the building required to be accessible to enable people with disabilities to carry out normal activities and processes within the building*" (from NZS4121:2001 p13).

In its most simplest form this means that any accessible route should:

- be continuous
- be able to be negotiated by people of all abilities, without requiring assistance
- enable people to carry out normal activities and processes, regardless of their ability.

While the term *'building'* is used in the definition, the concept of the 'accessible route' can be applied to any environment also.

The 'accessible route' must not to be considered as a singular route, as this will result in parts of an environment having significant barriers to inclusion. The environment should be considered holistically in terms of its connection from car parking, street boundaries, buildings and public transport.

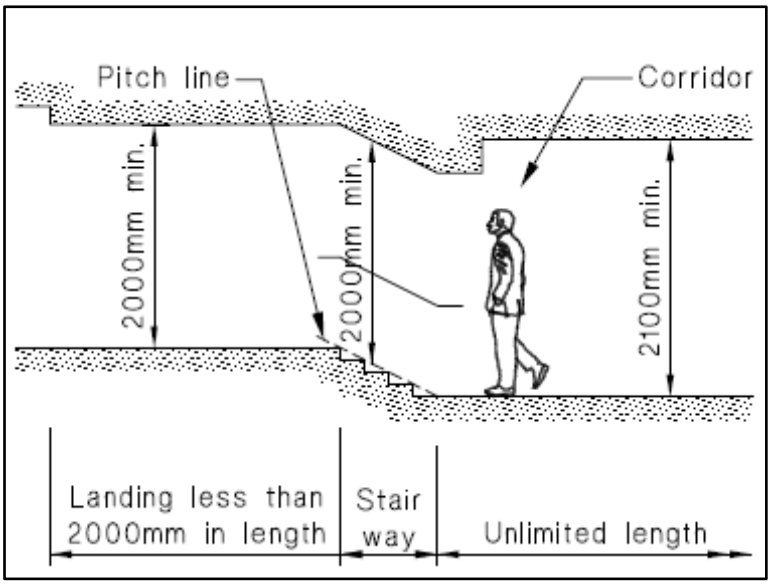
Technically, most items in this design guide and in the access compliance documents are an element of the accessible routes requirements. This table however addresses the general items identified in NZS4121:2001 Section 4.

Do accessible routes have*:

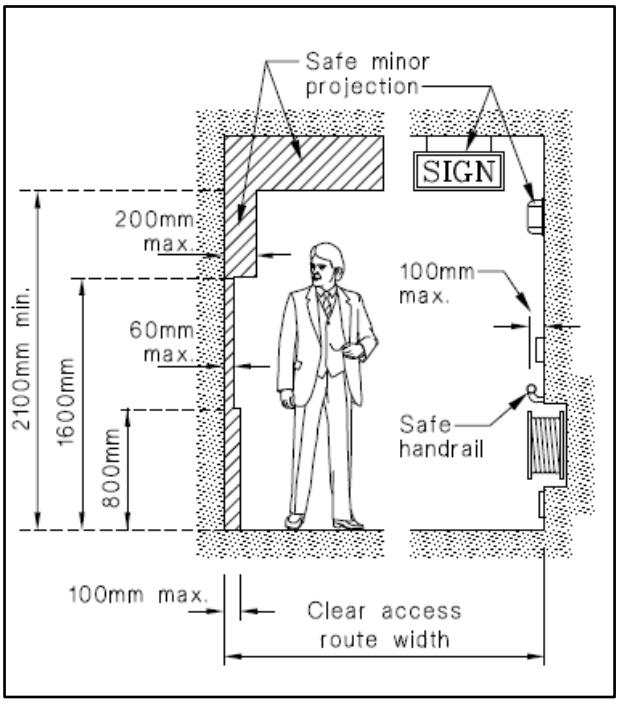
General	Continuous connections throughout the whole environment from car parking, street boundaries, buildings and public transport?	
	Access to all areas that an able bodied member of the public would otherwise have access to? (Kitchenettes, bathrooms, etc.)	
	Minimum 1200mm of clear width throughout? (1500mm desirable for exterior footpaths/passage.)	
	No major or dangerous projections? (NZBC D1/AS1 section 1.5.)	
	Minimum 2100mm height clearance throughout?	
	Minimum 2000mm height clearance on landings, stairways and corridors less than 2000mm in length? (Fig. 2 NZS4121.)	
	No single, isolated steps?	
Surfaces	Ground coverings and stair tread surfaces that are stable, firm and slip resistant under all normal environmental conditions? (Refer to surface finishes later in checklist.)	

* In the box at the right side of table enter the appropriate response for each item from :
Y = Yes (complies with requirement);
N = No (does not comply with requirement);
NA = Not Applicable to this environment

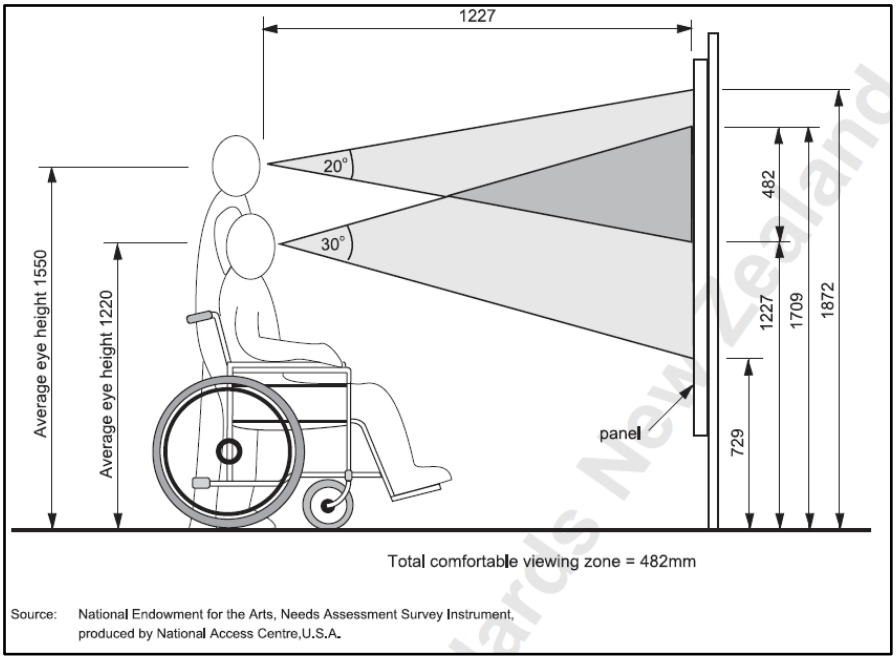
Obstructions	No isolated columns, bollards or built in furniture restricting the 1200mm minimum corridor width? (All columns and bollards must clearly contrast with their surroundings.)	
	No street furniture protruding into minimum accessible route width clearances? (Street furniture should clearly contrast with its surroundings.)	
Signs	Informative, directional and locational signs at frequent intervals and consistent locations along the accessible route? (Refer to signs in Fig. 3 and 4 NZS 4121, to signage later in this checklist and to RNZFB "Accessible signage".)	
Viewing zones	Comfortable zones for viewing signs and information boards? (Refer to Fig. 5 NZS 4121.)	



NZBC D1/AS1 Fig. 3: Height clearances along access route.



NZBC D1/AS1 Fig. 4: Safe minor projections.



NZS4121:2001 Fig. 5: Zones for viewing and for common viewing.

Additional detail, both general and specific, on accessible routes requirements can be found in:

- NZS4121:2001 Section 4.
- NZBC Clauses A2, D1.1(c), D1.3.2, D1.3.3, D1.3.4 and
- Acceptable Solution D1/AS1 sections 1.1, 1.3, 1.4, 2.2, 2.3.
- AS/NZS 1428.4:2009; "Means to assist the orientation of people with visual impairment - tactile ground surface indicators".

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2.0 CAR PARKS

Car parks can be the start of the accessible route for many people, and as such it is important that they are easily locatable, on the accessible route and supplied in the correct quantity.

When car parks are provided in association with an environment or building, the suitable ratio of accessible spaces is as follows (NZS4121:2001 section 5.4):

Total number of car parks	**Number of accessible car parks**
1~20	Not less than 1
21~50	Not less than 2
For every additional 50 car parks, or part of a car park.	Not less than 1

Are the accessible car parking spaces provided:

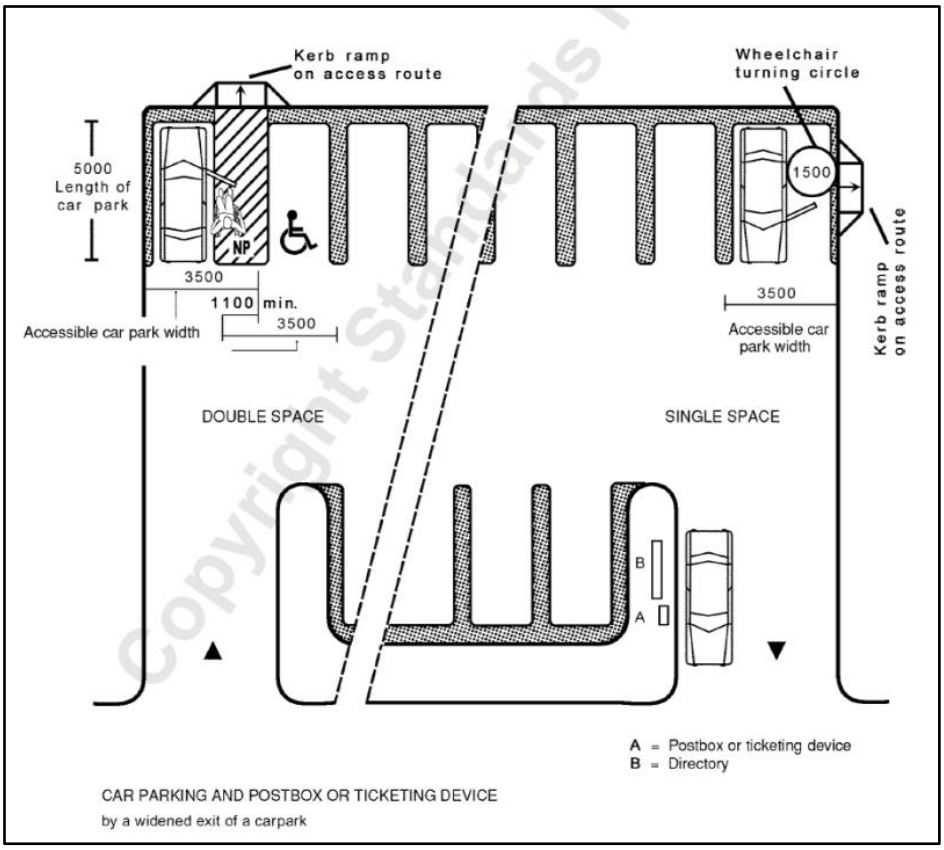
Number	Is a correct proportion compared to total number of provided spaces, as per the NZS4121:2001 table above?	
Location	On an accessible route?	
	Placed such a way as to avoid conflict between vehicles and people when navigating from the park onto the accessible route?	
	As close as possible to the main entrance onto the accessible route, or if there is no main entrance are they located as close to the accessible route as possible?	
	Including any drop off points, covered where practicable to do so?	
Dimensions	Not less than 3500mm wide? (4000mm recommended.)	
	Not less than 5000mm long? (Note: 6000-6300mm required for rear mounted hoists.)	
	With vertical clearance not less than 2500mm along the route to, and at the park?	
90^{o} angle parks	Not less than 3500mm wide? (4000mm recommended.) Inclusive of a 1100mm wide No Parking strip for travel beside the park, which leads to a kerb ramp. NZS4121:2001 Fig. 7. (Make sure the kerb ramp can actually be reached/used once a car has been parked.)	
	No likely overhang or intrusion of vehicle reducing minimum 1200mm width of adjacent footpath?	

Parallel parks[1]	Level with footpath on passenger side of vehicle?	
	Extra length of 1300mm length for rear mounted hoists?	
	With a compliant kerb ramp next to the park for any change in level between driver's side of park and footpath? (Make sure the kerb ramp can actually be reached/used once a car has been parked.)	
Surfaces	With stable, firm, level surface (cross-fall no steeper than 1:50)?	
	Correct ground signage marking?	
Kerbside facilities	Reachable from vehicle with 1000 – 1100mm height above footpath and max 200mm back from kerb edge? (NZS4121:2001 Fig. 9.)	
Signs	With any directory boards more than 1000mm from kerb, raked 6º from vertical and max height 1750mm?	
	With accessible park signage that is visible from the vehicle entrance to the car park, and if not visible from the vehicle entrance is directional signage provided to indicate location? (Artificial illumination recommended where night-time use required.)	
	Identified by additional signage to the ground marking, by either wall or post mounted signs? (See signage section later in checklist for further detail.)	

Additional detail on car parking requirements can be found in:

- NZS 4121:2001 Section 5.
- NZ Building Code Clauses D1.1(c), D1.3.5, D1.3.6 and
- Acceptable Solution/Compliance Document D1/AS1 10.0 [AS2890:1].

1) Parallel car parks are not recommended because of the potential danger they create when entering/exiting one side of a vehicle using a vehicle thoroughfare or from the footpath side of the park.



NZS4121:2001 Fig. 7: Car parking.

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3.0 BUS STOPS

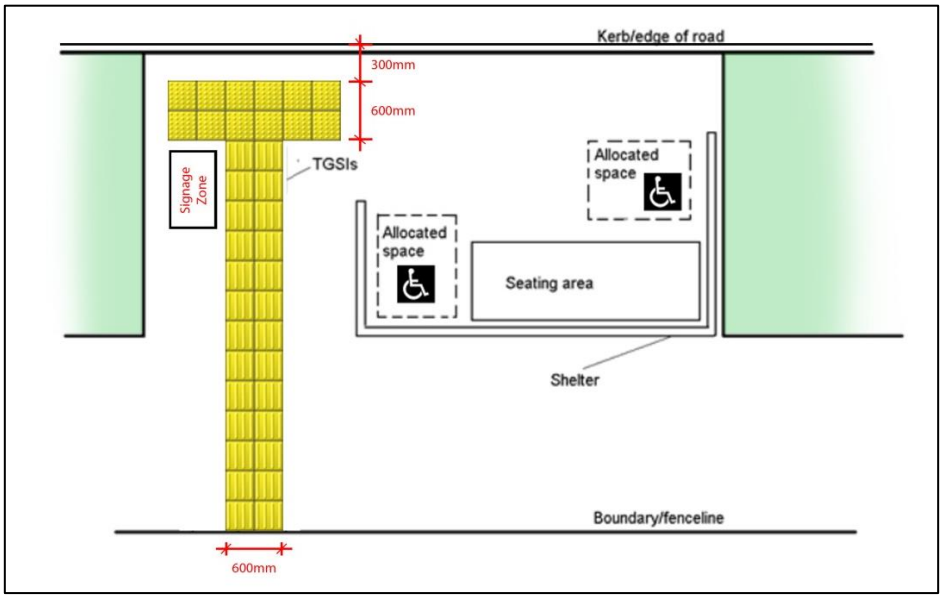
Where bus stops are provided they should be located close to existing pedestrian crossing facilities such as traffic signals or a pedestrian crossing. Ideally they will also be located near main entry points to parks, malls or major attractions.

Regardless of placement they must provide access for elderly, physically or sight impaired passengers. The points of boarding and exiting from buses should be set at footpath level and be free of street furniture such as sign poles, power poles and advertising boards.

Strong visual cues and tactile pavers should also be utilised to enable independent access of the bus stops.

Do bus stops:

General	Have placement relevant to main entry points of the Avon River Precinct?	
	Have a footpath level which is level with the buses in use? (Ramped, kneeling, standard?)	
	Have a surface which is firm, stable and slip resistant under normal usage conditions?	
	Use tactile pavers to indicate the position of the information sign, and the location where the bus will stop?	
	Tactile pavers are contrasting to the surrounding surfaces?	
	Have informative, locational and directional signage? (It is recommended signage also incorporates Braille[2].)	



Above: Example bus stop configuration.

2) For information on braille signage refer to the RNZFB 'Accessible Signage Guidelines' available free using this link.

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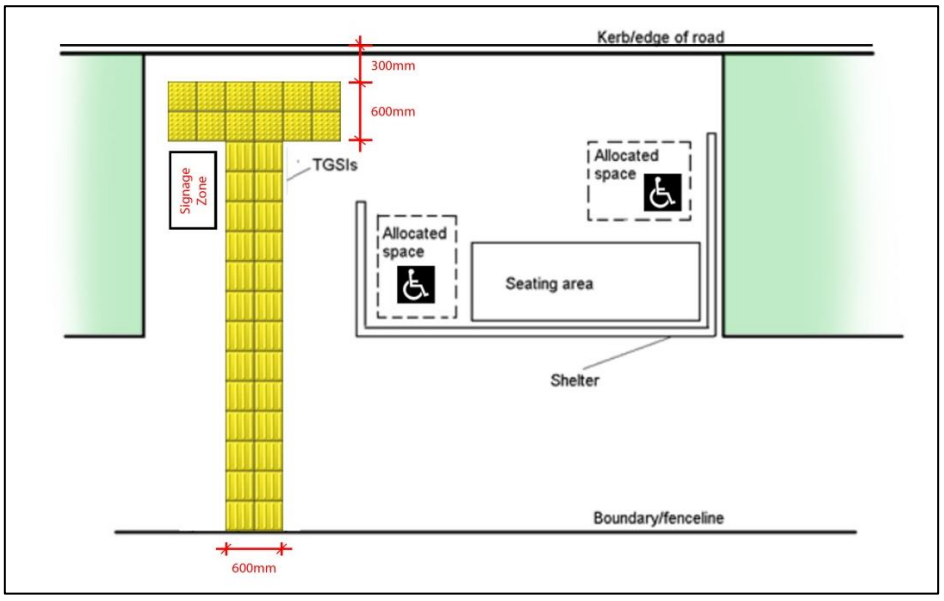
4.0 BUS SHELTERS

Where bus shelters are provided they should be located at least 1.5m back off the kerb to enable an easy turning circle for a wheelchair user, and enable a clear route for pedestrian traffic to pass through.

The shelter shall have seating which meets the criteria of 'public seating' which is addressed earlier in this checklist, it shall also have at least one 1300mm long by 800mm wide, clear designated wheelchair space where seating has been provided.

Do bus shelters:

General	Have placement relevant to the bus stops and entry points to the Avon River Precinct?	
	Have a colour/material scheme that makes them clearly distinguishable from their surroundings?	
	Have a surface which is firm, stable and slip resistant under normal usage conditions?	
	Use tactile pavers to indicate its position, connecting to the tactiles for signage and the stop zone?	
	Have at least one 1300mm long by 800mm wide clear designated wheelchair space is provided?	
	Where glazing has been used, incorporate manifestations (visual marking bands) to prevent it being confused with a path of travel.	
	Have informative, locational and directional signage? (It is recommended signage also incorporates Braille[3].)	



Above: Example bus shelter configuration.

3) For information on braille signage refer to the RNZFB 'Accessible Signage Guidelines' available free using this link

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5.0 KERB RAMPS

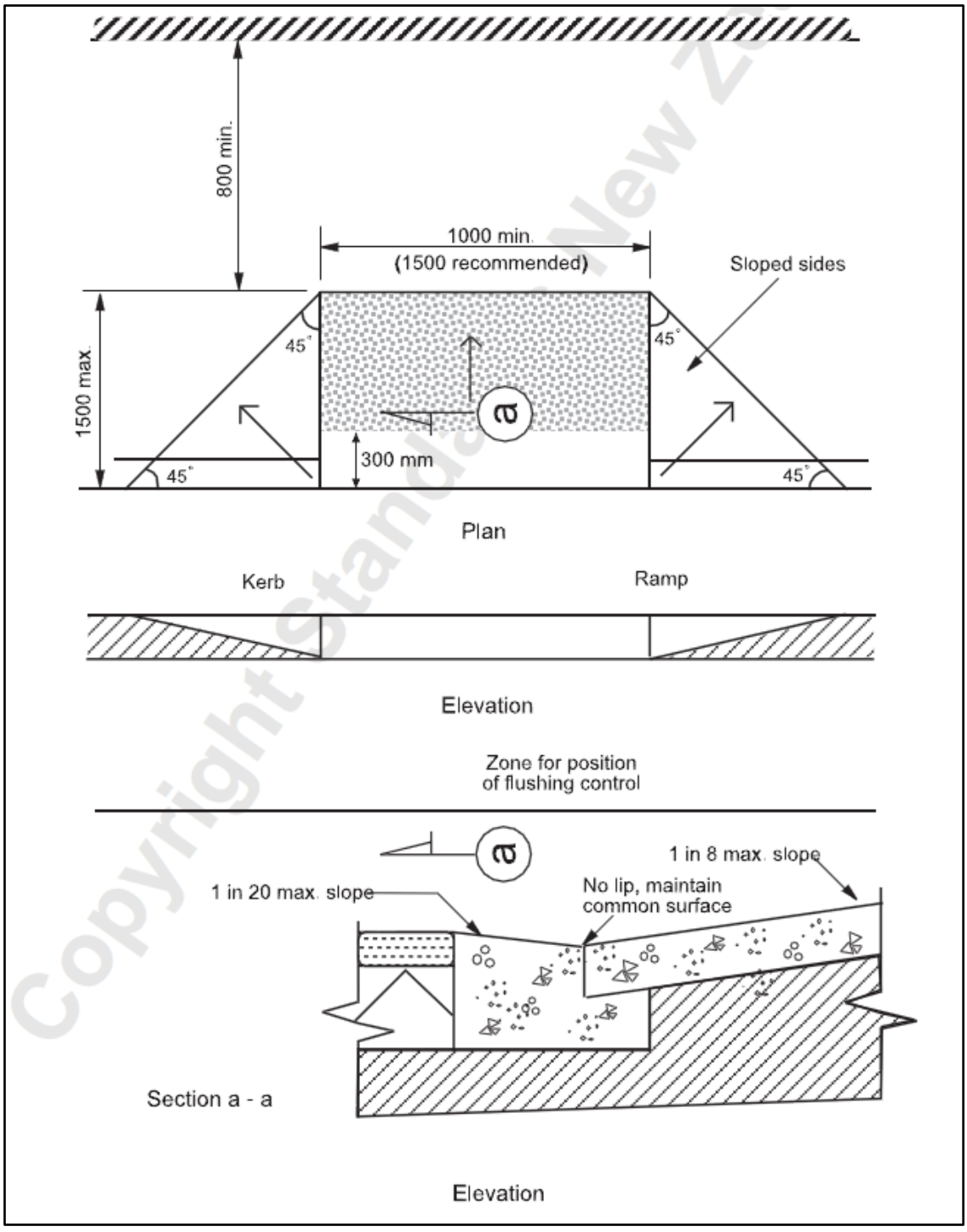
Kerb ramps are important in that they provide a ramped transition from the pavement level to the footpath level or another part of the accessible route. Without appropriately placed kerb ramps wheelchair users and parents with strollers may have to venture through the flow of traffic until they can find a location where they are able to traverse onto the accessible route.

This section should be considered in conjunction with the following sections in this guide on Tactile Ground Surface Indications (TGSI's):

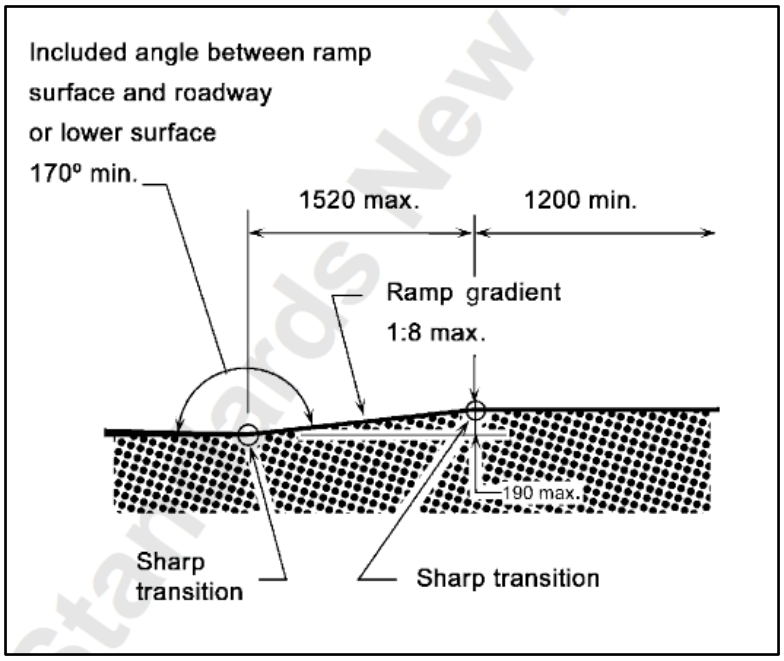
- TGSI – General.
- TGSI – Warning Indicator Installation Principles.
- TGSI – Directional Indicator Installation Principles.

Are kerb ramps:

Location	On every kerb that has to be negotiated on accessible routes from car parking and street boundaries?	
	Located to provide unobstructed view of vehicle traffic?	
Dimensions	No less than 1000mm wide? (1500mm wide recommended.)	
	No more than 1500mm long?	
	Provided with at least 800mm clear footpath width at top of kerb ramp? (1200mm clear footpath width is desirable.)	
Gradients (details below)	No steeper than 1:8 on footpath segment of kerb ramp? (Recommended 1:20.)	
	No steeper than 1:20 on the road segment of kerb ramp?	
	With consistent crossfall 'plane' surfaces, i.e. no multiple slopes?	
Surface	With no lip or upstand at common surface at gutter line?	
	Made of slip resistant surface, contrasting in colour and texture with footpath and road?	
	With change in surface texture or tactile ground surface indicators (TGSIs/ Tactiles) set across the width of the ramp at 300mm from the kerb gutter line and extending no more than 900mm up the footpath slope of the kerb ramp?	



NZS4121:2001 Fig. 46: Kerb ramps.



NZS4121:2001 Fig. 16: Section through a step ramp.

More detailed kerb ramp requirements can be found in:

- NZS4121:2001 Section 4.4 and 13.4.
- NZ Building Code Clauses D1.1 (c), D1.4.3 (d).
- Acceptable Solution/Compliance Document D1/AS1 Section 3.4.
- NZTA RTS14 Guidelines for facilities for blind and vision-impaired pedestrians.

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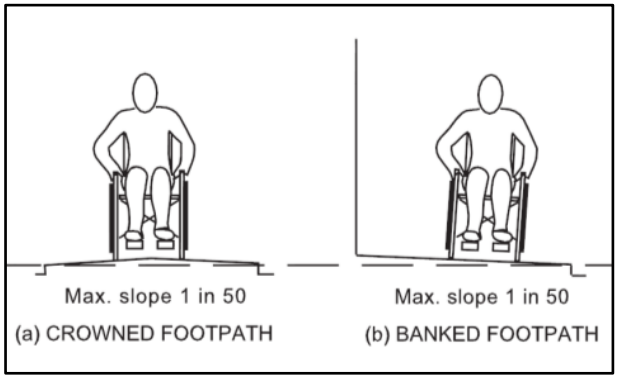
6.0 FOOTPATHS

Footpaths interconnect different stages of the accessible route, typically providing access to the front entry of a building from either the street side or car parking areas. Footpaths are useful in that they provide a level, defined path of travel for the user to follow.

Do footpaths on accessible routes have:

Dimensions	Minimum 1200mm of clear width? (1500mm desirable.)	
Gradient	A transverse/crossfall gradient no steeper than 1:50?	
	Consistent 'plane' surfaces, i.e. no multiple slopes?	
	Level landing/rest area (1200mm min length) every 18 metres of horizontal run where longitudinal gradient of footpath is between 1:20 and 1:33?	
	Longitudinal gradients steeper than 1:20 treated as a ramp?	
Surface	Slip resistant surfaces? (Sealed surfaces such as asphalt and brushed concrete are best practice.)	
	Adjacent surfaces flush with finished surface of the footpath (or upstand/ barrier provided)?	
	Footpath surface well illuminated at all times? (Avoid unfiltered/non-diffused light sources.)	



NZS4121:2001 Fig. 10: Maximum allowable camber for footpaths and ramps.

More detailed footpath requirements can be found in:

- NZS4121:2001 Section 6.2.
- NZTA RTS14 Guidelines for facilities for blind and vision-impaired pedestrians.

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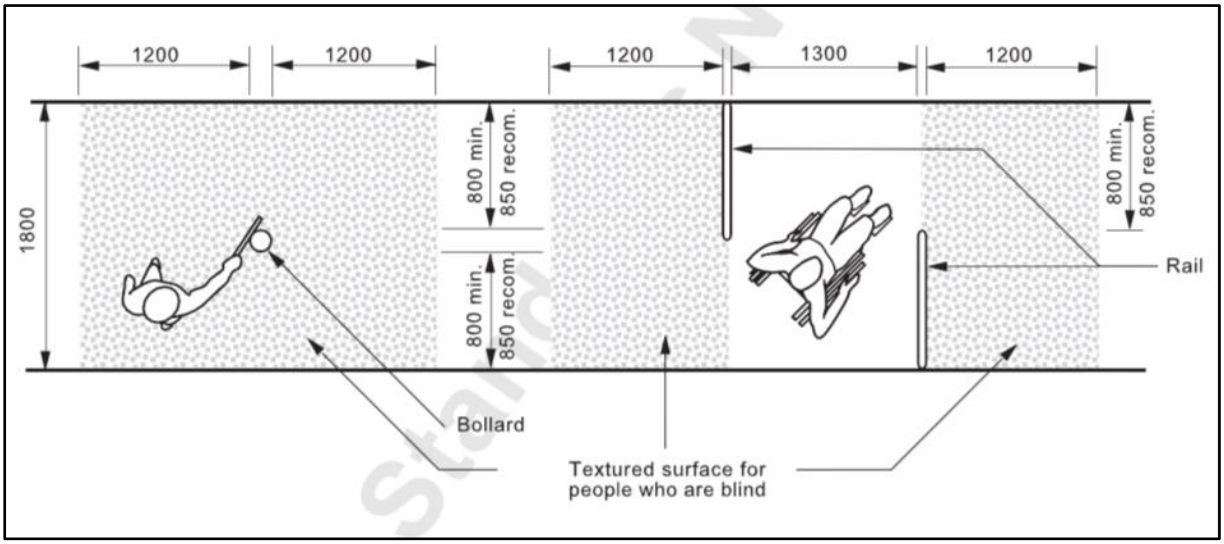
7.0 BOLLARDS

Bollards are typically used to segregate pedestrian and vehicular traffic, however, if not designed, selected and place correctly, hey can pose a barrier to pedestrians or even become a dangerous and expected obstruction along an accessible route. **Do bollards on accessible routes have:**		
Bollards	Bollards, with a minimum height of 1000mm? (Recommended.)	
	At least 900mm clearance around all bollards?	
	Bollards, which are clearly colour contrasted with their surroundings?	



NZS4121:2001 Fig. 43: Space required between bollards, etc.

More detailed information around bollard requirements can be found in:

- NZS4121:2001 Section 13.
- NZTA RTS14 Guidelines for facilities for blind and vision-impaired pedestrians.

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8.0 RAMPS

Where a small to moderate change in level is present on an accessible route then a ramp should be utilised to enable equal access to all persons regardless of ability.

For major changes in level such as between two floor levels consider utilising a lift *(see section titled lifts)* to ensure that persons with disabilities will be able to undertake normal processes and activities within the building.

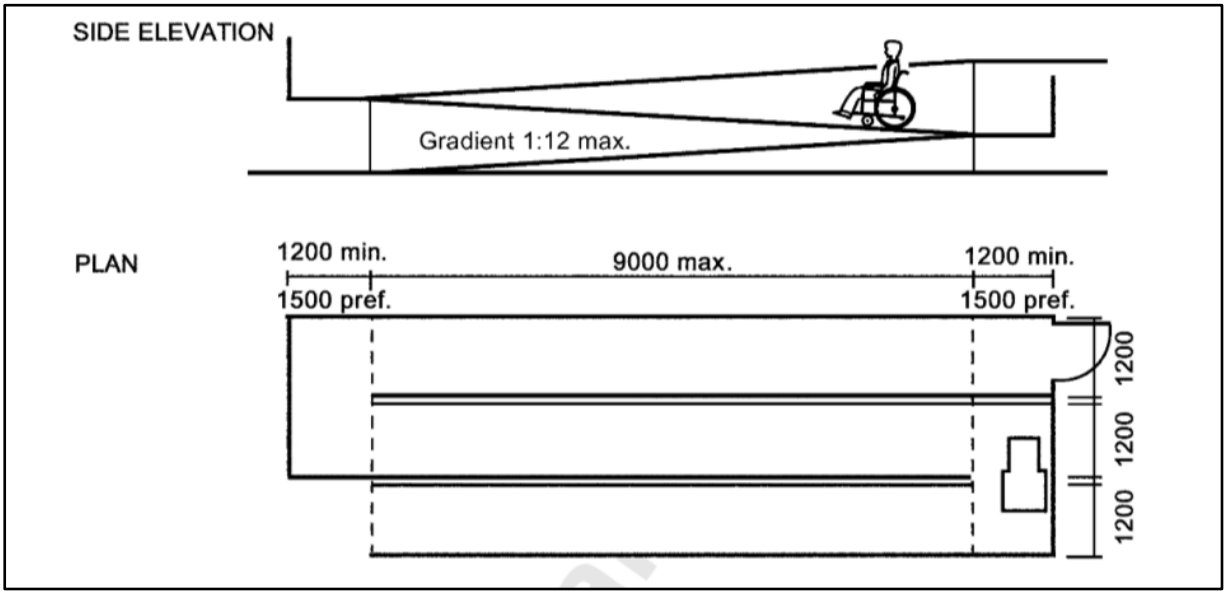
Wherever possible, a ramped change in level should be accompanied by a short flight of steps suitable for ambulant disabled people who may find a ramped surface difficult to negotiate.

Stairs used as the sole means to bridge changes in level will be exclusionary to wheelchair users, elderly persons with walkers and parents with strollers.

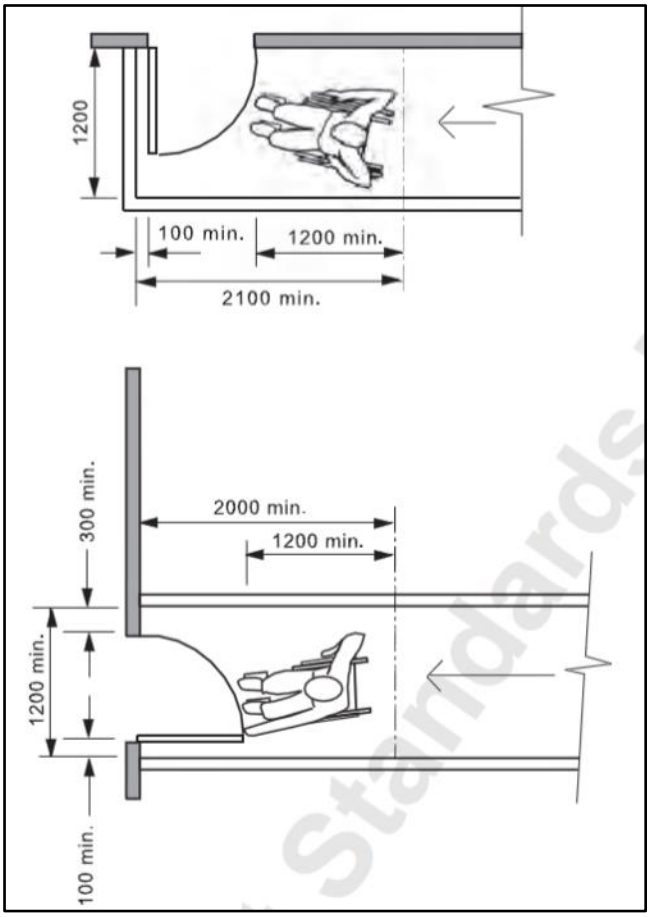
Do ramps on accessible routes have:

Dimensions	A 1200mm x 1200mm (minimum) level approach landing area, which is free of obstructions at the top and bottom?	
	Minimum clear width of 1200mm?	
	A level, 1200mm (minimum) long landing/rest area for every 9m of horizontal run, which is free of obstructions?	
Gradients	Longitudinal gradient no steeper than 1:12? (The AUS standards recommend a gradient no steeper than 1:14, where achievable it is recommended that ramps are made at as gentle angle as possible.)	
	A transverse/crossfall gradient no steeper than 1:50?	
	Consistent 'plane' surfaces, i.e. no multiple slopes?	
Surface	Clearly visible approach and tactile distinction from the footpath, at top and bottom transitions of the ramp? [4]	
	Is an up-stand that's 75mm high present on the side edges of the ramp surface (or a low rail) where there is any drop-off?	
	Slip resistant surface, e.g. brushed concrete, rough finish pavers?	
	A transverse/crossfall gradient no steeper than 1:50?	
	Consistent 'plane' surfaces, i.e. no multiple slopes?	
	Ramp and landing surfaces well illuminated at all times? (Minimum of 100lux at top, bottom and along ramps recommended. Avoid unfiltered/ non-diffused light sources.	

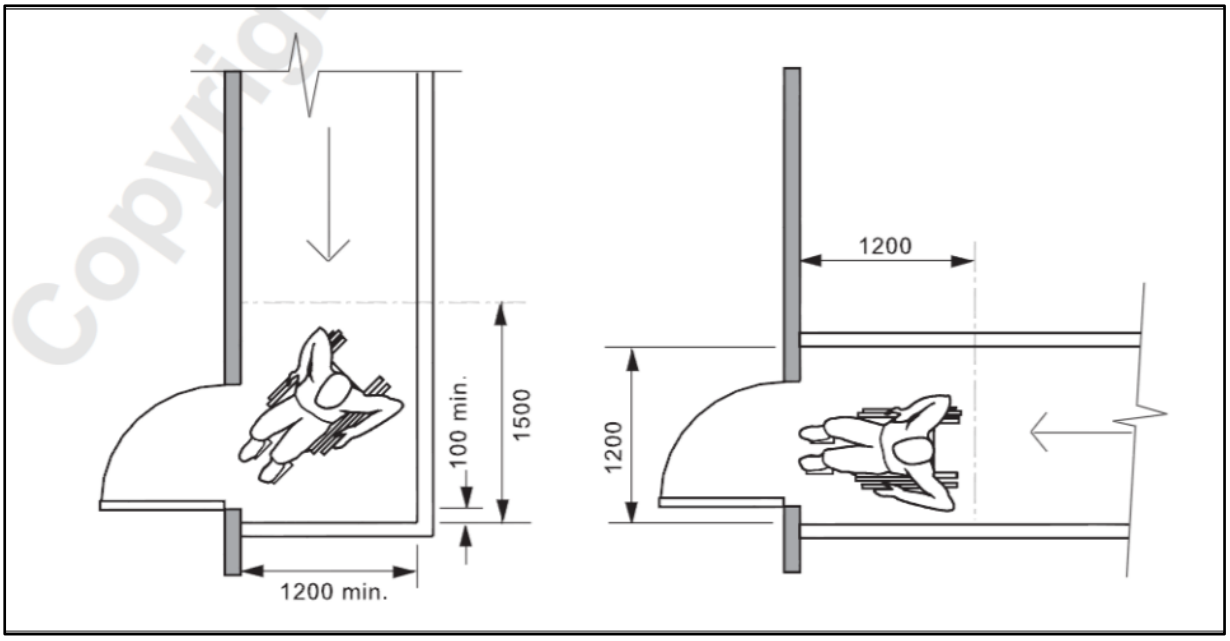
4) AS/NZS 1428.4:2009 *"Tactile ground surface indicators for the orientation of people with visual impairment"* recommends tactile ground surface indicators be used at bottom and top of all ramps and stairs.



NZS4121:2001 Fig. 11: Zigzag ramps: layout.



NZS4121:2001 Fig. 14: Landings to outward opening doors.



NZS4121:2001 Fig. 15: Landings to inward opening doors.

More detailed requirements on ramps, landings and handrails can be found in:

- NZS4121:2001 Section 6.4.

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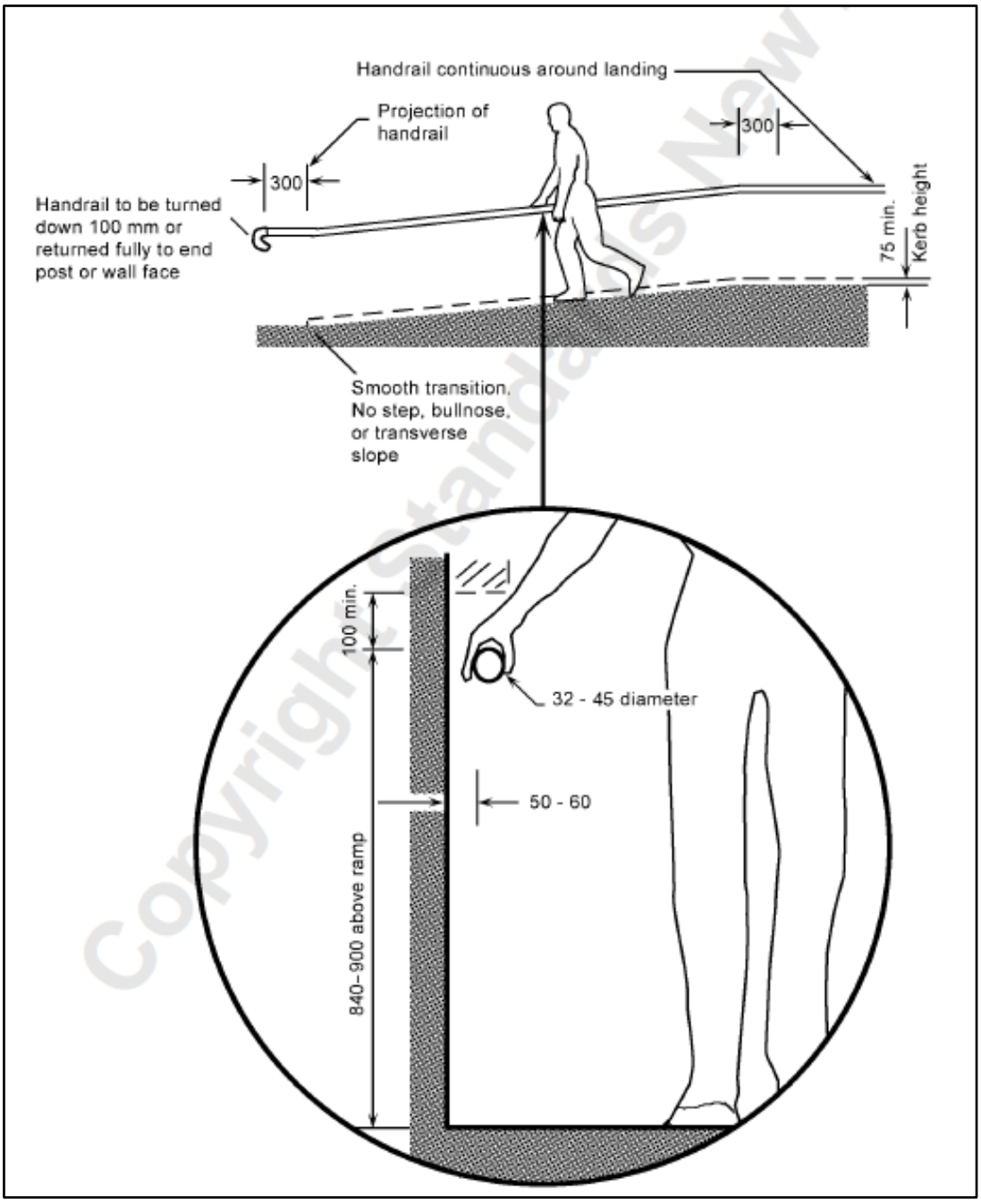
9.0 RAMP HANDRAILS

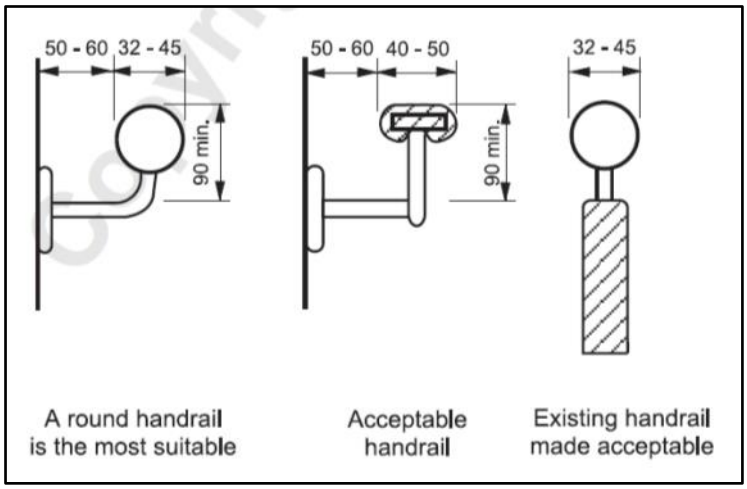
Handrails provide support to users who may not have good balance or sufficient strength to otherwise navigate a ramp, they also provide a rigid object to grasp on should a user have a trip slip or fall. Handrails should be on both sides of a ramp so as not to exclude use by persons who may only have the use of one side of their body.

Are handrails on ramps and their landings on accessible routes:

Fixing	Rigidly fixed to support the full weight of a person? (NZS4121:2001 Appendix F.)	
	Provided on both sides of any accessible route with longitudinal gradient steeper than 1:20?	
Profile and dimensions	Continuous on both sides around landings?	
	Graspable along full length? (Horizontal planks not adequate, refer to below profiles from NZS4121:2001, Fig. F1.)	
	Not obstructive to the passage of the hand along the rail?	
	32-45mm diameter rounded profile, or 40-50mm if it is a flat profile? (Recommended 38mm rounded profile, 40mm flat profile.)	
	Fixed 840-1000mm above, and parallel to ramp surface? (900mm recommended.)	
	50-60mm minimum clear hand space from any adjacent vertical wall? (60mm recommended.)	
	100mm minimum clear hand space below any 'over-hanging' structure (wall)?	
	Extended 300mm past the top and bottom transitions of ramp?	
	Turned down 100mm or fully returned at ends of extensions?	
	Fitted with domed button 150mm from both ends of handrail?	
	Contrasted visually with the background to which they are fixed?	



NZS4121:2001 Fig. 13: Footpath and ramp handrails.



Above: NZS4121:2001 Fig. F1.

More detailed requirements on footpaths, ramps, landings and handrails can be found in:

- NZS4121:2001 Section 6.
- NZ Building Code Clauses D1.1 (c), D1.3.2 (d), D1.3.3 (j) and (k) and D1.3.4 (l).
- Acceptable Solution/Compliance Document D1/AS1 Sections 1, 2, 3 and 6.

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10.0 STAIRS

Stairs provide an effective way to negotiate changes in level to and within buildings, however they are not a fully inclusive means of access and create a significant barrier to wheelchair users and some mobility impaired persons. Where possible for moderate changes in level it is preferred that an accessible ramp is utilised opposed to stairs, or for major changes in level that lift is installed.

Best practice is to ensure all stairs are designed and installed as accessible stairs.

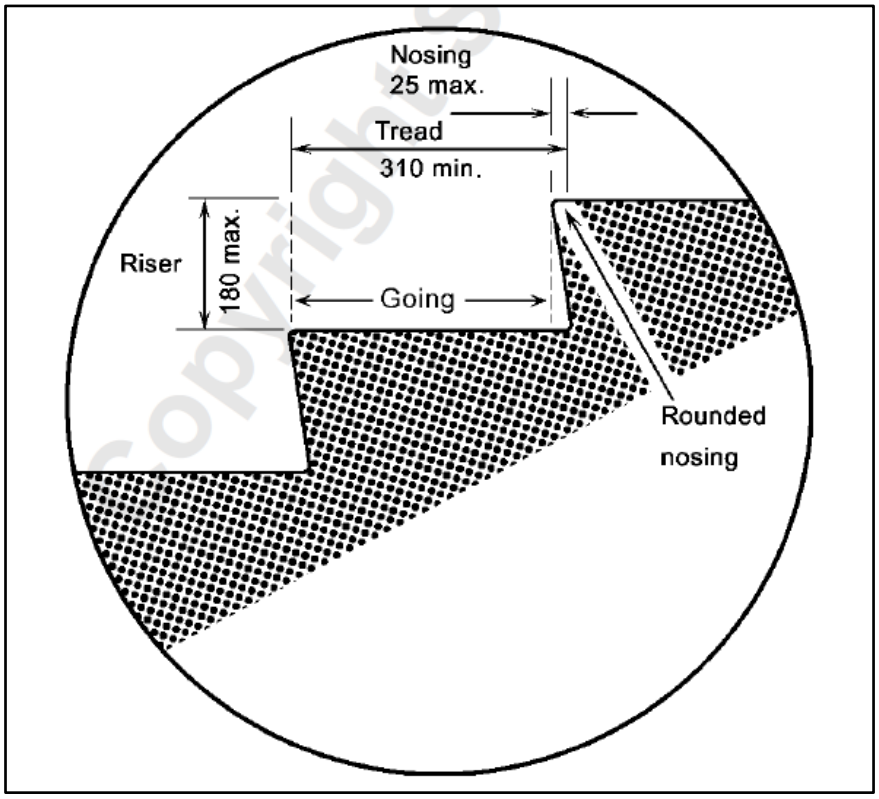
Note: *Accessible stairs shall be provided regardless if lifts/platform lifts are installed. Spiral stairs, open riser stairs and single steps are not deemed to be an accessible stair.*

Do all accessible stairs have:

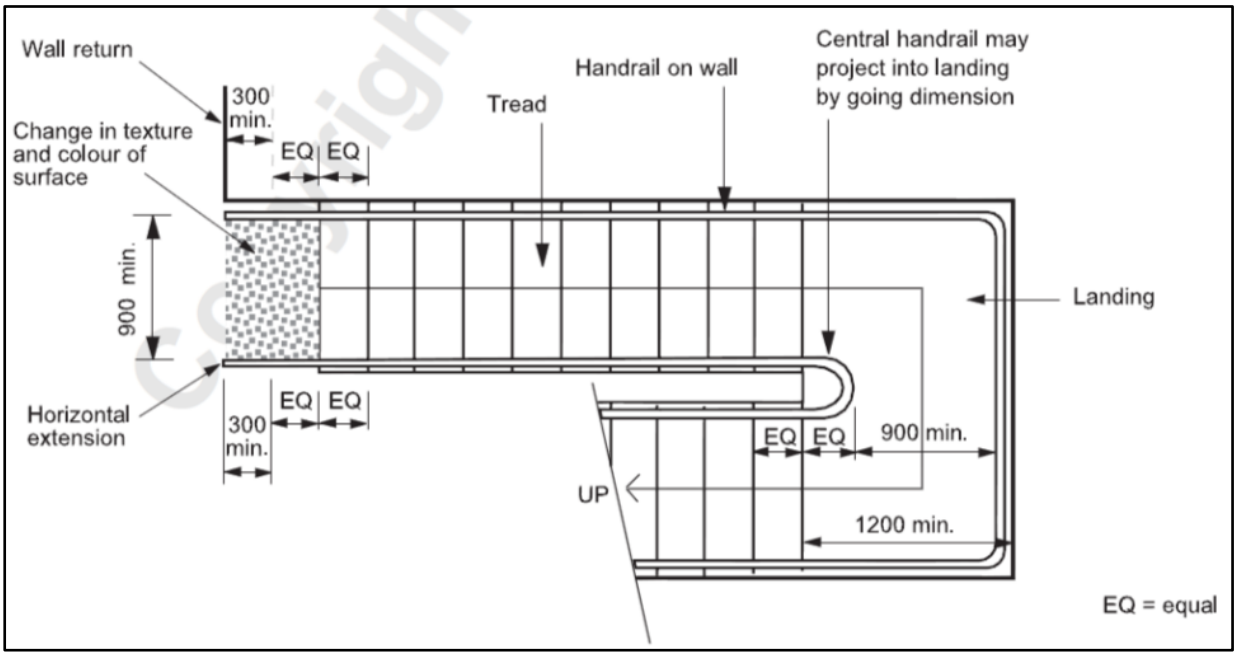
General	No top or bottom steps encroaching into any footpath?	
	A barrier, return wall or change in surface texture of the floor, if a step does encroach into any footpath?	
	Change in surface treatment with strong colour contrast provided at head and foot of any flight of steps? (Refer NZS4121:2001 Fig. 22.) [5]	
	Width between handrails is not less than 900mm?	
	Are all stairs well illuminated?	
Landings	Depth not less than 900mm? [6] (1200mm recommended.)	
	Total rise between landings not more than 2500mm?	
Risers	Uniform height over each flight?	
	Maximum 180mm height?	
	Top riser 300mm back from any return wall?	
	Bottom riser 300mm plus depth of tread back from any return wall?	
	Risers are closed, not open?	
Treads	Uniform depth over each flight?	
	Minimum 310mm depth?	
	Slip resistant and stable surface?	

5) AS/NZS 1428.4:2009 *"Means to assist the orientation of people with visual impairment - tactile ground surface indicators"* recommends tactile ground surface indicators be used at bottom and top of all stairs and ramps
6) A 1200mm deep landing allows enables safe emergency evacuation of wheelchair users. Also note that the handrail projection into landing area reduces usable circulation space by 300mm

Nosings	All nosings rounded? (No sharp or abrupt angle to prevent foot sliding up step.)	
	Project no more than 25mm into the tread depth? (50mm is recommended for visibility nosing strips.)	
	Strong colour contrast with rest of stair?	



NZS4121:2001 Fig. 25: Accessible stair profile.



NZS4121:2001 Fig. 22: Good stair design.

More detailed requirements on stairs can be found in:

- NZS4121:2001 Sections 8.1, 8.2.
- NZ Building Code Clauses D1.1 (c), D1.3.2, D1.3.3 and D1.3.4 (g) and (h).
- Acceptable Solution/Compliance Document D1/AS1 Section 4.

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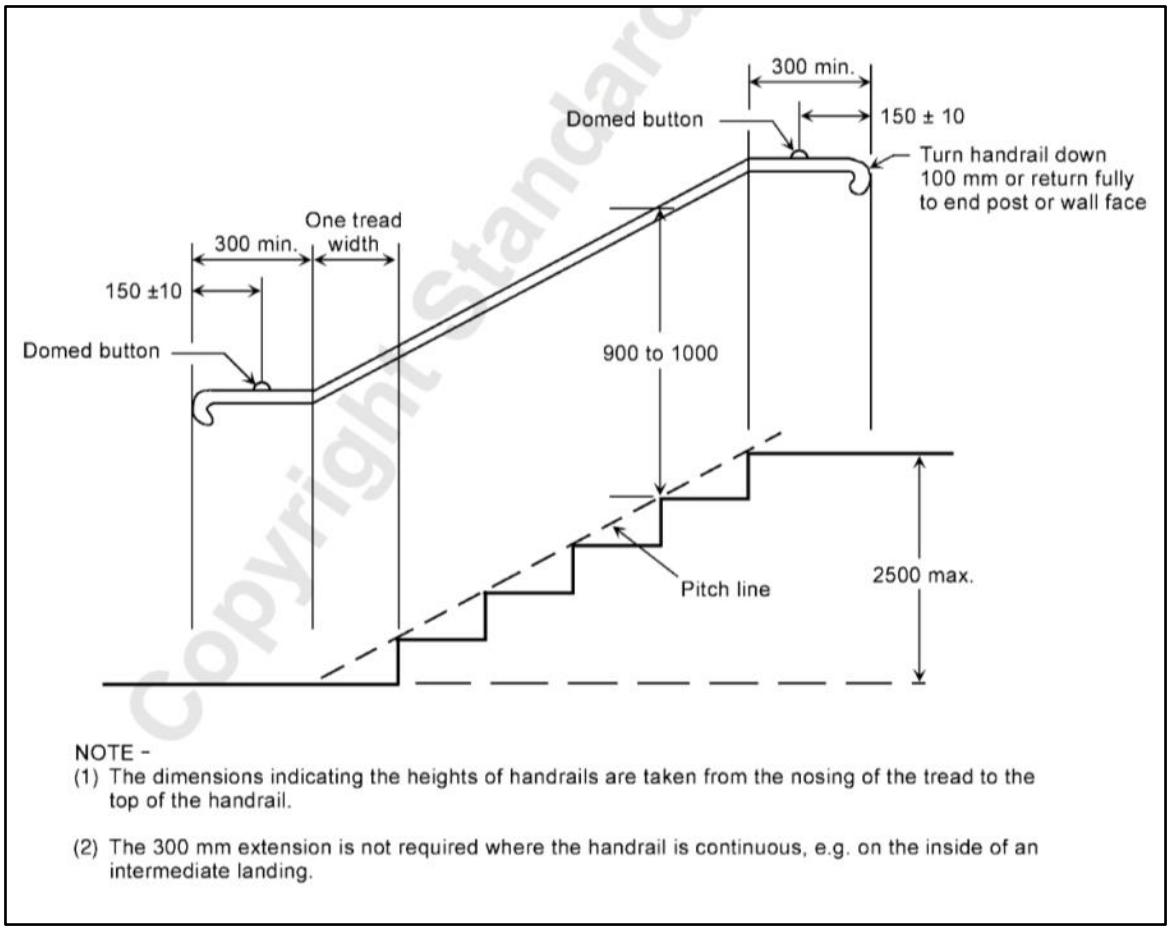
11.0 STAIR HANDRAILS

Handrails provide support to users who may not have good balance or sufficient strength to otherwise navigate the stairs; they also provide a rigid object to grasp on should a user have a trip slip or fall.

Handrails should be on both sides of a stair so as not to exclude use by persons who may only have the use of one side of their body.

Are all accessible stair handrails:

General	Provided on both sides of the stair?	
	Rigidly fixed to support the full weight of a person? (NZS4121:2001 Appendix F.)	
	Also provided in centre of a stair when stair width is 4000mm or more?	
Profile, dimensions and visibility	Graspable along full length? (Horizontal planks not adequate, refer to below profiles from NZS4121:2001, Fig. F1.)	
	Not obstructive to the passage of the hand along the rail?	
	32-45mm diameter rounded profile, or 40-50mm if it is a flat profile? (Recommended 38mm rounded profile, 40mm flat profile.)	
	Fixed 900-1000mm above and parallel to the pitch line of the nosings?	
	50-60mm minimum clear hand space from any adjacent vertical wall? (60mm recommended.)	
	100mm minimum clear hand space below any 'over-hanging' structure (wall)?	
	Turned down 100mm or fully returned at ends of extensions?	
	Fitted with domed button 150mm from both ends of handrail?	
	Contrasted visually with the background to which they are fixed?	
Landings/top and bottom	Continuous around landings?	
	Projected no more than depth of tread into landings?	
	Extended 300mm past the top riser of the stair?	
	Extended 300mm min, plus depth of tread, past the bottom and top riser of the stair?	



NZS4121:2001 Fig. 23: Pitch line and extension of handrails.

More detailed requirements on stair handrails can be found in:

- NZS4121:2001 Section 8.6 and Appendix F.
- NZ Building Code Clauses D1.1 (c), D1.3.2, D1.3.3 (j) and (k) and D1.3.4 (i).
- Acceptable Solution/Compliance Document D1/AS1 Section 6.

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12.0 ENTRANCES

The main entrance of a building should have an accessible route leading directly to it. Having alternative accessible entry at the back or side of a building is not best practice as it is very exclusionary. The entrance itself should be clearly distinguishable from its surroundings in terms of contrast and tactile differentiation; it should also be well lit during all times where the building is open to the public.

Automatic doors are best practice at the entrances to buildings as they require no user interaction, note however that the sensor will need to be setup so it also picks up approach from a shallow angle as blind persons tend to follow wall edges up to the door and this is usually outside of the default configuration of door sensors.

Is the entrance:

Location	Main entry is on the accessible route?	
Entrance approach	Is level approach space (1200 x 1200)mm provided, clear of any door swing, on both sides of entrance threshold?	
	Is approach space of at least 300mm, clear of any door swing and adjacent wall, provided? (NZS4121:2001 Fig. 19).	
	Is a level threshold provided?	
Entrance door(s)	Is minimum clear opening of 760mm (810mm recommended) provided for both single leaf, and at least one leaf of double leaf, doors? (1000mm recommended for sport wheelchairs.)	
	Are entrance doors Illuminated to at least 100lux to be clearly distinguishable from their surroundings? Also refer to sections 2.6 iii) and 2.15 in this checklist.	
	Do entrance doors have obvious colour and tactile contrast with their surroundings?	
	Do any dual swing doors have visibility glazing panels?	
	Do any full length glazed doors have visibility marking (opaque/frosted band)? Two clearly defined marking bands at 850-1000mm and 1400-1600mm above floor level are recommended.	
	Does door hardware have a lever action handle which can be opened with one hand?	
	Is door hardware fixed 900-1200mm (1000mm recommended) above floor?	
	Are any door security access controls fixed 900-1200mm (1000mm recommended) above floor? Such controls recommended to be fixed on the latch side of the door within 200mm of the door frame.	
	If revolving door or turnstiles installed, is alternative hinged door option provided?	

Automatic doors	Can door(s) be activated from shallow angles on both sides?	
	Do doors remain open for at least 5 seconds (or time to clear doorway)?	
	Do moving edges have full height, contrasting, visibility marking strip?	
Signs	If necessary, do signs indicate alternative accessible entrances?	

More detailed requirements on entrances can be found in:

- NZS4121:2001 Section 7.1.
- NZ Building Code Clauses D1.1 (c), D1.3.1 (b), D1.3.2 and D1.3.4 (D) and (f).
- Acceptable Solution/Compliance Document D1/AS1 Section 7.

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13.0 PUBLIC FACILITIES – RECEPTION COUNTERS

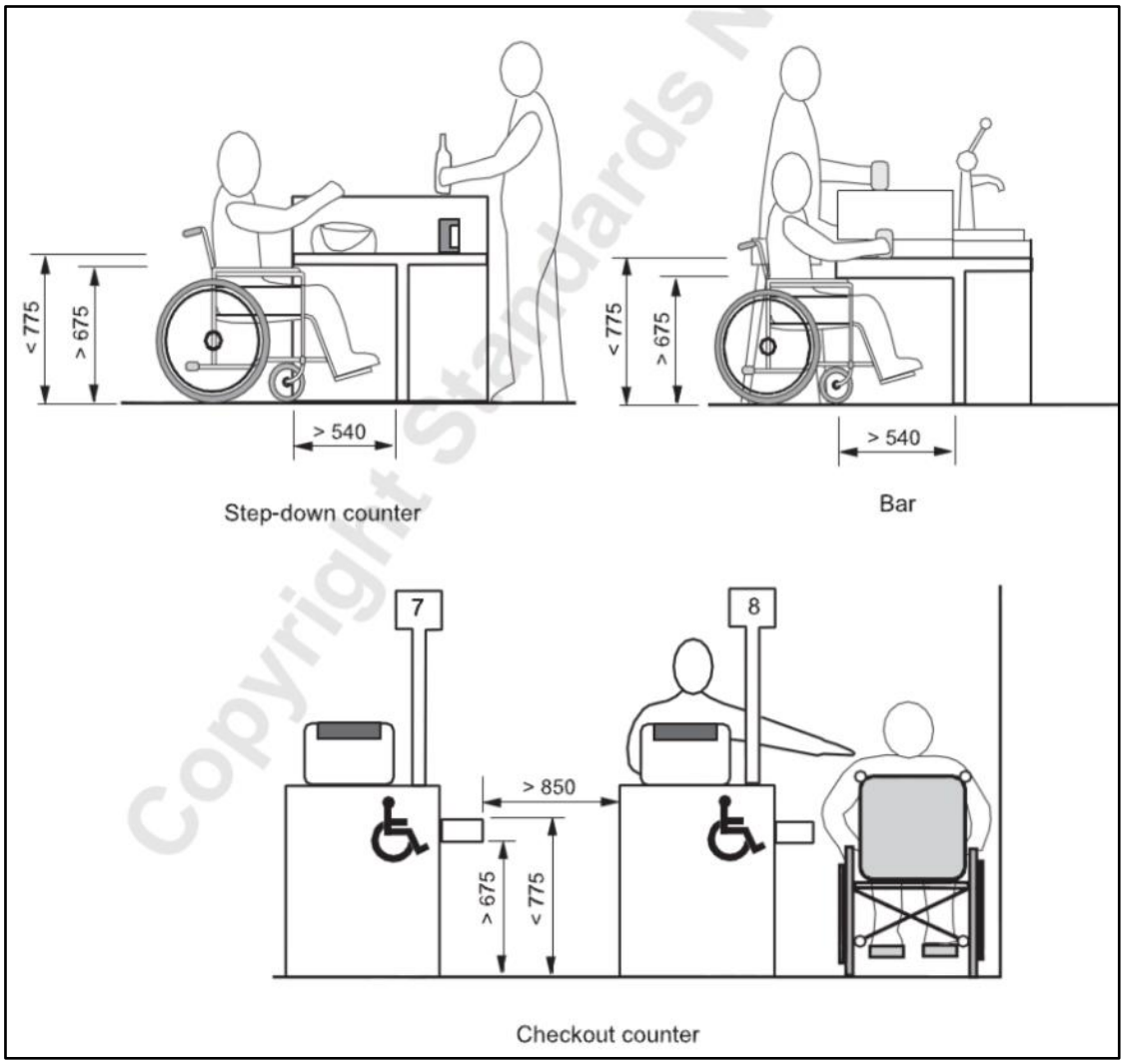
Reception counters are usually the first thing encountered once a person enters a building, and they are required to have an accessible section to them. By not providing an accessible section to a reception counter not only is it non-compliant with building regulations and unusable to a range of different users - but it also sends the message that as a business you are not interested in catering for the needs of persons with certain impairments such as limited mobility or wheelchair users.

Also, accessible telephones are required to be on accessible routes. ATMs, vending machines etc., should comply with principles of approachability, accessibility and usability (refer NZS4121 section 11.2 for design details).

Also refer to the DBH Guidance Document "Accessible reception and service counters".

Are all reception counters and desks provided for public and staff use, and all accessible telephones, on accessible routes and have:

General	Reception counters and desks located on accessible routes?	
	At least one accessible space provided? Fold or pull out shelves are not acceptable.	
	Visibility requirements as per sections 2.14 i) and 2.15 in this checklist. Avoid reflective surfaces on walls and counter tops.	
Dimensions	Top of work surface 775mm max above floor? (NZS4121:2001 Fig. 36.)	
	Height clearance under 675mm min above floor?	
	Width 900mm min?	
	Width of checkout counters aisles 850mm min? (NZS4121:2001 Fig. 37.)	
Telephones	Located on accessible route, whether on street or building foyer?	
	Approach space of 1200 x 1200mm min, free of obstacles like steps, enclosures, fixed seats (recommend level sealed approach and floor base)?	
	If booth has a door it is outward opening?	
	Enclosed booth with 150mm min clear under space around base of walls?	
	All open cubicles with 540mm min depth?	
	Essential operating parts: • No higher than 1200mm above floor? • Handset cord 750mm min length? • Directories easily reachable? • Any shelving set 775mm above floor? • Adequate time delay for door to be opened before locking mechanism reactivates?	



NZS4121:2001 Fig. 37: Public counters.

More detailed requirements on public facilities can be found in:

- NZS4121:2001 Section 11.
- NZ Building Code Clauses G5.3.4.
- Acceptable Solutions/Compliance Documents G5/AS1 Section 3.0.
- DBH Guidance document "Accessible reception and service counters" 2007.

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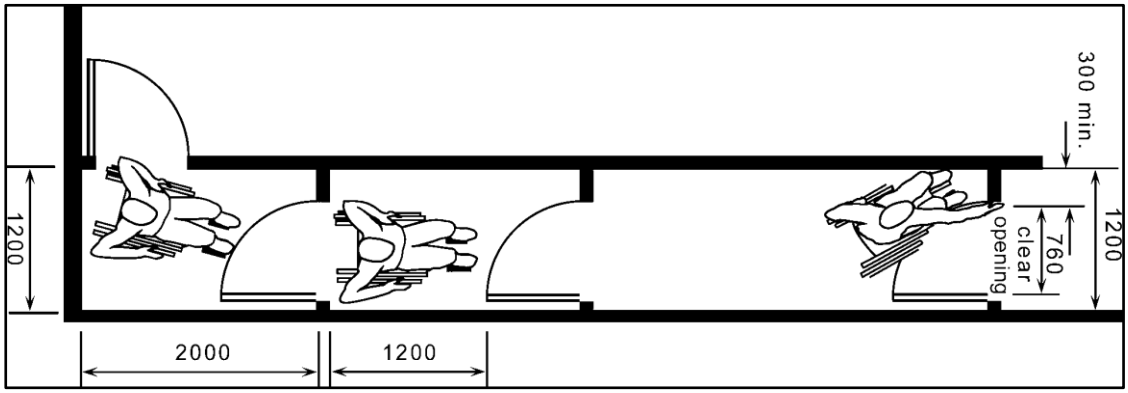
14.0 CORRIDORS, DOORWAYS AND DOORS

These features connect the different rooms/areas around and within a building, it is critical that they do in fact enable all people regardless of ability to navigate them without requiring assistance. Examples of this would be ensuring that adequate space outside of the door swings is provided for a wheelchair to reverse, corridors having adequate width for a person to pass a wheelchair user or parent with a stroller, doors and hardware that contrast to their surroundings so that they can be easily identified.

In addition to entrance door requirements, do all corridors, doorways and doors have:

Corridors	Minimum 1200mm clear width? Also refer to 2.1 ii) and iii) earlier in Checklist.	
	At least 1200mm length between any door-swings in corridors and lobby areas? (NZS4121:2001 Fig. 19.)	
Doorways	Minimum clear opening of 760mm (810mm recommended generally, and 1000mm minimum required for sport wheelchairs) for both single leaf, and at least one leaf of double leaf, doors?	
	Wider clear opening where approach space is reduced: • 1000mm approach space - 1000mm clear opening? • 900mm approach space - 1200mm clear opening?	
	Extra width of at least 300mm to the handle side of any door, which is clear of the door swing and adjacent wall? (NZS4121:2001 Fig. 19 – extract below.)	
Doors	Visual contrast of at least 30% luminance between door and its surroundings?	
	Any dual swing doors with visibility glazing panels? (NZS4121:2001 Fig. 21.)	
	Hardware, e.g. handles, face plates, etc., visually contrasted by at least 30% luminance with the door itself? Also refer to "Controls" section later in this document.	
	Any full length glazed doors with manifestations (visibility markings)?	
	Leading edge of door sufficiently colour contrasted to ensure it is easy to distinguish whether the door is open or closed?	



NZS4121:2001 Fig. 19: Space requirements in confined spaces.

More detailed requirements on corridors, doorways and doors can be found in:

- NZS4121:2001 Sections 7.2 and 7.3.
- NZ Building Code Clauses D1.1 (c), D1.3.1 (b), D1.3.2 and D1.3.4 (d) and (f).
- Acceptable Solution/Compliance Document D1/AS1 Section 7.

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15.0 DOOR HARDWARE

It is good practice to design for all door hardware and fittings to be in accordance with accessibly requirements as these types of fitting benefit everyone, for example level action handles on doors are much easier to operate while carrying shopping or files compared to their rounded style counterpart. **Is door hardware:**		
Door hardware	Contrasted to its surroundings? (Bronze hardware on brown timber doors is bad contrast, whereas silver hardware on brown timber doors is good.)	
	Lever action handles with end of handle returned towards face of door?	
	Fixed 900-1200mm above floor? (1000mm best practice.)	

Above: Example of a well contrasting lever action door handle, with the end of handle returned towards face of door.

More detailed requirements on door hardware can be found in:

- NZS4121:2001 Section 4.11.
- NZ Building Code Clauses D1.1 (c), D1.3.4 (f), G9.1 (b) and G9.3.4.
- Acceptable Solutions/Compliance Documents D1/AS1 Section 7.0.5 and G9/AS1 Section 2.0.

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16.0 PLACES OF ASSEMBLY

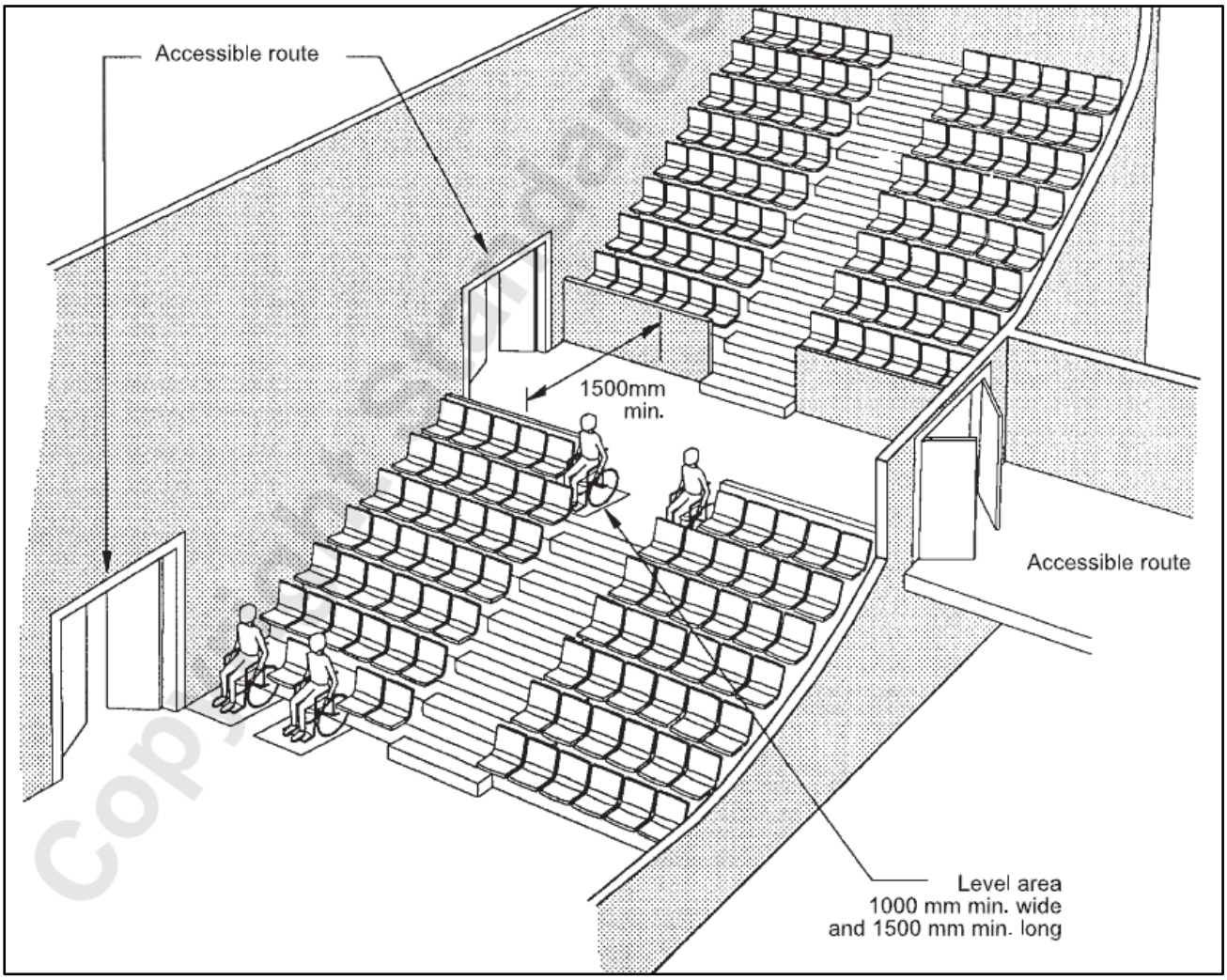
Provision shall be made to accommodate people with disabilities in rooms and areas used for meetings, entertainment, assembly and recreation. In all cases this provision shall be on an accessible route

People with disabilities shall be able to be seated as part of an audience. They shall be able to speak, lecture or entertain an audience from the main stage of a place of assembly or entertainment and have access to all back stage facilities including performers changing areas, toilet shower facilities and the green room.

Accessible seating should be positioned in an equitable manner also, simply including accessible seating without consideration to view from the area and closeness to amenities and others is not good practice.

Do places of assembly have:

Location	Meeting rooms, entertainment, assembly and recreation areas on accessible route?	
	Accessible route is provided to stage or podium areas and all backstage facilities?	
Wheelchair users	Level audience spaces provided (two for up to 250 seats, one for every additional 250 seats, or part thereof) and included in normal seating arrangement?	
	Level wheelchair space(s) within fixed seating min 1000mm wide x 1500mm long? (NZS4121:2001 Fig. 40, Compliance Document D1/AS1 Fig. 30.)	
	Clear line of sight from allocated accessible spaces?	



NZS4121:2001 Fig. 40: Examples of seating arrangements.

More detailed requirements on places of assembly can be found in:

- NZS4121:2001 Section 12.
- NZ Building Code Clauses D1.1 (c) and D1.3.2.
- Acceptable Solution/Compliance Document D1/AS1 Section 8.0.

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17.0 LISTENING SYSTEMS

Listening systems enable people with listening devices or who are hearing impaired to directly tap into the audio feed of theatres, cinemas, public halls and assembly spaces. Where these systems are provided they should be clearly signed as available using the International Symbol of Deafness (ISD) at the reception/ticketing desk. **Are listening systems:**		
	Where a public address system is provided, is a listening system installed to cover the total area of the room? Includes all theatres, cinemas, public halls, assembly spaces in old people's homes for 20 or more people and all other assembly spaces for 250 or more people.	
	Where a listening system is installed, is the sign for the International Symbol of Deafness fixed on the entry door(s), to both the venue and the room or area? Is the transmission channel used for the venue displayed at the entrance?[7]	
	Where an area is only partially covered by a listening system, signs designating the boundaries of coverage are displayed?	

Above: International symbol of deafness (ISD).

More detailed requirements on listening systems can be found in:

- NZS4121:2001 Section 12.2.2 and Appendix H.
- NZ Building Code Clauses G5.1 (D), G5.3.5 and G5.3.6.
- Compliance Schedule Handbook SS 12, SS 14/2 and SS 15/4.
- AS/NZS 2107:2000.

[7] This will allow users to adjust their receivers to the frequency channel in use.

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18.0 LIFTS

Lifts provide a way of achieving level access over major changes in floor level, and are of particular benefit to a wide range of users including those with impairments. They also take up a smaller footprint and small platform lifts are sometimes used where ramps cannot fit within the confines of a site or building on upgrade or alteration projects.

While the design criteria from NZS4121:2001 below can be used to circumvent the inclusion of a lift in terms of 'compliance' however it should be noted that persons with disabilities are entitled to *'carry out normal process and activities within a building without requiring assistance'* not including a lift where the only kitchen, changing room or other such likely to be accessed facility would be in breach of this mandate from the New Zealand Building Act 2004.

Excerpt from NZS4121:2001 – Section 9.0 Lifts:

9.1.3.1 - General
An accessible route shall include a lift to upper floors where:

(a) Buildings are four or more storeys high;

(b) The upper floor(s) of any building are to be used as the public reception areas of:
  (i) banks
  (ii) central Government offices or Government agencies
  (iii) regional Government offices
  (iv) local Government offices and facilities.

(c) The upper floor(s) are designed or intended to be used as:
  (i) public areas of hospitals, medical consulting rooms, dental surgeries, and other primary health care centres
  (ii) places of public assembly for 250 or more people
  (iii) public libraries.

9.1.3.2 - Two and three storey buildings
Where 9.1.3.1 is not applicable a lift is not required when:

(a) Buildings are two storeys high and have a gross floor area of the upper floor of less than 400 m2.

(b) Buildings are three storeys high and have a gross floor area of the upper floors of less than 500 m2.

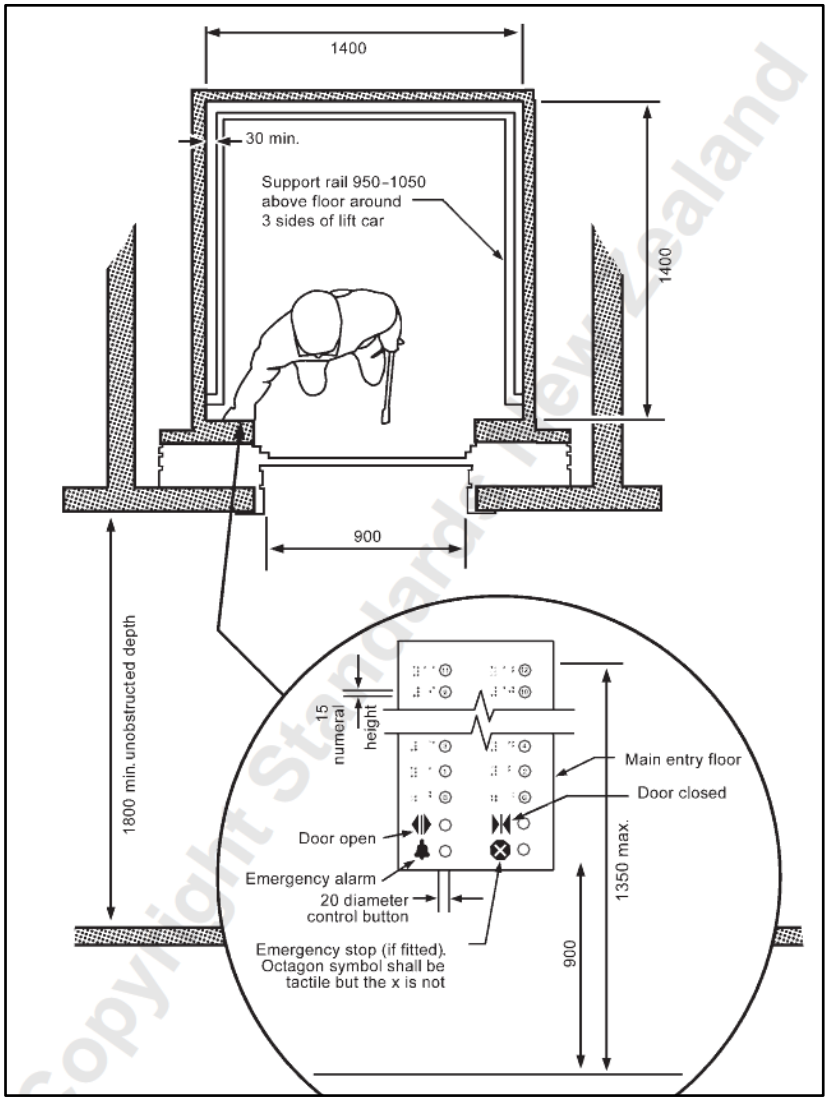
Provided that the ground floor complies with the requirements of this Standard and the upper floors have access for ambulant people with disabilities.

Best practice is that an accessible route shall include a lift to all upper levels, environments or features where no compliant ramped access to the area is otherwise available.

Where provided do accessible lifts have:

General	At least one complying lift servicing to all upper levels, environments or features where no compliant ramped access to the area is otherwise available?	
	Connection to an accessible route?	
	Lift is visually contrasted with its surrounding and either visible or clearly sign posted from the main entrance lobby?	
Lobby landings	Minimum unobstructed depth of 1800mm in front of lift doors?	
	Car floor levelling accuracy of ± 20mm with lobby landing floor surface?	
	A "lift coming" or "call accepted" indicator?	
Audible and visual signals	Audible level position indicator/voice announcement for lifts servicing more than three levels?	
	Audible and visual notification of arrival and direction of travel? (Two gongs down, one gong up and illuminated directional arrow.)	
Lift car	Minimum 1400mm x 1400mm internal floor dimensions?	
	Continuous support rail around car, excluding doorways? with; • Height 950-1050mm above finished floor of lift car? • Diameter 30-40mm? • Minimum clear finger space of 30mm from car wall?	
	Audible and visual floor position indicator inside lift car, readable when facing lifts doorway(s)?	
Lift doors	Is the minimum clear opening of a lift doors 900mm minimum? (1000mm minimum required for sport wheelchairs.)	
	Power operated doors with passenger protective device?	
	Doors remaining open for 5 seconds or more before they start to close?	
	Doors visually contrasted with their surroundings?	
	Raised tactile numbers (20mm or more high) on leading edge of landing lobby architrave at 1350mm (recommended 1000mm) above floor surface?	
Car and lobby controls	Car and lobby controls fixed 900-1350mm above floor level? (Recommended that where there are more than two lifts in a block, to have one set of lift controls for each lift car.)	
	Call buttons? With (see NZS 4121 Fig. 26 overleaf): • Colour contrasted with immediate surroundings? • Tactile distinction from face plate? • Positive movement to activate? • Minimum 20mm diameter/width? • Raised designations (15mm min height) immediately to their left? • Braille designations immediately to left of standard designations?[8]	
Signs	Directional signage if lift not clearly visible from the accessible route?	

8) For information on braille signage refer to the RNZFB 'Accessible Signage Guidelines' available free using this link



NZS4121:2001 Fig. 26: Lift car dimensions and control panel.

More detailed requirements on lifts can be found in:

- NZS4121:2001 Section 9.
- NZ Building Code Clauses D1.1 (c), D1.3.4 (c), D2.1 and D2.3.5.
- Acceptable Solutions/Compliance Documents D1/AS1 Section 12 and D2/AS1 Section 1.0 (NZS 4332 – 70).

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19.0 TOILET FACILITIES

Where accessible toilets are provided it is best practice to include a second 'flipped' or 'mirrored' accessible toilet cubical beside it, this is because a standard accessible toilet configuration with the rail on its right hand side only caters for persons with strength on their right side.

Numbers of accessible toilet facilities to be provided shall be based off occupancy figures calculated based on the area and usage within the space *(not the current or expected occupancy)* while the NZBC G1/AS1 document provides some guidance around this it is predominantly related to the confines of a building structure.

The Ministry of Business, Innovation and Employment (MBIE) has uploaded an easy to use tool online for quickly calculating options for configurations of toilet pans, basins and urinals to meet the minimum code requirements.

The calculator can be found by clicking this link.

Are accessible toilet facilities:

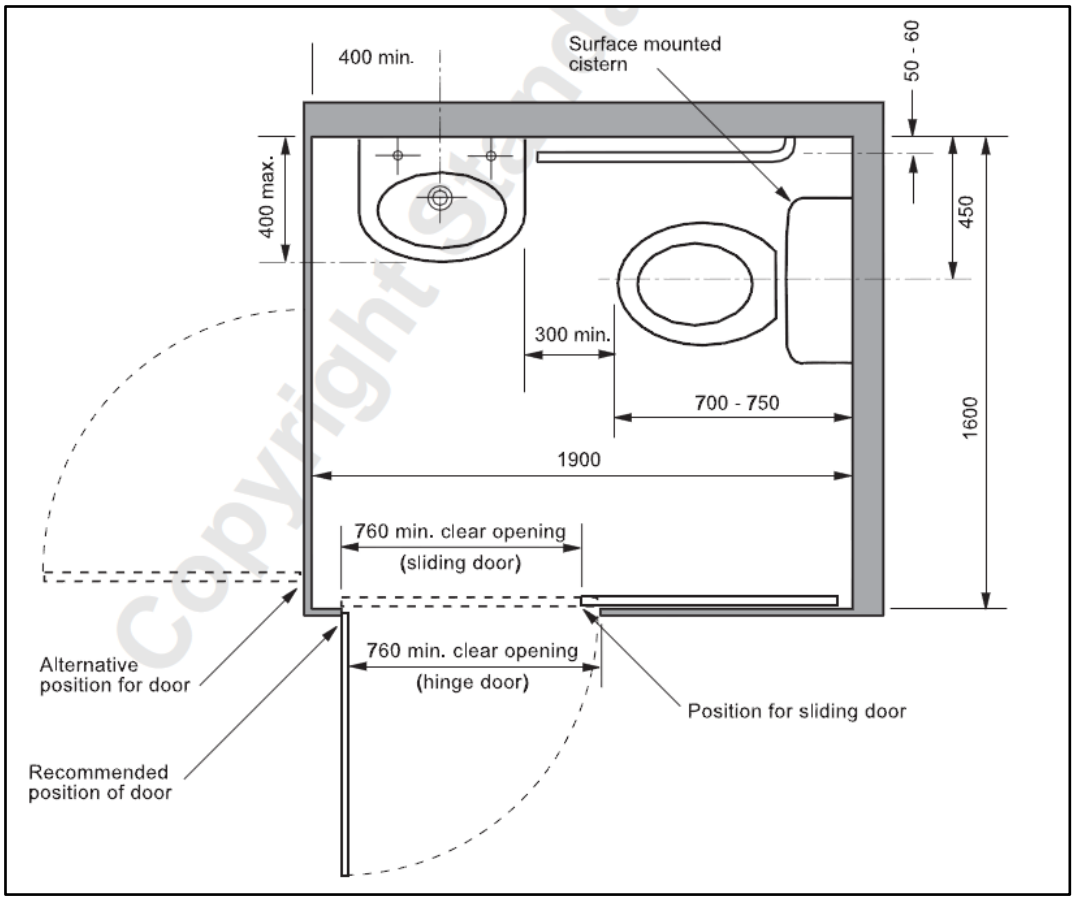
Numbers	At least the number of fixtures and facilities as per above requirements?	
Location	On accessible route(s)?	
	On the lowest level?	
	Located so access is not via an area restricted to one sex?	
	Located so access is not via a toilet facility for one gender only?	
	Located with each group of toilet facilities, where toilets are grouped at two more locations?	
Entry lobby	Where access to toilets is via an entry lobby, it provides at least 1200 x1200mm space clear of all door swings?	
Entry doors	Provided with a hinged, (760mm min clear opening, 810mm recommended generally, and 920mm minimum required for sport wheelchairs)) outward swung door? (Sliding door optional, but recommended) [9] The same clear opening widths as above apply.	
	Provided with horizontal grab rail, (900mm) above floor, fixed on outward swung door?	
	Provided with door hardware fixed at 1000mm above floor and: • for hinged doors, lever action with end of handle returned towards door surface? • for sliding door, handle has minimum 45mm clearance from door frame?	
	Provided with a kick-plate 300mm high from base of both sides of door?	

9) If an inward swung door is provided, the minimum required floor dimensions of the toilet unit need to be extended by at least 810mm in the direction of the doorway.

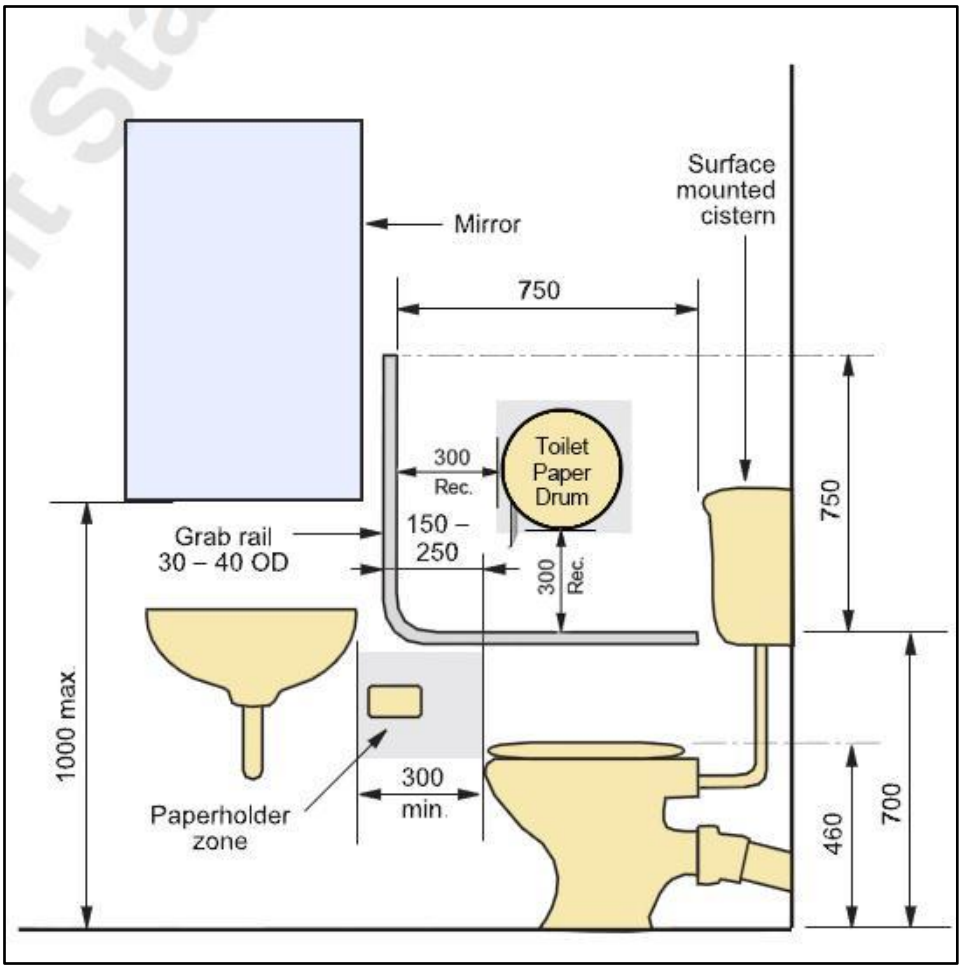
	Fitted with indicator bolt that: • is easily operated by those with reduce hand or arm strength (lever action recommended)? • can be opened from outside the door in an emergency?	
Floor space	At least 1900mm long x 1600mm wide and clear of any obstructions?	
WC pan	With centre of pan fixed 450mm from nearest side wall?	
	At least 850mm clear approach space to open side of pan?	
	With front of pan 700-750mm from back wall? [10]	
	Provided with clear space to the back wall on both sides of the pan?	
	Any wall-hung pan fixed on a false wall at least 1000mm high and extending 200mm max both sides of centre of pan? [11] (NZS4121:2001 Fig. 29).	
WC seat	With top of seat 460mm from floor?	
	Seat lid supported at back (10-15^0 beyond the vertical) by cistern, false wall or bracket?	
Support rail	Fitted with 750 x 750mm 'L-shaped' grab rail?	
	Fitted with horizontal leg of rail 700mm above floor?	
	Fitted with vertical leg 150-250mm from in front of pan?	
	Fitted with rail capable of sustaining the full weight of an adult at any point? (See NZS4121:2001 Appendix F7 for details.)	
	With diameter 30-40mm and finger clearance 50-60mm from wall?	
Washbasin	Provided with washbasin fixed 300mm from front of pan? (NZS4121 states 300 min, this is a misprint and 300mm should be a static dimension so that a person can reach the wash basin from the WC pan if required to clean up.)	
	Underside clearance of washbasin not less than 675mm from floor?	
	Any exposed hot water pipes are insulated or otherwise protected?	
	Top of washbasin 800-850mm above floor?	
	Front of washbasin 400mm max from back fixing wall? (300mm recommended.)	
	Centre of washbasin 400mm min from any return wall?	
	At least 750mm width and 1200mm depth clear frontal approach space?	

10) For WC pans longer than 750mm refer to http://www.dbh.govt.nz/codewords-issue-055
11) This ensures back support when seated on the pan.

Toilet and washbasin controls	With easily operable hand flush control within 500mm of the centre line of the pan on back wall and 600-1100mm above floor? Or: On side wall within 300mm of front edge of pan and 600-1100mm above floor? (NZS4121:2001 Fig. 32.)	
	Taps used for personal hygiene or washing utensils having lever action or capstan handles? (Single lever mix is best.)	
	Taps having mixed flow of water through central outlet?	
	Tap clearance of at least 50mm from back wall?	
	Water delivered at maximum 55^0 C?	
	Washbasin plug is physically attached to, or forms part of, the basin?	
Fixtures	With standard paper holder fixed within zone 300mm between front edge of pan and washbasin and 600-1100mm above floor? (NZS4121:2001 . 31.) Or: (Paper holder to be easily reachable from the pan.)	
	A Drum style toilet paper dispenser located inside the 'L-Shape' gab rail, set back 300mm from both the bottom and side rails?	
	With soap holders, hand driers, towel rails, shelving, etc., fixed 900-1200mm above floor and providing clear under manoeuvring space? (1000mm recommended.)	
	With waste sanitary receptacles reachable from WC pan? (Preferably on wall side of pan.)	
	With shelf for placing handbag, toiletries, etc.? (Desirable but not required.)	
	With bottom edge of mirror 1000mm above floor?	
Urinals	If urinal provided, then it has no step up to it?	
	A horizontal grab rail 1200mm above floor and outside diameter 30-40mm?	
	With any wall-hung urinal fixed 400mm from lower rim/lip of pan above floor?	
	With recommended change in floor surface texture, as a visual cue to its location?	
Signs	If complying with the above requirements, is an access symbol fixed 1400-1700mm above floor on outside of entry door to the cubical?	
Visibility factors	All toilets have illumination of at least 100 lux and all fixtures and fittings visually contrasted with their surroundings? (White walls and white hardware/fixtures is not acceptable.)	



NZS4121:2001 Fig. 27: Accessible toilet units.



NZS4121:2001 Fig. 31: Toilet unit fittings, positioning of grab rail and paper roll holder.
(Edited to include toilet paper drums' recommended location.)

More detailed requirements on toilet facilities can be found in:

- NZS4121:2001 Section 10.
- NZ Building Code Clauses D1.1 (c), D1.3.2 (c), G1.1 (c), G1.3.4, G12.1 (d) and G12.3.10.
- Acceptable Solutions/Compliance Documents G1/AS1 Sections 1.1.1, 1.1.5, 1.2.2, 4.0 and 6.1.1 and G12/AS1 Sections 6.13.1 and 8.0.

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20.0 SHOWERS

It is important that people with impairments have access to the same facilities as everyone else. NZS4121 states that where showers are provided for staff or public use, then a wet-area shower shall be provided for people with disabilities. If two or more shower cubicles are provided, at least one shall have a seat and controls of the opposite hand.

Numbers of showers required to be provided in accordance with the table below from Compliance Document G1/AS1 1.1.1:

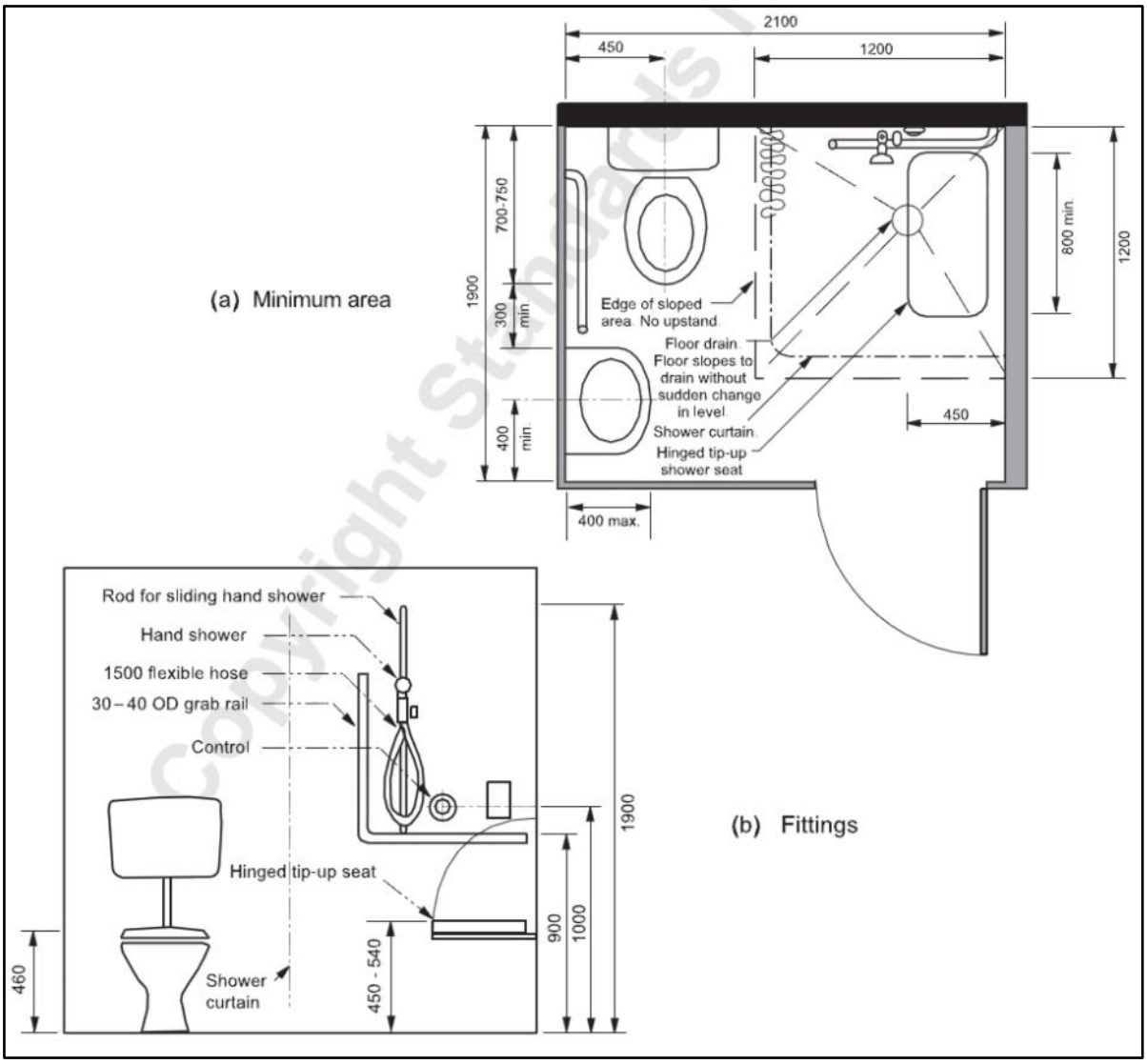
- Communal residential *(hospitals, old people's homes, community housing, specialist care facilities)*: needs based.
- Camping grounds, motor camps, caravan parks:
  One Unisex (all-gender) facility for up to 100 occupants
  Two Unisex (all-gender) facilities for 101–300 occupants
  Three Unisex (all-gender) facilities for more than 300 occupants.
- Communal non–residential: where showers are provided include at least one accessible shower compartment.
- Commercial: where showers are provided include at least one accessible shower compartment.
- Industrial: where showers are provided one accessible shower is required when more than 10 people are employed (for those workers engaged in dirty occupations).
- Hotels, hostels, motels, prisons, boarding houses: for each accessible unit one accessible shower.

Accessible facilities need not be in addition to those required for other building occupants. Accessible shower cubicles may be complete in themselves or be part of a combined accessible toilet/shower.

Do accessible showers have:

General	Correct number provided as per the above requirements? (Note: If standard shower facilities are provided then at least one accessible shower shall be provided next to these standard showers.)	
Location	Connection to accessible route(s)?	
Door	Refer to toilets section in this checklist.	
Floor space	Any lobby entry has at least 1200 x 1200mm space clear of all door swings?	
	Combined shower/toilet layout with minimum 1900mm (in direction of wc pan) x 2100mm?	
	Any shower only cubicle with shower space 100mm depth x 1200mm width and additional 1800 x 1800mm drying space? (This arrangement remains problematic; it is an inefficient use of space and not recommended.)	
	Drying space separate from shower (curtain recommended)?	

	Clothes hanging device 1200-1350mm above floor provided in drying space?	
Floor surface	Self-draining floor, sloping consistently (max 1:40) to the floor drain without any lip, step or abrupt change in level?	
	Impervious, floor covering of slip resistant material?	
Support rail	L-shaped grab rail (750mm horizontal and vertical legs) fitted?	
	Horizontal leg fixed 900mm above floor?	
	Rail and fixing wall capable of sustaining the full weight of an adult at any point? (See NZS4121:2001 Appendix F7 for detail.)	
	Rail diameter 30-40mm and finger clearance 50-60mm from wall?	
Controls	Lever control mixing valve (with anti-scald device)?	
	Mixing valve fixed 1000mm above floor and 600mm out from return wall?	
	Hand held shower with flexible hose 1500mm min length?	
	Shower head movable along slide rail from 1000mm to 1900mm above floor?	
	Slide rail firmly fixed to wall? (It may be used as an emergency grail rail.)	
	Water delivered at maximum 45^0 C (for care institutions) and 55^0 C (all other buildings)?	
	Recessed soap holder 1000mm above floor (can be attached to slide rail)?	
Shower seat	Hinged seat of slip-resistant material 800mm wide x 450mm deep and fixed 450-550mm above floor?	
	Securely fixed to wall to allow seat to fold up and down?	
	Correctly oriented to shower head, controls and grab rail?	
Signs and illumination	Showers complying with the above requirements, have an access symbol fixed 1400-1700mm above floor on outside of entry door?	
	All showers have illumination of at least 100 lux and all fixtures and fittings visually contrasted to a minimum of 30% luminance with their surroundings?	



NZS4121:2001 Fig. 35: Combined toilet and shower.

More detailed requirements on showers can be found in:

- NZS4121:2001 Section 10.5.11.
- NZ Building Code Clauses D1.1 (c), D1.3.2 (c), G1.1 (c), G1.3.4, G12.1 (d) and G12.3.10.
- Acceptable Solutions/Compliance Documents G1/AS1 Sections 1.1.1, 4.0 and G12/AS1 Sections 6.13.

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21.0 CONTROLS AND FITTINGS

The controls and fittings used within a building will directly affect how a person interacts with the environment; something as little as having a non-operable button on the accessible route could be a total barrier for a person with limited mobility.
This includes but is not limited to: *door closers, sink taps, swipe keys, fire alarms, light switches, window closers.*

It is good practice to design for all controls and fittings to be in accordance with accessibly requirements as these types of fitting benefit everyone.

Do controls and mechanisms installed on the accessible route and in usable spaces have:

General	All controls, mechanisms and hardware operable with one hand?	
	Door closers with minimum tension required to bring the door to a closed position? (Force required to push or pull a door open n greater than 38N for exterior hinged door and 22N for interior hinged/sliding.)	
	Wherever practicable, fire/smoke doors fitted with code compliant hold-open devices which are interconnected with the fire alarm system? (Recommended.)	
	All controls and fittings illuminated to least 100 lux and all fixtures and fittings visually contrasted with their surroundings? (White or cream controls on white or light grey walls are not acceptable.)	
	All controls with operating buttons that have positive movement when activated. Touch sensitive buttons should not be used.	
Light switches	Horizontally aligned with door handles?	
	Light and power switching mechanisms project clear of the face plate? (Recommended 20mm width.)	
Window controls	Reachable controls at 900-1200mm above floor? (1000mm recommended.)	
	Handles operating window controls with a lever action and end returned towards window?	
Electronic access	Control units (swipe card, keypad etc.,) with stable, firm, slip resistant, 1200x1200mm minimum level space immediately adjacent?	
	Installed 900–1200mm above floor? (1000mm optimum.)	
	Not less than 500mm from any internal corner?	
	Control adjacent to the door it services? (Recommended to be fixed on the latch side of the door within 200mm of the door frame.)	
	Sufficient time delay for door to be opened before the locking system re-activates?	
	No glare off any screen on the control mechanism?	

More detailed requirements on controls and fittings can be found in:

- NZS4121:2001 Section 4.11.
- NZ Building Code Clauses D1.1 (c), D1.3.4 (f), G9.1 (b) and G9.3.4.
- Acceptable Solutions/Compliance Documents D1/AS1 Section 7.0.5 and G9/AS1 Section 2.0.

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22.0 SURFACE FINISHES

Surface finishes apply not only to the ground surfaces, but also walls, ramps and stairs. Ideally they must provide a minimum level of slip resistance while minimising glare and utilising visual, tactile and audible cues to changes in the environment.

Pool surfaces have different requirements to those specified in the NZ Building Code; refer to the Sport NZ 'Guidelines for Aquatic Flooring Surfaces' for information on suitable aquatic flooring surfaces via this link.

Surface finishes:

General	Are all ground, floor, ramp and stair treads; stable, firm and slip resistant under normal environmental conditions?	
	Does slip resistance of all surface finishes meet requirements of the NZBC, D1/AS1-Table 2, e.g. brushed concrete finish on ramps?	
	Do the surface finishes make use of changes in colour and material, e.g. from concrete to timber, to provide visual, tactile and audible cues to changes in the environment?[12] (Avoid floor coverings with bold, complex or confusing patterns and those that can be mistaken for steps or depth changes.)	
	Do all hard reflective surfaces, e.g. glass, walls and doors, painted areas and screens) have finishes that reduce glare? (Matt finish is recommended for all painted areas.)	
	Does all lighting ensure maximum intensity of light at surface finish level for ground, stair, and signage surfaces?	
Exterior	Is paving fully sealed or butt jointed, with flat upper surface and un-tumbled (un-bevelled) edges? [13]	

More detailed requirements on surface finishes can be found in:

- NZS4121:2001 Sections 4.6 and 4.7.
- NZ Building Code Clauses D1 (c) and D1.3.3 (d).
- Acceptable Solution/Compliance Document D1/AS1 Section 2.1.
- NZS 3116:2002 - Concrete segmental and flagstone paving.

12) Avoid floor coverings with bold, complex and confusing patterns and those that can be mistaken for steps or depth changes

13) Paving that does not provide a consistently flush surface (e.g. pavers with un-tumbled edges) creates an uncomfortable and potentially hazardous vibration as it is negotiated by a wheelchair user.

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23.0 VISIBILITY FACTORS

Visibility factors refer to the environments areas and features ability to be differentiated from themselves. Spaces should be suitably lit, and use colour changes where there are corners or changes of level such as on stairs or the top and bottom of a ramp. Reflection should be minimised where possible and any glazing which could otherwise be mistaken as a path of travel will need manifestations (visual strip pattern) installed to minimise the risk of collision.

Signage is often overlooked in considering visibility factors, signage should be well illuminated at all times and may require that extra lighting be installed to accommodate for this.

Is the visual environment designed so as to maximise the usefulness of whatever level of vision a user may have:

Contrast	Are colour or texture changes introduced at corners, where there is a break in plane, at the junction of a stair tread and riser or where a ramped surface meets a level surface? (Luminance contrast of 30% minimum (to immediate background) is recommended under all lighting conditions for doors, signage, furnishings, controls, hardware, fixtures and fittings and obstacles adjacent to the accessible route.)	
Illumination	Do all natural and artificial lighting levels avoid glare and sudden, abrupt changes in intensity? (Diffused artificial lighting is recommended. Maximum utilisation of natural lighting also recommended.)	
	Do illumination levels satisfy NZBC G7, G8 and NZS 6703 Appendix B? (Recommended at least 100 lux minimum measured at ground, floor or stair tread level.)	
	Is reflection from polished surfaces (stairs, tiles, etc.,) minimised?	
Fixed glazing	Does any glazing capable of being mistaken for an unimpeded path of travel, have manifestations (visual marking strips) in accordance with NZS 4223, pt.3 section 303.1.2? (It is best practice to have the manifestations on doors be a different or notably darker shade to those on the other glazing, this helps vision impaired persons identify the entrance point much easier where limited other cues are provided.)	
Glazed doors	Do the moving edges of glazed doors have a contrasting strip to enable their easy identification?	
Signs	Are all signs and information boards on the accessible route well illuminated?[14]	

More detailed requirements on visibility factors can be found in:

- NZS4121:2001 Sections 4.10 and 7.3.2.
- NZS4223, pt.3 section 303.1.2.
- NZ Building Code Clauses D1 (c), F2 and G8.
- Acceptable Solution/Compliance Document G8/AS1 Section 1.03.
- Accessible signage guidelines - Royal New Zealand Foundation of the Blind 2010.

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13) Also refer to Royal New Zealand Foundation of the Blind *"Accessible signage guidelines."* and LTNZ RTS 14: *"Guidelines for facilities for blind and vision-impaired pedestrians".*

24.0 SIGNS

Signage assists all people, regardless of ability to navigate a building, space, or environment with confidence and independence. Signage must fulfil the below three requirements to be effective:

Informative: Advising about availability of facility or service.
Directional: Directing to a specific facility.
Locational: Identifying the place where the facility is provided.

The two accessibility symbols below are internationally recognised and should be used on signage to communicate that a specific feature is in fact accessible.

International Symbol of Access (ISA)

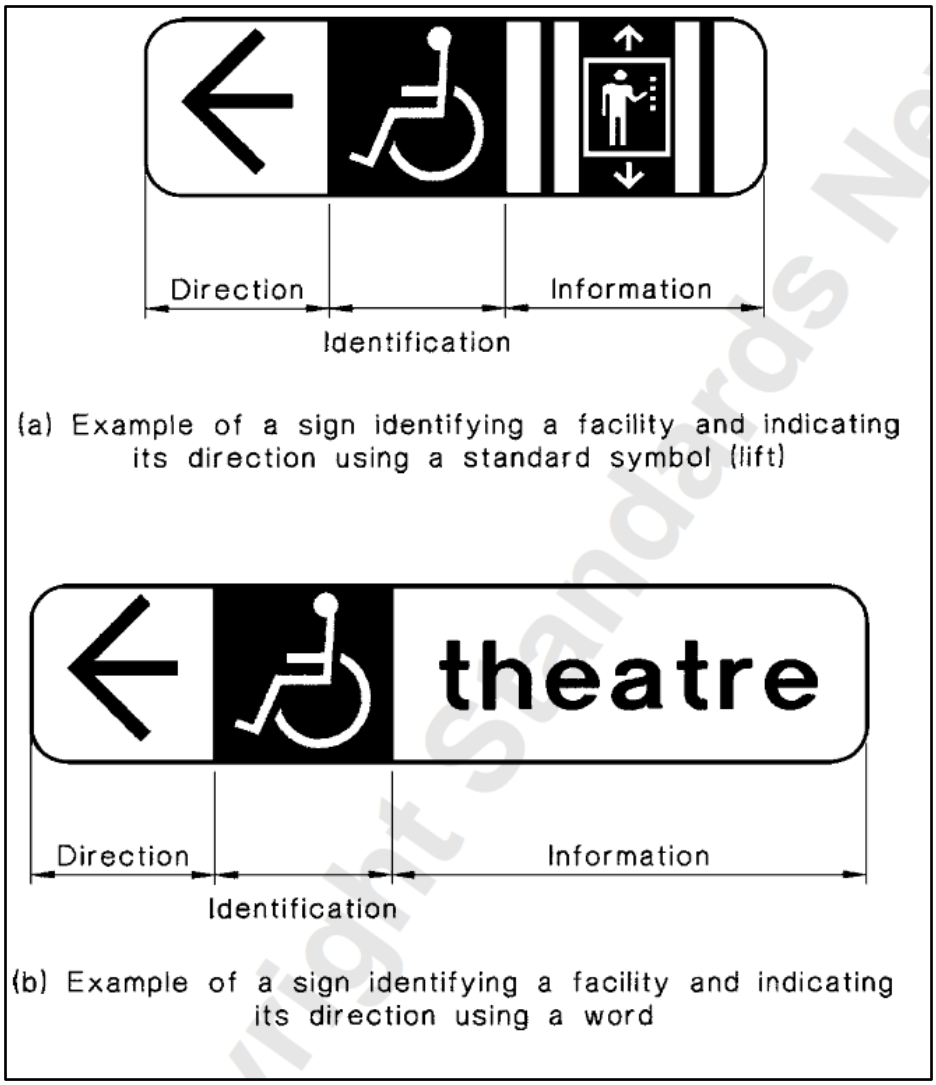
International Symbol of Deafness (ISD)

For additional detail on signs beyond that of NZS4121 or the building code refer to the Royal New Zealand Foundation of the Blind "*Accessible signage guidelines*".

Signage:

General	Are both the ISA and the ISD displayed with the correct proportional layout, lettering and colour contrast where applicable provisions have been made to warrant their display? (It is recommended signage also incorporates Braille[15].)	
	Are signs fixed 1400-1700mm above floor or ground level to bottom of sign plate?	
Car parking	Is the ISA marked on the surface finish of the accessible car parking space(s) provided?	
	If necessary, is ISA also displayed on wall or post?	
	If necessary, is ISA displayed to indicate direction to accessible entrance?	
Access routes	If necessary, is the ISA displayed to indicate an alternative accessible entrance?	
	If necessary are ISA signs displayed to indicate direction to lifts and accessible toilets?	
Doors	Is the ISA displayed on the entry door(s) to all accessible toilets?	
	Is the ISD displayed on the entry to any area which has a listening system installed? Also refer to 2.13 (b) Listening systems" earlier in the checklist	

15) For information on braille signage refer to the RNZFB 'Accessible Signage Guidelines' available free using this link



NZS4121:2001 Fig. 3: Examples of signs indicating a facility and its direction.

More detailed requirements on signs can be found in:

- NZS4121:2001 Section 4.8 and Appendix E.
- NZ Building Code Clauses D1 (c), D1.3.6 (c), F8.1 (c), F8.2 (d), F8.3.4 and G5.3.6.
- Acceptable Solutions/Compliance Documents D1/AS1 1.1.1 and F8/AS1 Section 5.0.
- Royal New Zealand Foundation of the Blind “Accessible Signage Guidelines”.

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25.0 ALERTING DEVICES

Accessible alerting devices are critical within buildings and facilities to ensure the life safety of all people, regardless of ability.

For example audible warning systems should also incorporate visual alerting devices such as flashing lights along the accessible route and in the toilet areas; a person who is deaf would be otherwise unaware that the alarm was sounding. Additionally the reverse also applies where visual alerting devices should also incorporate audible warnings for the visually impaired.

A common misconception is that only the designated accessible facilities need the visual alerting device, this is not a pragmatic solution however as a deaf person may be able bodied and prefer to use the standard facilities and areas within a building or environment.

Do the alerting devices and systems:

Fire alarms	Have an audible and visual (flashing) alerting device?	
General	Have alerting devices installed on accessible route(s)?	

More detailed requirements on alerting devices can be found in:

- NZS4121:2001 Sections 4.12, 14.6.6 and 14.7.1.
- NZ Building Code Clauses F7.1 and F7.2.
- Acceptable Solution/Compliance Document F7/AS1 Section 2.1.1 (c).

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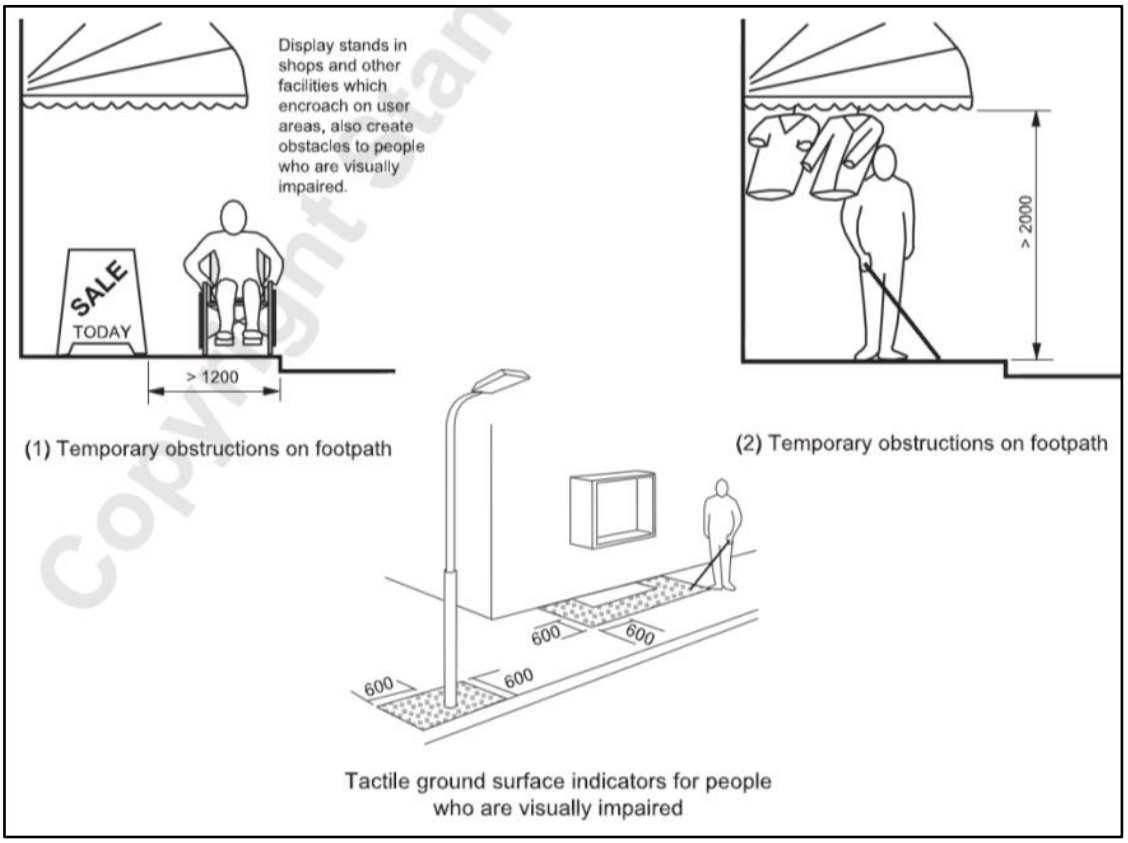
26.0 OUTDOOR HAZARDS

Public spaces should provide at least one accessible path of travel through them. This route should be free of obstructions and projects (such as columns, sandwich boards, light poles, chains and isolated steps) and maintain as gentle or level gradient as possible. **Where outdoor hazards are present are they:**		
General	Being isolated using barriers, up stands, or tactile differentiation? (For example a sculpture which overhangs into a public space could have loose metal garden under all its extents, this would stop a vision impaired or blind person from walking to close under an overhang and injuring themselves.)	



NZS4121:2001 Fig. 41: Outdoor hazards.

More detailed outdoor hazard requirements can be found in:

- NZS4121:2001 Section 13.
- NZTA RTS14 Guidelines for facilities for blind and vision-impaired pedestrians.

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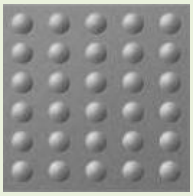
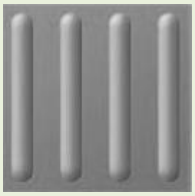
27.0 TGSI - GENERAL

Tactile Ground Surface Indicators (TGSIs) are needed at transition points of the accessible route. They are important in enabling a blind person to navigate in the correct direction where no other indication of travel direction is available, and also identify points of interest/danger.



A warning indicator is a textured surface feature consisting of truncated domes built into or applied to walking surfaces to warn blind and vision-impaired people of a nearby hazard. Warning indicators are intended to function much like a stop sign. They alert pedestrians who are blind or vision-impaired to hazards in their line of travel, indicating that they should stop to determine the nature of the hazard before proceeding further. They do not indicate what the hazard will be.



A directional indicator is a textured surface feature consisting of directional grooves built into or applied to walking surfaces to give directional orientation to blind and vision-impaired people. Directional indicators are used to provide directional guidance where a person must deviate from the continuous accessible path of travel to gain access to road crossing points, transport access points, significant public facilities such as public toilets or information buildings. Where other environmental cues are insufficient they are also used across open spaces, or around obstacles.

Safety yellow is the recommended standard colour for TGSI. Approval to use an alternative colour should be sought from the local branch of the RNZFB.

Are Tactile Ground Surface Indicators:

General	Detailed with the colour as 'safety yellow'?	
	Have the TGSIs been correctly configured with regard to 'direction' and 'warning' tiles?	
Directional indicators	Directional indicators have been used to provide directional guidance where a person must deviate from the continuous accessible path of travel to gain access to: • a road crossing point • public transport access point • significant public facility, e.g. public toilets or information centre.	
	Where other environment cues are insufficient, have directional indicators been used to provide directional guidance across open space from one point to another, or around obstacles in the continuous accessible path of travel (where warning tiles are not sufficient)?	

Warning indicators	Warning indicators have been installed to inform blind and vision-impaired people of: • life threatening hazards where serious falls may occur, wuch as at railway platforms or wharves • all pedestrian kerb crossing points (both formal and informal), paths cut through medians, and other places where the footpath is not separated from the roadway by an abrupt change of grade of at least 12.5% (1:8) or with a vertical kerb more than 70mm high • approaches to stairways, ramps, escalators and moving walkways (Section 4.13) • the presence of level railway crossings (Section 4.11) • overhead impediments or hazards other than doorways, e.g. wall-mounted objects and archway structures, with a clearance of less than 2m from ground level • in an accessible open public space with no clearly defined continuous accessible path of travel • vehicle hazards at busy vehicle crossing points such as shopping centres, bus stations and large public car parks, where other design solutions are not appropriate (Section 4.12) • street furniture inappropriately located in the continuous accessible path of travel and not detectable by a vision-impaired person using the aid of a white cane.	

More detailed information on TGI's can be found in:

- AS/NZS 1428.4: 2002 Section 2 (detailed specifications).
- NZTA NZTA RTS14 (detailed specifications and diagrams around the installation detail).

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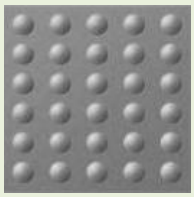
28.0 TGSI – WARNING INDICATOR INSTALLATION PRINCIPLES

A warning indicator is a textured surface feature consisting of truncated domes built into or applied to walking surfaces to warn blind and vision-impaired people of a nearby hazard. Warning indicators are intended to function much like a stop sign. They alert pedestrians who are blind or vision-impaired to hazards in their line of travel, indicating that they should stop to determine the nature of the hazard before proceeding further. They do not indicate what the hazard will be.



Warning indicators shall be installed:

General	Across the full width of all pedestrian kerb crossings (excluding haunchings), paths cut through medians, stairs and escalators, to ensure that all blind and vision-impaired people using these facilities encounter the warning indicators. In all other situations, warning indicators must have a minimum width of 900mm.	
Warning indicators	With the front and back edges perpendicular to the crossing direction to enable blind and vision-impaired people to align themselves correctly.	
	So that the domes are aligned with the direct line of travel across the road.	
	So that the front edge of the warning indicator is no closer than 300mm from the edge of the hazard, except at railway platforms or wharves where the setback from the hazard must be a minimum of 600mm.	
	So that the front edge of the warning indicator is no further than 1000mm from the edge of the hazard, or to a point where a pedestrian could inadvertently bypass the warning indicator and enter the hazard (whichever is closer).	
	To a recommended depth of 600mm and up to 900mm where additional warning is considered necessary. (This depth is required to prevent a pedestrian from inadvertently stepping over the TGSI.)	
	To within 300mm of the base of traffic signals so that pedestrians can stand on the warning indicators when using ATTS.	
	So that the base of the warning indicators are flush or slightly lower (up to 3mm) than the surrounding footpath surface.	

More detailed information on TGI's can be found in:

- AS/NZS 1428.4: 2002 Section 2 (detailed specifications).
- NZTA NZTA RTS14 (detailed specifications and diagrams around the installation detail).

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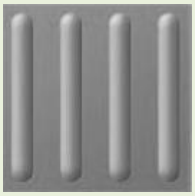
29.0 TGSI – DIRECTIONAL INDICATOR INSTALLATION PRINCIPLES

A directional indicator is a textured surface feature consisting of directional grooves built into or applied to walking surfaces to give directional orientation to blind and vision-impaired people. Directional indicators are used to provide directional guidance where a person must deviate from the continuous accessible path of travel to gain access to road crossing points, transport access points, significant public facilities such as public toilets or information buildings. Where other environmental cues are insufficient they are also used across open spaces, or around obstacles.

Where used to provide direction guidance all the way to kerb ramps, directional indicators should terminate at the top of the ramp.



Directional indicators shall be installed:

Directional indicators	In conjunction with warning indicators where a road crossing point is not located in the continuous accessible path of travel and directional guidance is required.	
	In conjunction with warning indicators at public transport access points.	
	Parallel with and along the centreline of the required direction of travel.	
	With a minimum depth of 300mm where used to indicate the normal continuous accessible path of travel.	
	Across the full width of the path, with a minimum depth of 600mm to indicate a change in direction of the continuous accessible path of travel, such as the location of a mid-block road crossing point or access to public transport or where pedestrians will approach it at an angle.	
	With a minimum length of 1000mm so that blind and vision-impaired people can readily orientate themselves.	
	Where directional indicators are used to provide directional guidance to a signalised kerb crossing point, the directional indicators should lead the person to the push-button end of the warning indicators so as to allow the pedestrian to readily find the push-button.	
	Where used to provide direction guidance all the way to kerb ramps, directional indicators should terminate at the top of the ramp.	

More detailed information on TGI's can be found in:

- AS/NZS 1428.4: 2002 Section 2 (detailed specifications).
- NZTA NZTA RTS14 (detailed specifications and diagrams around the installation detail).

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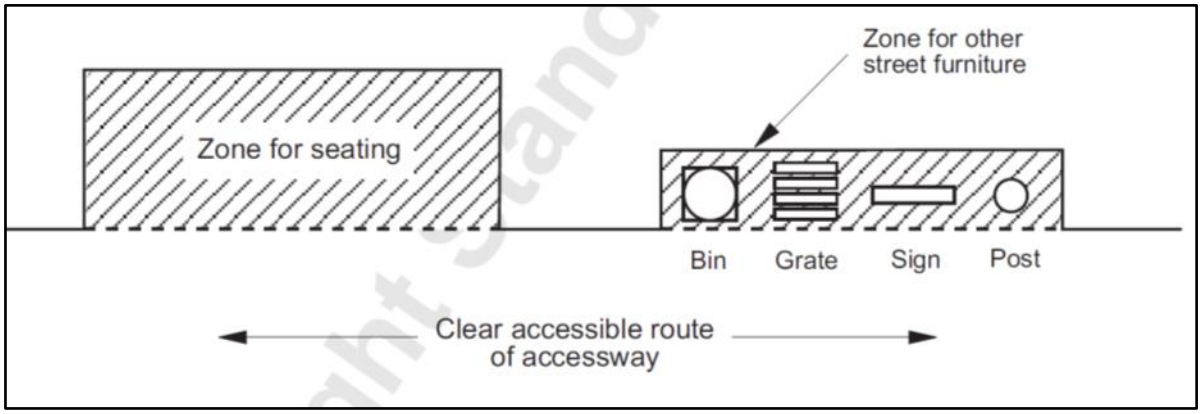
30.0 FURNITURE - PLACEMENT (GENERAL)

It is crucial to locate furniture cautiously as it can create severe problems for people with sight impairment as well as causing complications for people with pushchairs and wheelchairs. Used correctly, furniture can create interest and give visual clues to aid location.

Furniture such as seats, tables, drinking fountains, planter boxes, rubbish bins and the like shall not protrude into the accessible path of travel or be a colour which is non-contrasting to its background.

Is the furniture:

General	Not protruding into the accessible path of travel? (Seats shall be a minimum of 500mm away from the path of travel.)	
	Of a contrasting colour to its background?	



NZS4121:2001 Fig. 49: Example of position of street furniture.

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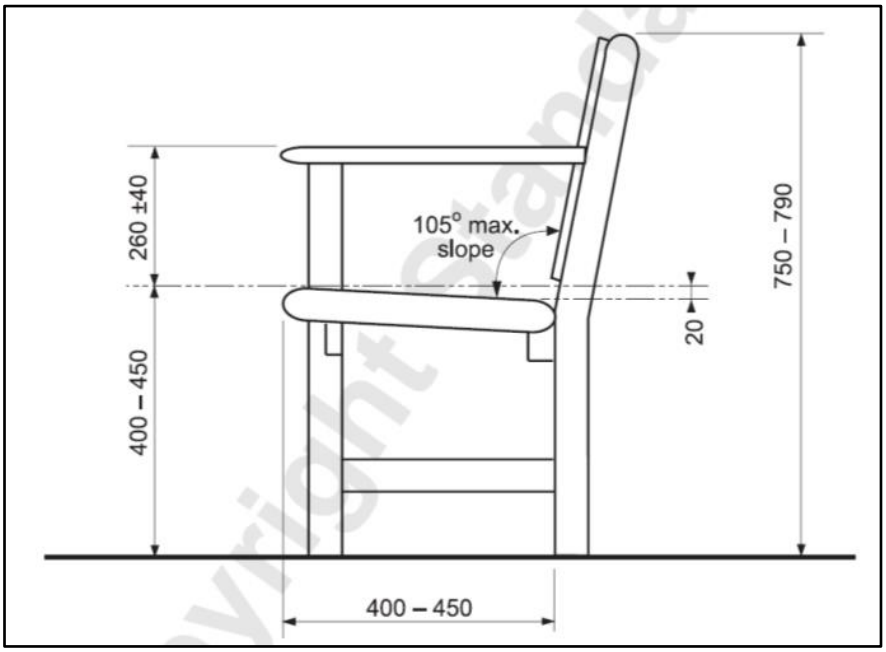
31.0 FURNITURE - SEATING

Public seating needs to be installed consistently throughout the accessible route, particularly in areas where it is likely people will congregate such as around a pool, open spaces, fountains etc. Seating must offer back supports and arm rests to assist persons with limited mobility and the elderly to use the seat independently. **Is public seating:**		
General	In accordance with the requirements detailed by Fig. 50 of NZS4121? (Fig. 50 below.)	
	Placed in a consistent manner along the accessible route and in likely congregation zones such as statures, exhibits or memorials.	
	Not protruding into the accessible path of travel? (Seats shall be a minimum of 500mm away from the path of travel.)	
	Of a contrasting colour to its background?	



NZS4121:2001 Fig. 50: Typical park bench seating.

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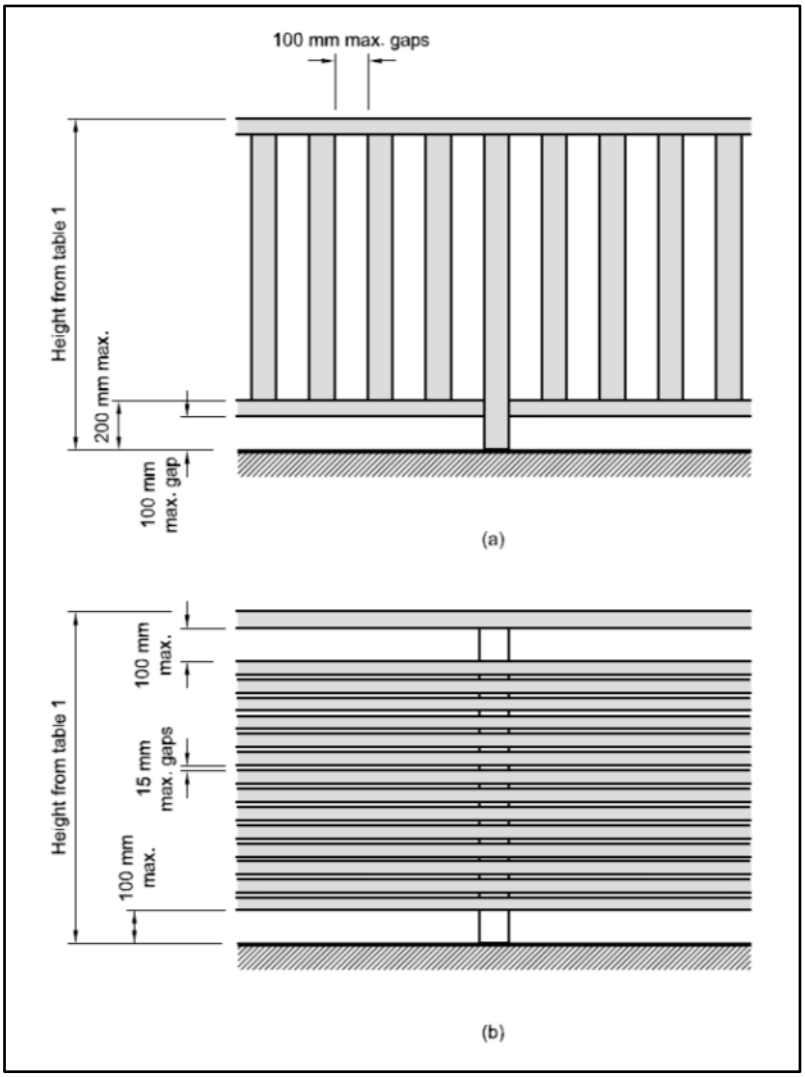
32.0 BARRIERS

Wherever there is a possibility of falling more than 1m or more a barrier shall be provided. Given that any public facility or environment is likely to be frequented by children it would be prudent to use only the child safe barrier designs and regulations from the NZBC Section F4/AS1. **Are barriers:**		
General	Installed at all locations where there is a possibility of falling 1m or more?	
	In accordance with the barrier details from NZBC F4/AS1?	
	Of a contrasting colour to its background?	



NZBC F4/AS1 Fig. 2: Barriers in areas likely to be frequented by children under 6 years of age.
(Note: other details/options are available; refer to NZBC F4/AS1 for more details.)

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33.0 LAWN AREAS

Wherever lawn areas are provided they should be level where possible, and provide at least one point of accessible entry. The surface of the lawn should be firm, and able to sustain the weight of a wheelchair user without sinking during the dry seasons. **Are lawn areas:**		
General	Level where reasonably practicable?	
	Surfaces designed to maintain firmness under normal conditions?	
	Provided with an accessible entry point to each lawn area, connecting it to the accessible route?	

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34.0 PEDESTRIAN/CYCLIST INTERSECTIONS

Wherever cycle paths and pedestrian routes intercept they shall be clearly defined both with visual and tactile cues. Intersections must give priority to the pedestrian, and signage to inform cyclists of this should be in place. **Do intersections between cycle paths and pedestrian routes:**		
General	Have definition by way of contrasting colours?	
	Have tactile indicators to inform users who may be vision impaired of the intersection?	
	Have signage for both pedestrians and cyclists present?	

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35.0 TERRACED LAWNS

Wherever terraced lawn areas are provided these terraces should be level where possible, and provided with at least one point of accessible entry to each terrace. The surface of the lawn should be firm, and able to sustain the weight of a wheelchair user without sinking during the dry seasons, with each terraces edges clearly defined by a contrasting change of colour and tactile cues.

Where terraces are not designed with an accessible entry to them it creates a barrier to inclusion, examples of this are present on the Wellington waterfront and was subject to much backlash from the wheelchair community after construction.

Are lawn areas:

General	Are lawn areas level where reasonably practicable?	
	Is the surface designed to maintain firmness under normal conditions?	
	Is there an accessible entry point to each lawn terrace, which is also connected to the accessible route?	

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36.0 PEDESTRIAN/VEHICLE SHARED SPACE

Where vehicles can freely pass through shared space it is critical that the path of travel taken by the vehicle is made very clear to all people, regardless of their ability through use of signage, contrasting materials, tactile differentiation, and possibly even barriers or up stands.

It is suggested that an 'accessible zone' be provided down the far edges of both sides of any shared space area, which provides a dedicated pedestrian space for those people who want a more defined and definite separation from vehicles, e.g. those with disabilities, small children and window shoppers.

Does pedestrian and vehicle shared space:

General	Use a visually contrasting surface to that of the surrounding environment?	
	Have tactile and visual cues each side of the vehicle route?	
	A level surface which is slip resistant under normal usage conditions?	
	Have appropriate signage for both pedestrians and traffic indicating the vehicles route?	
	Have an 'accessible zone' down the far edges of both sides of the space, which provides a dedicated pedestrian area for those people who want a more defined and definite separation from vehicles, e.g. those with disabilities, small children and window shoppers?	

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37.0 VIEWING PLATFORMS/LOOKOUTS

Whenever a viewing platform is provided, reasonable and adequate access for persons with disabilities must be provided. This includes any area of the platform that could be expected to be used while a person is undertaking normal process and activities there.

The purpose of a viewing platform is to provide a vista for the user to observe, the barriers and platform itself should be designed with this in mind, noting the a wheelchair users vantage point is generally lower than an able bodied persons.

There have been many determinations around viewing platforms, and the conclusion has been that they are a building structure and as such must provide reasonable and adequate provision by way of access for person with disabilities.

Do viewing platforms:

General	Give access to any areas of the platform which could be expected to be used while a person is undertaking normal process and activities there?	
	Have a surface designed to be slip resistant under normal conditions?	
	Have an accessible entry point to the platform, which is also connected to the accessible route?	
	Have a barrier anywhere where there is a drop of more than 1m?	
	On edges where the drop is less than 1m and is not intended as a path of travel has 75mm up stand been specified?	
	Where barriers are present, allow for a person with a lower sight line to experience the vista?	

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38.0 PLAYGROUNDS

Playgrounds that are accessible provide comparable opportunities for children of varying abilities. This does not mean that each and every feature of playground has to be usable by any one of a number of impairment groups; rather it means comparable experiences must be presented. For example, if a playground offered play experiences like swinging, sliding, and climbing then the same, or comparable experiences should be provided for all – These experiences should not be isolated from the rest of the playground.

A playground must not be solely accessible for children; it must also be accessible for adults with impairments as well. School teachers, support persons, parents, or even grandparents at the playground who may have impairments will need to access different elements of the play area, should children using the playground need first aid, assistance or supervision.

Above all, a fully accessible play environment will allow for social integration. Playgrounds which are inaccessible will have barriers that exclude children and adults with impairments from participation.

Do playgrounds have:

General	Accessible routes around and to equipment?	
	Comparable opportunities for children of varying abilities?	
	Have surfaces which are firm, stable and slip resistant under normal usage conditions?	
	Have informative, locational and directional signage? (It is recommended signage also incorporates Braille[16].)	
	Seating for members of the public that complies with the 'seating' section of this checklist?	
	Equipment usable by a range of different abilities?	

16) For information on braille signage refer to the RNZFB 'Accessible Signage Guidelines' available free using this link.

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39.0 SWIMMING POOLS

Swimming pools are specialist facilities where the disability requirements of the Building Act 2004 need attention additional to their general accessibility requirements. Reasons for this include:

- The nature of a swimming pool, where significant volumes of people, particularly children have to be moved quickly and easily means that thoroughfares and doorways should provide clearances in excess of minimum access requirements and all signage, lighting and surface finishes (walls and floor) enhance way-finding.
- The slippery condition of most thoroughfare surfaces means that surface finishes require specific attention and that changes in level (steps) should be avoided.

Providing access into a pool is best achieved by permanently ramped access. This best meets the 'unaided' requirement of the accessible route definition. Hoist facilities reduce the level of physical independence of the user and require management assistance and expertise to operate, however it is noted that a hoist may be the only way some people with limited ability are able to enter the water and as such ideally both ramped and hoist access should be provided.

Wheel chairs that can be borrowed by patrons should be provided where a means of wheelchair access into the pool is provided as everyday wheelchairs cannot enter the water.

Swimming pools:

General	Are the minimum general requirements for an accessible route from throughout this design guide and checklist complied with? Additional, recommended requirements are identified below.	
Surface finishes	Do all thoroughfares provide non-slip surface finishes that ensure any surface water is drained away, while still meeting the requirements of the Sport NZ 'Guidelines for Aquatic Flooring Surfaces'? Refer to link.	
Signs	Is a consistent coherent way-finding system provided? Recommended use of plain language and pictograms.	
Visibility factors	Do all thoroughfares, changing facilities and the pool edges themselves use visibility contrast to highlight locations?	
	Are tactile indicators used to identify the edges of the pool?	
Access to all pools	Is there ramped entry provided to all pools including the main pool?	
Hoists	If a hoist is necessary for entry to the pool is it readily available for use whenever it is required? Are staff skilled in the operation of the hoist and available to assist with its use whenever required?	

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40.0 POOL ACCESSIBLE STAIRS

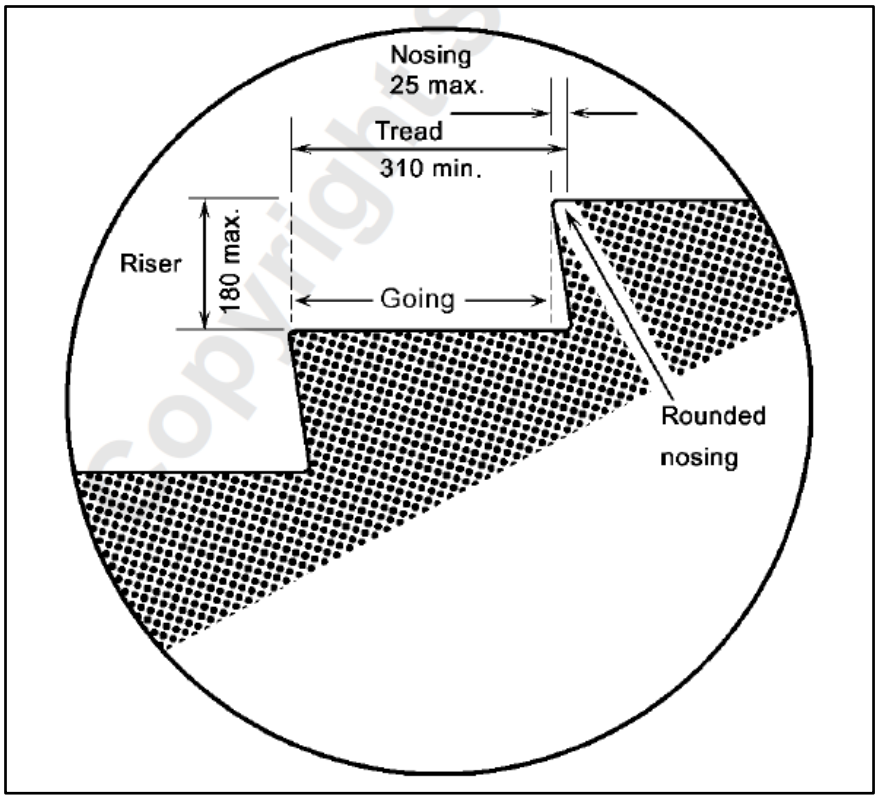
Accessible pool stairs are designed to provide assistance to individuals with disabilities who are ambulatory with balance and support from a standing position when moving from the pool deck into the water and out.

The requirements for accessible pool stairs are the same as standard accessible stairs, including the provision of a handrail on both sides.

Do the accessible pool stairs:

	Change in surface treatment with strong colour contrast provided at head and foot of any flight of steps? (Refer NZS4121:2001 Fig. 22 [17].)	
	Width between handrails is not less than 900mm?	
	Are all stairs well illuminated?	
Risers	Uniform height over each flight?	
	Maximum 180mm height?	
	Top riser 300mm back from any return wall?	
	Bottom riser 300mm plus depth of tread back from any return wall?	
	Risers are closed, and not open?	
Treads	Uniform depth over each flight?	
	Minimum 310mm depth?	
	Slip resistant and stable surface?	
Nosings	All nosings rounded? (No sharp or abrupt angle to prevent foot sliding up step.)	
	Project no more than 25mm into the tread depth? (50mm is recommended for visibility nosing strips.)	
	Strong colour contrast with rest of stair?	

17) AS/NZS 1428.4:2009 *"Means to assist the orientation of people with visual impairment - tactile ground surface indicators"* recommends tactile ground surface indicators be used at bottom and top of all stairs and ramps.



NZS4121:2001 Fig. 25: Accessible stair profile.

More detailed requirements on stairs can be found in:

- NZS4121:2001 Sections 8.1, 8.2.
- NZ Building Code Clauses D1.1 (c), D1.3.2, D1.3.3 and D1.3.4 (g) and (h).
- Acceptable Solution/Compliance Document D1/AS1 Section 4.

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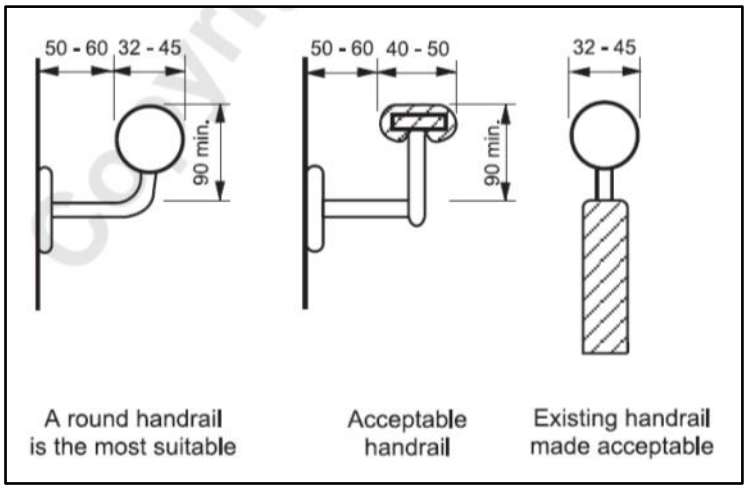
41.0 POOL ACCESSIBLE STAIR HANDRAILS

Handrails provide support to users who may not have good balance or sufficient strength to otherwise navigate the stairs; they also provide a rigid object to grasp on should a user have a trip slip or fall.

Handrails should be on both sides of a stair so as not to exclude use by persons who may only have the use of one side of their body.

Are all accessible stair handrails:

General	Provided on both sides of the stair?	
	Rigidly fixed to support the full weight of a person? (NZS4121:2001 Appendix F.)	
	Also provided in centre of a stair when stair width is 4000mm or more?	
Profile, dimensions and visibility	Graspable along full length? (Horizontal planks not adequate, refer to below profiles from NZS4121:2001, Fig. F1.)	
	Not obstructive to the passage of the hand along the rail?	
	32-45mm diameter rounded profile, or 40-50mm if it is a flat profile? (Recommended 38mm rounded profile, 40mm flat profile.)	
	Fixed 900-1000mm above and parallel to the pitch line of the nosings?	
	50-60mm minimum clear hand space from any adjacent vertical wall? (60mm recommended.)	
	100mm minimum clear hand space below any 'over-hanging' structure (wall)?	
	Turned down 100mm or fully returned at ends of extensions?	
	Fitted with domed button 150mm from both ends of handrail?	
	Contrasted visually with the background to which they are fixed?	
Landings	Continuous around landings?	
	Projected no more than depth of tread into landings?	
	Extended 300mm past the top riser of the stair?	
	Extended 300mm, plus the depth of a tread, past the bottom riser of the stair?	



NZS4121:2001 Fig. F1: Handrails.

More detailed requirements on stair handrails can be found in:

- NZS4121:2001 Section 8.6 and Appendix F.
- NZ Building Code Clauses D1.1 (c), D1.3.2, D1.3.3 (j) and (k) and D1.3.4 (i).
- Acceptable Solution/Compliance Document D1/AS1 Section 6.

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42.0 POOL ACCESSIBLE RAMPS

The best means of meeting the 'unaided' requirement of the accessible route definition is to have permanent ramped access into pools.

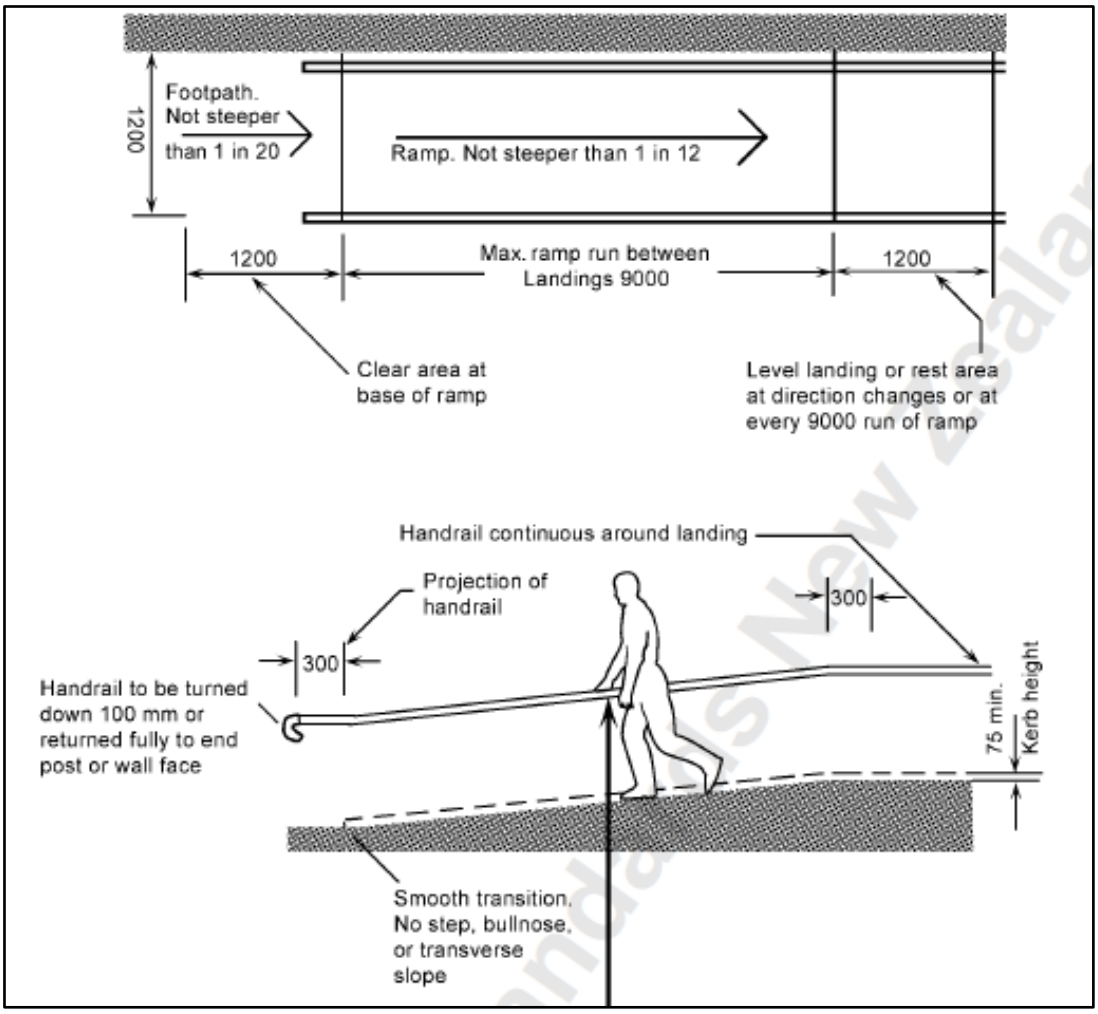
Hoist facilities reduce the level of physical independence of the user and require management assistance and expertise to operate. Hoists are not acceptable as the only means of access into a pool for a new build although a hoist may be the only way some people with limited ability are able to enter the water - and as such ideally both ramped and hoist access should be provided.

Wheel chairs that can be borrowed by patrons should be provided where a means of wheelchair access into the pool is provided as everyday wheelchairs cannot enter the water.

Are ramps:

Dimensions	Is a ramp is provided in accordance with the general requirements detailed in NZS4121:2001 Fig. 13. The ramp shall lead from the poolside into the pool at a slope of 1:12 down to a water depth of 1200mm (or the depth of the shallow end), with a 1200 x 1200mm minimum level landing at the top and bottom.	
	A 1200mm x 1200mm (minimum) level approach landing area, which is free of obstructions at the top and bottom?	
	Minimum clear width of 1200mm?	
	A level, 1200mm (minimum) long landing/rest area for every nine metres of horizontal run, which is free of obstructions?	
Gradients	Longitudinal gradient no steeper than 1:12? (The AUS standards recommend a gradient no steeper than 1:14, where achievable it is recommended that ramps are made at as gentle angle as possible.)	
	A transverse/crossfall gradient no steeper than 1:50?	
	Consistent 'plane' surfaces, i.e. no multiple slopes?	
Surface	Clearly visible approach and tactile distinction from the poolside, at top and bottom transitions of the ramp? [18]	
	Is an up-stand that's 75mm high present on the side edges of the ramp surface (or a low rail) where there is any drop-off?	
	Slip resistant surface? (Refer to the Sport NZ 'Guidelines for Aquatic Flooring Surfaces' for information on suitable aquatic flooring surfaces. Refer link.)	
	A transverse/crossfall gradient no steeper than 1:50?	
	Consistent 'plane' surfaces, i.e. no multiple slopes?	
	Ramp and landing surfaces well illuminated at all times? (Minimum of 100lux at top. Avoid unfiltered/non-diffused light sources.)	

18) AS/NZS 1428.4:2009 *"Tactile ground surface indicators for the orientation of people with visual impairment"* recommends tactile ground surface indicators be used at bottom and top of all ramps and stairs.



NZS4121:2001 Fig. 13: Footpath and ramp handrails.

More detailed requirements on footpaths, ramps, landings and handrails can be found in:

- NZS4121:2001 Section 6.
- NZ Building Code Clauses D1.1 (c), D1.3.2 (d), D1.3.3 (j) and (k) and D1.3.4 (l).
- Acceptable Solution/Compliance Document D1/AS1 Sections 1, 2, 3 and 6.

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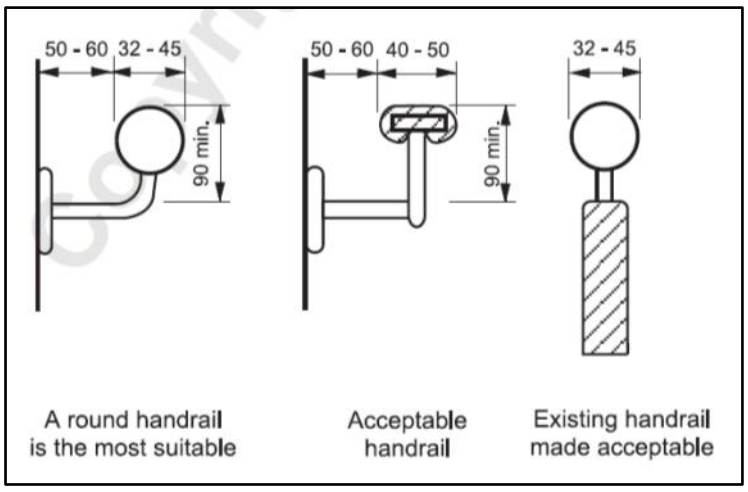
43.0 POOL ACCESSIBLE RAMP HANDRAILS

Handrails provide support to users who may not have good balance or sufficient strength to otherwise navigate a ramp, they also provide a rigid object to grasp on should a user have a trip slip or fall. Handrails should be on both sides of a ramp so as not to exclude use by persons who may only have the use of one side of their body.

Are handrails on ramps and their landings on accessible routes:

Fixing	Rigidly fixed to support the full weight of a person? (NZS4121:2001 Appendix F.)	
	Provided on both sides of any accessible route with longitudinal gradient steeper than 1:20?	
Profile and dimensions	Continuous on both sides around landings?	
	Graspable along full length? (Horizontal planks not adequate, refer to below profiles from NZS4121:2001, Fig. F1.)	
	Not obstructive to the passage of the hand along the rail?	
	32-45mm diameter rounded profile, or 40-50mm if it is a flat profile? (Recommended 38mm rounded profile, 40mm flat profile.)	
	Fixed 840-1000mm above, and parallel to ramp surface? (900mm recommended.)	
	50-60mm minimum clear hand space from any adjacent vertical wall? (60mm recommended).)	
	100mm minimum clear hand space below any 'over-hanging' structure (wall)?	
	Extended 300mm past the top and bottom transitions of ramp?	
	Turned down 100mm or fully returned at ends of extensions?	
	Fitted with domed button 150mm from both ends of handrail?	
	Contrasted visually with the background to which they are fixed?	



NZS4121:2001 Fig. F1: Handrails.

More detailed requirements on footpaths, ramps, landings and handrails can be found in:

- NZS4121:2001 Section 6.
- NZ Building Code Clauses D1.1 (c), D1.3.2 (d), D1.3.3 (j) and (k) and D1.3.4 (l).
- Acceptable Solution/Compliance Document D1/AS1 Sections 1, 2, 3 and 6.

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44.0 CHANGING ROOMS

Changing rooms must be provided in such a manner that they provide equal access and usability to all users regardless of their ability. Changing rooms should be designed using the relevant guidance within this design guide in addition to the below specific requirements.

Generally, unisex accessible changing facilities should be provided in addition to other accessible provisions to accommodate for persons who may have support persons of a different gender and for children who require parental assistance.

Where wet areas are to be included within changing rooms give consideration to placement of the facilities so as to minimise water splash onto surfaces that are preferred to be dry, and the toilet pan.

Additionally to other requirements in this guide are the changing rooms:

General	Provided on an accessible route?	
	Is there sufficient unisex accessible changing provision?	
	Do changing room facilities provide a recommended 4500mm x 4250mm minimum separate space to allow for dignity and privacy when changing? [19]	
	Are seating/benches provided, and set at a height range between 450-550mm? (500mm is suitable for a wide range of users including the able bodied and persons with disabilities.)	
	Are alternate coat hooks positioned 1050 and 1400mm above floor level?	
	Are the floor surfaces used suitably nonslip for a wet area?	
	Are changing beds provided? (Ideally these will be of adjustable height.)	
	Are ceiling hoists that are fit for purpose provided?	
Layout	Does the layout of the changing area allow sufficient space for a wheelchair user to move freely without obstructing other users?	
	Can the changing area accommodate a team of athletes in wheelchairs?	
	Is there direct access from the changing area to the shower area?	
	Is there suitable WC provision in close proximity?	
	Is there an industrial strength shelf near the toilet area for use by people with catheters? As they need to remain sterile for hygiene purposes. (This is best practice to include.)	
Lockers	Are there sufficient lockers?	
	Are at least 10% of the lockers 1200mm high?	
	Do locks and lockers incorporate tactile numbers?	
	Are the locks no higher than 1150 mm and easy to use?	

[19] This space allows for a motorised scooter (or powered or manual wheelchair), a disabled person and two helpers, a changing table and a wet-area shower to be accommodated. If a wet area shower is not included, a 4250mm x 4000mm space is recommended.

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45.0 LOUNGE AREAS, WAITING ROOMS, ETC.

Where areas are provided for casual seating or waiting they should be designed with loose furniture to enable reconfiguration if required for different access needs, a clear path of travel should always be available through these areas and facilities such as vending machines and the like should be selected so that they are useable by persons with disabilities.

Lounge areas and waiting rooms:

General	Are these areas on the accessible route?	
	Is a clear thoroughfare width of 1200mm available throughout?	
Furniture	Is furniture movable to allow its reconfiguration if necessary for access?	
	Are all tables designed in such a way that they have clear space underneath to allow for a wheelchair user to approach and use them? (Refer to the details of 'public counters' in this guide for more detailed dimensions.)	
Seating	Is seating provided through the space, and particularly in areas where waiting is likely?	
	Do the areas have seating spaces for guide dogs and wheelchair users?	
	Is the seating stable, and of a material that will not sink to much preventing easily getting up?	
Vending machines	Have these been selected and located to be accessible to wheelchair users?	
	Do they incorporate brail on buttons?	

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46.0 POOL LIFTS

A Pool Lift can be defined as a lifting device that provides increased access to in-ground and above-ground pools, therapy pools, and spas for individuals with limited or no mobility.

There are two common types of lift in use today;

Manual Pool Lifts are operated typically using simple hydraulics. To operate a manual aquatic lift, the patient is secured in the transfer seat (or harness). The support person simply uses a handle that lifts the patient into or out of the pool or spa. The mechanism for most hydraulic pool lifts is very similar to using a car jack.

Automatic pool lifts operate using a battery powered motor. These systems will provide sufficient lifting power for up to 30 lifts and let the support person gently lift the swimmer into and out of the pool or therapy spa. While these systems are typically more expensive than a manual system, they are much easier to use and provide smooth transitions both in and out of the pool.

While not considered acceptable as the means of access to a pool in a new build scenario, the installation of a hydraulic lift when upgrading a pool can sometimes be the only reasonable and practicable way of meeting the requirements of providing access for everyone regardless of ability. However it is noted that a hoist may be the only way some people with limited ability are able to enter the water - and as such ideally both ramped and hoist access should be provided.

Investigation as to the inclusion of a ramp should always be presented prior to going down the path of manned mechanical assistance in the form of a hydraulic lift, it is expected that the Council would require to see that a fixed ramp was investigated and ruled out prior to approving a hydraulic lift.

Most pool lift models on the market today offer seats that can rotate anywhere from 90 to 360 degrees. Lifts with chairs that rotate 360 degrees will allow support persons to transfer from anywhere on the pool deck. Lifts that have chairs that only rotate 90-degrees are only suitable for those who are capable of a stand-pivot transfer.

Hydraulic lifts:

General	Is a hydraulic lift provided at the pool?	
	Does the lift use a seat which can rotate up to 360 degrees to enable easier transfers?	
	Does the lift use a seat which has adjustable (and removable) arm rests both sides?	
	Are instructions for the lift clearly displayed, e.g. ask for assistance, or self-service?	

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47.0 GYMS

Gyms and leisure facilities are a crucial 'first point of entry' to sports and physical activity for most adults. It is critical that where provided gyms have accessible changing rooms, usable equipment and suitably trained staff. **Gyms:**		
General	Are on an accessible route?	
	Equipment is contrasted to its surrounds?	
	A clear route of 1200mm is available throughout, with a 1500mm turning radius at equipment locations or turning points?	
	If standard toilet and shower facilities are provided at the gym, then are accessible equivalents also provided within the gyms confines?	
	Are all floor surfaces stable, firm and slip resistant under normal environmental conditions? (Direct stick, heavy duty commercial vinyl or carpet with a low level pile and a hard twist loop is recommended for all interior surfaces.)	
	Does slip resistance of all surface finishes meet requirements of the NZBC, D1/AS1, Table 2, e.g. brushed concrete finish on ramps?	
	Do the surface finishes make use of changes in colour and material, e.g. from concrete to timber, to provide visual, tactile and audible cues to changes in the environment? [20] (Avoid floor coverings with bold, complex or confusing patterns and those that can be mistaken for steps or depth changes.)	

20) Avoid floor coverings with bold, complex and confusing patterns and those that can be mistaken for steps or depth changes.

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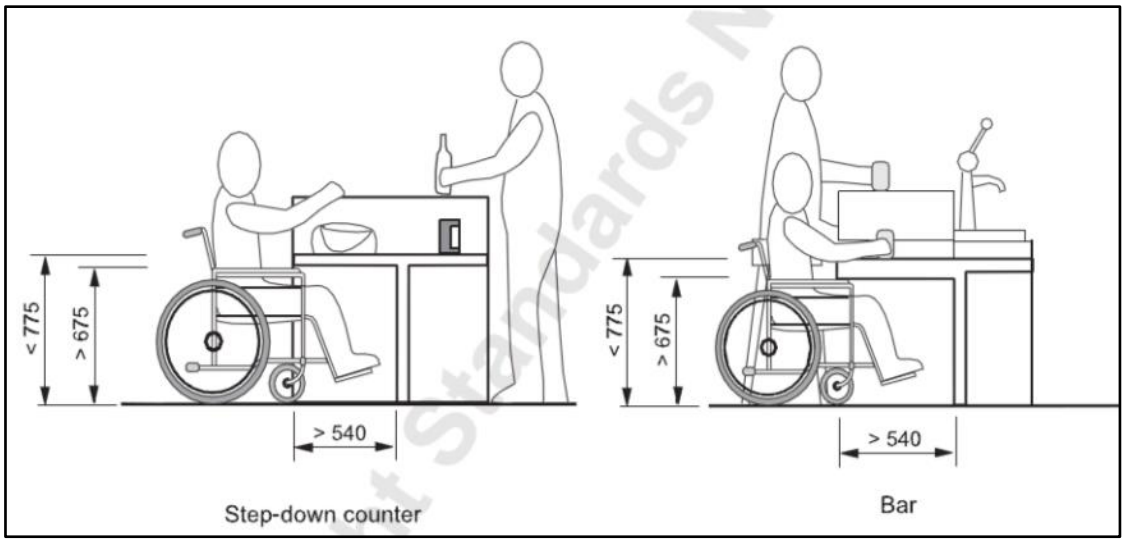
48.0 CAFE

It is typical for larger facilities to also have café facilities within them, it is critical that these café facilities cater for the needs of persons with disabilities. **Cafés:**		
General	Are on an accessible route?	
	Is an accessible counter present? (Refer to 'Public Facilities – Reception Counter' of this checklist for details, and NZS4121:2001 Fig. 37 below.)	
	Are tables at a height that allows a wheelchair to use them? (Refer to 'Public Facilities – Reception Counter' of this checklist for details, and NZS4121:2001 Fig. 37 below.)	
	If seating is fixed, then are there spaces at the tables (with no seating) to accommodate a wheelchair?	
	Is signage with pricing information clearly displayed, contrasting, and easy to read?	



NZS4121:2001 Fig. 37: Public counters (cropped).

More detailed requirements on counters can be found in:

- NZS4121:2001 Section 11.
- NZ Building Code Clauses G5.3.4.
- Acceptable Solutions/Compliance Documents G5/AS1 Section 3.0.
- DBH Guidance document "Accessible reception and service counters" 2007.

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49.0 SPAS

Spa pools can provide some issues when it comes to provision of unaided access, due to the small size of most commercially available pools the inclusion of a ramp is not usually possible or feasible.

The industry appears to accept this restriction, and while unaided access may not be possible for all wheelchair users without provision of a ramp, the more mobile chair users who have some level of mobility may still be able to access the pool without their chair using grab rails or a limited number of steps.

Mechanically assisted access is possible to spa pools by way of hydraulic lifts or hoists (refer to section titled hydraulic lifts). Wheel chairs that can be borrowed by patrons should be provided where a means of wheelchair access into the pool is provided as everyday wheelchairs cannot enter the water.

Best practice is that footrests are not required in the spa where pool lifts are provided but are encouraged, especially on larger spas where the water depth is 850mm or more or where there is sufficient space.

Where spas are provided in cluster, at least 5% in each cluster *or* at least one spa must be accessible.

Are spas:

General	On the accessible route?	
	Have ramped access?	
	Have access via a fixed mechanical device such as a hydrolytic lift or hoist?	
	Are alternate means of fixed access such as stairs provided?	
	Have a means of non-fixed temporary access available such as re-locatable stairs, etc.?	
	Have signage indicating the water depth at point of entry?	
	Has variable level seating with foot rests been provided within the spa?	
	Is at least one of the spa pools provided accessible?	
Visibility factors	Are the edges of the spa pool contrasted to the surrounding environment?	
	Do the edges of the spa pool have tactile differentiation from the surround surfaces?	

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50.0 SAUNAS

Where sauna facilities are provided it is recommended that consideration be made for accessible seating, both in terms of allocated wheelchair seating positions and a variety of different seating heights to suit a range of users. **Are saunas:**		
General	On the accessible route?	
	Have allocated wheelchair seating space where fixed seating is provided?	
	Have seating at a range of heights to suit a range of users?	

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51.0 POOL EQUIPMENT

Fixed equipment should be of a high visibility colour, with consideration given to lane dividers and other such items which will be within the pool space where if not easily detectable could result in an injury.

Submersible pool wheel chairs that can be borrowed by patrons should be provided where a means of wheelchair access into the pool is provided as everyday wheelchairs cannot enter the water.

Where possible, pool equipment should be certified to meet the ADA Standard as a minimum.

Pool equipment:

General	Where possible, are backup pieces of pool equipment available? For example a wet chair fleet of sufficient number to continue meeting demand if there is breakage, repair times, etc.?	

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52.0 POOL TOYS

Pool toys should be selected from a range which accommodates the needs of a range of people where possible. Similar to playgrounds the concept of 'comparable experiences' should be considered during the selection process.

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53.0 STADIUMS, VIEWING ZONES AND BULK SEATING

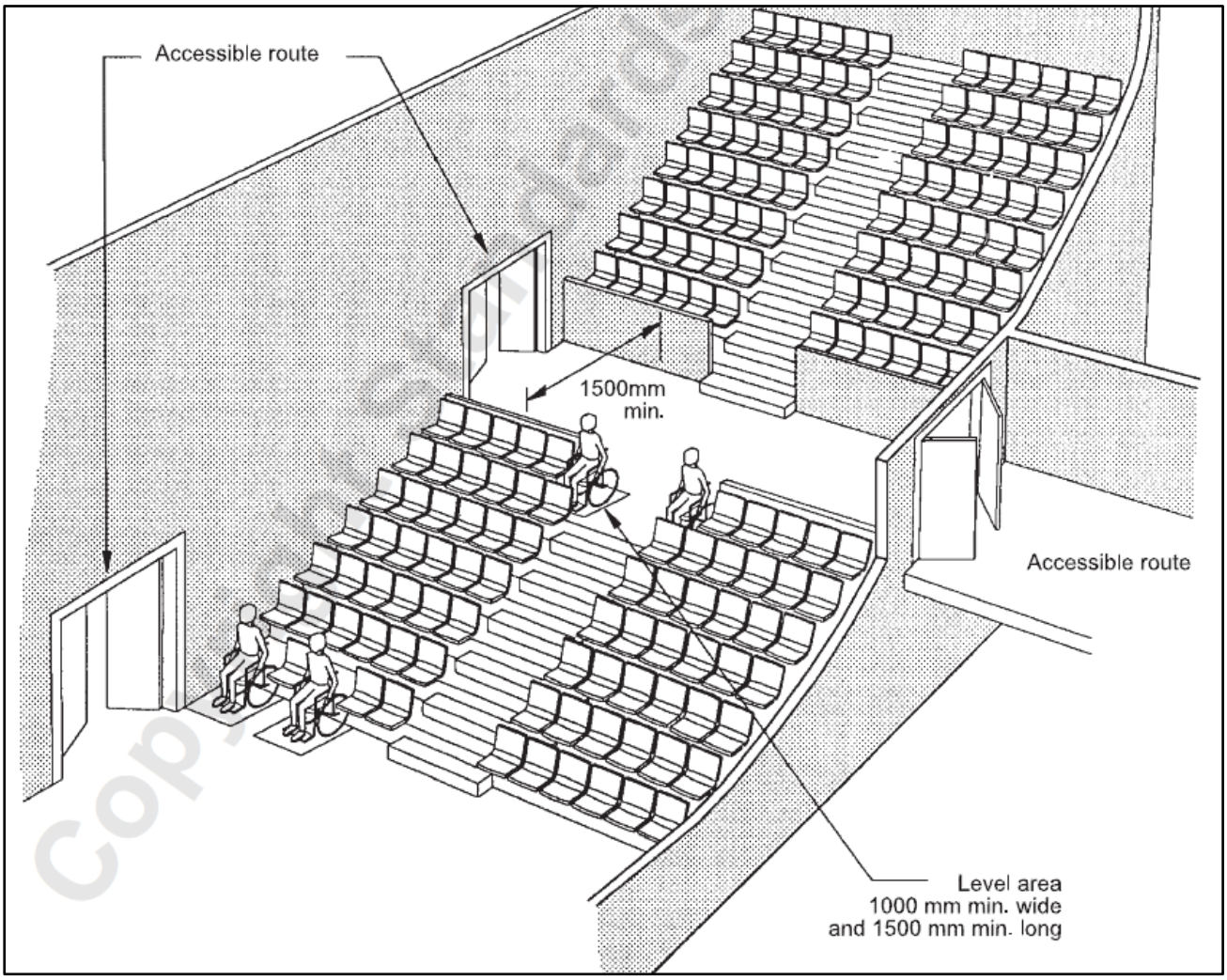
Provision shall be made to accommodate people with disabilities in rooms and areas used for meetings, entertainment, assembly and recreation. In all cases this provision shall be on an accessible route.

People with disabilities shall be able to be seated as part of an audience. They shall be able to speak, lecture or entertain an audience from the main stage of a place of assembly or entertainment and have access to all back stage facilities including performers changing areas, toilet shower facilities and the green room.

Accessible seating should be positioned in an equitable manner also, simply including accessible seating without consideration to view from the area and closeness to amenities and others is not good practice.

Do stadiums:

General	Have accessible toilets/showers/changing rooms provided on accessible route?	
	Are sports tracks and fields connected to the accessible route(s)?	
Number of wheelchair spaces	The number of spaces provided shall be as follows: (a) 1–250 people: not less than two spaces (b) For every 250 people or part thereof extra, add one space.	
Location of wheelchair spaces	In all cases the spaces reserved for wheelchair users shall be: (a) Adjacent to and included in normal seating provisions (see Fig. 40 extract below) (b) Spread as evenly as possible throughout the area (c) Of adequate size to allow for wheelchair manoeuvrability (d) On level ground and floor surfaces	
Listening systems	Where a sound amplification system is provided, a listening system shall be installed to cover the total area of the room. (The recommended design sound levels for various functional areas of buildings given in AS/NZS2107 shall be adhered to, for effective hearing.)	
Signs	A sign indicating that a listening system is installed or is available shall be provided in accordance with the 'signs' section of this design guide at the main door or doors to the enclosed space. Where the listening system does not cover the total area of the enclosed space, such signs shall designate the boundaries of the area served.	
	Are all audible announcements also displayed on a screen?	
	Are flashing lights that go off at the same time as the starting gun on any racing tracks included?	



NZS4121:2001 Fig. 40: Examples of seating arrangements

More detailed requirements on places of assembly can be found in:

- NZS4121:2001 Section 12.
- NZ Building Code Clauses D1.1 (c) and D1.3.2.
- Acceptable Solution/Compliance Document D1/AS1 Section 8.0.

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54.0 KITCHENETTES AND FOOD PREPARATION

Food preparation facilities provided in camping grounds and accessible accommodation units in communal residential buildings, e.g. boarding house, hall of residence, holiday cabin, hostel, hotel, motel, nurses home, retirement village, time share accommodation, work camp, hospital, old people's home, health camp, borstal or drug rehabilitation centre, prison, etc., are required to provide for use by people with disabilities.

Also, today most offices provide coffee making and food preparation areas which, although not currently covered by compliance requirements, should also provide accessibility.

Kitchenettes and food preparation:

General	Are food preparation facilities provided on accessible route(s)?	
Dimensions	Does accessible food preparation area have at least 1500 x 1500mm clear floor/turning space in front?	
	Do any sinks have max bowl depth of 150mm and height and clear under space as for accessible wash basins?	
	Is a toe recess 250-300mm high and 150mm deep provided along front of all benches?	
Controls	Are all operating controls within easy reach?	
	Are taps easy to operate with one hand?	
Amenities	Are all work surfaces, ovens, cook tops and refrigerator accessible and usable?	

More detailed requirements on food preparation can be found in:

- NZS4121:2001 Sections 14.7.4.
- NZ Building Code Clauses G3.1 (c) and G3.3.5.
- Acceptable Solution/Compliance Document G2/AS1 Sections 1.2 and 1.5.

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