

Access Report

Bardo Living
36 Bardo Road
NEWPORT NSW

For: Popov Bass Architects
Ref: LP_22463



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: Lindsay Perry	Draft Revision 1 Revision 2	3 December 2022 5 December 2022 6 December 2022
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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 stage | details not available at DA stage
To be confirmed | inadequate information is provided to determine compliance



Executive Summary

Development application documentation for the proposed seniors living development at 36 Bardo Road Newport has been reviewed against current and applicable accessibility legislation.

The following table summarises our findings.

Item No.	Description	Compliance Status
SEPP Siting Requirements		
4.1	Location & Access to Facilities	Compliant
4.2	Accessibility	Compliant
SEPP Schedule 4		
5.1	Siting Standards	Compliant
5.2	Security	To be addressed in detailed design.
5.3	Letterboxes	Capable of compliance
5.4	Private Car Accommodation	Compliant
5.5	Accessible Entry	Compliant
5.6	Interior	Compliant
5.7	Main Bedroom	Compliant
5.8	Bathroom	Compliant
5.9	Toilet	Compliant
5.10	Surface Finishes	To be addressed in detailed design.
5.11	Door Hardware	To be addressed in detailed design.
5.12	Ancillary Items	To be addressed in detailed design.
5.13	Living and Dining Room	Compliant
5.14	Kitchen	Compliant
5.15	Access to kitchen, main bedroom & bathroom	Compliant
5.16	Lifts in multi-storey buildings	Capable of compliance.
5.17	Laundry	Compliant
5.18	Storage	Compliant
5.19	Garbage	Compliant
External Areas BCA Requirements		
6.1	Allotment Boundary to Entrance	Compliant
6.2	Carparking to Entrance	Compliant
6.3	Stairs	Compliant configuration
6.4	Accessible Entrance	Compliant configuration
Common Areas BCA Requirements		
7.1	Extent of Access Generally	Compliant
7.2	Circulation Areas	Compliant
7.3	Doorways	Compliant configuration
7.4	Doorways to Vestibules	Compliant
7.5	Exempt Areas	Compliant
7.6	Floor Finishes	To be addressed in detailed design.
7.7	Carpet	To be addressed in detailed design.



7.8	Controls	To be addressed in detailed design.
7.9	Visual Indication to Glazing	To be addressed in detailed design.
7.10	Tactile Indicators	To be addressed in detailed design.
7.11	Signage	To be addressed in detailed design.
7.12	Lifts	Capable of compliance
7.13	Stairs	Capable of compliance
7.15	Slip Resistance (Ramps & Stairs)	To be addressed in detailed design.

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

SEPP Housing requirements are included in Appendix 1 of this report and general accessibility requirements within Appendix 2, to guide the detailed design. Best Practice options are provided within Appendix 3 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.

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1 Project Description

The project entails a Seniors Living Development that provides six (6) apartments over two levels with additional basement car parking. Each apartment provides three bedrooms, two bathrooms and open plan living areas.



Figure 1 | Proposed Development

2 Reviewed Documentation

Documentation prepared by Popov Bass has been reviewed as follows:

dwg no.	drawing name	revision
DA100	Title Page	D
DA101	Demolition Plan	A
DA102	Site Analysis Plan	D
DA103	Site Plan	D
DA104	Basement Plan	D
DA105	Ground Floor Plan	D
DA106	Level 01 Plan	D
DA107	Roof Plan	D
DA108	Post Adaption Plans	D
DA109	West & East Elevations	D
DA110	North & South Elevations	D
DA111	Sections AA & BB	D
DA112	Section CC & DD	D
DA113	GFA / Landscape/ POS Calculations	D
DA114	Shadow Diagrams	D
DA115	Shadow Diagrams	D
DA116	Shadow Diagrams	D
DA117	Sun Eye Diagrams	D
DA118	Sun Eye Diagrams	D
DA119	Sun Eye Diagrams	D
DA120	Exterior Palette & Perspectives	D
DA121	Notification Plan	D



3 Legislation

Access assessment has been made against Access Legislation including:

- State Environmental Planning Policy – Housing 2021 – 12 August 2022
- 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 2019 (BCA)
 - Section D2.14 / D2.15 / D2.17 – landings, thresholds and slip resistance
 - Section D3 – Access for People with Disabilities
 - Section E3.6 – Passenger Lifts
 - Section F2.4 – 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 AS4299 – Adaptable Housing
- Australian Standard AS1735.12 – Lifts, escalators and moving walks: Lifts for persons with a disability

A summary of the requirements of relevant legislation follows.

SEPP Housing 2021

Housing SEPP incentivises the supply of affordable and diverse housing in the right places and for every stage of life and ensures that the home building sector is well-placed to assist the economic recovery of NSW following the COVID-19 pandemic.

It consolidates five housing-related policies being:

- State Environmental Planning Policy (Affordable Rental Housing) 2009 (ARHSEPP);
- State Environmental Planning Policy (Housing for Seniors and People with a Disability) 2004 (Seniors SEPP);
- State Environmental Planning Policy No 70 – Affordable Housing (Revised Schemes) (SEPP 70);
- State Environmental Planning Policy No 21 – Caravan Parks; and
- State Environmental Planning Policy No 36 – Manufactured Home Estates.



Chapter 3, Part 5 relates to Housing for Seniors and People with a Disability providing development standards for the design of seniors housing. Schedule 4 Standard concerning Accessibility and usability for hostels and independent living units needs to be implemented.

The Department of Planning and Environment issued an **Explanation of Intended Effect** (EIE) on November 2022 that outlines proposed amendments to the in-fill affordable housing, group homes, supportive accommodation and social housing provision of the SEPP Housing 2021. This includes **Appendix 4: Proposed reforms to the accessibility and disability standards for independent living units**. The proposed amendments have been considered in the preparation of this report.

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

The Disability (Access to Premises – buildings) Standards 2010 (the Premises Standards) commenced on 1 May 2011. Any application for a building approval for a new building or upgrade of an existing building on or after that date 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.

The BCA for Class 9b buildings requires access for people with disabilities to and within all areas usually used by the occupants and to wheelchair seating spaces provided in accordance with D3.9. Access need not be provided to every tier / platform within an auditorium.

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.

- Australian Standard AS1428.1 (2009) Amendment 1 & 2, – Design for Access and Mobility contains access requirements that are mandatory for the provision of access for persons with a disability and is referred by the BCA
- Australian Standard AS1428.2(1992) – Design for Access and Mobility: Enhanced and additional requirements – Buildings and facilities provides enhanced and best practice requirements that will minimize DDA risk
- 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

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.



4 SEPP Housing – Siting Requirements

The proposed development has been designed to reflect the requirements of the SEPP Housing 2021 for seniors housing. This development contains self-contained dwellings. Therefore, the requirements of SEPP Division 4, clause 93: Location and Access to Facilities and Division 6 clause 104: Accessibility are relevant.

4.1 SEPP Clause 93 Location & Access to Facilities

A SEPP development must offer access to services such as shops, banks, retail services, commercial services, recreational facilities, community facilities and doctors. These facilities are to be located within 400m of the site via a pathway that provides a suitable access pathway.

The SEPP states that a **suitable access pathway** is a path of travel by means of a sealed footpath or other similar and safe means that is suitable for access by means of an electric wheelchair, motorized cart or the like.

Further, the SEPP defines **wheelchair access** as follows (clause 3: interpretation)
wheelchair access, in relation to any 2 points, means a continuous path of travel between those points that can be negotiated by a person using a wheelchair.

The overall aims of the SEPP are to:

- increase the supply and diversity of residences that meet the needs of seniors or people with a disability, and
- make efficient use of existing infrastructure and services, and
- be of good design.

For development within the Sydney Statistical Division, these services must be located at a distance no greater than 400m from the site or access to a public transport service. The public transport service must be available both to and from the development at least once between 8am and 12pm per day and at least once between 12pm and 6pm each day from Monday to Friday (both days inclusive). The suitable access pathway is to be provided from the development to the transport service within the meaning of the SEPP (average gradient of 1:14 maximum).

Within the SEPP, a **suitable access pathway** has an average gradient of 1:14. Other allowable gradients include 1:12 for a length of up to 15m, 1:10 for a length of up to 5m and 1:8 for a length of up to 1.5m.

Compliance Summary:

Compliant

Commentary:

We note that a senior's living development has previously been approved on this site.



The **Keoride Service** – being an on-demand public transport service – will be relied upon for access to facilities and services. Refer to Appendix 5 for details.

We note that the Transport Assessment Report prepared by Arc Traffic + Transport outlines the service in full detail.

4.2 SEPP Clause 104– Accessibility

A SEPP development should have obvious and safe pedestrian links from the site that provide access to public transport services or local facilities. A development should provide attractive, yet safe, environments for pedestrian and motorists with convenient access and parking for residents and visitors.

Compliance Summary:

Compliant

Commentary:

The proposed development meets the intent of this Clause with links to the Keoride on-demand public transport service.

Carparking is provided for residents within the secure basement carparking with lift access to unit entrances.



5 SEPP – Schedule 4

Part 1 Standards Concerning Accessibility & Usability for Hostels and Independent Living Units

5.1 Schedule 4, Clause 1 – Application

The standards set out in this Part apply to any seniors housing that consists of hostels or independent living units.

5.2 Schedule 4, Clause 2 – Siting Standards

This Clause contains 3 parts regarding siting standards as follows.

(1) Wheelchair Access

Where the whole of the site has a gradient of less than 1:10, 100% of the dwellings must have wheelchair access by a continuous path of travel within the meaning of AS1428 to an adjoining public road.

(2) If the whole of the site does not have a gradient of less than 1:10:

- a) the percentage of dwellings that must have wheelchair access must equal the proportion of the site that has a gradient of less than 1:10, or 50%, whichever is the greater, and
- b) the wheelchair access provided must be by a continuous accessible path of travel (within the meaning of AS 1428.1) to an adjoining public road or an internal road or a driveway that is accessible to all residents.

(3) Common Areas

Access must be provided in accordance with AS 1428.1 so that a person using a wheelchair can use common areas and common facilities associated with the development.

Compliance Summary:

Compliant

Commentary:

The applicable siting standard for this development is (1) only. The site has an overall gradient less than 1: 10 and no community facilities are provided.

All of the units on the site are accessible to persons with a disability given the overall gradients shown on the site plan. Each dwelling has direct access to the street footpath along Bardo Road.



5.3 Clause 3 – Security

Pathway lighting is to be designed and located to avoid glare for pedestrians and adjacent dwellings. Lighting to be minimum 20 lux at ground level.

Compliance Summary:

To be addressed during detailed design.

5.4 Clause 4 – Letterboxes

Letterboxes are required to be lockable, in a central location and be accessible to persons using a wheelchair via an accessible path of travel as per As1428.1.

Compliance Summary:

Capable of compliance

Commentary:

We assume that letterboxes will be provided at the pedestrian entrance to the site.

An accessible path of travel is provided from the letterboxes to the entrance of each unit – lift access is available.

Letterboxes should be provided on a hard standing within the accessible height range of 600-1100mm above ground level to assist persons using a wheelchair / scooter.

5.5 Clause 5 – Private Car Accommodation

If car parking (not being for employees) is provided, carparking spaces must comply with the requirements for parking for persons with a disability set out in AS2890.6 and,

- 10% of the total number of car parking spaces (or at least one space if there are fewer than 10 spaces) must be designed to enable the width of the spaces to be increased to 3.8m and,
- Any garage must have a power operated door.

Compliance Summary:

Compliant configuration

Commentary:

Each unit is provided with a double garage – Apartment 6 offers an arrangement in keeping with AS2890.6. Other apartments are provided with a 6500mm wide garage that will accommodate accessible carparking.

We note that the arrangement will meet the EIE proposed amendments to Schedule 4.



5.6 Clause 6 – Accessible Entry

Every entrance to each residence, whether it be the front entry or not, must comply with Clauses 4.3.1 and 4.3.2 of AS4299. Clauses 4.3.1 and 4.3.2 of AS4299 require the entry door to comply with AS1428.2 – 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).

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:

Compliant configuration

Commentary:

Adequate circulation areas provided at each doorway.

Door leaf sizes of 920mm should be used as a minimum which will achieve clear width of 850mm.

The requirement for door hardware should be implemented during detailed design.

5.7 Clause 7 – Interior

Widths of internal corridors 1000mm and circulation at internal doorways must comply with AS1428.1.

Compliance Summary:

Compliant configuration

Commentary:

Adequate circulation areas provided as shown on the Post Adaptation Plan (DA108). This includes removal of joinery items to achieve AS1428.1 circulation requirements.

This approach is deemed acceptable based on the EIE proposed amendments to Schedule 4.

All corridors within the dwellings meet the required width of 1000mm minimum.



5.8 Clause 8 – Main Bedroom

At least one bedroom is required to have adequate space for a wardrobe and a queen size bed with minimum 1200mm wide circulation at the foot of the bed, 1000mm between the bed and wall / wardrobe or any other obstruction. There are also requirements for locations of GPOs and telephone outlets and illumination levels.

Compliance Summary:

Compliant

Commentary:

The main bedroom within each unit offers adequate circulation areas.

Additional requirements listed above to be implemented during detailed design.

5.9 Clause 9 – Bathroom

At least one bathroom must be located on the entry level and have circulation areas that complies with AS1428.1, slip resistant floor, shower minimum 1100x1160mm with future provision for accessible features, washbasin capable of adaption to comply with AS1428.1 and a wall cabinet with illumination levels as described.

Compliance Summary:

Compliant

Commentary:

Ensuites to Bedroom 1 within each of the units are conducive to the requirements of an accessible bathroom, meeting the requirements of the SEPP.

Additional requirements listed above to be implemented during detailed design.

We note that the SEPP allows for future adaption of bathroom areas that reflect the individual needs of the residents.

5.10 Clause 10 – Toilet

A self-contained residence is required to have a toilet on the ground (or main) floor that complies with the requirements for sanitary facilities of AS4299. That is, a visitable toilet with 1250mm length and 900mm wide in front of toilet pan, clear of door swings and fixtures.

Compliance Summary:

Compliant

Commentary:

The toilet within the ensuite of each unit meets the requirements of AS4299 for a visitable toilet.



5.11 Clause 11 – Surface Finishes

Balconies and external paved areas must have slip resistant surfaces

Compliance Summary:

To be addressed during detailed design.

5.12 Clause 12 – Door Hardware

Door handles and hardware for all doors must be provided in accordance with AS4299.

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:

To be addressed during detailed design.

5.13 Clause 13 – Ancillary Items

Switches such as light switches must be located within the accessible height range of 900-1100mm above the floor level as required by AS4299.

Compliance Summary:

To be addressed during detailed design.

Part 2 Additional Standards for independent living units

5.14 Schedule 4, Clause 14– Application

The standards set out in this Part apply to any seniors housing that consists of independent living units.

5.15 Clause 15 – Living and Dining Room

Living areas within each residence are required to have circulation areas in accordance with AS4299, Clause 4.7. In this regard, an area with 2250mm diameter is required, clear of furniture. A telephone outlet adjacent to a general power outlet and illumination level of 300 lux is also a requirement for living areas.

Compliance Summary:

Compliant

Commentary:

The open plan arrangement of living / dining areas within each of the dwellings provides sufficient area to satisfy SEPP requirements for circulation spaces within living and dining rooms.

The requirement for telephone outlet, general purpose outlet and lux levels should be implemented during detailed design.



5.16 Clause 16 – Kitchen

A kitchen in a self-contained dwelling must have:

- Circulation space in accordance with AS4299, Clause 4.5.2 (1550mm between opposing benches)
- A width at door approaches complying with Clause 7 of this schedule
- Fittings and fittings in accordance with the relevant sub clauses of AS4299, Clause 4.5.

Compliance Summary:

Compliant

Commentary:

Kitchens within each dwelling have adequate width to accommodate 1550 mm clear between opposing benches in the post adapted layout (1200mm proposed at time of construction).

We note that the arrangement will meet the EIE proposed amendments to Schedule 4.

Additional requirements for kitchens as listed above, should be implemented during detailed design.

5.17 Clause 17 – Access to kitchen, main bedroom, bathroom and toilet

In multi-storey residences, the kitchen, main bedroom, bathroom and toilet must be located on the entry level.

Compliance Summary:

Compliant

Commentary:

All Units are designed over one level.

5.18 Clause 18 – Lifts in multi-storey developments

In a multi storey building containing self-contained dwellings, lift access must be provided to dwellings above the ground level by way of a lift complying with Clause E3.6 of the BCA.

Compliance Summary:

Capable of compliance

Commentary:

A lift is provided for access between levels of the development and offers compliance with regard to the overall size of the lift shaft.

The requirement for lifts should be implemented during detailed design.



5.19 Clause 19 – Laundry

A self-contained dwelling must have a laundry that has:

- A width at door approaches that complies with Clause 7 of this schedule.
- Provision for the installation of an automatic washing machine and a clothes dryer.
- A clear space in front of appliances of at least 1300mm
- Slip resistant floor
- An accessible path of travel to any clothesline.

Compliance Summary:

Compliant

Commentary:

Laundries are provided with adequate circulation areas.

Requirements such as floor finish and access to clothes lines to be implemented during preparation of the construction certificate documentation to ensure compliance.

5.20 Clause 20 – Storage

A self-contained dwelling must be provided with a linen cupboard in accordance with AS4299, Clause 4, 1, 1, 5. It should be at least 600mm wide that have adjustable shelving.

Compliance Summary:

Compliant

Commentary:

The requirement for adjustable shelving is to be implemented during detailed design.

5.21 Clause 21 – Garbage

A garbage storage area must be provided in an accessible location.

Compliance Summary:

Compliant

Commentary:

A central garbage storage area is provided at the basement level in an accessible location – adequate door circulation is provided.

6 BCA | Access and Approach + External Areas Generally

The approach to the building needs to be considered when considering access for persons with a disability. The BCA has three requirements for the approach to the building for persons with a disability.

An accessible path of travel is required to the building entrance from the allotment boundary at the main points of pedestrian entry, from accessible carparking areas and from any adjacent and associated accessible building.

In this instance, the approach to the building has been considered as follows:

- from the allotment boundary at the pedestrian entrance along Bardo Road to the building entrance;
- from the carparking area to the building entrance.

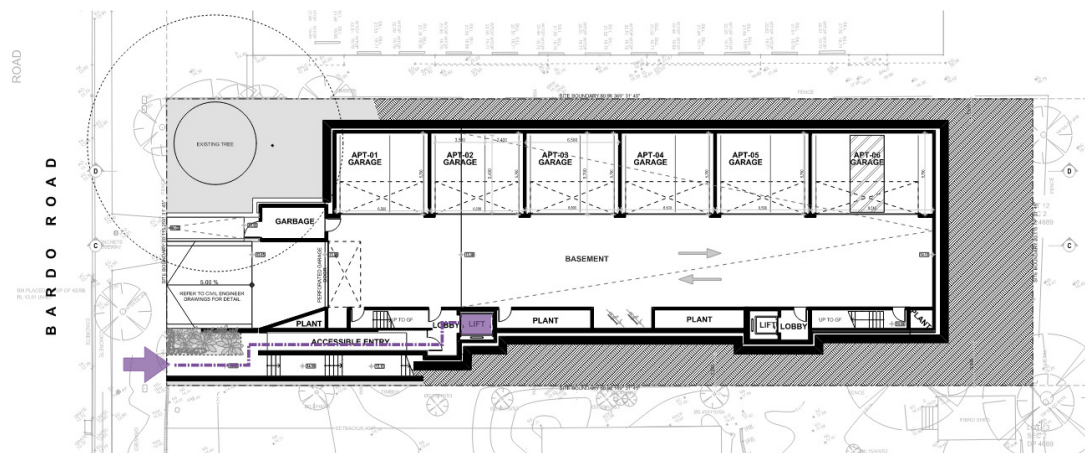


Figure 2 | Overall Site Plan

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:

Compliant | Compliant configuration | Capable of compliance |
To be confirmed | Not yet compliant

Commentary:

An accessible path of travel is provided to the building entrance from the allotment boundary along Hunter Street via pathways that are level.



6.2 Approach from Carparking

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

Compliance Summary:

Compliant

Commentary:

Level access is available between the car parking and the lift at the basement level.

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.

Compliance Summary:

Compliant configuration

Commentary:

Accessways are a minimum 1200mm wide and provide a level surface. Adequate circulation areas are achievable at changes in direction.

6.4 Stairs

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

Compliance Summary:

Capable of compliance

Commentary:

Stairs are provided as a part of the pedestrian access from Bardo Road to the building entrance. The overall configuration is capable of compliance with current accessibility legislation.

Detailed design to include the provision of handrails with extension to both sides, tactile indicators top and bottom and contrasting non-slip nosing strips to stair treads.



6.5 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.

Compliance Summary:

Compliant configuration

Commentary:

A single hinged doorway is provided to the lift lobby at the basement level as part of the accessible entrance to the building.

Adequate circulation areas and a level threshold are achievable at the doorway.



7 BCA | Interior

The interior areas subject to accessibility requirements include the residential common areas being the entry foyer and corridors. The following do not apply to individual units. There are no sanitary facilities provided for use in common.

7.1 Extent of Access Generally – BCA

Within a residential development, 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.

Compliance Summary:

Compliant

7.2 Circulation Areas

BCA (Clause D3.3) 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.

Compliance Summary:

Compliant

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:

Compliant configuration

Commentary:

Doorways within the accessible path of travel generally achieve the required circulation areas.



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 Exempt Areas

BCA Clause D3.4 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

7.6 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. Refer to AS1428.1(2009), Clause 7.2 for further details.

Compliance Summary:

To be addressed during detailed design stages

7.7 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.

7.8 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.

Compliance Summary:

To be addressed during detailed design stage.



7.9 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 per AS1428.1, Clause 6.6.

Compliance Summary:

To be addressed during detailed design stage.

7.10 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 D3.8).

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.

7.11 Signage

Signage to identify sanitary facilities, hearing augmentation and required exits are to be provided in accordance with BCA Clause D3.6. 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 | Vertical Circulation

A lift provides the main means of access between levels of the building. It is located centrally within the development in conjunction with the stairs.

8.1 Lift

Where 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:

The overall size of the lift shaft is capable of accommodating a lift car of adequate dimensions for compliance with BCA.

8.2 Stairs

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

Compliance Summary:

Compliant configuration

Commentary:

Overall configuration is in keeping with current legislation. Ensure provision of handrails with extensions both sides, tactile indicators top and bottom and contrasting non-slip nosings to treads.

8.3 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.



9 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.



Appendix 1 | SEPP Housing 2021 Requirements (Seniors Living)



Part 1 Standards applying to hostels and independent living units

1. Application of standards in this Part

The standards set out in this Part apply to any seniors housing that consists of hostels or self-contained dwellings.

2. Siting standards

1) Wheelchair access

If the whole of the site has a gradient of less than 1:10, 100% of the dwellings must have wheelchair access by a continuous accessible path of travel (within the meaning of AS 1428.1) to an adjoining public road.

2) If the whole of the site does not have a gradient of less than 1:10:

- a) the percentage of dwellings that must have wheelchair access must equal the proportion of the site that has a gradient of less than 1:10, or 50%, whichever is the greater, and
- b) the wheelchair access provided must be by a continuous accessible path of travel (within the meaning of AS 1428.1) to an adjoining public road or an internal road or a driveway that is accessible to all residents.

Note. For example, if 70% of the site has a gradient of less than 1:10, then 70% of the dwellings must have wheelchair access as required by this subclause. If more than 50% of the site has a gradient greater than 1:10, development for the purposes of seniors housing is likely to be unable to meet these requirements.

3) Common areas

Access must be provided in accordance with AS 1428.1 so that a person using a wheelchair can use common areas and common facilities associated with the development.

3. Security

Pathway lighting:

- a) must be designed and located so as to avoid glare for pedestrians and adjacent dwellings, and
- b) must provide at least 20 lux at ground level.

4. Letterboxes

Letterboxes:

- a) must be situated on a hard-standing area and have wheelchair access and circulation by a continuous accessible path of travel (within the meaning of AS1428.1), and
- b) must be lockable, and
- c) must be located together in a central location adjacent to the street entry or, in the case of self-contained dwellings, must be located together in one or more central locations adjacent to the street entry.



5. Private car accommodation

If car parking (not being car parking for employees) is provided:

- a) car parking spaces must comply with the requirements for parking for persons with a disability set out in AS 2890.6, and
- b) 10% of the total number of car parking spaces (or at least one space if there are fewer than 20 spaces) must be designed to enable the width of the spaces to be increased to 3.8 metres, and
- c) any garage must have a power-operated door, or there must be a power point and an area for motor or control rods to enable a power-operated door to be installed at a later date.

6. Accessible entry

Every entry (whether a front entry or not) to a dwelling, not being an entry for employees, must comply with clauses 4.3.1 and 4.3.2 of AS 4299.

7. Interior: general

- 1) Internal doorways must have a minimum clear opening that complies with AS1428.1.
- 2) Internal corridors must have a minimum unobstructed width of 1,000 millimetres.
- 3) Circulation space at approaches to internal doorways must comply with AS 1428.1.

8. Bedroom

At least one bedroom within each dwelling must have:

- a) an area sufficient to accommodate a wardrobe and a bed sized as follows:
 - i) in the case of a dwelling in a hostel—a single-size bed,
 - ii) in the case of a self-contained dwelling—a queen-size bed, and
- b) a clear area for the bed of at least:
 - i) 1,200 millimetres wide at the foot of the bed, and
 - ii) 1,000 millimetres wide beside the bed between it and the wall, wardrobe or any other obstruction, and
- c) 2 double general power outlets on the wall where the head of the bed is likely to be, and
- d) at least one general power outlet on the wall opposite the wall where the head of the bed is likely to be, and
- e) a telephone outlet next to the bed on the side closest to the door and a general power outlet beside the telephone outlet, and
- f) wiring to allow a potential illumination level of at least 300 lux.

9. Bathroom

- 1) At least one bathroom within a dwelling must be on the ground (or main) floor and have the following facilities arranged within an area that provides for circulation space for sanitary facilities in accordance with AS 1428.1:
 - a) a slip-resistant floor surface,
As there is no real guidance with SEPP or Australian standards with respect to slip resistance, we recommend a rating of R10 be achieved



in bathroom areas – this is based on HB-107 Table 3, ensuite within aged care facilities

- b) a washbasin with plumbing that would allow, either immediately or in the future, clearances that comply with AS 1428.1,
- c) a shower that complies with AS 1428.1, except that the following must be accommodated either immediately or in the future:
 - i) a grab rail,
 - ii) portable shower head,
 - iii) folding seat,
- d) a wall cabinet that is sufficiently illuminated to be able to read the labels of items stored in it,
- e) a double general power outlet beside the mirror.

- 2) Subclause (1) (c) does not prevent the installation of a shower screen that can easily be removed to facilitate future accessibility.

10. Toilet

A dwelling must have at least one toilet on the ground (or main) floor and be a visitable toilet that complies with the requirements for sanitary facilities of AS 4299.

11. Surface finishes

Balconies and external paved areas must have slip-resistant surfaces.

Note. Advice regarding finishes may be obtained from AS 1428.1.

As there is no real guidance with SEPP or Australian standards with respect to slip resistance, we recommend a rating of R10 be achieved in bathroom areas – this is based on HB-107 Table 3, external colonnades and walkways.

12. Door hardware

Door handles and hardware for all doors (including entry doors and other external doors) must be provided in accordance with AS 4299.

13. Ancillary items

Switches and power points must be provided in accordance with AS 4299.

Light switches to be installed within the accessible height range of 900-1100mm affl and not less than 500mm from an internal corner.

Power points to be installed at a height not less than 600mm with a preferred height of 1000mm and not less than 500mm from an internal corner.

Part 2 Additional standards for self-contained dwellings

14. Application of standards in this Part

The standards set out in this Part apply in addition to the standards set out in Part 1 to any seniors housing consisting of self-contained dwellings.



15. Living room and dining room

- 1) A living room in a self-contained dwelling must have:
 - a) a circulation space in accordance with clause 4.7.1 of AS 4299, and
 - b) a telephone adjacent to a general power outlet.
- 2) A living room and dining room must have wiring to allow a potential illumination level of at least 300 lux.

16. Kitchen

A kitchen in a self-contained dwelling must have:

- a) a circulation space in accordance with clause 4.5.2 of AS 4299, and
- b) a circulation space at door approaches that complies with AS 1428.1, and
- c) the following fittings in accordance with the relevant subclauses of clause 4.5 of AS 4299:
 - i) benches that include at least one work surface at least 800 millimetres in length that comply with clause 4.5.5 (a),
 - ii) a tap set (see clause 4.5.6),
 - iii) cooktops (see clause 4.5.7), except that an isolating switch must be included,
 - iv) an oven (see clause 4.5.8), and
- d) “D” pull cupboard handles that are located towards the top of below-bench cupboards and towards the bottom of overhead cupboards, and
- e) general power outlets:
 - i) at least one of which is a double general power outlet within 300 millimetres of the front of a work surface, and
 - ii) one of which is provided for a refrigerator in such a position as to be easily accessible after the refrigerator is installed.

17. Access to kitchen, main bedroom, bathroom and toilet

In a multi-storey self-contained dwelling, the kitchen, main bedroom, bathroom and toilet must be located on the entry level.

18. Lifts in multi-storey buildings

In a multi-storey building containing separate self-contained dwellings on different storeys, lift access must be provided to dwellings above the ground level of the building by way of a lift complying with clause E3.6 of the Building Code of Australia.

19. Laundry

A self-contained dwelling must have a laundry that has:

- a) a circulation space at door approaches that complies with AS 1428.1, and
- b) provision for the installation of an automatic washing machine and a clothes dryer, and
- c) a clear space in front of appliances of at least 1,300 millimetres, and
- d) a slip-resistant floor surface, and
- e) an accessible path of travel to any clothes line provided in relation to the dwelling.



20. Storage for linen

A self-contained dwelling must be provided with a linen storage in accordance with clause 4.11.5 of AS 4299.

21. Garbage

A garbage storage area must be provided in an accessible location.



Appendix 2 | 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.

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 D3.8 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.

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.



Circulation Areas Generally

BCA (Clause D3.3) 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.

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.

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.

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. AS1428.1, Clause 6.6.

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 D3.8).

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 D3.6 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 E4.5 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 D3.6 including provision of Braille locator for multiple lines of text and characters.

Exit Level G

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 as required by the BCA, Clause E3.6.



- b. Minimum internal dimensions of the lift car to be 1100mm wide x 1400mm deep BCA, Clause E3.6 – 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 D3.8 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).

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



Appendix 3 | 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.

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 or 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.

Luminance Contrast

Luminance contrast assists people with a vision impairment to navigate the built environment. Mandatory items that require luminance contrast are tactile indicators, accessible toilet seats and doorways as outlined in other sections of this report. The following can also be provided as a best practice measure to ensure ease of use:

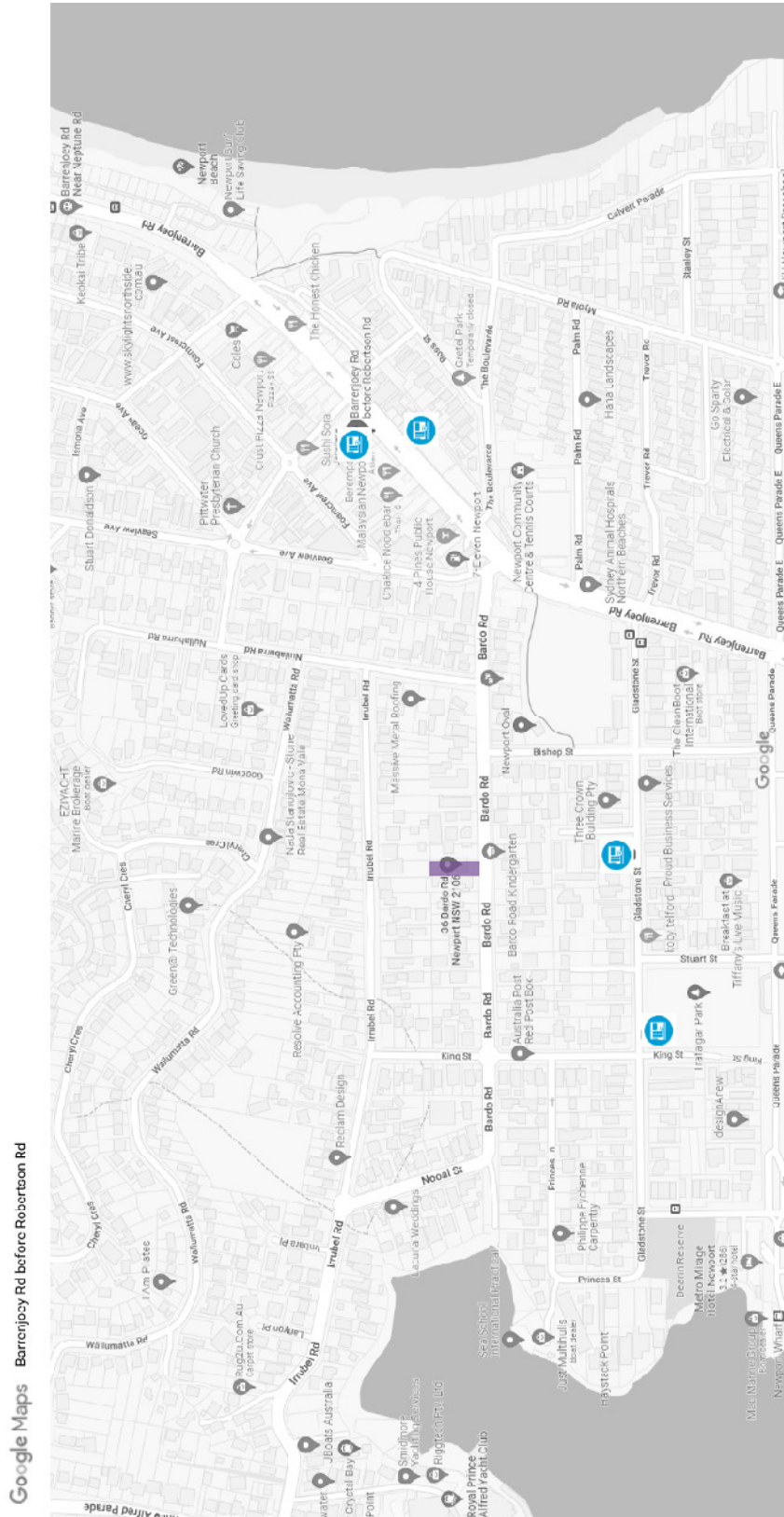
- Minimum 30% luminance contrast between floors and walls or between walls and skirting boards;
- Minimum 30% luminance contrast between the ground surface and obstructions such as columns, bollards and street furniture;
- To assist people with a vision impairment, locate the building entrance, consider providing features with a minimum 30% luminance contrast to the background surface such as an entry mat or awning.
- Minimum 30% luminance contrast between the floor and the entrance mat (this allows people with vision impairment to locate the entrance);
- Minimum 30% luminance contrast between walls and handrails.

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.



Appendix 4 | Location of Bus Stops





Appendix 5 | Keoride Service

Information about the Keoride service can be found at <https://www.kdnorthernbeaches.com.au/keoride/>.

Key features include the following:

- Keoride is an on-demand public transport system that operates throughout the Northern Beaches (see route map following).
- The service is designed to connect users to designated transport hubs, B-Line and other key bus stops, and popular destinations like shopping centres or hospitals within the service area.
- The service is booked using the mobile app. A Keoride vehicle will pick the user up from a nearby pick-up point and take them to one of the nominated Keoride hubs for the cost of a public transport fare.
- The service is built to complement the popular B-Line and other routes 'turn-up-and-go' frequency and provide better public transport connections for customers.
- Keoride is fully accessible with vehicles equipped with kerb-side technology and ramps to transport wheelchairs and prams easily.
- The On Demand service currently operates from Narrabeen out to Ingleside and north up to Palm Beach

We understand that the use of this transport system has been relied upon for other seniors living developments throughout the Northern Beaches, being considered more convenient than the traditional public transport service.

Keoride on demand public transport Northern Beaches service area

