



Disability Access Report

Proposed Residential Development

Lot 1 DP 204077

11-17 Mosbri Crescent

THE HILL NSW

For: Crescent Newcastle Pty Ltd

Ref: LP_18187



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 Revision 3 Revision 4	26 October 2018 8 December 2018 13 December 2018 19 January 2019 18 January 2022
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Clarifications:

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

Any dimensions quoted throughout this report and within Australian Standards are CLEAR dimensions, not structural.

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.

Definitions:

The following terminology has been used throughout this report:

Capable of compliance | compliance is achievable through detailed design
Compliant | compliance with current accessibility legislation has been achieved
Compliant Configuration | circulation and spatial planning requirements are compliant
Not Yet Complaint | 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 Residential Development located at 11-17 Mosbri Crescent The Hill, has been reviewed against current accessibility legislation.

The following table summarises our findings.

Item No.	Description	Compliance Status
Access and Approach		
4.1	Approach from Street Boundary	Compliant
4.2	Approach from Accessible Carparking	Compliant
4.3	Approach between Buildings	Compliant
4.4	Pathways	Capable of compliance
4.5	Accessible Carparking	Capable of compliance
4.6	Accessible Ramps	Capable of compliance
4.7	Stairs	Capable of compliance
4.8	Pedestrian Crossing	Capable of compliance
4.9	Entrances	Capable of compliance
Interior		
5.1	Extent of Access Generally	Compliant
5.2	Circulation Areas	Compliant
5.3	Doorways	Capable of compliance
5.4	Exempt Areas	Compliant
5.5	Floor Finishes	To be addressed during detailed design
5.6	Carpet	To be addressed during detailed design
5.7	Controls	To be addressed during detailed design
5.8	Visual Indication to Glazing	To be addressed during detailed design
5.9	Tactile Indicators	To be addressed during detailed design
5.10	Signage	To be addressed during detailed design
5.11	Access to Swimming Pools	To be addressed during detailed design
5.12	Thresholds	To be addressed during detailed design
5.13	Slip Resistance	To be addressed during detailed design
Vertical Circulation		
6.1	Lifts	Capable of compliance
6.2	Walksway	Capable of compliance
6.3	Stairs	Capable of compliance
6.4	Fire Egress Stairs	Capable of compliance
Livable Housing		
7.1	Dwelling Access	Compliant
7.2	Dwelling Entrance	Capable of compliance
7.3	Internal Corridors and Doors	Capable of compliance
7.4	Toilet	Compliant
7.5	Shower	Compliant
7.6	Reinforcement of Bathroom Walls	To be addressed during detailed design
7.7	Internal Stairways	Capable of compliance



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

A handwritten signature in black ink, appearing to read 'L. Perry'.

LINDSAY PERRY

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1 Project Background

The proposed development is a residential development.



Figure 1 | Proposed Development

The Development Application (DA) seeks approval for:

- Demolition of all existing structures;
- Earthworks;
- Construction of residential accommodation comprising 172 dwellings, being:
 - Eleven (11) two storey townhouse style dwellings fronting Mosbri Crescent, located above a basement car park containing 32 visitor spaces and 13 resident spaces;
 - Three (3) residential flat buildings (Buildings A, B, and C) containing 161 dwellings, ranging from one to three bedrooms; being
 - Building A including a nine (9) storey east wing and six (6) storey west wing;
 - Building B comprising seven (7) storeys and a roof top communal open space, with (9) town house style dwellings facing the internal courtyard;
 - Building C comprising five (5) levels;
- Interconnected car parking for Building A, B & C located on the ground floor and first level, containing 3 visitor spaces and 194 resident spaces;
- Pedestrian path, providing connection from Mosbri Crescent to Kitchener Parade; and
- Associated landscaping, communal open space, services and site infrastructure.

The development includes a public through-site link between Mosbri Crescent and Kitchener Parade. Due to the topography of the site, this link is not accessible to people with limited mobility having stairs. The inaccessible public link does not impact the accessibility of the proposed development which offers an accessible path of travel between the Mosbri Crescent footpath and apartment building entrances.

2 Reviewed Documentation

Architectural documentation Marchese Partners has been reviewed as shown in Appendix 1 | Architectural Documentation:



3 Council Requirements

The Newcastle Development Control Plan 2012 is applicable to this site. Part 3.03 Residential Development (3.03.04 Configuration) includes a requirement for universal design features to be included in dwellings to promote flexible housing for all community members and references the Livable Housing Design Guidelines Silver Level universal design features.

In this regard, we note that SEPP 65 also has a requirement for Livable Housing Design Guidelines Silver Level design features. As such, Livable Housing requirements have been addressed in Section 7 of this report.

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 2019, Amendment 1 (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 AS1735.12 – Lifts, escalators and moving walks: Lifts for persons with a disability
- State Environmental Planning Policy 65 – Residential Design Quality of Residential Apartment Development (SEPP65) – 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

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.

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.

SEPP 65 Residential Design Quality of Residential Apartment Development.

The Apartment Design Guide includes a requirement for livable housing. Developments are to provide a minimum 20% of apartments that achieve silver level for livable housing.

Livable Housing Australia Design Guidelines

The Livable Housing Design Guidelines, 2017 include Silver, Gold and Platinum Level which cater to differing levels of accessibility.

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 this report.

5.2 New Work and The Affected Part

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 work 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

The new work and affected part provisions are not applicable to new developments.



4.2 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:

Compliant

Commentary:

Carparking is provided at the lower ground floor and ground floor levels for residents and visitors. There is an accessible visitor carparking space located at the ground floor level. An accessible path of travel is available between the space and the Building A lifts.

The carparking provided at the lower ground floor level contains no accessible carparking and as such, a lift does not extend to this level.

Townhouses are provided with an option for an internal lift to facilitate access between carparking (lower ground floor level) and the habitable levels.

For apartment blocks, lift access is provided from ground floor carparking areas to all residential levels.

4.3 Approach between Buildings

The BCA requires that a continuous accessible path of travel be provided between associated accessible buildings.

Compliance Summary:

Compliant

Commentary:

Pedestrian links are provided between each of the apartment building entrances and the communal open spaces provided within the development. Levels provided show that the pedestrian link is conducive to the provision of an accessible path of travel within the meaning of AS1428.

4.4 Pathways 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:

Capable of compliance

Commentary:

Pedestrian links are provided between each of the apartment building entrances and the communal open spaces provided within the development. Levels provided show that the pedestrian link is conducive to the provision of an accessible path of travel within the meaning of AS1428.



Accessibility Requirements:

For compliance with AS1428.1, the following access requirements apply.

- 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.

4.5 Carparking

While there is no requirement within the BCA for the provision of accessible carparking within a Class 2 development, accessible visitor carparking has been provided at the ground floor level carparking area within Building A and Building B. a total of three (3) accessible spaces are provided.

Compliance Summary:

Compliant configuration

Commentary:

Overall configuration of the accessible carparking achieves compliance with current accessibility requirements.

Accessibility Requirements:

Access requirements for the accessible carparking are as follows.

- 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.
- 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, 1:33 (for outdoor spaces). 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.
- a. 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)

Shared space to be identified using yellow slip-resistant & unbroken stipes 150 to 200mm wide with spaces 200 to 300mm between stripes. Stipes to be at an angle of 45° to the side of the space.

4.6 Accessible Ramps

An accessible ramp forms a part of the accessible path of travel to the entrance of Building B and communal areas.

Compliance Summary:

Capable of compliance

Commentary:

The overall configuration accessible ramps achieves compliance with current accessibility requirements.

Accessibility Requirements:

Access requirements for the accessible ramp are as follows.

- a. Ramp to comply with AS1428.1, Clause 10.3. Maximum allowable gradient of the ramp is 1:14, minimum clear width to be 1000mm and maximum length between landings to be 9m (for 1:14 gradient).
- b. Accessible ramp is to have a maximum rise of 3.6m (BCA Clause 3.11).
- c. The ramp is required to be set back a minimum 900mm from the property boundary (AS1428.1, Clause 10.3 (f)). This allows tactile indicators and handrail extensions to occur within the boundary and not protrude into the footpath area.
- d. Provide handrails, with extensions, to both sides of the ramp to comply with AS1428.1, Clause 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 ramp to cater for left and right-handed disabilities.



- e. Where ramp is not enclosed, provide kerb rails in accordance with AS1428.1. 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.
- f. Provide tactile indicators at the top and bottom of the ramps 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. For discrete tactile indicators, 45% luminance contrast is required (60% where two-tone indicators are used).

4.7 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 throughout the site between building entrances and to communal areas. They also form part of the public pedestrian link between Mosbri Crescent and Kitchener Parade.

Accessibility Requirements:

Access requirements for stairs are as follows and should be addressed during preparation of the construction certificate documentation to ensure compliance.

- a. Stairs to comply with AS1428.1(2009), Clause 11.2.
- b. Where the stair intersects the property boundary, the stair shall be set back a minimum of 900mm so that handrail extensions and tactile indicators do not protrude into the traverse path of travel.
- c. 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.
- d. 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.



- 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.

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).

4.8 Pedestrian Crossing

There is a marked pedestrian crossing on the site that links the public pedestrian access footpath to the internal site links across the driveway / vehicular entrance.

Compliance Summary:

Capable of compliance

Accessibility Requirements:

Where kerb ramps are to be provided at the roadway to provide an accessible path of travel for persons with a disability within kerb ramps are to offer compliance with AS1428.1 and include a maximum gradient of 1:8, maximum length of 1520mm and be aligned across the vehicular roadway.

Where the pedestrian crossing is at the same level as the roadway, provide tactile indicators to both sides of the roadway to alert persons with a vision impairment of the hazard. Tactile indicators to be 600-800mm deep across the width pedestrian crossing. Tactile indicators to be detectable, durable, non-slip and have a minimum 30% luminance contrast to the background colour.

4.9 Entrances

Entrances to the apartment buildings are required to be accessible to people with disabilities and offer compliance with AS1428.1 (2009). We note that the levels provided indicate that seamless transition is achievable at entrances.

Compliance Summary:

Compliant configuration

Commentary:

Double hinged doorways are provided for entrance to the apartment blocks. Adequate circulation areas are provided for compliance.



Accessibility Requirements:

The following access requirements apply to the entrance and should be addressed during preparation of the construction certificate documentation to ensure compliance.

- a. Entrances 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 thresholds 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. Doors 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.



5 BCA | Interior (Common Areas)

The interior areas subject to accessibility requirements include the residential common areas being the entry foyer, lift lobbies, corridors and communal open spaces at the ground floor level / roof top open space. The following requirements do not extend to individual apartments / townhouses.

5.1 Extent of Access Generally – BCA

Accessibility provisions of the BCA have generally been met. Access is provided to and within the communal areas of the development and to the door of individual sole occupancy units.

Compliance Summary:

Compliant

Commentary:

While stair access is provided to select townhouses from Mosbri Crescent, there will be an optional purchase upgrade for a lift that facilitates access between the carparking area and individual townhouses.

5.2 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.

Compliance Summary:

Compliant

5.3 Doorways Generally

AS1428 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 are provided with adequate circulation areas for compliance with current accessibility requirements.

Accessibility Requirements:

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.
- 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. Doorways to have minimum 30% luminance contrast as described in AS1428.1(2009), Clause 13.1.
- d. Doors to have hardware within the accessible height range of 900-1100mm above the finished floor level (AS1428.1(2009), Clause 13.5).

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.

- e. 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.

5.4 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. In this instance, the following areas are considered exempt areas: plant rooms; services areas; and the like.

5.5 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.

Compliance Summary:

To be addressed during detailed design stages.

5.6 Controls

New controls such as light switches, GPOs, alarm keypads, card swipes, intercoms, etc are to be located within the accessible height range of 900-1100mm above the floor level to comply with AS1428.1(2009), Clause 14. This should be implemented during construction to ensure compliance.

Compliance Summary:

To be addressed during detailed design stage.



5.7 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.

Compliance Summary:

To be addressed during detailed design stage.

5.8 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 are generally required to be 600-800mm deep across the width of the hazard and set back 300mm from the edge of the hazard (refer AS1428.4.1, Figure A1). 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.

5.9 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.

Accessibility Requirements:

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.



5.10 Access to Swimming Pools

The BCA requires access for persons with a disability to swimming pools with a total perimeter greater than 40m that are associated with as Class 1b, 2, 3, 5, 6, 7, 8, or 9 building that this required to be accessible (Table D3.1).

For pools required to be accessible by this clause, not less than one accessible entry / exit must be provided by means of a fixed or moveable ramp and an aquatic wheelchair;



or a zero-depth entry at a maximum gradient of 1:14; or a platform swimming pool lift; or a swing style swimming pool lift.

For pools with a perimeter greater than 70m, the use of a swing stile swimming pool lift is not permitted.

Compliance Summary:

No accessibility requirements.

Commentary:

There are two (2) swimming pools provided within the development. One within the communal areas at the ground floor level; the other at the roof-top level of Building B. Both have a perimeter of less than 40m and therefore there is no requirement for access for people with disabilities to the pools..

5.11 Thresholds

The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless in a building required to be accessible by Part D3, the doorway opens to a road or open space; and is provided with a threshold ramp or step ramp in accordance with AS 1428.1.

Compliance Summary:

To be addressed during detailed design stages.

5.12 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

Compliance Summary:

To be addressed during detailed design stage.



5 BCA | Vertical Circulation

Lifts provide the main access between levels of the development. A total of five (5) lifts are provided within the development – two within building A; two within Building B and one (1) within Building C. Stairs within the buildings are fire egress stairs.

5.1 Lifts

The size of the lifts will satisfy the requirements of AS1735.12 and we note that they are evenly distributed throughout the development.

Compliance Summary:

Capable of compliance

Accessibility Requirements:

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 1400mm wide x 1600mm deep BCA, Clause E3.6 – for a lift that travels over 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.



5.2 Stairs

Stairs are provided within the communal areas of the development. AS1428.1 has access requirements for all public access stairs and is applicable in this instance.

Compliance Summary:

Capable of compliance

Accessibility Requirements:

Access requirements for public access stairs are as follows.

- 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).



5.3 Fire Isolated Egress Stairs

Stairs are provided throughout the development to enable egress in the event of a fire.

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:

Capable of compliance

Commentary:

We note that staggered stairs are provided that will facilitate a handrail with a constant height.

Accessibility Requirements:

Accessibility requirements for the fire isolated egress stairs s as follows.

- 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 (BCA D2.17).

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; be a consistent height along the length of the stair – no vertical sections; have a clearance to the 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.



6 Livable Housing

The NSW Government promotes better apartment design across NSW through the State Environmental Planning Policy No. 65 – Design Quality of Residential Apartments Development. Developments are to provide a minimum 20% of apartments that achieve silver level for livable housing. Within this development, the internal arrangement of **ALL** apartments and townhouses are capable of achieving silver level livable housing requirements per the Livable Housing Design Guidelines – Fourth Edition as per Council requirements.

6.1 Dwelling Access

There is a safe, continuous, step-free pathway from the street entrance and/or parking area to a dwelling entrance that is level.

- Path of travel should be minimum 1000mm wide with no steps; an even, slip resistant surface; crossfall not more than 1:40; and maximum slope of 1:14.
- Where ramps are required, landings at 9m intervals are to be provided and are to be not less than 1200mm in length.
- Where a carparking space is relied upon as the safe and continuous pathway to the dwelling, it should be at least 3200mm wide....
- Step ramps where provided to have a maximum gradient of 1:10, clear width of 1000mm and maximum length of 1900mm.
- Where ramps adjoin gates or doorways, landings no less than 1200mm in length, exclusive of the door swing, are required.

Compliance Summary:

Compliant

Commentary:

Pedestrian pathways achieve a gradient less than 1:14.

6.2 Dwelling Entrances

There is at least one level (step-free) entrance into the dwelling to enable home occupants to easily enter and exit the dwelling.

- Entrance doors to have a clear opening with of 820mm and have a level transition (5mm allowable tolerance – where in excess of 5mm, threshold ramp up to 56mm high is allowable).
- Reasonable shelter from the weather is required.
- 1200x1200mm level landing area required on the arrival side of the door.

Compliance Summary:

Capable of compliance

Commentary:

Entrances offer shelter and the required landing area.

Door sizes and threshold details to be addressed during detailed design.



6.3 Internal Corridors and Doors

Internal doors and corridors facilitate comfortable and unimpeded movement between spaces.

- Doorways on the entry level used for living, dining, bedroom, bathroom, kitchen, laundry and sanitary compartment purposes to have a clear opening with of 820mm and level transition between surfaces (5mm allowable tolerance).
- Corridors to be 1000mm wide.

Compliance Summary:

Capable of compliance

Commentary:

Corridors offer adequate clear width.

Door sizes and threshold details to be addressed during detailed design.

6.4 Toilet

The ground (or entry) level has a toilet to support easy access for home occupants and visitors.

- A toilet on the ground / entry floor is required to have a circulation area in front of the toilet pan 900x1200mm and be located in a corner of a room.

Compliance Summary:

Compliant

6.5 Shower

The bathroom and shower are designed for easy and independent access for all home occupants.

- A bathroom is required to have a non-slip hobless shower, located in a corner.

Compliance Summary:

Compliant

6.6 Reinforcement of Bathroom & Toilet Walls

The bathroom and toilet walls are built to enable grabrails to be safely and economically installed.

- Walls to enable safe installation of grabrails to toilet, bath and shower.
- Reinforcement to be in the form of 25mm noggins or 12mm plywood sheeting.

Compliance Summary:

To be addressed during detailed design stages.

6.7 Internal Stairways

Where installed, stairways are designed to reduce the likelihood of injury and also enable future adaptation.

- Stairs to have a continuous handrail to one side of the stair where the rise is greater than 1m.

Compliance Summary:

To be addressed during detailed design.



7 Conclusion

This report demonstrates that the fundamental aims of accessibility legislation are achievable within the Proposed Residential Development located at 11-17 Mosbri Crescent The Hill. 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 | Reviewed Documentation

DEVELOPMENT APPLICATION - PROPOSED RESIDENTIAL FLAT BUILDINGS
& TOWNHOUSES

11 - 17 MOSBRI CRESCENT, THE HILL

DEC 2021

DRAWING SCHEDULE

DRAWING NO.	TITLE	SCALE	DRAWING NO.	TITLE	SCALE	DRAWING NO.	TITLE	SCALE
DA0.00	PRELIMINARIES		DA4.33	UNIT TYPE D2	1:50@A1	DA6.00	VIEW ANALYSIS	
DA0.00	COVER SHEET	NTS	DA4.34	UNIT TYPE E	1:50@A1	DA6.100	VIEW ANALYSIS - KEY PLAN	NTS
DA0.10	DATA SHEET	NTS	DA4.35	UNIT TYPE F	1:50@A1	DA6.101a	VIEW ANALYSIS - SHEET 1a	NTS
			DA4.36	UNIT TYPE G	1:50@A1	DA6.101b	VIEW ANALYSIS - SHEET 1b	NTS
DA1.00	SITE PLANS		DA4.37	UNIT TYPE H	1:50@A1	DA6.102	VIEW ANALYSIS - SHEET 2	NTS
DA1.01	SURVEY	1:250@A1	DA4.38	UNIT TYPE I	1:50@A1	DA6.103a	VIEW ANALYSIS - SHEET 3a	NTS
DA1.03	SITE PLAN	1:250@A1	DA4.39	UNIT TYPE J	1:50@A1	DA6.103b	VIEW ANALYSIS - SHEET 3b	NTS
DA1.04	SITE ANALYSIS - PLAN	1:250@A1	DA4.40	UNIT TYPE K	1:50@A1	DA6.104	VIEW ANALYSIS - SHEET 4	NTS
DA1.05	DEMOLITION PLAN	1:250@A1	DA4.41	UNIT TYPE L	1:50@A1	DA6.105	VIEW ANALYSIS - SHEET 5	NTS
DA1.06	STAGING/TEMPORARY WORKS PLAN	1:250@A1	DA4.42	UNIT TYPE M	1:50@A1	DA6.106	VIEW ANALYSIS - SHEET 6	NTS
DA1.07	SITE ANALYSIS - SECTION	1:400@A1	DA4.43	UNIT TYPE P	1:50@A1	DA6.107	VIEW ANALYSIS - SHEET 7	NTS
			DA4.44	UNIT TYPE Q	1:50@A1	DA6.108	VIEW ANALYSIS - SHEET 8	NTS
DA2.00	FLOOR PLANS		DA4.45	UNIT TYPE R	1:50@A1	DA6.109	VIEW ANALYSIS - SHEET 9	NTS
DA2.01	LOWER GROUND FLOOR PLAN	1:250@A1	DA4.46	UNIT TYPE S	1:50@A1	DA6.110	VIEW ANALYSIS - SHEET 10	NTS
DA2.02	GROUND FLOOR PLAN	1:250@A1	DA4.47	UNIT TYPE T	1:50@A1	DA6.111	VIEW ANALYSIS - SHEET 11	NTS
DA2.03	LEVEL 1 FLOOR PLAN	1:250@A1	DA4.48	UNIT TYPE U	1:50@A1	DA6.112	VIEW ANALYSIS - SHEET 12	NTS
DA2.04	LEVEL 2 FLOOR PLAN	1:250@A1	DA4.49	UNIT TYPE V	1:50@A1	DA6.113	VIEW ANALYSIS - SHEET 13	NTS
DA2.05	LEVEL 3 FLOOR PLAN	1:250@A1	DA4.50	UNIT TYPE W	1:50@A1	DA6.114	VIEW ANALYSIS - SHEET 14	NTS
DA2.06	LEVEL 4 FLOOR PLAN	1:250@A1	DA4.51	UNIT TYPE X	1:50@A1	DA6.115	VIEW ANALYSIS - SHEET 15	NTS
DA2.07	LEVEL 5 FLOOR PLAN	1:250@A1	DA4.52	UNIT TYPE Y	1:50@A1	DA6.116	VIEW ANALYSIS - SHEET 16	NTS
DA2.08	LEVEL 6 FLOOR PLAN	1:250@A1	DA4.53	UNIT TYPE Z	1:50@A1	DA6.117	VIEW ANALYSIS - SHEET 17	NTS
DA2.09	LEVEL 7 FLOOR PLAN	1:250@A1				DA6.118	VIEW ANALYSIS - SHEET 18	NTS
DA2.10	LEVEL 8 FLOOR PLAN	1:250@A1	DA5.00	DIAGRAMS				
DA2.11	ROOF PLAN	1:250@A1	DA5.11	GFA DIAGRAMS 01	1:750@A1	DA7.01	PERSPECTIVE VIEWS - SHEET 1	NTS
DA2.12	ROOF PLAN OVERLAID SURVEY	1:250@A1	DA5.12	GFA DIAGRAMS 02	1:750@A1	DA7.02	PERSPECTIVE VIEWS - SHEET 2	NTS
			DA5.21	CROSS VENTILATION DIAGRAMS 01	1:750@A1	DA7.20	EXTERIOR FINISHES - BUILDING A	1:200@A1
DA3.00	SECTIONS & ELEVATIONS		DA5.22	CROSS VENTILATION DIAGRAMS 02	1:750@A1	DA7.21	EXTERIOR FINISHES - TOWNHOUSES	1:200@A1
DA3.01	SITE SECTIONS & ELEVATIONS 01	1:200@A1	DA5.31	SOLAR ACCESS DIAGRAMS 01	1:750@A1	DA7.23	EXTERIOR FINISHES - BUILDING B & C	1:200@A1
DA3.02	SITE SECTIONS & ELEVATIONS 02	1:200@A1	DA5.32	SOLAR ACCESS DIAGRAMS 02	1:750@A1			
DA3.03	SITE SECTIONS & ELEVATIONS 03	1:200@A1	DA5.33	SOLAR ACCESS - VIEWS FROM THE SUN	NTS			
DA3.04	SITE SECTIONS & ELEVATIONS 04	1:200@A1	DA5.34	SOLAR ACCESS - VIEWS FROM THE SUN	NTS			
DA3.05	SITE SECTIONS & ELEVATIONS 05	1:200@A1	DA5.35	SOLAR ACCESS - VIEWS FROM THE SUN	NTS			
DA3.06	SITE SECTIONS & ELEVATIONS 06	1:200@A1	DA5.36	SOLAR ACCESS - VIEWS FROM THE SUN	NTS			
DA3.07	SITE SECTIONS & ELEVATIONS 07	1:200@A1	DA5.41a	SHADOW ANALYSIS - SHEET 1	NTS			
DA3.11	SITE ELEVATIONS - WEST AND NORTH	1:250@A1	DA5.41b	SHADOW ANALYSIS - SHEET 2	NTS			
DA3.12	SITE ELEVATIONS - EAST AND SOUTH	1:250@A1	DA5.41c	SHADOW ANALYSIS - SHEET 3	NTS			
			DA5.41d	SHADOW ANALYSIS - SHEET 4	NTS			
DA4.00	DETAILS PLANS		DA5.41e	SHADOW ANALYSIS - SHEET 5	NTS			
DA4.01	COMMUNITY PAVILION	1:100@A1	DA5.42a	SHADOW ANALYSIS - SHEET 6	NTS			
DA4.11	UNIT TYPE MC TH A	1:50@A1	DA5.42b	SHADOW ANALYSIS - SHEET 7	NTS			
DA4.12	UNIT TYPE MC TH B	1:50@A1	DA5.42c	SHADOW ANALYSIS - SHEET 8	NTS			
DA4.13	UNIT TYPE MC TH C	1:50@A1	DA5.42d	SHADOW ANALYSIS - SHEET 9	NTS			
DA4.14	UNIT TYPE MC TH D	1:50@A1	DA5.42e	SHADOW ANALYSIS - SHEET 10	NTS			
DA4.15	UNIT TYPE TH C1	1:50@A1	DA5.43a	SHADOW ANALYSIS - SHEET 11 (WITHDRAWN)	NTS			
DA4.16	UNIT TYPE TH C2	1:50@A1	DA5.43b	SHADOW ANALYSIS - SHEET 12 (WITHDRAWN)	NTS			
DA4.17	UNIT TYPE TH C3	1:50@A1	DA5.43c	SHADOW ANALYSIS - SHEET 13 (WITHDRAWN)	NTS			
DA4.18	UNIT TYPE TH D1	1:50@A1	DA5.43d	SHADOW ANALYSIS - SHEET 14 (WITHDRAWN)	NTS			
DA4.19	UNIT TYPE TH D2	1:50@A1	DA5.43e	SHADOW ANALYSIS - SHEET 15 (WITHDRAWN)	NTS			
DA4.20	UNIT TYPE TH D3	1:50@A1	DA5.51	STORAGE DIAGRAMS 01	1:750@A1			
DA4.21	UNIT TYPE TH E	1:50@A1	DA5.52	STORAGE DIAGRAMS 02	1:750@A1			
DA4.22	UNIT TYPE TH F	1:50@A1	DA5.61	HEIGHT ANALYSIS	NTS			
DA4.23	UNIT TYPE TH G	1:50@A1	DA5.62	BUILDING A HEIGHT DIAGRAM	1:200@A1			
DA4.24	UNIT TYPE TH H	1:50@A1	DA5.63	BUILDING C HEIGHT DIAGRAM	1:200@A1			
DA4.25	UNIT TYPE TH I	1:50@A1	DA5.64	HEIGHT ANALYSIS VS SITE SPECIFIC DCP - 3D	NTS			
DA4.26	UNIT TYPE TH J	1:50@A1	DA5.65	HEIGHT ANALYSIS VS SITE SPECIFIC DCP - SECTION 1	NTS			
DA4.27	UNIT TYPE A1	1:50@A1	DA5.66	HEIGHT ANALYSIS VS SITE SPECIFIC DCP - SECTION 2	NTS			
DA4.28	UNIT TYPE A2	1:50@A1	DA5.67	HEIGHT ANALYSIS VS SITE SPECIFIC DCP - SECTION 3	NTS			
DA4.29	UNIT TYPE B1	1:50@A1	DA5.68	HEIGHT ANALYSIS VS SITE SPECIFIC DCP - SECTION 4	NTS			
DA4.30	UNIT TYPE B2	1:50@A1	DA5.69	HEIGHT ANALYSIS VS SITE SPECIFIC DCP - SECTION 5	NTS			
DA4.31	UNIT TYPE C	1:50@A1	DA5.71	TOPOGRAPHY CUT DIAGRAM 01	NTS			
DA4.32	UNIT TYPE D1	1:50@A1	DA5.72	TOPOGRAPHY CUT DIAGRAM 02	NTS			

SITE LOCATION N.T.S.



