



# **Accessibility Design Review**

St Leonards Health  
Organisations Relocation  
(SHOR)  
Reserve Rd, St Leonards,  
NSW 2065

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Date: 14<sup>th</sup> November 2017  
Revision: 02

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| Date     | Rev No | No. of Pages | Issue or Description of Amendment | Checked By | Approved By | Date Approved |
|----------|--------|--------------|-----------------------------------|------------|-------------|---------------|
| 14.02.17 | 00     | 20           | Initial review                    | DC         | FL          | 13.02.17      |
| 18.02.17 | 01     | 20           | revision                          | DC         | FL          | 18.02.17      |
| 14.11.17 | 02     | 20           | SSD submission                    | DC         | SM          | 14.11.17      |

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## EXECUTIVE SUMMARY

The following report is a review of the Schematic Design documentation and provides a summary of the compliance strategy of the proposed works highlighting the key principles of accessibility as well as the technical requirements of a building to ensure the public, staff and visitors, have equitable and dignified use.

The report is prepared in relation to the St Leonards Health Organisations Relocation (SHOR) project. The proposed works includes 2 basement levels, car parking, plant rooms, office space and a child care centre.

Key accessibility issues that need to be addressed are listed below. Specific recommendations associated with these areas are located within the body of this report.

### BCA Compliance

#### (Mandatory minimum compliance with BCA – State legislation)

- Access is required to and within all areas normally used by occupants
- As the design progresses provide more details to confirm compliance of the external paths to the principal pedestrian entrance on ground level.
- At ground level the end of corridor measures 1200mm in lieu of the 1540mm. The space required for a wheel chair to make a > 90° - 180° turn shall not be less than 1540mm x 2070mm in the direction of travel.
- As the design progresses please detail TGSIs on the drawings.
- Ensure an even distribution of left and right hand transfer for the accessible WC's throughout the building
- Hearing augmentation will be required where inbuilt amplification is provided or an information counter is screened. Consider approach early in the design.

### DDA Compliance

#### (Additional recommendations to minimise risk of non-compliance under DDA – Federal legislation)

- Develop a wayfinding strategy for early in design – beneficial for all users.

## 1. INTRODUCTION

This report supports a State Significant Development Application (SSDA) submitted to the Department of Planning and Environment pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act) for the St Leonards Health Organisations Relocation (SHOR) Project at the Royal North Shore Hospital (RNSH).

The SSD Application relates to the Concept Plan Approval for the Royal North Shore Hospital, St Leonards which was approved in April 2007 (MP 06\_0051). This application is SSD by way of Ministerial declaration pursuant to Section 89(C) of the EP&A Act, the order for which was published on 13 October 2017.

This proposal relates specifically to the construction of a new building on the south-western edge (identified as site 4A under the Concept Plan) of the RNSH Campus. Uses proposed include health-related commercial uses, retail and a child care centre.

This report has been prepared having regard to the Secretary's Environmental Assessment Requirements issued for the project.

Health Infrastructure NSW care of Savills Project Management have engaged the services of McKenzie Group Consulting as Accessibility and DDA consultants to conduct a review of the project documentation to ensure that functional and compliant accessibility has been applied to the design. As members of the Access Consultants Association of Australia (ACAA), McKenzie Group Consulting use expert accessibility knowledge to ensure the project complies with the spirit and intent of the Disability Discrimination Act (DDA), within the project scope.

### 1.1. Purpose of Report

This report forms part of the Schematic Design review. The report is prepared in relation to proposed works at St Leonards, Sydney. NSW

This report provides a compliance overview of the project with respect to achieving compliance with the Building Code of Australia (BCA) and the Disability Discrimination Act (and Disability Standards) (DDA), within the project scope. Where achievable the intent is to exceed the BCA, 2016 requirements and accommodate some of the prescribed items noted in AS1428.2 -1992 in lieu of AS1428.1 as part of the project brief design requirements. Detailed Design documentation and compliance assessment will be undertaken as the design develops.

### 1.2. Project Description

The proposed works include the development of the health entities relocation and consolidation (HERC)

The site is located to the southern side of the Royal Northshore Hospital precinct. The site is bounded by Reserve Street to the East, Building 31, 36 and the Royal Northshore Hospital, to the North, and to the West is Herbert Street.

The project proposed is to include the following elements;

- Basement Car parking over two (2) levels
- Plant Rooms
- Commercial Office Space
- Child Care Centre

## 2. LEGISLATIVE REQUIREMENTS

The legislative requirements for this project comprises both Federal and State legislation.

### Federal

The Disability Discrimination Act (DDA - 1992) is Federal Government legislation enacted in 1993 that seeks to ensure all new building infrastructure, refurbishments, services and transport projects provide functional and equitable accessibility. The DDA is a complaints based legislation, which is administered by the Australian Human Rights Commission (AHRC). For any built environment the key requirement of the DDA is to ensure functionality, equality and dignity of people with disabilities, their companions, family and carer givers.

The DDA utilises statutory instruments known as Disability Standards to provide detailed requirements. The Disability Standards are: Disability (Access to Premises – Buildings) Standards 2010, Disability Standards for Education 2005 and the Disability Standards for Accessible Public Transport 2002. These Disability Standards draw extensively on technical provisions in the AS 1428 series details technical requirements related to design for access and mobility.

### State

The Building Code of Australia has adopted key accessibility and DDA legislation into the 2011 and subsequent BCA. In particular adherence to the Access to Premises Standard (2010) (APS); AS1428.1 2009; AS1428.4.1 2009 and AS2890.6 2009 has become mandatory. This means that compliance with the relevant sections of the BCA, ensures compliance with the relevant 'Premises' component of the DDA.

However, compliance with the BCA alone does not necessarily mean compliance with the Disability Discrimination Act if the elements of equality, dignity and functionality remain compromised within an environment. The building owner/occupier should therefore ensure that their policies, practices and procedures promote equality in all employment, education and services provided, within their built environment.

### 2.1. Referenced Legislation and Standards

The review of the project has been undertaken against the following legislation;

- Disability Discrimination Act (DDA) 1992.
- Disability (Access to Premises – Buildings) Standards 2010 (DAPS 2010).
- Building Code of Australia (BCA) and BCA referenced standards including:
  - AS1428.1 2009 Part 1: General Requirements for access – new building work.
  - AS1428.2 1992 Part 2: Enhanced and additional requirements – Buildings and facilities.
  - AS1428.4.1 2009 Part 4.1: Means to assist the orientation of people with vision impairment – TGSI.
  - AS2890.1 2004 Part 1: Off-street car parking.
  - AS2890.6 2009 Part 6: Off-street parking for people with disabilities.
  - AS1735.12 1999 Lift facilities for people with disabilities.

Additionally, a design brief paper has been prepared that recommends enhanced design is adopted following the provisions of Australian Standard AS 1428.2-1992, with regard to the design of some building elements. For ease of reference, the design brief summary is appended to the back of this report.

## 3. DOCUMENTATION

The report has been prepared based on a review of the drawings listed in Appendix A, Preliminary Consultants Drawings prepared by BVN dated 30.10.17.

Marked up drawings are attached in Appendix B.

## 4. EXEMPTIONS AND PERFORMANCE BASED SOLUTIONS

### 4.1. Exemptions

Based on the use of some areas within a building, it is reasonable to not provide access to some spaces where it is deemed inappropriate because of the required duties to be carried out in the space or if the area poses as a health or safety risk for people with a disability. These areas may include:

- Plant rooms, Store rooms, cleaner's rooms, and the like.
- Loading docks

### 4.2. Performance Based Solutions

No performance based solutions are required at this stage of the design.

## 5. ISSUES AND RECOMMENDATIONS

The following compliance assessment is set out in tabular format. The comment/issue identifies the issues followed by recommendations and whether relevant to BCA or DDA compliance. 'BCA' compliance means meeting minimum mandatory compliance of the BCA and the Premises Standard component of the DDA. Where 'DDA' compliance is shown against a recommendation, this indicates an area of residual DDA risk, ie outside BCA parameters and the Access to Premises Standards. The 'DDA' recommendations relate to best practice design for accessible environments. These recommendations, in conjunction with the owner/occupier's policies, practices and procedures will maximize DDA compliance and meet the spirit and intent of the DDA.

### 5.1. General Building Access Requirements

Buildings and parts of buildings must be accessible in accordance with Table 3.1 of the BCA.

A continuous accessible path of travel is to be provided as follows:

| Part Of Building                 | Accessibility Requirements                                                                                         | BCA/<br>DDA |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------|-------------|
| Class 5 – Office/Administration; | <ul style="list-style-type: none"><li>▪ To and within all areas normally used by the occupants</li></ul>           | BCA         |
| Class 7a – Car parking           | <ul style="list-style-type: none"><li>▪ To and within any level containing accessible car parking spaces</li></ul> | BCA         |

### 5.2. External approaches, walkways, ramps, kerbs and steps

A continuous accessible path is to be provided to the new building:

- From the main points of a pedestrian entry at the allotment boundary, and
- From another accessible building connected by a pedestrian link
- From any required accessible car parking space on the allotment

| Comment/issue                                                                                                                                                                                                                                             | Recommendation                                                                                                                                                                                                                                                                                                                                                 | BCA/<br>DDA |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <ul style="list-style-type: none"> <li>Ensure external paths are of an adequate width to accommodate passing and turning spaces</li> </ul>                                                                                                                | <ul style="list-style-type: none"> <li>Compliance indicated at basement level</li> <li>Provide more details to confirm compliance of external paths to the principal pedestrian entrance on ground level.</li> </ul>                                                                                                                                           | BCA         |
| <ul style="list-style-type: none"> <li>Provide warning TGSIs and kerb ramps at Pedestrian Crossings in accordance with AS1428.4.1</li> </ul>                                                                                                              | <ul style="list-style-type: none"> <li>Warning TGSIs are to be located 300mm from the hazard of the roadway</li> <li>Where bollards are provided, ensure they are positioned either side of the dedicated walkway, maintain a clear width of 1200mm</li> </ul>                                                                                                 | BCA         |
| <ul style="list-style-type: none"> <li>Pedestrian crossings and or drop-off areas should be designed inclusive of line marking, kerb ramps and TGSIs in accordance with AS1428.1 &amp; AS1428.4.1.</li> </ul>                                             | <ul style="list-style-type: none"> <li>Limited detail provided at this stage of the design</li> <li>Further review as the design progresses to assess compliance of pedestrian crossings or drop-off zones including gradient, finishes, tactile indicators, colour and textural contrast of surfaces and required kerb ramps.</li> </ul>                      | DDA         |
| <ul style="list-style-type: none"> <li>Rest seating should be provided adjacent entrances, at taxi drop off points and along external pedestrian paths of travel</li> </ul>                                                                               | <ul style="list-style-type: none"> <li>Limited detail at this stage of the design, locate rest seating near/adjacent to the taxi drop off bay</li> <li>Provide a range of seating to accommodate all users i.e. some with backrest, some with armrests and at various seat heights etc.</li> <li>Any seating to be set back 500mm from the walkway.</li> </ul> | DDA         |
| <ul style="list-style-type: none"> <li>Where pedestrian walkways and vehicular routes are at grade, hazard warning required</li> </ul>                                                                                                                    | <ul style="list-style-type: none"> <li>Limited detail at this stage of the design</li> <li>Position hazard TGSIs in accordance with AS1428.4.1</li> </ul>                                                                                                                                                                                                      | BCA         |
| <ul style="list-style-type: none"> <li>Ensure obstacles abutting a path are readily identifiable and do not obstruct a user on the path</li> </ul>                                                                                                        | <ul style="list-style-type: none"> <li>Ensure bollards, bike racks, rest seating and bins possess a 30% luminance contrast to the surroundings</li> <li>Ensure fixtures and furniture is recessed a minimum of 500mm from required minimum width of path</li> </ul>                                                                                            | DDA         |
| <ul style="list-style-type: none"> <li>The public realm offers significant opportunities to enhance the existing scheme. There will be minimum BCA requirements in terms of access paths, gradient, stairs etc., however, many aspects of good</li> </ul> | <ul style="list-style-type: none"> <li>The following are some design considerations for providing equitable access to the public realm;</li> <li>Surface treatments e.g.; grass, gravel, stone, pavers – be aware of abutment detail with other surfaces; both level</li> </ul>                                                                                | BCA/DDA     |

| Comment/issue                                                       | Recommendation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | BCA/<br>DDA |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| design in external spaces, fall outside these minimum requirements. | <p>difference and slip resistance differences.</p> <ul style="list-style-type: none"> <li>Careful design of drainage grates, surface falls and gradients generally</li> <li>Provision of rest seating opportunities along walkways, stair landings etc.</li> <li>Lighting designs that minimise glare.</li> <li>Luminance contrast of features such as; steps, seats, bollards, bins etc.</li> <li>Consistent/compliant use of TGSIs to create a predictable environment</li> <li>Landscape planting can offer tactile and olfactory clues to the environment to enhance different areas.</li> </ul> |             |

**Key External walkway criteria:**

- Walkways to be provided with passing bays (1800 x 2000mm) every 20m.
- Walkway gradient to be 1:20 (max) with landings every 15m.
- Landings in direction of travel 1200mm long; landings at 90° directional change 1500mm x 1500mm. Landings at 180° directional change 1540mm length.
- If gradient of walkway is less than 1:33 no landings are required.
- TGSIs required to warn of hazard along pedestrian and vehicular routes on grade

**Key kerb and pedestrian crossing criteria:**

- Kerb ramp to have gradient no steeper than 1:8, length no greater than 1520mm.
- Pathways from accessible parking across roadways to have designated line marking.

**Stairs design criteria:**

- Common use stairs require AS1428 series compliant handrails, tread features and TGSIs.

**Key ramp design criteria:**

- Maximum gradient of a ramp exceeding 1900mm is 1:14. Gradient to be consistent throughout ramp.
- Ramp required to have unobstructed width of 1000mm
- Ramps to be provided with landings at bottom and top of ramp.
- Landings required every 9m where grade 1:14, Landings required every 15m where grade 1:20.
- Landings in direction of travel 1200mm long; landings at 90° directional change 1500mm x 1500mm. Landings at 180° directional change 1540mm x 2070mm length.
- Ramps require AS1428 series compliant handrails and TGSIs.
- Ramps to be set back 900mm at property boundaries or 400mm at internal corners.
- Vertical rise not to exceed 3.6m

**Kerb ramps** – max rise 190mm; max 1:8 gradient

**Threshold ramps** – max rise 35mm; 1:8 max gradient; within 20mm of door leaf

**Step ramps** – max rise 190mm; 1:10 max gradient

### 5.3. Car Parking

| Comment/issue                                                                                                                                                                                                      | Recommendation                                                                                                                                                                                                                                                                  | BCA/ DDA |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <p>In accordance with Table D3.5 of the BCA, accessible car parking is required to be provided as follows.</p> <ul style="list-style-type: none"> <li>Class 5, 7, 8 or 9c part</li> <li>1 space per 100</li> </ul> | <ul style="list-style-type: none"> <li>Based on the total number of car parking spaces provided (115) a minimum of 2 accessible spaces are required</li> <li>2 spaces are proposed – compliance indicated</li> </ul>                                                            | BCA      |
| <ul style="list-style-type: none"> <li>Confirm conditions and vertical clearances to the carpark.</li> </ul>                                                                                                       | <ul style="list-style-type: none"> <li>In accordance with the current requirements of AS1428.1, the vertical clearance along the vehicular path to a carpark must achieve a minimum of 2200mm and 2500mm above the PWD space and shared zone. – Compliance indicated</li> </ul> | BCA      |
| <ul style="list-style-type: none"> <li>The approach from the accessible car parking bays to the main entrances to be accessible</li> </ul>                                                                         | <ul style="list-style-type: none"> <li>Compliance indicated</li> </ul>                                                                                                                                                                                                          | BCA      |
| <ul style="list-style-type: none"> <li>A bollard is required in the shared area</li> </ul>                                                                                                                         | <ul style="list-style-type: none"> <li>Annotate drawing to show bollard</li> </ul>                                                                                                                                                                                              | BCA      |

**Key Car parking and transport design criteria:**

- Accessible spaces are to be designed in accordance with AS2890.6-2009.
- Dimensions of angled accessible parking bays 2400 x 5400mm with adjacent 2400mm x 5400mm shared area and bollard in shared area.
- Dimensions of parallel parking bays 3200mm x 7800mm.
- Provide direct kerb ramp access from adjacent to the accessible parking space to pathway.
- Accessible bays to be located near entrances.
- Provide a designated area for accessible drop off from private vehicles, taxis and community vehicles with kerb ramp access to the pathway.
- Height of vehicular path of travel to accessible parking space to be 2200mm and height above accessible parking space to be 2500mm

### 5.4. Entrances

Access for persons with a disability is to be provided to and within all areas normally used by the occupants.

Access must be provided via the main principal entrance and:

- Not less than 50% of all pedestrian entrances including the principal entrance, and
- In buildings with a floor area >500m<sup>2</sup>, a non-accessible entrance must not be located more than 50m from an accessible entrance.

| Comment/issue                                                                                                                                           | Recommendation                                                                                                                                                                                                                                               | BCA/ DDA |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <ul style="list-style-type: none"> <li>All entry doors are to achieve a minimum clear door opening width of 850mm (920mm leaf door required)</li> </ul> | <ul style="list-style-type: none"> <li>Compliance indicated at the air lock on ground level and the entrance to the End Of Trip (EOT) facilities</li> </ul>                                                                                                  | BCA      |
| <ul style="list-style-type: none"> <li>All doors to have light operation forces</li> </ul>                                                              | <ul style="list-style-type: none"> <li>Ensure doors have light operational forces (less than 20N). Consider use of bearing hinges or other enhanced hardware to achieve requirement.</li> <li>Please provide a door schedule</li> </ul>                      | BCA      |
| <ul style="list-style-type: none"> <li>Glazing decals</li> </ul>                                                                                        | <ul style="list-style-type: none"> <li>All glazed doors must be marked with contrasting marking not less than 75mm wide for full width of doors with lowest edge at 900-1000mm.</li> <li>Please provide elevations / details as design progresses</li> </ul> | BCA      |
| <ul style="list-style-type: none"> <li>30% minimum luminance contrast is required between 2 of the door face, door architrave and wall.</li> </ul>      | <ul style="list-style-type: none"> <li>Provide details as design progresses</li> </ul>                                                                                                                                                                       | BCA      |

**Key entrance criteria:**

- Main entry must be accessible.
- Entry requires single door leaf width clearance of 850mm (920mm door size).
- Circulation space of 1450mm required either side of entry.
- All glazed doors must be marked with contrasting marking not less than 75mm wide for full width of doors with lowest edge at 900-1000mm.

## 5.5. Lifts/Escalators

An accessible path of travel is required to all areas normally used by occupants.

| Comment/issue                                                                                                                                                                                                                                                                | Recommendation                                                                                                                                                                      | BCA/ DDA |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <ul style="list-style-type: none"> <li>Any new lift travelling &gt;12m requires a minimum compartment size of 1400mm wide x 2000mm depth (requires 2000mm depth where stretcher use indicated and travelling &gt;12m).</li> <li>Fitout must comply with AS1735.12</li> </ul> | <ul style="list-style-type: none"> <li>Any new lift is to comply</li> <li>Further review to be undertaken as the design progresses - current details indicate compliance</li> </ul> | BCA      |

**Key lift design criteria:**

- Lift dimensions to be 1100mm x 1400mm (up to 12m) or 1400mm x 1600mm (>12m minimum).
- Lift doorway opening clearance to be 900mm
- *Fitout out of lifts to include: Handrail 600mm (min) length; at height between 850-950mm, Tactile and Braille symbols on control buttons and panels, Automatic auditory information detailing lift stops. Control buttons set back from corner.*

## 5.6. Internal stairs

An accessible path of travel is required to all areas normally used by occupants. All stairs (excluding fire-isolated stairs) must be provided with handrails both sides, nosing strips and TGSIs.

| Comment/issue                                                                                                                                                                                                  | Recommendation                                                                                                                                                                                                                                                                                                                                                                                                        | BCA/ DDA |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <ul style="list-style-type: none"> <li>▪ All general circulation stairs are to be designed to comply with AS1428.1-2009 i.e. clear width not less than 1m, handrails both sides, TGSIs and nosings.</li> </ul> | <ul style="list-style-type: none"> <li>▪ All new stairs are to comply with AS1428.1-2009.</li> </ul>                                                                                                                                                                                                                                                                                                                  | BCA      |
| <ul style="list-style-type: none"> <li>▪ Fire-isolated stairs (FISs) are exempt from full compliance.</li> </ul>                                                                                               | <ul style="list-style-type: none"> <li>▪ The Fire Isolated Stairs are designed to include a wheel chair refuge at 1300mm length x 800mm wide. The Stair width is 1500mm with handrails on both sides and stair nosings.</li> <li>▪ The requirement to install TGSIs in this stairway is dependent on its principal use. It is our understanding TGSIs will not be required as the stairway is egress only.</li> </ul> | BCA      |

**Key stair design criteria:**

- Stairs to be set back 900mm at property boundaries or sufficient space to accommodate required handrails internal corners.
- Circular or spiral stairs are generally unsafe due to their inconsistent tread width.
- *Common use stairs require AS1428 series compliant handrails, tread features and TGSIs.*
- *Tactile ground surface indicators (TGSIs) shall be installed for the full width of the path of travel*
- *TGSIs shall be located at both the top and bottom of the stairs*
- *Fire-isolated stairs required a single handrail compliant to Clause 12 of AS1428.1 and stair nosings as a minimum.*

## 5.7. Tactile Ground Surface Indicators (TGSIs) and hazard identification

| Comment/issue                                                                                                                                                                                                                                                                     | Recommendation                                                                                                                                    | BCA/ DDA |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <ul style="list-style-type: none"> <li>TGSIs are required to be installed in accordance with AS1428.4.1, to the top and bottom of every stair, ramp and escalator and to external areas such as where the pedestrian walkway is at grade with the roadway, kerb ramps.</li> </ul> | <ul style="list-style-type: none"> <li>Please annotate drawings as the design progresses</li> </ul>                                               | BCA      |
| <ul style="list-style-type: none"> <li>Hazards with &lt;2000mm head clearance will require to be identified</li> </ul>                                                                                                                                                            | <ul style="list-style-type: none"> <li>Review as design progresses</li> </ul>                                                                     | BCA      |
| <ul style="list-style-type: none"> <li>All glazed doors, sidelights and glazing that could be mistaken for a door or opening must be marked with contrast marking</li> </ul>                                                                                                      | <ul style="list-style-type: none"> <li>Provide contrast marking no less than 75mm wide for full width of glazing at 910-1000mm height.</li> </ul> | BCA      |

### Key TGSi and hazard identification criteria:

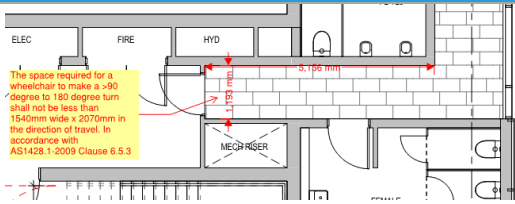
- Standard warning TGSi size is 600-800mm for full width of path of travel
- TGSi's to be set back 300mm +/- 10mm from hazard
- TGSIs to have min 30% luminance contrast for integrated TGSi's and 45% for discrete TGSIs
- Contrast marking to achieve minimum 30% luminance contrast against floor or surfaces within 2m

## 5.8. Internal Walkways

An accessible path of travel is required to all areas normally used by occupants. Internal walkways should be designed with the following features:

- Suitable circulation spaces to enable turning into adjacent doorways and workstation areas,
- Adequate passing spaces, and
- Turning areas at corridor or room terminators

| Comment/issue                                                                                                                                                                                                                                                                                                                                                                                                                                   | Recommendation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | BCA/ DDA |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <p>Public paths of travel and internal corridors throughout shall be designed to comply as follows:</p> <ul style="list-style-type: none"> <li>Ensure a minimum unobstructed clear width of 1000 mm along all corridors to rooms or spaces.</li> <li>Provide turning spaces of 1500x1500 (corner may be truncated) where a user is required to make a directional turn.</li> <li>Provide turning space within 2000 mm at the ends of</li> </ul> | <ul style="list-style-type: none"> <li>Ongoing review</li> <li>The corridors have been detailed with a minimum width of 1200mm and all turning spaces, corridor terminations and passing bays indicate compliance.</li> </ul> <p><u>GROUND LEVEL</u></p> <ul style="list-style-type: none"> <li>The end of corridor measures 1200mm in lieu of the 1540mm. The space required for a wheel chair to make a &gt; 90° 180° turn shall not be less than 1540mm x 2070mm in the direction of travel.</li> </ul> | BCA      |

| Comment/issue                                                                                                                                                                                                                                                              | Recommendation                                                                                                     | BCA/<br>DDA |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-------------|
| <p>corridors, where it is not continuous to offer turning space: minimum width 1540 mm x 2070 mm length.</p> <ul style="list-style-type: none"> <li>Passing bays (1800mm wide x 2000mm length) are required every 20m where no direct line of sight is provided</li> </ul> |  <p>Core plan – ground level</p> |             |
| <p>Public Amenities</p> <ul style="list-style-type: none"> <li>Ensure the corridor/s leading to the public amenities is sufficient width to allow two wheelchairs to pass</li> </ul>                                                                                       | <ul style="list-style-type: none"> <li>Compliance indicated</li> </ul>                                             | DDA         |

**Key internal walkway and surface criteria:**

- Walkways to be provided with passing bays (1800 x 2000mm) every 20m.
- Minimum width of internal walkway 1000mm.
- Path of travel in front of doorways or those accessed from a frontal approach required to be 1450mm width (minimum).
- Path of travel in front of doorways accessed from the latch side to be 1240mm minimum width.
- Landing spaces at directional changes of: at 90° - 1500mm x 1500mm (corner can be truncated); at 180° - 1540mm x 2070mm.
- Turning space at corridor terminations to be 1540mm width x 2070mm length.

## 5.9. Internal Doorways

An accessible path of travel is required to all areas normally used by occupants. Future detailed design should provide compliant door circulation space to all doors where appropriate.

| Comment/issue                                                                                                                                  | Recommendation                                                                                                                                                                                                                                               | BCA/<br>DDA |
|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <ul style="list-style-type: none"> <li>The unobstructed clear width of doors must achieve a minimum of 850mm (920mm leaf required).</li> </ul> | <ul style="list-style-type: none"> <li>Compliance has been indicated for the majority of the doors</li> </ul>                                                                                                                                                | BCA         |
| <ul style="list-style-type: none"> <li>All doors to have light operation forces</li> </ul>                                                     | <ul style="list-style-type: none"> <li>Ensure doors have light operational forces (less than 20N). Consider use of bearing hinges or other enhanced hardware to achieve requirement.</li> <li>Provide details as design progresses</li> </ul>                | BCA         |
| <ul style="list-style-type: none"> <li>Ensure a level transition is provided to and within terraced/deck areas</li> </ul>                      | <ul style="list-style-type: none"> <li>It is our understanding a level transition will be achieved, provide detail drawings as the design progresses.</li> <li>Where a level transition cannot be achieved threshold ramps with a maximum rise of</li> </ul> | BCA         |

| Comment/issue                                                                                                                                      | Recommendation                                                                                                                             | BCA/<br>DDA |
|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-------------|
|                                                                                                                                                    | 35mm are to be installed in accordance with AS1428.1-2009.                                                                                 |             |
| <ul style="list-style-type: none"> <li>Airlocks require clear circulation spaces between doors</li> </ul>                                          | <ul style="list-style-type: none"> <li>The space between successive doors leading to the ambulant toilets indicates compliance.</li> </ul> | BCA         |
| <ul style="list-style-type: none"> <li>30% minimum luminance contrast is required between 2 of the door face, door architrave and wall.</li> </ul> | <ul style="list-style-type: none"> <li>Provide details as design progresses</li> </ul>                                                     | BCA         |

**Key internal doorway criteria:**

- All doors require 850mm clearance width (920mm doors) incl. active leaf of double doors.
- Latch side clearance of 510mm to inward opening doors; 530mm to outward opening doors.
- Circulation space of 1450mm required either side of doors that are approached from the front. Circulation space of 1240mm required in front of inward opening doors approached from latch side.
- All glazed doors must be marked with contrast marking no less than 75mm wide for full width of doors at 910-1000mm height.

#### 5.10. Sanitary Facilities

Facilities to be provided in accessible parts of the building. Accessible sanitary facilities must be provided on each level where other sanitary facilities are also provided and if the storey has more than 1 bank of sanitary compartments containing male and female sanitary compartments, at not less than 50% of those banks. The accessible facilities should be located adjacent/opposite the gender facilities.

Where one or more pans are provided, an ambulant toilet within each of the male and female facilities is to be provided.

| Comment/issue                                                                                                                                                                                                             | Recommendation                                                                                                                                                                                                                                                                                                                                                                                                                                                        | BCA/<br>DDA    |                               |              |    |         |    |             |                  |         |    |             |                  |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------------|--------------|----|---------|----|-------------|------------------|---------|----|-------------|------------------|-----|
| <ul style="list-style-type: none"><li>Sanitary facilities</li></ul>                                                                                                                                                       | <ul style="list-style-type: none"><li>Further review is to be undertaken as the design develops, provide elevations to confirm layout</li></ul>                                                                                                                                                                                                                                                                                                                       |                |                               |              |    |         |    |             |                  |         |    |             |                  |     |
| <ul style="list-style-type: none"><li>Where two or more accessible sanitary facilities are installed there shall be an even distribution of mirror imaged layouts to provide left hand and right hand transfer.</li></ul> | <ul style="list-style-type: none"><li>Ensure an even distribution of mirror imaged layouts. The table below outlines the existing layout.<table><tr><td>Basement – EOT</td><td>3 x Right hand transfer (RH),</td></tr><tr><td>Ground Level</td><td>RH</td></tr><tr><td>Level 1</td><td>RH</td></tr><tr><td>Level 2 - 5</td><td>RH on each level</td></tr><tr><td>Level 6</td><td>RH</td></tr><tr><td>Level 7 - 9</td><td>RH on each level</td></tr></table></li></ul> | Basement – EOT | 3 x Right hand transfer (RH), | Ground Level | RH | Level 1 | RH | Level 2 - 5 | RH on each level | Level 6 | RH | Level 7 - 9 | RH on each level | BCA |
| Basement – EOT                                                                                                                                                                                                            | 3 x Right hand transfer (RH),                                                                                                                                                                                                                                                                                                                                                                                                                                         |                |                               |              |    |         |    |             |                  |         |    |             |                  |     |
| Ground Level                                                                                                                                                                                                              | RH                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |                               |              |    |         |    |             |                  |         |    |             |                  |     |
| Level 1                                                                                                                                                                                                                   | RH                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |                               |              |    |         |    |             |                  |         |    |             |                  |     |
| Level 2 - 5                                                                                                                                                                                                               | RH on each level                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |                               |              |    |         |    |             |                  |         |    |             |                  |     |
| Level 6                                                                                                                                                                                                                   | RH                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |                               |              |    |         |    |             |                  |         |    |             |                  |     |
| Level 7 - 9                                                                                                                                                                                                               | RH on each level                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |                               |              |    |         |    |             |                  |         |    |             |                  |     |
| <ul style="list-style-type: none"><li>A sanitary compartment suitable for a person with ambulant disability must be</li></ul>                                                                                             | <ul style="list-style-type: none"><li>As design progresses please provide elevations and details to confirm layout.</li></ul>                                                                                                                                                                                                                                                                                                                                         |                |                               |              |    |         |    |             |                  |         |    |             |                  |     |

| Comment/issue                         | Recommendation                                                                                                                             | BCA/<br>DDA |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| provided for use by males and females | <ul style="list-style-type: none"> <li>Please annotate ambulant compartments to show location of grab rails and other features.</li> </ul> |             |

**Key sanitary facility criteria:**

- Accessible sanitary facilities to be in same location as gender facilities and located on all levels of a multi-level building.
- Minimum room dimension with WC and basin: 1900mm x 2630mm or 2330mm x 2200mm.
- Provide AS1428 series compliant fixtures inclusive of shelf, clothes hooks, full length mirror
- A sanitary compartment suitable for a person with an ambulant disability must also be provided for use by males and females
- Baby change tables are not permitted to encroach on fixture circulation spaces and are to be installed in accordance with Clause 15.2.8.2

### 5.11. Signage

Mandatory Braille and tactile signage must be provided to sanitary facilities (except SOUs), spaces with hearing augmentation, for required exit signage and directional signage to alternative accessible entrances, paths of travel or alternative sanitary facilities.

| Comment/issue                                                                                                | Recommendation                                                                                                           | BCA/<br>DDA |
|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-------------|
| <ul style="list-style-type: none"> <li>A wayfinding strategy should be developed for the precinct</li> </ul> | <ul style="list-style-type: none"> <li>Further review of a wayfinding package to be undertaken when available</li> </ul> | DDA         |

**Key Signage design criteria:**

- Accessible way finding should highlight the pathway from entrance to reception to lifts/stairs, amenities and to key components of the facility.
- Ensure accessible way finding signage is:
  - Located at appropriate viewing heights
  - Perpendicular to the path of travel or beside identifiable features (e.g. door faces)
  - Of suitable colour contrast (luminance contrast min 30%)
  - Of compliant notation inclusive of use of the international symbol of access.
- Signage to accessible sanitary facilities requires identification with the international symbol of access, raised tactile and Braille signage and letters RH or LH to indicate side of transfer to the WC pan.
- Signage required to areas with required hearing augmentation provided

### 5.12. Hearing Augmentation

Hearing Augmentation Listening Systems are an essential assistive device for people who use hearing aids and are mandatory at screened reception counters, lifts and areas with public announcement systems.

| Comment/issue                                                                                                                                                          | Recommendation                                                          | BCA/<br>DDA |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------|
| Hearing Augmentation will be required, if in-built amplification is available within the Buildings/rooms<br>Consider provision of hearing augmentation early in design | As the design progresses confirm requirements for hearing augmentation. | BCA         |

**Key Hearing augmentation criteria:**

- Hearing Augmentation systems must be provided where inbuilt amplification is provided in rooms (e.g. auditoriums, conference rooms or meeting rooms)
- Hearing Augmentation systems must be provided where inbuilt amplification is provided to ticket offices, tellers booths, reception areas or the like where the public is screened from the service provider.
- Hearing augmentation systems can be permanent or portable. The nature of the built environment will dictate the desired outcome.

**5.13. Emergency Evacuation**

| Comment/issue                                                                                                                             | Recommendation                                                                                                                                                                                                                      | BCA/<br>DDA |
|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <ul style="list-style-type: none"> <li>▪ Consider implementation of an emergency evacuation plan for people with disabilities.</li> </ul> | <p>The emergency evacuation strategy for the development is the provision of fire refuges, dimensions of 1300mm x 800mm within the fire isolated stairs.</p> <p>Further discussion recommended, refer to criteria set out below</p> | DDA         |

**Key emergency evacuation criteria:**

- Consideration of individuals with disabilities is required as part of emergency evacuation planning. The types of accessible emergency evacuation include "protect in place" i.e. 1 hour rated rooms on non fire effected levels; smoke isolated lift lobbies with managed lift access; horizontal evacuation movement to other building areas; or provision of fire refuges within fire stairs or identified zones.
- If areas of refuge are provided spaces of 1300mm x 800mm are required per individual. This space needs to be set back from the main egress thoroughfare.
- Fire evacuation plans should include provision of management plans to assist individuals with disabilities or access requirements. Individuals with accessible requirements should be provided with a "fire buddy" to escort them to pre-determined areas of refuge.
- Fire engineering reports should detail accessible evacuation within a sub section of the plan.
- The current best practice is detailed in the 'AS 3745 - 2010 Planning for emergencies in facilities' and should be used as a guideline to assist in the implementation of the Emergency Plan

#### 5.14. Additional Site Specific Components

| Comment/issue                                                                                                                                                                                                                                                                                      | Recommendation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | BCA/<br>DDA |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| The public realm offers significant opportunities to enhance the existing scheme. There will be minimum BCA requirements in terms of access paths, gradient, stairs etc., however, many aspects of good design in external spaces, fall outside these minimum requirements.                        | <p>The following are some design considerations for providing equitable access to the public realm;</p> <ul style="list-style-type: none"> <li>▪ Surface treatments e.g.; grass, gravel, stone, pavers – be aware of abutment detail with other surfaces; both level difference and slip resistance differences.</li> <li>▪ Careful design of drainage grates, surface falls and gradients generally</li> <li>▪ Provision of rest seating opportunities along walkways, stair landings etc.</li> <li>▪ Lighting designs that minimise glare.</li> <li>▪ Luminance contrast of features such as; steps, seats, bollards, bins etc.</li> <li>▪ Consistent/compliant use of TGSIs to create a predictable environment</li> <li>▪ Landscape planting can offer tactile and olfactory clues to the environment to enhance different areas.</li> </ul> | BCA/DDA     |
| <p><u>Internal Seating</u></p> <ul style="list-style-type: none"> <li>▪ Recommend that any internal seating considers accessible needs and is provided with both backrest and armrests in accordance with AS1428.2.</li> </ul>                                                                     | <ul style="list-style-type: none"> <li>▪ Provide a range of seating within waiting and kiosk areas to accommodate all users i.e. some with backrest, some with armrests and at various seat heights etc.</li> <li>▪ Any seating to be set back 500mm from the walkway.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | DDA         |
| <p><u>Reception/Service Desk/counters</u></p> <ul style="list-style-type: none"> <li>▪ Any reception/service desk/counter or the like should be at an accessible height to cater for all users in accordance with the requirements of AS1428.2</li> </ul>                                          | <ul style="list-style-type: none"> <li>▪ Counters should be at a universally accessible height of 900mm or if higher provide an 850mm wide section of 850mm height with under bench clearance.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DDA         |
| <p><u>Furniture &amp; Fixtures</u></p> <ul style="list-style-type: none"> <li>▪ Future design should consider accessible requirements tea point, vending machines, drinking fountains, telephones, controls etc.</li> </ul> <p>Items shall be a minimum of 500mm away from the path of travel.</p> | <ul style="list-style-type: none"> <li>▪ Future fitout/design of fixtures, furniture and fittings should consider accessible requirements in accordance with AS1428.2</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | DDA         |
| <ul style="list-style-type: none"> <li>▪ Provide accessible locker facilities for staff use</li> </ul>                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>▪ Ensure lockers are positioned at an accessible height for staff: <ul style="list-style-type: none"> <li>– Provide clear circulation in front of the fixtures of 800mm x 1300mm</li> <li>– Position lockers at an height of between 700-1200 above FFL</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | DDA         |

## 6. COMPLIANCE SUMMARY

The recommendations in this report have been provided to assist in the creation of a universally accessible environment within the proposed development. In the next phase of the design process it is anticipated that as additional detail is provided - particularly floor plans, dimensions and features-the accessibility of this development can be further detailed.

If you have any further queries in relation to the reports and recommendations contained please contact Daniel Craddock on 07 3834 9800.

### Report Provided by:



**Daniel Craddock**  
Access Consultant  
**McKenzie Group Consulting (Qld) Pty Ltd**  
**ACN 140 159 486**

### Report Approved by:



**Senan Mescall**  
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**ACN 140 159 486**

## 7. APPENDIX A – DOCUMENT LIST

BVN project number: 1609521.000

| Drawing No. | Rev | Title                                     |
|-------------|-----|-------------------------------------------|
| AR-B-B2-01  | A   | GA Plan – Basement Level 02               |
| AR-B-B1-01  | A   | GA Plan – Basement Level 01               |
| AR-B-00-01  | B   | GA Plan – Ground                          |
| AR-B-01-01  | A   | GA Plan – Level 1                         |
| AR-B-02-01  | 4   | GA Plan – Typical Level 02 -09            |
| AR-B-02-01  | A   | GA Plan – Typical Level (Levels 2-5, 7-9) |
| AR-B-06-01  | A   | GA Plan – Level 6 (Warm Shell)            |
| AR-B-10-01  | 3   | GA Plan – Plant Level 10                  |
| AR-H-B1-01  | A   | Core Plan – Basement 01                   |
| AR-H-B2-01  | A   | Core Plan – Basement 02                   |
| AR-H-00-01  | A   | Core Plan – Ground Level                  |
| AR-H-02-01  | A   | Core Plan – Typical (Levels 02-09)        |

## 8. APPENDIX B – DRAWING MARKUPS

BVN project number: 1609521.000