



# PRINCE OF WALES NEUROSCIENCE RESEARCH PRECINCT

Barker Street Randwick NSW

Strategy for the Provision of Access for People  
with Disabilities

November 2008

Prepared by:  
Access Associates Sydney

## Introduction

In accordance with the principles of the Disability Discrimination Act 1992 (DDA) best practice is to be emphasised in the provision of access for people with a disability in the design of this research facility, proposed by the Prince of Wales Medical Research Institute in Baker Street Randwick.

This access strategy prepared at the concept stage of the design addresses the requirements for access by people with a disability, to the proposed facilities as subjects participating in research projects, visitors and staff and reviews the design for compliance with the Building Code of Australia (BCA) and relevant Australian Standards on Access and Mobility.

To meet the objectives of the Disability Discrimination Act 1992 (DDA) – section 23, which focuses on equitable and dignified access for all users of a building or facility the key issue is the provision of a **continuous accessible path of travel**:

- from points of arrival and links from public transport (bus stop) to the building entrance
- from the parking area and accessible parking spaces to the building entrances
- internally throughout the facility, including the entry foyer, theatre, wet and dry laboratory spaces, imaging areas, cafe and office areas
- to and through the external landscaped space
- to all accessible sanitary facilities

This strategy addresses access and egress for people with a disability for compliance with the requirements Building Code of Australia (2008) Parts D3, E3.6 and F2.4. These requirements do not just include meeting the requirements of people who use wheelchairs but also people who have ambulatory disabilities and cognitive or sensory impairments.

The BCA and Australian Standard (AS) 1428 are the two principal mechanisms for regulating access to buildings and facilities. The Disability Discrimination Act is a piece of Commonwealth Legislation, which became effective in March 1993. While the BCA details access requirements for new building work, the DDA extends beyond the scope of the current BCA. The DDA covers existing premises, including heritage buildings, those under construction and future premises. It extends beyond the building itself to include outdoor spaces and within, to address furniture, fittings and practices and is concerned with providing equitable, dignified access to services and facilities for people with a disability.

Principles of equitable, dignified, independent access for people with mobility, vision or hearing disabilities underpin comments and recommendations of this strategy.

**References:**

- Building Code of Australia (2008) BCA
- AS1428.1 – 2001 Design for access and mobility Part 1: General requirements for access – New building work.
- AS1428.2 – 1992 Design for access and mobility Part 2: Enhanced and additional requirements – buildings and facilities.
- AS1428.4 (1992) Design for access and mobility Part 4: Tactile Ground Surface Indicators for the orientation of people with vision impairment and DR0402 (2004) Design for Access and Mobility Part 4 Tactile Indicators
- AS1735.12 - 1999 Lifts, escalators and moving walks Part 12: Facilities for persons with disabilities
- AS2890.1 – 1003 Car Parking – Off - street parking
- DR04021 – 2004 Parking facilities – Off-street parking for people with disabilities
- Disability Discrimination Act 1992 (DDA) & DDA Advisory Notes on Access to Premises – HREOC, June 1997

**Building Description and Use**

The new neuroscience precinct is proposed to include laboratory and administrative facilities and is to be located on Barker Street at Randwick, adjacent to the Easy street entry to the Prince of Wales Hospital. All subjects participating in research programmes will attend the facility with an appointment, they will be meet at reception and escorted to the appropriate imaging area, laboratory or meeting space.

**Management Strategies**

In this facility it is important to design paths of travel and circulation spaces within the building to meet the DDA Advisory Notes on Access to Premises which recommends compliance with the requirements of AS1428.2, the Australian Standard which was prepared to meet the requirements of 90% of people with a disability used as test subjects in the research for the Standard. In our opinion, this will provide an accessible framework within the new building design that will more closely meet the intent of the DDA rather than applying AS1428.1 dimensions, which were prepared to meet the requirements of 80% of people with a disability used as test subjects in the preparation of the Standard.

In addition to the provision of an accessible base building it will be necessary to develop an operational management strategy that includes the proposed intention to provide equipment and adapt areas within the facility. This strategy is to meet the specific requirements of employees with a disability, who may fall outside the 90% of people for whom AS1428.2 was prepared or who's individual requirements cannot be addressed within the base building design. An operational management strategy acknowledges the need to meet full accessibility compliance through the provision of policy strategies. A design that has the potential to be modified as required to suit individuals with a disability is desirable.

## **Key Issues of Access Provisions**

### **1. Parking**

Equitable provision of accessible staff, visitor and research subject parking facilities is required to meet the intent of the DDA and the requirements of the BCA.

Accessible parking spaces are required in the basement, where parking for the facility is indicated over 2 levels. Accessible spaces are to be located in areas which are convenient to the passenger lifts and on a continuous accessible path of travel, (complying with the requirements of AS1428.1 clause 5), to link the space with the lift linking the basement with the ground floor entry foyer.

We recommend the layout of spaces comply with DR04021 which includes a requirement for 2.5m ceiling height at the car park entry, along the vehicle route of travel to accessible spaces and over the accessible spaces. The layout proposed in the draft is designed to assist wheelchair users of self drive vehicles and current model vans which include side or rear mounted lifting platforms.

### **2. Passenger set down and pick up provision – Main Entry Barker Street**

A drive through porte cochere drop off area is indicated at the main building entry in Barker Street. This provision of undercover passenger drop off and pick up is highly desirable. We recommend the provision of rest seating in an area adjacent to the path of travel in the external entry foyer.

An airlock entry with automatic sliding doors is indicated at the main entry, we note that in ongoing design, the inclusion of any recessed mat will require compliance with AS1428.1 clause 5.1.2 with no lip greater than 5mm created at abutting surfaces. Ongoing maintenance of this provision will be required. The glazing in this area will require compliance with AS1428.1 clause 7.5.1 see comments **section 10** following.

If level entry from the internal driveway to the entry doors is proposed as indicated, we note that to provide hazard warning for people with low vision who are moving through the area, the installation of tactile ground surface indicators (tgsi) will be required across the full width of the entry doors and adjacent to the pedestrian path of travel from Barker Street. In our opinion the provision of a shared driveway and pedestrian link to Baker Street in this setting would not be recommended. Alternatively if a separate kerb and footpath are included (preferred option), kerb ramps will be required to link the driveway level with the footpath and building entry level.

The public footpath along Baker Street will require the provision of a continuous accessible path of travel. In this setting the inclusion of pedestrian crossings across the driveway may be desirable and the inclusion of complying kerb ramps required.

### **3. Landscaping – External paths of travel – Eastern side of site**

An outdoor café and landscaped seating area is indicated on the eastern side of the site, adjacent to Easy Street. Stairs are indicated to provide a pedestrian link from this area of the precinct to Easy Street and the Memorial Garden on the level below. A continuous accessible path of travel is not currently indicated in this area.

The existing topography on Easy Street does not provide a continuous accessible path of travel to link the Prince of Wales Hospital campus with the proposed neuroscience precinct. It is our understanding that it is anticipated that movement of people between these two facilities will be limited and both facilities are operated independently.

We recommend to meet the intent of the DDA, that if the stairs indicated are not required for pedestrian movement they be removed or vertical access such as a ramp complying with the requirements of AS1428.3 clause 8 be provided in the adjacent area.

In ongoing landscape design:

- Surfaces are to be constructed and maintained with no lip at joints between abutting surfaces exceeding 5mm to comply with AS1428.1 clause 5.1.2.
- Paving bricks with bevelled edges greater than 3mm or heavily textured surfaces are not considered traversable by a wheelchair and do not comply with AS1428.1 clause 12.
- Drainage or tree grates on the path of travel are to have spaces not more than 13mm wide and not longer than 150mm with the elongated opening placed transverse to the dominant path of travel for compliance with AS1428.1 clause 12.
- Landscaping and plant selection should consider maintenance free of vegetation debris and ease of circulation including slip-resistance.
- A 2m vertical clearance is required and minimum 1200mm unobstructed path width to comply with AS1428.2 clauses 8.1(a) and 9 and AS1428.1 clause 12.
- If provided water features are to be provided with a kerb edge or barrier at ground level to assist with detection by people with low vision who cannot identify the hazard or who use a mobility cane.

#### **4. Wayfinding to assist people with sensory, cognitive and mobility impairment**

The single point of entry from the street to the foyer, where the reception counter is located will assist with the provision of clear wayfinding guidance.

The provision of an easily identifiable path of travel to the reception counter which is identified on the floor surface is recommended. The use of colour contrast and/ or texture change in the floor finish will assist people with low vision identify the reception counter, which is proposed to be located adjacent to the foyer.

A luminance contrast of 30% provided between the reception counter joinery and adjacent walls will assist in identification of the reception counter by people with low vision.

The proposed operational management strategy to escort visitors and research subjects to the appropriate area within the precinct will allow minimal use of wayfinding signage.

Signage where required must comply with BCA D3.6 and Specification D3.6 to include Braille and tactual information and the use of International symbols to assist people with cognitive impairment.

To meet the requirements of BCA D3.8 hazard warning tactile ground surface indicators (tgsi) will be required at the top and bottom of stairs where internal movement of staff and visitors within the building is proposed. Extensive use of tgsi in other areas of the proposed facility is not anticipated and over use in the provision of tgsi can be misleading.

## **5. Internal Continuous accessible paths of travel**

All accessible paths of travel are to include a minimum width of 1200mm to comply with the requirements of AS1428.2 clause 8.1 (a). Where a path of travel is less than 1800mm wide, passing spaces for wheelchairs (2000mm long x 1800mm wide) are to be provided at 6m intervals.

All doors are to include clear door openings of **850mm** including a single leaf clear door opening at double doors, to meet the requirements of AS1428.2 clause 11.5.1. We recommend the circulation space at doorways meet the requirements of AS1428.2 clause 11.5.2. (AS1428.1 requirements with an additional 100mm added to the length and 50mm added to the width values)

The force required to activate door closers is to meet as closely as possible the requirements of AS1428.1 clause 11.1. In this facility in areas where people with a disability may require independent access, for example accessible sanitary facilities, automatic openers may be required.

The theatrette is to include equitably provision of accessible wheelchair spaces to meet the BCA clause D3.2 requirement. The wheelchair seating spaces are required to meet the layout requirements of AS1428.1 clause 15.1 and figures 36 & 37. If a stage is proposed, independent, dignified, equitable access will be required to the stage.

## **6. Vertical Access**

### **6.1 Lifts**

Lift design and fitout must meet the requirements of the BCA E3.6 and AS1735.12 including the provision of a handrail, auditory announcements and Braille and tactile call and control buttons which are to include a minimum 30% luminance contrast to the backplate.

### **6.2 Stairs**

Stair design should meet the requirements of AS1428.1 clause 9 and figure 17 to include:

- opaque risers
- complying handrails on both sides
- 50-75mm wide solid slip resistant highlighting strips on the tread at the nosing
- tactile ground surface indicators (tgsi) at the top and the bottom landing.

It is highly recommended that the ongoing design of stair landings allows for the full 300mm extension of the handrail endings and provision of tgsi in an area which does not protrude into the adjacent path of travel.

### **6.3 Ramps**

To meet the intent of the DDA ramps longer than 60m are not recommended.

A ramp exceeding 1520mm in length is to include a maximum gradient of 1:14 to comply with AS142.1 clause 5.3.

Ramp design is to comply with AS1428.2 clause 8.1.

## **7. Toilets**

### **7.1 Unisex accessible sanitary facilities**

To meet the intent of the DDA and the requirements of the BCA F2.4 equitable provision of unisex accessible sanitary facilities is indicated throughout the precinct with the provision of unisex accessible facilities adjacent to all gender specific toilets.

Accessible facilities are to be designed to meet the circulation space requirements of AS1428.2 for the door, shower, WC pan and basin and include emergency call buttons.

Consideration could also be given to provision of back supports at WC pans to meet the anticipated changes to the standard.

Consideration could also be given to the provision of one toilet facility for assisted care to include an adult size change table, fixed track hoist, shower and peninsular design WC pan with wall mounted fold down grabrails.

### **7.1 Cubicles for people with ambulant disabilities**

Cubicles for people with ambulant disabilities are to be included to meet the requirements of the DDA and AS1428.2.

We recommend the cubicles be designed to meet the more recent design requirements of AS1428.1 figures 38 and 39, including a pan height of 460 – 480mm AFFL, a cubicle width of 900 – 920mm and walls capable of supporting the load imposed by grabrails.

## **8. Joinery detailing**

The circulation space between benches in laboratory, kitchen, reception desk and library areas is to meet the requirements of AS1428.2 to provide 1500mm clear space to facilitate wheelchair circulation.

At counters where public access will be required (reception) and in staff kitchens, benches should include a height of 850± 20mm AFFL and access to the sink and tap (300mm from the front of the bench) to facilitate wheelchair access.

## **9. Finishes and floor surfaces**

Wall and floor surfaces that do not create glare or reflection are to be provided throughout the facility, this provision will also require the installation of lighting that is to be provided uniformly

A minimum 30% luminance contrast is to be provided between floor and wall surfaces; wall and door; wall and joinery surfaces.

Carpet is to be securely attached, have a pile height of not more than 6mm and provide a stable surface.

#### **10. Additional provisions for people with Low vision**

All glazing which is unframed and which is capable of being mistaken for a doorway or opening is to be provided with highlighting to meet the requirements of AS1428.1 clause 7.5.1.

Visual warning systems should be provided on emergency evacuation alarms in areas where individuals may be isolated from other building users, for example accessible sanitary facilities and staff work stations which are closed in or where people may be working alone "out of hours".

#### **11. Additional Provisions for people with Hearing Impairment**

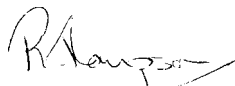
To meet the requirements of BCA D3.7 assistive listening devices are to be provided in any area where public address systems will be used, including the theatre. We recommend that if a glass screen is included at the reception counter a listening device should be provided.

In this setting where people with hearing impairment may be working in areas where they may be isolated from others and also in accessible sanitary facilities emergency warning alarms should include visual and auditory warnings.

#### **12. Emergency Evacuation**

To meet the objective of the DDA all users of the facility should be provided with a means of egress from the premises to a place of safety. People with disabilities should be provided with the same level of protection as other premises users. Places of refuge, which are fire rated areas such as the areas adjacent the entry landings of fire stairs are considered a possible way of making an appropriate provision. Refuges are to be provided with a recommended space 1300mm X 800mm outside of the egress route (BCA RD 97/01 Table D1.6) in the stair entry landing.

Consideration is to be given in ongoing design to the provision of a stairwell evacuation device such as an Evac chair in an appropriate location.



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## **Neuroscience Research Precinct Review of access provisions for people with a disability**

Following our review of the Preliminary drawings for the proposed Neuroscience Research Project, Barker Street Randwick received December 2008 and April 2009, we offer the following comments on accessibility in relation to the Access Strategy issued by Access Associates Sydney on 10 November 2008 and the following reference documents:

- Building Code of Australia (2008) BCA
- AS1428.1 – 2001 Design for access and mobility Part 1: General requirements for access – New building work.
- AS1428.2 – 1992 Design for access and mobility Part 2: Enhanced and additional requirements – buildings and facilities.
- AS1428.4 - 1992 Design for access and mobility Part 4: Tactile Ground Surface Indicators for the orientation of people with vision impairment and DR0402 (2004) Design for Access and Mobility Part 4 Tactile Indicators
- AS1735.12 – 1999 Lifts, escalators and moving walks Part 12: Facilities for persons with disabilities
- AS2890.1 – 1993 Car Parking – Off - street parking
- DR04021 – 2004 Parking facilities – Off-street parking for people with disabilities
- Disability Discrimination Act 1992 (DDA) & DDA Advisory Notes on Access to Premises – HREOC, June 1997

To meet the objectives of the Disability Discrimination Act 1992 (DDA) – section 23, which focuses on equitable and dignified access for all users of a building or facility the key issue is the provision of a **continuous accessible path of travel**. The proposed design at this stage of the design process indicates complying continuous accessible paths of travel as listed following:

- from points of arrival and links from public transport (bus stop in Baker Street) to the building entrance
- from the basement parking areas and accessible parking spaces to the building main entry foyer
- internally throughout the facility, including the entry foyer, theatrette, wet and dry laboratory spaces, imaging areas, cafe and office areas
- to and through the external landscaped space
- to all accessible sanitary facilities
- during the staged construction process between areas within the facility

The following exceptions to full compliance are noted:

In ongoing design the following items are to be addressed:

- (i) Level 2 Stage 2B in the Animal House Area, the entries to the labs on the southern side of the facility, where an airlock is indicated, do not include circulation space to meet the requirements of AS1428.1 clause 7.4 and figure 15. Ensure in ongoing design that complying door circulation space is provided or an operational management strategy developed for use of the area by staff with a disability.

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- (ii) In Stage 2C and 2D the north-south corridors on levels 2 – 6 which link laboratory areas with office areas include doors which do not include fully complying latch side circulation space to meet the requirements of AS1428.1 figure 12. Ensure in ongoing design that the joinery layout does not restrict door circulation space.

### **Access Provisions:**

The following access provisions are included:

- **Parking**  
Equitable provision of accessible staff, visitor and research subject parking facilities to meet the intent of the DDA and the requirements of the BCA.
- **Passenger set down and pick up provision – Main Entry Barker Street**  
A drive through porte cochere and accessible drop off area is indicated at the main building entry in Barker Street.
- **Ongoing inclusion of wayfinding provisions, which include the provision of highlighting of glazed walls that could be mistaken for an opening, to assist people with sensory, cognitive and mobility impairment.**
- **Unisex accessible sanitary facilities**  
To meet the intent of the DDA and the requirements of the BCA F2.4, equitable provision of unisex accessible sanitary facilities is indicated throughout the precinct with the provision of unisex accessible facilities adjacent to all gender specific toilets.

### **Note:**

- (i) Ensure in ongoing design all accessible sanitary facilities include circulation space at the WC pan and basin to meet the requirements of AS1428.2 clause 15.
- (ii) Ensure in ongoing design the staff facilities on Level 1 in the Clinical Research and MRI area are identified as accessible and meet the requirements of AS1428.2 clause 15.
- **Cubicles for people with ambulant disabilities**  
Cubicles for people with ambulant disabilities are to be included in the ongoing design to meet the requirements of the DDA and AS1428.2.
- **Accessible counters designed to meet the requirements of AS1428.2 are to be provided in the ongoing design of the reception, café and laboratory areas.**
- **The ongoing development of an evacuation strategy to assist people with mobility impairment evacuate the facility.**
- **The ongoing inclusion of provisions for people with hearing impairment including hearing augmentation systems.**
- **The ongoing inclusion of wheelchair seating spaces in the auditorium.**



In our opinion, with the ongoing provision of design features that meet the requirements of accessibility standards including the notes as detailed above, the preliminary proposed design will provide the continuous accessible paths of travel and accessible facilities required to meet the intent of the DDA and BCA.

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