



Access Report

Shop Top Housing
3-5 Fingal Street,
BRUNSWICK HEADS

For: Cornell Family Trust & D Gyngell
Ref: PAA_24336



Document Control

This report has been prepared based on the documentation available and time allocated to conduct the review. All reasonable attempts have been made to identify key compliance matters.

Revision Summary:

prepared by:			
Catherine Walker	Draft	Issued for review	07.04.2025
Catherine Walker	Revision 1	Issued for DA	05.05.2025

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Clarifications:

This report is limited to items within drawings listed in this report only.

Construction is to be in accordance with the recommendations made in this access report to ensure compliance.

Any dimensions quoted throughout this report and within Australian Standards are **CLEAR** dimensions, not structural. This needs to be considered during construction to account for wall linings and the like.

Definitions:

The following terminology has been used throughout this report:

Compliant | compliance with current accessibility legislation has been achieved

Compliant Configuration | circulation and spatial planning requirements are compliant

Capable of compliance | compliance is achievable through detailed design

Not Yet Compliant | circulation and spatial planning requirements have not yet been met

To be addressed during detailed design | details not available or applicable at DA stage

To be confirmed | inadequate information is provided to determine compliance

Executive Summary

Development application documentation for the Top Shop Housing located at 3-5 Fingal Street, Brunswick Heads, has been reviewed against current accessibility legislation.

The following table summarises our findings.

Item No.	Description	Compliance Status
The Disability (Access to Premises) Standards		
5.1	Access Code	Refer BCA commentary
5.2	New Work & The Affected Part	Not applicable
Access and Approach		
6.1	Allotment Boundary to Entrance	Capable of compliance
6.2	Accessible Carparking to Entrance	Capable of compliance
6.3	Accessways (Pathways Generally)	Compliant configuration
6.4	Accessible Carparking	Compliant
6.5	Kerb Ramps	Not applicable
6.6	Step Ramps	Not applicable
6.7	Accessible Ramps	Not applicable
6.8	Stairs	Compliant
6.9	Walkways	Capable of compliance
6.10	Threshold Ramps	Capable of compliance
6.11	Accessible Entrance	Capable of compliance
6.12	Gates	Capable of compliance
Interior		
7.1	Extent of Access Generally	Capable of compliance
7.2	Circulation Areas	Capable of compliance
7.3	Doorways Generally	Not applicable
7.4	Doorways to Vestibules	Compliant
7.5	Doorways to Ambulant Toilets	Compliant
7.6	Hearing Augmentation	Not applicable
7.7	Exempt Areas	None specified
7.8	Floor Finishes	To be addressed during detailed design
7.9	Carpet	To be addressed during detailed design
7.10	Controls	To be addressed during detailed design
7.11	Visual Indication to Glazing	To be addressed during detailed design
7.12	Tactile Indicators	To be addressed during detailed design
7.13	Signage	To be addressed during detailed design
Sanitary Facilities		
8.1	Distribution	Compliant
8.2	Accessible Toilets	Capable of compliance
8.3	Ambulant Toilet Cubicles	Capable of compliance
8.4	Accessible Showers	Not applicable
Vertical Circulation		
9.1	Lifts	Capable of compliance
9.2	Stairs	Capable of compliance
9.3	Fire Isolated Egress Stairs	Compliant
9.4	Slip Resistance (Ramps & Stairs)	To be addressed during detailed design

Adaptable Housing		
Pre Adaption Requirements		
10.1	Accessible Entrance	Capable of compliance
10.2	Visitable Toilet	Compliant configuration
10.3	Accessible Path of Travel	Compliant configuration
Post Adaption Requirements		
10.4	Car Accommodations	Compliant configuration
10.5	Letterbox	Capable of compliance
10.6	Doorways	Compliant configuration
10.7	Internal Corridors	Compliant configuration
10.8	Bathroom	Compliant configuration
10.9	Kitchen	To be addressed during detailed design
10.10	Bedroom	Compliant configuration
10.11	Living Area	Capable of compliance
10.12	Laundry	Capable of compliance
10.13	Floors Generally	To be addressed during detailed design
10.14	Ancillary Items	To be addressed during detailed design

We consider that the drawings presented for assessment, for the purposes of a development application, generally comply with current statutory requirements.

Accessibility requirements are included in Appendix 1 of this report to guide the detailed design. Best Practice options are provided within Appendix 2 and we encourage their implementation into the design.

The recommendations throughout this report reflect the professional opinion and interpretation of Lindsay Perry Access Pty Ltd. This may differ from that of other consultants.

Catherine Walker

CATHERINE WALKER

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1 Project Background

This project is located on two sites in Fingal Street and consists of demolition of existing structures and construction of a new three-storey mixed use building. The ground floor consists of five (5) commercial shop tenancies, a forty-three (43) space carpark, commercial amenities and associated commercial and residential services rooms. The first and second floors consist of eight (8) three-bedroom two-storey residences, and five (5) two-bedroom two-storey residences.

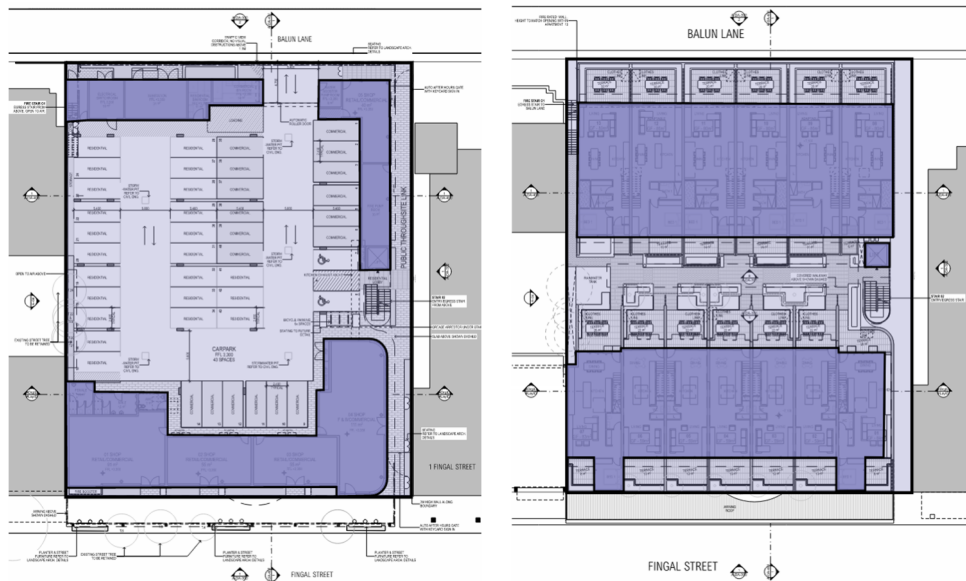


Figure 1 | Proposed Development (ground and first floor)



Figure 2 | Artist's impression

2 Reviewed Documentation

Documentation prepared by architect has been reviewed as follows:

dwg no.	drawing name	revision
A-DA-000	Cover Page	04
A-DA-001	Location Plan	04

A-DA-002	Survey	04
A-DA-003	Site Plan	03
A-DA-004	Demolition Plan	03
A-DA-100	Basix	01
A-DA-200	Ground Floor Plan	04
A-DA-201	First Floor Plan	04
A-DA-202	Second Floor Plan	04
A-DA-203	Roof Plan	04
A-DA-300	Elevations	04
A-DA-301	Elevations	03
A-DA-302	Elevations	03
A-DA-400	Sections	04
A-DA-401	Sections	03
A-DA-500	Shadow Plan – Existing	04
A-DA-501	Shadow Plan – Proposed	04
A-DA-601	GFA Schedules	03
A-DA-602	Solar Access	03
A-DA-603	ADG Schedule	03
A-DA-604	Deep Soil	03
A-DA-605	Finishes Schedule	03
A-DA-606	Signage	01
A-DA-701	Adaptable Housing	03
A-DA-801	Fingal Street Visualisation 1	04
A-DA-802	Fingal Street – Throughsite link	03
A-DA-803	Balun Lane Visualisation 1	03
A-DA-804	Balun Lane – Throughsite link	03
A-DA-805	Internal Courtyard - 01	03

3 Council DCP Requirements for Accessibility

Byron Shire Development Control Plan 2014 – Chapter B13 – Access and Mobility
B13.2.2 for shop top housing has the following objectives:

1. To implement the requirements and objectives of the Disability Discrimination Act, 1992, relevant equitable access legislation and the Byron Disability Access and Inclusion Plan 2008 - 2013.
2. To nominate adaptable housing standards for multi-unit residential development in Byron Shire.

It requires the following to be provided:

- Dwelling Units: A minimum of 10% of units, rounded up to the nearest whole number should be adaptable housing, located throughout the development with a variety of outlooks. Access to the upper levels of townhouses can be by lift, stair lift, chair lift, inclinor or platform lift or ramp in accordance with relevant Australian Standards. (That is 2 of the 13 units).
- Access: A continuous accessible path of travel in accordance with AS1428 or an inclinor/ lift/ hoist (in accordance with AS1735) as appropriate must be provided between the main street entrance to the residential complex, adaptable housing units, access or car parking spaces, letterboxes, garbage storage area, recreation areas and clothes drying areas.
- Car Parking: At least one accessible car parking space for the disabled must be provided for each adaptable housing unit, if a parking space is provided or if it is required pursuant to Chapter B4 Traffic Planning, Vehicle Parking,



Circulation and Access or any other Chapter of this DCP. These spaces must be located close to and accessible from the entrance to the adaptable housing units and from the main entrance to the building. The spaces must be attached to the title of the adaptable housing unit in any Strata Plan or Community Title plan. Car parking must be in accordance with the requirements of BCA Section D Part D3.5 and Australian Standard AS/NZS 2890.6:2009 Parking Facilities – Part 6: Off-street parking for people with disabilities.

Compliance Summary:

Capable of compliance

Commentary:

Two adaptable housing units have been provided - Unit 09 and 12. Each has been provided a dedicated adaptable car parking space which are labelled and located close to the building entry. Car parking sizing and layout is in accordance with the requirements of BCA Section D Part D3.5 and Australian Standard AS/NZS 2890.6:2009 Parking Facilities – Part 6: Off-street parking for people with disabilities.

Site and building levels show that accessible paths of travel are capable of compliance between the main street entrance to the residential complex, adaptable housing units, access car parking spaces, letterboxes, garbage storage area, recreation areas and clothes drying areas.

Byron Shire Development Control Plan 2014 – Chapter B13 – Access and Mobility B13.2.4 for Commercial Premises has the following objectives:

1. To implement the requirements and objectives of the Disability Discrimination Act, 1992, relevant equitable access legislation and the Byron Disability Access and Inclusion Plan 2008 – 2013.
2. To nominate access standards for BCA Class 5, 6, 7, 8 and 9 development including Office/ Commercial, Retail and Service and Industrial Development in Byron Shire.

It requires the following to be provided:

- Design and access in accordance with AS1428.1 – Design for Access and Mobility General Requirements for Access – New Buildings must be provided to and within all the areas or facilities of the development where there is a reasonable expectation of access by any owner, occupier, employee or visitor.

Compliance Summary:

Capable of compliance

Commentary:

In addition to accessible paths of travel required for adaptable housing; Proposed site and building levels show that accessible paths of travel between shop fronts and the accessible toilet; shop fronts and the accessible carparking



space; boundaries and the shop fronts; boundaries and the lift, are capable of compliance.

4 Legislation

Access assessment has been made against Access Legislation including:

- The Commonwealth Disability Discrimination Act 1992 (DDA)
- Disability (Access to Premises (Buildings)) Standards 2010
- Access Code for Buildings 2010
- The National Construction Code Building Code of Australia Volume 1 2022 (BCA)
 - Part D3 D15 Landings (Slip Resistance)
 - Part D3 D22 Handrails
 - Part D4 – Access for People with Disabilities
 - Section E3D7 / ED38 – Lifts
 - Section F4D5/ F4D6 / F4D7 – Accessible Sanitary Facilities
- Australian Standard AS1428.1 (2009) Amendment 1 & 2, – Design for Access and Mobility
- Australian Standard AS1428.2 (1992) – Design for Access and Mobility: Enhanced and additional requirements – Buildings and facilities
- Australian Standard AS1428.4.1 (2009) Amendment 1 – Design for Access and Mobility: Means to assist the orientation of people with vision impairment – Tactile ground surface indicators
- Australian Standard AS2890.6 (2009) – Parking Facilities – Off street carparking For People with Disabilities.
- Australian Standard AS1735.12 – Lifts, escalators and moving walks: Lifts for persons with a disability
- Australian Standard AS4299 – Adaptable Housing
- State Environmental Planning Policy (Housing) 2021– Part 43C and Part 147 – Apartment Design Guide – July 2015
- The Livable Housing Design Guidelines – Edition 4

A summary of the requirements of relevant legislation follows.

The Disability Discrimination Act 1992

The DDA requires independent, equitable, dignified access to all parts of the building for all building users regardless of disability. The DDA makes it unlawful to discriminate against a person on the grounds of disability.

The Disability (Access to Premises) Standards

Any application for a building approval for a new building or upgrade of an existing building triggers the application of the Premises Standards.

The Premises Standards include an **Access Code** written in the same style as the Building Code of Australia. It has a number of Performance Requirements that are expressed in broad terms and references a number of technical Deemed-to-Satisfy Provisions.

The National Construction Code / Building Code of Australia (Volume 1)



The Building Code of Australia (BCA) is contained within the National Construction Code (NCC) and provides the minimum necessary requirements for safety, health, amenity and sustainability in the design and construction of new buildings (and new building work in existing buildings) throughout Australia. The BCA is a performance-based code and compliance can be met through satisfying the deemed-to-satisfy provisions or by meeting the prescribed performance requirements.

The BCA for Class 2 buildings, access for people with disabilities is required:

- From a pedestrian entrance required to be accessible to at least 1 floor containing sole-occupancy units and to the entrance doorway of each sole-occupancy unit located on that level.
- To and within not less than 1 of each type of room or space for use in common by the residents, including a cooking facility, sauna, gymnasium, swimming pool, common laundry, games room, TV room, individual shop, dining room, public viewing area, ticket purchasing service, lunch room, lounge room, or the like.
- Where a ramp complying with AS 1428.1 or a passenger lift is installed—
 - a) to the entrance doorway of each sole-occupancy unit; and
 - b) to and within rooms or spaces for use in common by the residents, located on the levels served by the lift or ramp.

For a Class 5 building, BCA requires access for people with disabilities to and within all areas normally used by the occupants.

For a Class 6 building BCA requires access for people with disabilities to and within all areas normally used by the occupants.

For a Class 7a building BCA requires access for people with disabilities to and within any level containing an accessible carparking space.

For a Class 7b building BCA requires access for people with disabilities to and within areas normally used by the occupants.

AS1428 – Design for Access and Mobility

The AS1428 Suite provides design requirements for accessibility generally, covering all types of disabilities. AS1428.1 and AS1428.4.1 are referenced by the NCC / BCA.

AS2890.6 – Off-street Carparking for People with Disabilities

AS2890.6 (2009) applies to the carparking areas generally.

AS1735– Lifts, escalators and moving walks

AS1735.12 (1992) contains requirements for passenger lifts for persons with a disability.

AS4299 Adaptable Housing



AS4299 (1993) provides housing for different community groups with different needs. It involves a move away from special accommodation for persons with a disability, avoiding social dislocation.

5 The Disability (Access to Premises) Standards

Any application for a building approval for a new building or upgrade of an existing building triggers the application of the Premises Standards.

The Premises Standards include an Access Code written in the same style as the Building Code of Australia. Additionally, it offers a number of concessions for existing buildings as outlined below.

5.1 Access Code

The Premises Standards include an Access Code written in the same style as the Building Code of Australia.

Compliance Summary:

Refer to BCA requirements throughout subsequent sections of this report.

Commentary:

While the introduction of NCC 2022 causes clause numbers to differ between documents, the intent of each code remains similar. It is noted that the Access Code for Buildings (Schedule 1 of The Disability (Access to Premises – Buildings) Standards) references AS 1428.1 (2021). This differs to NCC 2022 that references AS 1428;1 (2009).

5.2 New Part and Affected Part (Existing Buildings)

The Disability (Access to Premises – Buildings) Standards apply to **...a new part, and any affected part, of a building**, to the extent that the part of the building is...a Class 3, 5, 6, 7, 8, 9 or 10 building (Clause 2.1).

New part is defined as follows (Clause 2.1 (4)):

- An extension to the building or a modified part of the building.

An **affected part** is defined as follows (Clause 2.1 (5)):

- The principal pedestrian entrance of an existing building that contains a new part; and
- Any part of an existing building, that contains a new part, that is necessary to provide a continuous accessible path of travel from the entrance to the new part.

Compliance Summary:

Not applicable

Commentary:

New work and affected part provisions (Part 2.1(4 & 5)) are applicable to modification works only, not new developments.

6.1 Approach from Allotment Boundary

The BCA requires that a continuous accessible path of travel be provided from the allotment boundary at the main points of pedestrian entry to the main entrance.

Compliance Summary:

Capable of compliance

Commentary:

Site and building levels show that accessible paths of travel through the site are capable of compliance through detailed design. In this instance “the main entrance” is classified as the base of the stair/ at the lift door, the entry door into each shop, the entry door into the accessible toilet, and the entry door into the residential bin store.

During detailed design, at each doorway provide either door threshold ramps compliant with AS1428.1 or level entries. Provide level door landings with wheelchair circulation spaces as shown in AS1428.1 with gradients no steeper than 1:40.

6.2 Approach from Accessible Carparking

The BCA requires that a continuous accessible path of travel be provided from the accessible carparking areas to the main entrance.

Compliance Summary:

Capable of compliance

Commentary:

Site and building levels show that accessible paths of travel through the site are capable of compliance through detailed design. No kerb or kerb ramps are shown on the plans, so it is assumed that the carpark and pathways are of the same surface level.

In this instance “the main entrance” is classified as the base of the stair/ at the lift door, the entry door into each shop, the entry door into the accessible toilet, and the entry door into the residential bin store.

During detailed design, at each doorway provide either door threshold ramps compliant with AS1428.1 or level entries. Provide level door landings with wheelchair circulation spaces as shown in AS1428.1 with gradients no steeper than 1:40.

6.3 Accessways (Pedestrian Areas Generally)

The accessible path of travel refers to a pathway which is grade restricted and provides wheelchair access as per the requirements of AS1428.



On enclosed pathways, turning spaces 1540mm wide by 2070mm long are required within 2m of the end of corridors to enable a wheelchair to turn through 180° and passing areas 1800mm wide by 2000mm long are required every 20m along a corridor unless there is a clear line of sight.

On enclosed pathways, 1500x1500mm is required to facilitate a 90° turn by a wheelchair. This must be accommodated within accessible areas.

Compliance Summary:

Compliant configuration

Commentary:

Ensure pathways are a minimum of 1000mm wide and have required turning spaces as mentioned above.

The pathway behind the shops that leads to the accessible toilet is 1000mm wide, however has carparking immediately adjacent. Best practice would be to make the pathway wider as longer cars can block or partially block the pathway when parked in these spaces, even with the wheel stops. Wheel stops as shown are essential.

6.4 Accessible Carparking

There is a requirement for the provision of accessible carparking within this development.

For the residential component of the development (Class 2), there are no BCA requirements for the provision of accessible carparking within the development. (Note that there are separate DCP requirements for the residential component).

For a commercial (Class 5) building, BCA requires one (1) accessible carparking space for every one-hundred (100) carparking spaces or part thereof.

For a retail (Class 6) building, BCA requires one (1) accessible space for every fifty (50) carparking spaces or part thereof. One (1) additional accessible space is required for every one hundred (100) spaces or part thereof in excess of one thousand (1000) carparking spaces.

Compliance Summary:

Compliant

Commentary:

A total of forty-three (43) carparking spaces have been provided on site. Of these, two are dedicated adaptable housing accessible parking spaces and one is a commercial accessible parking space.



During detailed design, ensure that the kitchen exhaust shown above the accessible parking spaces doesn't encroach the required headroom over the accessible spaces.

The overall configuration of the accessible carparking achieves compliance with current legislation including dimensions of the space and associated shared areas, chevron markings and provision of a bollard.

6.5 Kerb Ramps

Where kerb ramps are provided to pedestrian areas within the accessible path of travel, the configuration of kerb ramps is to be in accordance with AS1428.

Compliance Summary:

N/A

Commentary:

No kerb ramps are shown on the plans. It is assumed that the carpark and adjacent pathways are of the same pavement surface level and kerb ramps are not required.

6.6 Step Ramps

The configuration of step ramp is to be in accordance with AS1428. BCA Clause D4D12 states that a landing for a step ramp must not overlap a landing for another step ramp.

Compliance Summary:

N/A

Commentary:

No step ramps are shown on the plans.

6.7 Accessible Ramps

AS1428.1 defines a ramp as having a gradient between 1:14 and 1:20. The accessible path of travel refers to a pathway which is grade restricted and provides wheelchair access as per the requirements of AS1428.

Compliance Summary:

N/A

Commentary:

No accessible ramps are shown on the plans.

6.8 Stairs

AS1428.1 has access requirements for all public access stairs and is applicable in this instance.

Compliance Summary:



Compliant

Commentary:

Stairs are provided as a choice of access to the residential component of the project, which is elevated over the shops and carpark.

The overall configuration of the stairs achieves compliance with current legislation including handrails with extensions both sides and tactile indicators top and bottom.

During detailed design, ensure provision of contrasting non-slip nosings to treads.

6.9 Walkways

AS1428.1 defines a walkway as having a gradient between 1:33 and 1:20. The accessible path of travel refers to a pathway which is grade restricted and provides wheelchair access as per the requirements of AS1428.

Compliance Summary:

Capable of compliance

Commentary:

Site levels are not yet provided however the existing site levels on the existing site survey indicate that walkways may be required to achieve compliance.

Ensure during detailed design that accessible paths of travel are provided where required.

6.10 Threshold Ramp

To mitigate water ingress, it is sometimes necessary to contrast a threshold ramp at building entrances.

Compliance Summary:

Capable of compliance

Commentary:

Provide threshold ramps at doorways where level entry isn't provided.

6.11 Accessible Entrance

In a building required to be accessible, an accessway must be provided through the principal pedestrian entrance, and not less than 50% of all pedestrian entrances including the principal pedestrian entrance.

In a building with a total floor area more than 500 sqm a pedestrian entrance which is not accessible must not be located more than 50m from an accessible pedestrian entrance.



Compliance Summary:

Capable of compliance.

Commentary:

Single hinged doorways provide entry to the commercial components of the building and offer compliant circulation areas. Ensure during detailed design that accessible entry doors provide a clear opening width of 850mm.

Double hinged doorways provide entry to the commercial components of the building and offer compliant circulation areas. Ensure during detailed design that the main operable leaf of the double doors enables a clear opening width of 850mm.

An automatic double sliding door provides entry to the lift. Ensure door circulation areas are provided for at each level, including to stair handrails, and the control button is further than 500mm from an internal corner.

Ensure during detailed design provision of level thresholds or compliant door thresholds at the doorways.

6.12 Gates

Where gates form a part of the approach to the building, they need to offer compliance with AS1428.1 (2009) similar to a doorway.

Compliance Summary:

Capable of compliance

Commentary:

Two single hinged gates provide entry to the building via the public through site link and are capable of offering compliant circulation areas. Ensure during detailed design that the selected door enables a clear opening width of 850mm and the associated clearances. Lever handles to be provided at heights required for doors in AS1428.1.

7 BCA | Interior

The building is designed over three (3) levels and accommodates five (5) retail tenancies at Ground Floor with thirteen (13) residential units at First floor and Second floor.

The interior areas subject to accessibility requirements under the BCA include the commercial areas, and the residential common areas being the entry foyer, corridor and bin store. The following do not apply to individual units.

7.1 Extent of Access Generally – BCA



Within a residential development (Class 2), access for people with disabilities is required from a pedestrian entrance required to be accessible to at least 1 floor containing sole-occupancy units and to the entrance doorway of each sole-occupancy unit located on that level.

Where a ramp or a passenger lift is installed, access is required to the entrance doorway of each sole-occupancy unit within the building.

Access is also required to and within not less than 1 of each type of room or space for use in common by the residents.

For a commercial development (Class 5), access for people with disabilities is required to and within all areas normally used by the occupants.

For a retail development (Class 6), access for people with disabilities is required to and within all areas normally used by the occupants.

Compliance Summary:

Capable of compliance

7.2 Circulation Areas

BCA (Clause D4D4) requires the provision of turning spaces and passing areas to corridors to enable wheelchair circulation throughout a building.

Turning spaces 1540mm wide by 2070mm long are required within 2m of the end of corridors to enable a wheelchair to turn through 180° and passing areas 1800mm wide by 2000mm long are required every 20m along a corridor unless there is a clear line of sight.

Within corridor areas, 1500x1500mm is required to facilitate a 90° turn by a wheelchair. This must be accommodated within accessible areas.

Compliance Summary:

Capable of compliance

Commentary:

Compliant circulation has been provided on the walkway on the first floor.

For external circulation areas, refer to Clause 6 above.

7.3 Doorways Generally

AS1428.1 has requirements for doorways within the accessible path of travel to enable independent access for people using a wheelchair.

Compliance Summary:

N/A

Commentary:



This clause refers to “internal doorways”, of which there are none. All doors are external. Refer to Clause 6 above.

7.4 Doorways within Vestibules and Air-locks

AS1428 has requirements for circulation areas between doorways within vestibules / airlocks to enable independent access for people using a wheelchair. Clause 13.4 requires a minimum dimension of 1450mm between doors. Where a doorway encroaches into the space, 1450mm plus the door leaf width is required.

Compliance Summary:

Compliant

7.5 Doorways within Vestibules and Air-locks to Ambulant Toilet Cubicles

AS1428 has requirements for circulation areas between doorways within vestibules / airlocks as part of the path of travel to ambulant toilet cubicles to enable independent access for people using a mobility aid. Figure 34(b) requires a minimum dimension of 900mm between doors. Where a doorway encroaches into the space, 900mm plus the door leaf width is required.

Compliance Summary:

Compliant

7.6 Hearing Augmentation

For buildings that are required to be accessible, the BCA (Clause D4D8) requires hearing augmentation systems within auditoriums, meeting rooms and the like where an inbuilt amplification system, other than the one used for emergency warning is installed.

Compliance Summary:

Not applicable to this development.

7.7 Exempt Areas

BCA Clause D4D5 does not require access for people with disabilities to areas that would be inappropriate due to the particular use of the area or would pose a health and safety risk. This includes the path of travel to these areas.

Compliance Summary:

None specified

Commentary:

Within this development, the following areas are considered to be exempt from requiring access for people with disabilities:
plant and commercial service areas

7.8 Floor Finishes

All floor finishes are to be flush to provide an accessible path of travel throughout the different areas of the building. Maximum allowable construction tolerance is 3mm (5mm for beveled edges) as part of the accessible path of travel.

Compliance Summary:

To be addressed during detailed design stages.

7.9 Carpet

BCA requires a maximum carpet pile height of 11mm and carpet backing thickness not exceeding 4 mm.

Compliance Summary:

To be addressed during detailed design stage.

7.10 Controls

Controls such as light switches, GPOs, alarm keypads, card swipes, etc are to be located within the accessible height range of 900-1100mm above the floor level and not within 500mm of an internal corner to comply with AS1428.1(2009), Clause 14.

We recommend that video intercoms be installed at 1200mm AFFL - this is within the range of common view per AS1428.2 (1992).

Compliance Summary:

To be addressed during detailed design stage.

7.11 Visual Indication to Glazing

Provide decals to all full height glazing that can be mistaken for a doorway to assist persons with a vision impairment. Decals to be solid and have a minimum 30% luminance contrast to the background colour and be not less than 75mm high located within the height range of 900-1100mm above the finished floor level.

Compliance Summary:

To be addressed during detailed design stage.

7.12 Tactile Indicators

For a building that is required to be accessible, tactile ground surface indicators must be provided to warn people who are blind or have a vision impairment that they are approaching a hazard (BCA D4D9).

Tactile indicators to be detectable, durable, non-slip and have a minimum 30% luminance contrast to the background color (45% for discrete tactile indicators and 60% for discrete two-tone tactile indicators).

Compliance Summary:

To be addressed during detailed design stage.

7.13 Signage

Signage to identify sanitary facilities, hearing augmentation and required exits are to be provided in accordance with BCA Clause D4D7. This includes provision of the International Symbol for Access or International Symbol for Deafness as appropriate. Signage to comply with AS1428.1 (2009), Clause 8.



Compliance Summary:

To be addressed during detailed design stage.

8 BCA | Sanitary Facilities

The BCA / Access Code for Buildings (Clause F4D5) require the provision of sanitary facilities catering for people with disabilities.

8.1 Distribution of Accessible Sanitary Facilities

Accessible sanitary facilities are required as follows – these are general requirements and not project specific.

- A unisex accessible toilet at each level that provides sanitary facilities. Where more than one bank of toilets is provided at any level, at least 50% of those banks will have an accessible toilet facility.
- At each bank of toilets where there is one or more toilets in addition to a unisex accessible sanitary compartment at the bank of toilets, a sanitary compartment suitable for a person with an ambulant disability must be provided for use by males and females.
- A unisex accessible shower is required where showers are required by F4D7.

Compliance Summary:

Compliant

Commentary:

A unisex accessible sanitary facility has been provided as well as one each male and female ambulant toilet.

8.2 Unisex Accessible Sanitary Compartment

A unisex accessible sanitary compartment is required to be provided within this development.

Compliance Summary:

Capable of compliance

Commentary:

A unisex accessible sanitary facility has been provided. Overall room dimensions and the arrangement of fixtures is conducive to compliance with current accessibility legislation

8.3 Ambulant Toilets

Ambulant toilets are required to be provided within this development.

Compliance Summary:

Capable of compliance



Commentary:

Two ambulant toilets have been provided. One each male and female. Overall cubicle dimensions and circulation areas are conducive to compliance with current accessibility legislation.

9 BCA | Vertical Circulation

One lift and two staircases provide the means of access between levels of the building.

9.1 Passenger Lift

Where passenger lifts are provided within a building to facilitate access between levels, they must meet the minimum requirements of the NCC / BCA with regard to the internal lift car size, which is dependent upon the total vertical distance that the lift travels.

Compliance Summary:

Capable of compliance

Commentary:

One lift is provided for access between levels of the complex. The overall size of the lift shaft is capable of accommodating a lift car of adequate dimensions for compliance with BCA (1100 x 1400mm internal floor area required with 900mm clear opening to door).

9.2 Stairs

AS1428.1 has access requirements for all stairs other than fire isolated egress stairs and is applicable in this instance.

Compliance Summary:

Capable of compliance

Commentary:

Refer to Clause 6.8 of this report.

9.3 Fire Isolated Egress Stairs

Designated fire egress stairs are not considered public access stairs and therefore are not subject to the requirements of AS1428.1 with the exception of contrasting nosing strips and handrail requirements. These are required per AS1428.1.

Compliance Summary:

Compliant

Commentary:

A fire isolated stair is provided in the development to enable egress in the event of a fire.

9.4 Slip Resistance (Stairs and Ramps)

The BCA defines the following slip resistance requirements for stairs and ramps:

Application	Surface Conditions	
	Dry	Wet
Ramp steeper than 1:14	P4 or R11	P5 or R12
Ramp steeper than 1:20 but not steeper than 1:14	P3 or R10	P4 or R11
Tread or Landing surface	P3 or R10	P4 or R11
Nosing or landing edge strip	P3	P4

Compliance Summary:

To be addressed during detailed design stage.

10 Adaptable Housing (Council Requirement)

Council DCP requires the provision of two (2) adaptable apartments, based on a total of thirteen (13) apartments.

An adaptable housing unit is defined by AS4299 as follows:

A housing unit which is designed and constructed to meet the performance requirements stated in the standard. It is designed in such a way that it can be modified easily in the future to become accessible to both occupants and visitors with disabilities of progressive frailties.

There are six (6) performance requirements being: visitability; avoidance of level changes; manoeuvrability; ease of adaption; ease of reach; and future laundry facilities.

Both the pre-adaption state and post-adaption state need to be considered. In the pre-adapted state, an adaptable unit is required to be “visitable” and these requirements are applicable at the time of construction. Other elements are to be provided on adaption of the unit. Documentation needs to demonstrate that compliance in the post-adapted state is achievable.

At **time of construction**, the following are required:

- An accessible entrance per AS1428.1 (2009).
- A visitable toilet at the entry level per AS4299
- An accessible path of travel from the entrance to the visitable toilet and living areas within the meaning of AS1428.1 (2009)

At **time of adaption**, the following are required:

- Compliance with AS4299 Appendix A – essential criteria. This includes kitchen layouts, laundry layouts, carparking, etc

The following requirements for adaptable apartments are based on AS4299,

Section 4 – Design of the Housing Unit, essential criterion as listed in Appendix 1, AS4299 Schedule of Features for Adaptable Housing. Compliance with the following features will achieve a Class C adaptable housing unit.

Commentary:

Two adaptable housing units are provided – Unit 09 and Unit 12.



Figure 4 | Adaptable Unit typical Floor Plan (Pre and Post)

Pre-Adaption Requirements:

10.1 Accessible Entrance

Entrances to adaptable housing units are to comply with AS4299 Clauses 4.3.1 and 4.3.2. AS4299 which require that the entry doors comply with AS1428.2 **at time of construction**. The minimum clear opening width of the doorway is to be 850mm and allow for wheelchair maneuverability (provide minimum 1550mm long area in front of the doorway). Entrances to the adaptable housing units to be weatherproofed.

Door hardware is to comply with AS1428. In this regard, entry door hardware is to be in the accessible height range of 900-1100mm above finished floor level. The use of lever handles is encouraged to assist persons with a manual disability such as arthritis.

Compliance Summary:



Capable of Compliance

Commentary:

The entry doorways to the adaptable units offer areas conducive to an accessible entrance.

10.2 Visitable Toilet

Each adaptable housing unit is required to have a toilet on the entry floor that is a visitable toilet within the meaning of AS4299 **at time of construction**. The toilet is to be installed in compliance with AS1428 (correct set-out distance from fixed walls) and have the capacity to accommodate a grabrail that complies with Figure 4.5 of AS4299. The visitable toilet door is required to have a clear opening width of 820mm. Slip resistant floors are also required.

A visitable toilet is defined as a toilet which has a space of minimum 1250x900mm in front of the toilet clear of door swings.

Compliance Summary:

Compliant configuration

Commentary:

Bathroom offers a visitable toilet arrangement.

10.3 Accessible Path of Travel from Entry to Visitable Toilet & Living Area

The performance requirements of AS4299 require the provision of an accessible path of travel, within the meaning of AS1428.1 (2009), from the entrance to the visitable toilet and a living area. Door circulation and corridor widths need to be designed to reflect this requirement.

Compliance Summary:

Compliant configuration

Commentary:

Access is provided between the entry doorway and the living areas and also to the visitable toilet.

Post Adaption Requirements:

10.4 Private Car Accommodations

Private carparking spaces for adaptable housing units shall be large enough to enable a person with a wheelchair to get in and out of both the car and the parking space. A minimum width of 3.8m is necessary to enable the driver to alight, open the passenger door and assist a person with a disability into a wheelchair.

Carparking spaces for the adaptable units to have a minimum floor plan dimension of 3.8m x 6.0 (AS4299, Clause 3.7.2). A clear vertical clearance of 2.5m is desirable.



The introduction of AS2890.6 in 2009 offers an approach to the provision of accessible carparking that can be easily accommodated in a standard carparking layout. It offers an accessible space 2400mm wide with a circulation area 2400mm wide adjacent to the space (4800mm for a single space). The circulation area can be “shared” between two accessible spaces (7200mm for two spaces). This offers carparking spaces in excess of the minimum requirement of AS4299 (3800mm).

If the abovementioned configuration is adopted in the provision of carparking for the adaptable units, with regard to the strata plan, the shared space could become a part of the common title to ensure it remains a circulation area.

Compliance Summary:

Compliant configuration

Commentary:

Carparking for the adaptable unit has been provided at the ground floor level with other residential parking. The configuration is in keeping with AS2890.6.

10.5 Letterboxes

Letterboxes to adaptable housing units should be located on a hard standing area connected by an accessible path of travel to the adaptable housing unit.

Compliance Summary:

Capable of compliance

Commentary:

Letterboxes are provided at the entrance along Fingal Street, satisfying AS4299 requirements. An accessible path of travel is provided from the letterboxes to the entrance of the adaptable units.

10.6 Doorways

Doorways throughout adaptable housing units are required to have a clear opening width of 820mm. At time of construction, an accessible path of travel within the meaning of AS1428.1 is required from the entrance to the visitable toilet and living area. Other door circulation areas are to comply with AS1428.1 on adaption of the unit.

All door hardware is to be operable with one hand and in the height range of 900-1100mm above the floor level. The use of lever handles is encouraged to assist persons with a manual disability such as arthritis.

Compliance Summary:

Compliant configuration

Commentary:

Doorways are generally provided with adequate circulation areas.

10.7 Internal Corridors

There is a requirement for all corridors to be minimum 1000mm.

Compliance Summary:

Compliant configuration

Commentary:

Corridors within the adaptable units are a minimum of 1000mm wide.

10.8 Bathroom

Bathrooms within an adaptable housing unit are to comply with AS1428 after adaption. Issues to be considered include slip resistant floor, shower minimum 1100x1160mm with future provision for accessible features including handheld shower and grabrails, shower waterproofing to AS3740, recessed soap holder, washbasin with knee clearance, adequate circulation areas, automatic control of hot water, double GPO next to the mirror and the provision of capstan or lever taps. Refer to AS4299, Clause 4.4.4.

Compliance Summary:

Compliant configuration

Commentary:

Bathroom offers dimensions conducive to adaption.

10.9 Kitchen

Essential requirements for kitchens within an adaptable housing unit allow for future adaption and include items such as sinks, taps, cooktops, location of oven, cupboard handles, general power outlets, dimensions of the space and location of refrigerator.

Kitchens are required to have a clear space between benches of 1550mm. An area of bench top 800mm wide is required that can be adjusted through the height range of 750 – 850mm above floor level. Alternatively, a section of this dimension needs to be easily replaceable to achieve this requirement.

Compliance Summary:

To be addressed during detailed design

Commentary:

Kitchen offers circulation areas as described above.

10.10 Bedroom

At least one bedroom within an adaptable housing unit is required to have adequate space for a wardrobe and a queen size bed with minimum 1540mm wide circulation at the foot of the bed and 1000mm at the side of the bed (1200mm preferred) for compliance with AS1428.2, Clause 6.1.



Compliance Summary:

Compliant configuration

Commentary:

Bedroom 1 offers compliant circulation areas.

10.11 Living Area

Living areas within an adaptable housing unit are required to have circulation areas that allow a wheelchair to maneuver within the space at time of construction. In this regard, an area with 2250mm diameter is required, clear of furniture. AS4299, Clause 4.7 outlines this requirement. A telephone outlet adjacent to a general power outlet is also a requirement for living areas.

Compliance Summary:

Capable of compliance

Commentary:

The living area within the adaptable unit is an open-plan area which meets the circulation requirements of AS4299.

10.12 Laundry

Requirements for laundry areas within adaptable housing units include the provision for an automatic washing machine / clothes dryer with clear space in front of the appliances. An area of 1550mm diameter will achieve this requirement. Laundries are to have slip resistant floors and door circulation areas in compliance with AS1428.1.

Compliance Summary:

Capable of compliance

Commentary:

Laundry offers compliance being in a cupboard configuration.

10.13 Floors Generally

AS4299 requires that all floor surfaces including bathrooms, laundry and external paved surfaces be slip resistant to comply with AS3661.1.

Non-essential items include that after modification, carpets should have short pile and consideration should be given to the fire hazard indices. Floors should be easily cleanable and bold patterns should be avoided to eliminate confusion for persons with vision impairment.

Compliance Summary:

To be addressed during detailed design

10.14 Ancillary Items

Ancillary items are not considered essential items. Switches such as light switches must be located within the accessible height range of 900-1100mm above the floor level.



Power outlets should be located at a height not less than 600mm affl – a height of 1000mm is preferred. They should be located not less than 500mm from internal corners.

Compliance Summary:

To be addressed during detailed design

11 Conclusion

This report demonstrates that the fundamental aims of accessibility legislation are achievable within the proposed development. Spatial planning and general arrangements of facilities will offer inclusion for all building users.

Disability is often defined as any limitation, restriction or impairment which restricts everyday activities and has lasted or is likely to last for at least 6 months. Disabilities can be very varied. They can be physical, cognitive, intellectual, mental, sensory, or developmental. They can be present at birth or can occur during a person's lifetime. They can also be permanent or temporary. In Australia, almost one in five people – 4.3 million – have a disability with one in three having severe or profound core activity limitation.

Equity and dignity are important aspects in the provision of access to buildings for all users. With respect to people with a disability, equity and dignity are sometimes overlooked in the construction of new buildings or refurbishment works. The design approach needs to maintain a high level of equity for people with disabilities and meet the performance requirements of the BCA. The performance requirements adopt two main concepts in the provision of access for people with a disability being **to the degree necessary** and **safe movement**. Both of these concepts need to be achieved within the context of equitable and dignified access.

In this respect, a wide range of disabilities needs consideration and a compromise reached between requirements of different disability groups. Measures need to be implemented to ensure inclusion of all users, not a particular disability group in isolation.

We consider that the drawings presented for assessment, for the purposes of a development application, demonstrate that compliance with current statutory requirements affecting accessibility is achievable subject to detailed design at the construction certificate stage (refer to Appendix 1 for requirements).



Appendix 1 | Accessibility Requirements



The following accessibility requirements are to be incorporated into the detailed design to ensure compliance of the built form.

Accessways Generally

The accessible path of travel refers to a pathway which is grade restricted and provides wheelchair access as per the requirements of AS1428 as follows:

- a. The minimum unobstructed width of all pathways is to be 1000mm (AS1428.1, Clause 6.3). A width of 1200mm is preferred for compliance with AS1428.2.
- b. All pathways are to be constructed with no lip or step at joints between abutting surfaces (a construction tolerance of 3mm is allowable, or 5mm for bevelling edges).
- c. The maximum allowable crossfall of pathways is to be 1:40.
- d. The ground abutting the sides of the pathways should follow the grade of the pathway and extend horizontally for 600mm. We note that this is not required where there is a kerb or handrail provided to the side of the pathway.
- e. Pathways to have passing bays complying with AS1428.1 at maximum 20m intervals where a direct line of site is not available. They are required within 2m of the end of the pathway where it is not possible to continue travelling along the pathway. A passing space shall have a minimum width of 1800 for a minimum length of 2000mm. Refer to AS1428.1, Clause 6.4.
- f. Grated drains within the accessible path of travel are to have circular openings no greater than 13mm in diameter and slotted openings not greater than 13mm wide – elongated openings must traverse the direction of travel.

Walkways

AS 1428.1 has access requirements for walkways as follows:

- a. The minimum unobstructed width of walkways is to be 1000mm (AS1428.1, Clause 6.3). A width of 1200mm is preferred for compliance with AS1428.2.
- b. Walkways are to be constructed with no lip or step at joints between abutting surfaces (a construction tolerance of 3mm is allowable, 5mm for bevelled edges -refer to Figure 6 of AS1428.1).
- c. The maximum allowable crossfall of a walkway is to be 1:40.
- d. Surface of the walkway to be slip-resistant.

- e. The ground abutting the sides of the walkway should follow the grade of the pathway and extend horizontally for 600mm. This is not required where there is a kerb or handrail provided (refer to AS1428.1 Clause 10.2).
- f. Maximum allowable gradient of the walkway is 1:20 and maximum length between landings to be 15m (for 1:20 gradient). Landings to be a minimum 1200mm in length (where there is no change in direction). For changes in direction of 180°, landings to be 1540mm in length – refer to AS1428.1(2009), Clause 10.8.

Stairs – External

AS 1428.1 has access requirements for all public access stairs as follows:

- a. Stairs to comply with AS1428.1(2009), Clause 11.2.
 - b. Stairs to have closed or opaque risers. Open risers cause confusion for persons with a vision impairment and may trigger conditions such as epilepsy due to light penetrating through the open riser.
 - c. Provide handrails, with extensions, to both sides of the stair (AS1428.1 (2009), Clause 11.2 & 12). Handrails to have an external diameter between 30-50mm to assist persons with a manual disability such as arthritis.
- Handrails are required on both sides of the stair to cater for left and right-handed disabilities. A central handrail is also an acceptable solution where adequate width is available. In this instance, the use of a double handrail is encouraged so that two users can travel in opposite directions and maintain their grip on the handrail.
- d. Stair nosings to have minimum 30% luminance contrast strip 50-75mm wide to the top of the stair tread to assist persons with a vision impairment. The strip can be set back 15mm from the edge of the riser.
 - e. Stair nosings shall not project beyond the face of the riser.
 - f. Provide tactile indicators at the top and bottom of the stair to comply with BCA Clause D4D9 and AS1428.4.

Tactile indicators to be detectable, durable, non-slip and have a minimum 30% luminance contrast to the background colour.

Tactile indicators at the top and bottom of the stair to be 600-800mm deep across the width of the stair set back 300mm from the edge of the stair.

Kerb Ramps

AS 1428.1 has access requirements for kerb ramps as follows:

- a. Kerb ramps to comply with AS1428.1 (2009) Amendment 1, Clause 10.7



- b. Maximum gradient of the kerb ramps to be 1:8 and maximum length to be 1520mm (providing a maximum height of 190mm).
- c. Kerb ramps to have a non-slip surface as required by AS1428.
- d. A tooled joint should be provided between parts of the kerb ramp to assist persons with a vision impairment with orientation.

Step Ramps

Step ramps are to offer compliance with AS1428.1 (2009). Requirements are as follows:

- a. The configuration of the step ramp is to comply with the requirements of AS1428.1, Clause 10.6.
- b. Maximum gradient of the step ramp to be 1:10 and maximum length to be 1900mm (providing a maximum height of 190mm).
- c. Provide landings at the top and bottom of the step ramp to comply with AS1428.1, Clause 10.8.2.
- d. Step ramp to be enclosed on both sides (minimum height 450mm) or a kerb and handrail needs to be installed. Where a kerb is to be installed, the height of kerb rails is to be less than 65mm or greater than 150mm above the finished surface level. This is to ensure that the foot plate of a wheelchair cannot become lodged on the kerb rail

Accessible Carparking

Access requirements for the accessible carparking are as follows and should be addressed during preparation of the construction certificate documentation.

- a. Accessible carparking to be a minimum of 2400mm wide with a shared area to one side of the space 2400mm wide. Circulation space can be shared between adjacent accessible carparks. For a single space, a total width of 4800mm is required.

For parallel parking arrangements, the accessible space is to be a minimum 3200mm wide x 7800mm long. A shared area 1600mm wide is required at the same level of the parking space.

- b. Provide a bollard to the shared circulation space as illustrated in AS2890.6, Figure 2.2.
- c. The maximum allowable crossfall of accessible carparking area to be 1:40. This crossfall applies both parallel and perpendicular to the angle of parking.
- d. For covered carparking, the clear height of the accessible carparking space to be 2500mm as illustrated in AS2890.6, Figure 2.7.

- e. Designated accessible carparking is to be identified using the International Symbol for Access (ISA) between 800 and 1000mm high placed as a pavement marking in the centre of the space between 500-600mm from its entry point. The perimeter of the space is to be identified by an unbroken yellow & slip resistant line 80-100mm wide (except where there is a kerb or wall)
- f. Shared space to be identified using yellow slip-resistant & unbroken stripes 150 to 200mm wide with spaces 200 to 300mm between stripes. Stripes to be at an angle of 45° to the side of the space.

Threshold Ramp

Threshold ramps are to offer compliance with AS1428.1 (2009). Requirements are as follows.

- a. Threshold ramp to comply with AS1428.1, Clause 10.5.
- b. Threshold ramp to have a maximum rise of 35mm, maximum length of 280mm and maximum gradient of 1:8.
- c. Threshold ramp to be located within 20mm of the door leaf that it services.

Accessible Entrances

Access requirements for entrances are as follows.

- a. Entrance to comply with AS1428.1(2009), Clause 13 as part of the accessible path of travel.
- b. Doors are to have a minimum clear opening width of 850mm to comply AS1428.1(2009), Clause 13.2 as part of the accessible path of travel.
- c. Door threshold to be level to provide seamless entry as part of the accessible path of travel. Maximum allowable construction tolerance is 3mm for compliance with AS1428.1(2009), 5mm where beveled edges are provided between surfaces – refer to Figure 6.
- d. Door to have hardware within the accessible height range of 900-1100mm above the finished floor level (AS1428.1(2009), Clause 13.5)
- e. For glass doors, provide decals to assist persons with a vision impairment. Decals to be solid and have a minimum 30% luminance contrast to the background colour and be not less than 75mm high located within the height range of 900-1100mm above the finished floor level. Decals are to be solid. AS1428.1, Clause 6.6.
- f. Where double door sets are provided, one door leaf is to be capable of being held in the closed position to provide door opening widths and circulation to comply with AS 1428.1.

- g. For a best practice approach to access, and to assist people with a vision impairment locate the entrance, consider providing features with a minimum 30% luminance contrast to the background surface such as an entry mat or awning.

Non-Accessible Entrances

The following access requirements apply to the non-accessible entrance.

- a. Provide direction signage displaying the location of the accessible entrance that displays the International Symbol for Access per BCA Specification 15.

Tactile Indicators at Building Entrances

BCA Clause D4D9 (a) (v) states that for a building that is required to be accessible, tactile ground surface indicators must be provided to warn people who are blind or have a vision impairment that they are approaching – in the absence of a suitable barrier – an accessway meeting a vehicular way adjacent to any pedestrian entrance to a building...if there is no kerb or kerb ramp at that point, except for areas exempted by D4D5. If no kerb is provided between the entrance and the driveway area, tactile indicators are required.

The following access requirements apply.

- a. Where no kerb is provided, install tactile indicators for compliance with BCA Clause D3.8 and AS1428.4.
- b. Tactile indicators to be detectable, durable, non-slip and have a minimum 30% luminance contrast to the background colour.
- c. Tactile indicators to be 600-800mm deep across the width of the path of travel set back 300mm from the edge of the driveway / roadway.

Circulation Areas Generally

BCA requires the provision of turning spaces and passing areas to corridors to enable wheelchair circulation throughout a building.

Turning spaces 1540mm wide by 2070mm long are required within 2m of the end of corridors to enable a wheelchair to turn through 90° and passing areas 1800mm wide by 2000mm long are required every 20m along a corridor unless there is a clear line of sight.

Within corridor areas, 1500x1500mm is required to facilitate a 90° turn by a wheelchair. This must be accommodated within accessible areas.

Doorways

Access requirements for doorways within the accessible path of travel are as follows:

- a. Doorways within the accessible path of travel to have a minimum clear opening width of 850mm (AS1428.1(2009), Clause 13.2). We



recommend the use of a 920 leaf door as a minimum to achieve adequate clear width.

For double doors, the operable leaf must achieve this clear opening width to facilitate single leaf operation.

- b. All doorways within the accessible path of travel to have complying circulation areas as illustrated in AS1428.1(2009), Figure 31. Circulation areas to have a maximum crossfall of 1:40.
- c. Doors between indoor and outdoor spaces to have a level threshold for seamless transition.
- d. Doorways to have minimum 30% luminance contrast as described in AS1428.1(2009), Clause 13.1.
- e. Doors to have hardware within the accessible height range of 900-1100mm above the finished floor level (AS1428.1(2009), Clause 13.5). Note that within a childcare centre, this is applicable to the unisex accessible sanitary facilities only.
- f. Door handles and related hardware shall be able to be unlocked and opened with one hand per AS1428.1 (2009), Clause 13.5.1. The handles shall enable a person who cannot grip to operate the door without their hand slipping from the handle. We recommend the use of lever handles.
- g. For manual controls to automatic doorways, buttons to be located no closer than 500mm from an internal corner and between 1000mm and 2000mm from the hinged door leaf or surface mounted sliding door in the open position. Height of controls to be 900-1100mm affl.
- h. Doorways to external areas to achieve a level threshold as part of the accessible path of travel. Maximum allowable construction tolerance is 3mm for compliance with AS1428.1(2009), 5mm where beveled edges are provided between surfaces.
- i. Doorways to have operational forces per AS1428.1 (2009), Clause 13.5.2. A maximum allowable force of 20N is required to operate the door.

Doorways within Vestibules and Airlocks

AS1428 has requirements for circulation areas between doorways within vestibules / airlocks to enable independent access for people using a wheelchair. Clause 13.4 requires a minimum dimension of 1450mm between doors. Where a doorway encroaches into the space, 1450mm plus the door leaf width is required.

Doorways within Vestibules and Airlocks to Ambulant Toilets

AS1428 has requirements for circulation areas between doorways within vestibules / airlocks as part of the path of travel to ambulant toilet cubicles to enable independent access for people using a mobility aid. Figure 34(b) requires a minimum dimension of



900mm between doors. Where a doorway encroaches into the space, 900mm plus the door leaf width is required.

Floor Finishes

All floor finishes are to be flush to provide an accessible path of travel throughout the different areas of the building. Maximum allowable construction tolerance is 3mm (5mm for bevelled edges) as part of the accessible path of travel. Refer to AS1428.1(2009), Clause 7.2 for further details.

Carpet

BCA requires that the pile height or pile thickness does not exceed 11 mm and the carpet backing thickness shall not exceed 4 mm.

Controls

Controls such as light switches, GPOs, alarm keypads, card swipes, etc are to be located within the accessible height range of 900-1100mm above the floor level and not within 500mm of an internal corner to comply with AS1428.1(2009), Clause 14.

We recommend that video intercoms be installed at 1200mm affl - this is within the range of common view per AS1428.2 (1992).

Visual Indication to Glazing

Provide decals to all full height glazing that can be mistaken for a doorway to assist persons with a vision impairment. Decals to be solid and have a minimum 30% luminance contrast to the background colour and be not less than 75mm high located within the height range of 900-1100mm above the finished floor level. Decals are to be solid.

As a guide, AS1288 (2006) states that the following glazed areas are not considered capable of being mistaken for a doorway:

- The width is less than or equal to 500mm
- The height h is less than or equal to 1000mm
- The lowest point of the opening is 500mm or greater above the floor /ground level
- The glazing is opaque, patterned or a leadlight
- Where a chair / crash rail, handrail or transom is provided and located with its upper edges not less than 700mm or its bottom edge not more than 1000mm above the floor
- The panels are louvres with a blade width not greater than 230mm
- The glazing protects a difference in level of 1000mm or more (a balustrade system)

Tactile Indicators

For a building that is required to be accessible, tactile ground surface indicators must be provided to warn people who are blind or have a vision impairment that they are approaching a stairway (other than a fire isolated stair); an escalator; a moving walkway; a ramp (other than a fire isolated ramp, step ramp, kerb ramp or swimming pool ramp); and in the absence of a suitable barrier, an overhead obstruction less than

2m above the floor level or an accessway, meeting a vehicular way if there is no kerb or kerb ramp (BCA D4D9).

Tactile indicators to be detectable, durable, non-slip and have a minimum 30% luminance contrast to the background color (45% for discrete tactile indicators and 60% for discrete two-tone tactile indicators).

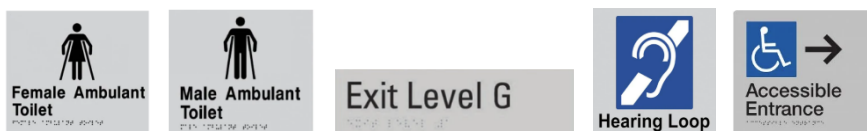
Signage

Access requirements for signage are as follows. Note that this does not include general wayfinding signage.

- a. Braille and tactile signage formats as outlined within BCA Specification 15 that incorporate the international symbol of access or deafness, as appropriate, in accordance with AS 1428.1 must be provided to identify the following:
 - a sanitary facility, except a sanitary facility associated with a bedroom in a Class 1b building or a sole-occupancy unit in a Class 3 or Class 9c building
 - a space with a hearing augmentation system
 - each door required by E5D5 to be provided with an exit sign and state level
 - an accessible unisex sanitary facility and identify if the facility is suitable for left or right handed use
 - an ambulant accessible sanitary facility 1 and be located on the door of the facility
 - where a pedestrian entrance is not accessible, directional signage incorporating the international symbol of access to direct a person to the location of the nearest accessible pedestrian entrance
 - where a bank of sanitary facilities is not provided with an accessible unisex sanitary facility, directional signage incorporating the international symbol of access must be placed at the location of the sanitary facilities that are not accessible, to direct a person to the location of the nearest accessible unisex sanitary
- b. Braille and tactile components of the sign to be located not less than 1200mm and not higher than 1600mm affl.
- c. Signage to be located at the latch side of the doorway with the leading edge of the sign 50-300mm from the architrave. Where this is not possible, the sign can be located on the door.

Sample signs are as follows. These are examples only – ensure selected signage complies with BCA Specification 15 including provision of Braille locator for multiple lines of text and characters.





Unisex Accessible Sanitary Compartment

Access requirements for the accessible toilet facilities are as follows. For compliance with AS1428.1(2009), the minimum room dimensions of the accessible toilet are to be 1900x2300mm plus additional area for the handbasin. These are **CLEAR** dimensions. Provision for wall linings needs to be considered.

- a. Accessible toilet facilities to be unisex facilities for compliance with the BCA.
- b. Unisex accessible facilities to comply with AS1428.1(2009), Clause 15 including set-out of fittings and fixtures, circulation areas and doorways.
- c. Where more than one unisex accessible toilet is provided within the building, they should be in a mirrored configuration to allow for both left and right-handed use.

WC Pan:

- a. Crucial dimensions for the toilet are 450mm from centreline of pan to side wall, 800mm from front of pan to rear wall and a seat height of 470mm.
- b. A minimum clear dimension of 1400mm is required from the toilet pan to any other fixture (see figure 43).
- c. Grabrails to be provided at the side and rear of the toilet in compliance with AS1428.1 at a height of 800mm.
- d. Toilet seat shall be of the full round type, be securely fixed in position when in use and have fixings that create lateral stability. They should be load rated to 150kg, have a minimum 30% luminance contrast to the background colour (eg pan, wall or floor) and remain in the upright position when fully raised.
- e. Provide a backrest to accessible toilets to comply with AS1428.1, Clause 15.2.4.

Basin:

- f. For the basin, a minimum dimension of 425mm is required from the centreline of the basin to the side wall and height of basin to be between 800 and 830mm.
- g. Taps to have lever handles, sensor plates or similar controls. For lever taps, a minimum 50mm clearance to be provided to adjacent surfaces.

Door:

- h. Doorways to have a minimum clear opening width of 850mm to comply AS1428.1(2009), Clause 13.2 as part of the accessible path of travel. Adequate circulation area at the latch side of the doorway is required to allow independent access to the facility – for details refer to AS1428.1, Figure 31.
- i. Door hardware to be located within the accessible height range of 900-1100mm above the finished floor level. The use of lever handles is encouraged to assist persons with a manual disability such as arthritis.

Controls:

- j. Controls such as light switches within the accessible toilet facilities to be in the accessible height range of 900-1100mm above the finished floor level to comply with AS1428.1(2009), Clause 14. Controls should be located not less than 500mm to a corner.

Unisex Accessible Shower

Access requirements for the accessible shower facilities are as follows. These are **CLEAR** dimensions. Provision for wall linings needs to be considered.

- a. Accessible showers are to comply with AS 1428.1, Clause 15.5 and include accessible features such as grabrails, adjustable height shower rose and fixtures within an accessible height range.
- b. Floor waste to be positioned 550mm and 580mm from enclosing shower walls as illustrated in AS1428.1 (2009), Figure 47a.
- c. The minimum dimension of an accessible shower to be 1160 x 1000mm. A folding seat, at a height of 470mm is to be provided. All taps to be located within the height range of 900-1100mm above the finished floor level.
- d. Circulation space in front of the shower is to be provided as illustrated in AS1428.1, Figure 47.

Ambulant Toilet Cubicles

Requirements for the ambulant toilets are as follows.

- a. Options for the configuration of the ambulant cubicles are illustrated in AS1428.1, Figure 53.
- b. Provide an ambulant cubicle within each bank of male and female toilets in compliance with AS1428.1, Clause 16.
- c. Minimum width of ambulant cubicles to be 900-920mm.
- d. Minimum distance between the front of the WC pan and cubicle door / wall is 900mm,
- e. Seat height to be 460-480mm.

- f. Provide grabrails to ambulant cubicles to comply with AS1428.1, Clause 17 and Figure 53A.
- g. Provide toilet paper holder within the accessible reach zone (within 300mm of the front of the pan at a height less than 700mm).
- h. Doors to have a minimum opening width of 700mm and comply with AS1428.1, Figure 53B.
- i. Provide signage to the ambulant cubicles to comply with AS1428.1, Clause 16.4.

Passenger Lifts

The following access requirements apply to the lifts. These requirements are for disabled access only and do not include requirements for stretchers.

- a. Lift is to comply with AS1735.12 and be fully automatic
- b. Minimum internal dimensions of the lift car to be 1400mm wide x 1600mm deep a lift that travels over 12m or,
Minimum internal dimensions of the lift car to be 1100mm wide x 1400mm deep for a lift that travels less than 12m.
- c. Clear opening of the lift door to be minimum 900mm.
- d. Provide a handrail complying with the provisions for a mandatory handrail in AS1735.12.
- e. All lift control buttons are to be in the accessible height range of 900-1100mm affl and have a minimum 30% luminance contrast to the background colour. This includes buttons within the lift car and at each public lift lobby. All buttons are to be provided with information in Braille and tactile formats.
- f. Auditory / voice cues are to be provided within the lift car to assist persons with a vision impairment.
- g. Series of door opening devices that will detect a 75mm diameter rod across the door opening between 50 mm and 1550mm above the floor level.
- h. Emergency hands-free communication, including a button that alerts a call centre of a problem, a light to signal that the call has been received by the call centre and a light indicating assistance is being dispatched.

Stairs – Internal

Access requirements for public access stairs are as follows and should be addressed during construction to ensure compliance.



- a. Stair construction to comply with AS1428.1, Clause 11.1.
- b. Stairs to have closed or opaque risers. Open risers cause confusion for persons with a vision impairment and may trigger conditions such as epilepsy due to light penetrating through the open risers.
- c. Where the stair intersects with an internal corridor, the stair shall be set back in accordance with AS2418.1 Figure 26C/D to allow adequate space for handrail extensions and tactile indicators.
- d. Provide handrails, with extensions, to both sides of the stair (AS1428.1, Clause 11.2). Handrails to have an external diameter between 30-50mm to assist persons with a manual disability such as arthritis. Handrails should be continuous around the landings where possible.

Handrails are required on both sides of the stair to cater for left and right-handed disabilities. A central handrail is also an acceptable solution where adequate width is available.

- e. Stair nosings to have minimum 30% luminance contrast strip 50-75mm wide to the top of the stair tread to assist persons with a vision impairment. The strip can be set back 15mm from the edge of the riser.
- f. Stair nosings shall not project beyond the face of the riser.
- g. Provide tactile indicators at the top and bottom of the stair to comply with BCA Clause D4D9 and AS1428.4.1.

Tactile indicators to be detectable, durable, non-slip and have a minimum 30% luminance contrast to the background colour. For discrete tactile indicators, 45% luminance contrast is required (60% where two-tone indicators are used).

Fire Isolated Egress Stairs

Designated fire egress stairs are not considered public access stairs and therefore are not subject to the requirements of AS1428.1 with the exception of contrasting nosing strips and handrail requirements. These are required per AS1428.1.

- a. Stair nosings to have minimum 30% luminance contrast strip 50-75mm wide to the top of the stair tread to assist persons with a vision impairment. The strip can be set back 15mm from the edge of the riser.
- b. Stair nosings shall not project beyond the face of the riser.
- c. Handrails in a required exit serving an area required to be accessible, are to be designed and constructed to comply with AS 1428.1, Clause 12

Note: handrails within fire-isolated stars are required to one side only and do not require the provision of handrail extensions. They must have a diameter between 30-50mm; be between 865-1000mm high above the

noising; ne a consistent height along the length of the stair – no vertical sections; have a clearance to eh wall not less than 50mm; have no obstruction along the length of its passage; and have an end that turns through 180, turns to the ground, or returns fully to an end post.

We recommend the use of the staggered stair to maintain a constant height along the length of the handrail per AS1428.,1 (2009), Clause 12.

Slip Resistance

The BCA defines the following slip resistance requirements for stairs and ramps:

Application	Surface Conditions	
	Dry	Wet
Ramp steeper than 1:14	P4 or R11	P5 or R12
Ramp steeper than 1:20 but not steeper than 1:14	P3 or R10	P4 or R11
Tread or Landing surface	P3 or R10	P4 or R11
Nosing or landing edge strip	P3	P4

Adaptable Units

An adaptable housing unit is defined by AS4299 as follows:

A housing unit which is designed and constructed to meet the performance requirements stated in the standard. It is designed in such as way that it can be modified easily in the future to become accessible to both occupants and visitors with disabilities of progressive frailties.

There are requirements for both the pre-adaption state and post-adaption states. In the pre-adapted state, an adaptable unit is required to be “visitable” and these requirements are applicable at the time of construction. Other elements are to be provided on adaption of the unit.

At **time of construction**, the following are required:

- An accessible entrance per AS1428.1 (2009).
- A visitable toilet at the entry level per AS4299
- An accessible path of travel from the entrance to the visitable toilet within the meaning of AS1428.1 (2009)
- An accessible path of travel from the entrance to the living area within the meaning of AS1428.1 (2009)

At **time of adaption**, the following are required:

- Compliance with AS4299 Appendix A – essential criteria. This includes kitchen layouts, laundry layouts, carparking, etc

The following requirements for adaptable apartments are based on AS4299, Section 4 – Design of the Housing Unit, essential criterion as listed in Appendix 1, AS4299 Schedule of Features for Adaptable Housing. Compliance with the following features will achieve a Class C adaptable housing unit.



Private Car Accommodations

Private carparking spaces for adaptable housing units shall be large enough to enable a person with a wheelchair to get in and out of both the car and the parking space. A width of 3.8m is necessary to enable the driver to alight, open the passenger door and assist a person with a disability into a wheelchair. A clear vertical clearance of 2.5m is desirable.

The introduction of AS2890.6 in 2009 offers an approach to the provision of accessible carparking that can be easily accommodated in a standard carparking layout. It offers an accessible space 2400mm wide with a circulation area 2400mm wide adjacent to the space (4800mm for a single space). The circulation area can be “shared” between two accessible spaces (7200mm for two spaces). This offers carparking spaces in excess of the minimum requirement of AS4299 (3800mm).

Letterboxes

Letterboxes to adaptable housing units should be located on a hard standing area connected by an accessible path of travel to the adaptable housing unit. Letterboxes to adaptable apartments should be provided within the accessible height range of 900-1100mm affl.

Accessible Entrance

Entrances to adaptable housing units are to comply with AS4299 Clauses 4.3.1 and 4.3.2. AS4299 which require that the entry doors comply with AS1428.2 **at time of construction**. The minimum clear opening width of the doorway is to be 850mm and allow for wheelchair maneuverability (provide minimum 1550mm long area in front of the doorway). Entrances to the adaptable housing units to be weatherproofed.

Door hardware is to comply with AS1428. In this regard, entry door hardware is to be in the accessible height range of 900-1100mm above finished floor level. The use of lever handles is encouraged to assist persons with a manual disability such as arthritis.

Doorways

Doorways throughout adaptable housing units are required to have a clear opening width of 820mm. **At time of construction, an accessible path of travel within the meaning of AS1428.1 is required from the entrance to the visitable toilet and living area.** Other door circulation areas are to comply with AS1428.1 on adaption of the unit.

All door hardware is to be operable with one hand and in the height range of 900-1100mm above the floor level. The use of lever handles is encouraged to assist persons with a manual disability such as arthritis.

Internal Corridors

There is a requirement for all corridors to be minimum 1000mm.

Visitable Toilet



Each adaptable housing unit is required to have a toilet on the entry floor that is a visitable toilet within the meaning of AS4299 **at time of construction**. The toilet is to be installed in compliance with AS1428 (correct set-out distance from fixed walls) and have the capacity to accommodate a grabrail that complies with Figure 4.5 of AS4299. A circulation area 1200mm x 900mm in front of the toilet and clear of door swings and fixtures is required complying with Figure 1.1 of AS4299. Slip resistant floors are also required.

Bathrooms

Bathrooms within an adaptable housing unit are to comply with AS1428 after adaption. Issues to be considered include slip resistant floor, shower minimum 1100x1160mm with future provision for accessible features including handheld shower and grabrails, shower waterproofing to AS3740, recessed soap holder, washbasin with knee clearance, adequate circulation areas, automatic control of hot water, double GPO next to the mirror and the provision of capstan or lever taps. Refer to AS4299, Clause 4.4.4.

Kitchens

Essential requirements for kitchens within an adaptable housing unit allow for future adaption and include items such as sinks, taps, cooktops, location of oven, cupboard handles, general power outlets, dimensions of the space and location of refrigerator.

Kitchens are required to have a clear space between benches of 1550mm. An area of bench top 800mm wide is required that can be adjusted through the height range of 750 – 850mm above floor level. Alternatively, a section of this dimension needs to be easily replaceable to achieve this requirement.

Bedrooms

At least one bedroom within an adaptable housing unit is required to have adequate space for a wardrobe and a queen size bed with minimum 1540mm wide circulation at the foot of the bed (for compliance with AS1428.2, Clause 6.1).

Living Area

Living areas within an adaptable housing unit are required to have circulation areas that allow a wheelchair to maneuver within the space **at time of construction**. In this regard, an area with 2250mm diameter is required, clear of furniture. AS4299, Clause 4.7 outlines this requirement. A telephone outlet adjacent to a general power outlet is also a requirement for living areas.

Laundry

Requirements for laundry areas within adaptable housing units include the provision for an automatic washing machine / clothes dryer with clear space in front of the appliances. An area of 1550mm diameter will achieve this requirement. Laundries are to have slip resistant floors and door circulation areas in compliance with AS1428.1.

Floors Generally



AS4299 requires that all floor surfaces including bathrooms, laundry and external paved surfaces be slip resistant to comply with AS3661.1.

Non-essential items include that after modification, carpets should have short pile and consideration should be given to the fire hazard indices. Floors should be easily cleanable and bold patterns should be avoided to eliminate confusion for persons with vision impairment.

Ancillary Items

Ancillary items are not considered essential items. Switches such as light switches must be located within the accessible height range of 900-1100mm above the floor level.

Power outlets should be located at a height not less than 600mm affl – a height of 1000mm is preferred. They should be located not less than 500mm from internal corners.



Appendix 2 | Best Practice Options for Consideration



We recommend a best practice approach to accessibility that goes beyond minimum standards and embraces the intent of the DDA. The following measures will promote inclusion and participation for all users.

Terminology (Best-practice recommendation)

The use of positive terminology such as “accessible” should be used when referring to accessible facilities such as toilets and carparking. This term is preferable to “disabled” which is commonly used. This principle is to be adopted through the design and documentation of a project and on signage throughout the completed building.

Accessways

We recommend that the accessible path of travel be a minimum 1200mm wide to comply with AS1428.2. Wider pathways will allow easy access for more people who have a permanent disability, people with a temporary disability, people pushing prams and elderly people using walking frames and the like. This is in keeping with the principles of Universal Design.

For a wheelchair and a pram to pass 1500mm is required and for two wheelchairs to pass requires 1800mm.

Automatic Entrance Doors

The provision of automatic sliding doorways maximizes access for people with a disability. Further, delivery drivers, people carrying parcels and the elderly also benefit from the provision of automatic doors.

Automatic doors provide safe, convenient access for everyone, regardless of age or ability in keeping with universal design principles. They also offer COVID-19 mitigation measures, reducing the transfer of germs and bacteria.

Visual Indication to Glazing (additional measures)

To ensure full height glazing that can be mistaken for a doorway is highlighted, we recommend the provision of a “double decal” as per international precedent. This involves the provision of two (2) decal strips that have a minimum 30% luminance contrast to each other. As such, the background colour does not need to be relied upon.

Luminance Contrast

Luminance contrast assists people with a vision impairment to navigate the built environment. Mandatory items within the BCA and AS1428.1 that require luminance contrast are tactile indicators, accessible toilet seats and doorways. Provision of a minimum 30% luminance contrast between the following elements can also be provided as a best practice measure to ensure ease of use:

- between floors and walls or between walls and skirting boards;
- between the ground surface and obstructions such as columns, bollards and street furniture;
- between the floor and the entrance mat, where provided (this allows people with vision impairment to locate the entrance).
- between handrails and mounting surface



- between door and door hardware
- between bathroom fittings and mounting surface

Seating

A proportion of accessible seating should be provided that offers provides back and arm rests.

A seat height of 450mm is optimal; with arms that extend a further 260mm +/- 40mm in height. · Armrests should not extend beyond the perimeter of the base or legs of the seat to ensure stability of the chair when rising with use of only one armrest.

Seats located adjacent to accessways should be set back at least 600mm to allow leg room without obstructing the adjacent path of travel.

Furniture and Joinery Hardware

The use of D-type pull handles to furniture and joinery that provide a minimum 35mm clearance between the rear face of the handle and the face of the drawer is generally recommended to promote accessibility and inclusion.

Wayfinding – Signage

Signs and symbols should be provided to inform all users. A signage system which informs all users is encouraged. The use of pictograms and directional cues is recommended as is the use of luminance contrast to ensure the message is clear and legible.

Wayfinding – Landmarks and Tactile Indicators

To assist people with vision impairment navigate their environment, the use of directional tactile indicators can be implemented, noting that their use should be minimised. The design of directional tactile indicators is site / building specific.

Additionally, landmarks such as entry features, statues, sculpture, fountains, or other unique features can be used as a means of way-finding throughout a building. This especially assists people with intellectual disabilities.

Emergency Call Button in Sanitary Compartments

If provided, emergency call button should be located at 600+/- 20mm above the finished floor level in front of the toilet roll holder to enable ease of access for someone who has fallen off the pan. People do fall off the pan, in particular those with no or limited upper trunk control.

Fire Egress Doors

We recommend that fire egress doors achieve a clear opening width of 850mm as per doorways within the accessible path of travel.

This permits the use of the landings within fire isolated egress stairs to be used as a shelter in place option for people with disabilities.

Places of Comparative Safety



Consider providing a refuge area within fire isolated stairs by incorporating a 800mm x 1300mm area at stair landings of every accessible floor. A 1000mm unobstructed egress width to the area should be provided.

We recommend that signage displaying the International Symbol of Access (ISA) be provided to identify any places of comparative safety provided. Signage should state that the area is safe in the event of an emergency. Evacuation procedures for the building should address the provision of places of comparative safety for people with limited mobility.

We also recommend that as a part of the emergency evacuation plan for the building, egress for persons requiring assistance be addressed. The provision of places of comparative safety within fire isolated passages would be advantageous to persons with a disability. This consists of a waiting area large enough to accommodate a wheelchair where persons can wait for assistance from emergency services. The waiting area should be identified with appropriate signage that incorporates the International Symbol for Access.

Lighting and Glare

Minimum interior lighting levels should generally consider AS1428.2 (1992) Clause 19. Consistent lighting levels should be provided throughout, without pools of light or dark areas. AS1428.2 (1992) recommends the following minimum illumination levels:

- Entrances 150lx
- Passages and walkways 150lx
- Stairs 150lx
- Toilets and Locker rooms 200lx
- Counter tops 250lx
- General displays 200-300lx

Glare and excessively reflective surfaces should be avoided. This includes glare from windows.

Lockers

The provision of lockers at a suitable height for people using a wheelchair is recommended. The height range for accessible lockers to be 230mm-1350mm AFFL based on the reach ranges prescribed in AS1428.2 (1992).

