

LEND LEASE

**UNIVERSITY OF SYDNEY
AUSTRALIAN INSTITUTE OF
NANOSCIENCE**

ACCESS REVIEW

Morris-Goding Accessibility Consulting

FINAL

4 July 2013

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1. EXECUTIVE SUMMARY

The Access Review Report is a key element in the University Sydney Australian Institute of Nanoscience project and an appropriate response to the AS1428 series, Building Code of Australia (BCA), and ultimately the Commonwealth Disability Discrimination Act (DDA).

Morris-Goding Accessibility Consulting has prepared the Access Report to provide advice and strategies to maximise reasonable provisions of access for people with disabilities.

The development has been reviewed to ensure that ingress and egress, paths of travel, circulation areas and sanitary facilities comply with relevant statutory guidelines.

In general, the development has accessible paths of travel that are continuous throughout. In line with the report's recommendations, the proposed development has demonstrated an appropriate degree of accessibility. The Project Application drawings indicate that compliance with statutory requirements, common area access and sanitary facilities can be readily achieved.

The recommendations in this report are associated with detailed design and are achievable. These recommendations should be addressed prior to construction certificate.

2. INTRODUCTION

2.1. General

Lend Lease has engaged Morris-Goding Accessibility Consulting, to provide an access design review of the proposed Australian Institute of Nanoscience located on the campus of University of Sydney in Camperdown NSW 2050.

The proposed development is located adjacent the existing Edward Ford Building (A27) and the existing Physics Building (A28) of the university. The development consists of four levels and is proposed to provide internal linkages with the existing Physics Building adjacent.

The four levels of the Australian Institute of Nanoscience accommodates laboratories, offices, lecture theatres, sanitary facilities, seminar rooms, meeting rooms, student common areas and a 3rd year teaching lab.

2.2. Investigations

The requirements of the investigation are to:

- Review the following supplied architectural drawings of the proposed development; DA-0001 [01], DA-0010 [01], DA-0011 [01], DA-0012 [01], DA-0013 [01], DA-0014 [01], DA-1000 [01], DA-1001 [01], DA-1002 [01], DA-1003 [01], DA-1004, DA-2000 [01], DA-2001 [01], DA-2002 [01], DA-2003 [01], DA-3000 [01], DA-3001 [01], DA-4000 [01], DA-4001 [01], DA-4002 [01], DA-4003 [01], DA-4004 [01], DA-4005 [01], DA-4006 [01], DA-4007 [01], DA-5000 [01], DA-5001 [01], DA-5002 [01], DA-5003 [01] and DA-5004 [01].
- Provide a report that will analyse the provisions of disability design of the development, and
- Recommend solutions that will ensure the design complies with the Disability Discrimination Act (DDA), Building Code of Australia (BCA) and AS 1428 series.

2.3. Objectives

The report considers user groups, including staff and visitors. The Report attempts to deliver equality, independence and functionality to people with disabilities inclusive of:

- People with sensory impairment (hearing and vision)
- People with mobility impairments (ambulant and wheelchair)
- People with dexterity impairments

The Report seeks to provide compliance with the Disability Discrimination Act 1992. In doing so, the Report seeks to eliminate, as far as possible, discrimination against persons on the ground of disability and ensure, as far as practicable, that persons with disabilities have the same rights of access to premises as the rest of the community.

2.4. Statutory Requirements

The following standards are to be used to implement the Report:

- BCA – Building Code of Australia 2013
- DDA Premises Standards – DDA (Access to Premises - Buildings) Standards 2010

- AS 1428.1-2009 – (80% of people with disabilities accommodated)
- AS 2890.6-2009 – (Parking facilities for people with disabilities)
- DDA – Disability Discrimination Act 1992
- City of Sydney DCP 2012
- City of Sydney Access DCP 2004
- University of Sydney Disability Action Plan 2013-2018

3. INGRESS AND EGRESS

3.1. Location

The building Australian Institute of Nanoscience is bound by Physics Building along Physics Road to the North, Edward Ford Building to the east, St. Pauls College to the south and Wesley College to the west.

The main pedestrian entry point of the new development is from Physics Road public footpath, through the existing Physics Building. Alternatively, pedestrians could enter the building via the southern and eastern entrances on level 2 of the building.

3.2. Level 1 Main Entrances

Entry to level 1 of the Nanoscience building is from the northern communal external area that is located between the existing Physics Building and the proposed Nanoscience building.

From the information provided, the existing doorways and path of travel of the existing Physics Building (between gridline 9 and 10) will be upgraded to ensure a continuous accessible path of travel from Physics Road public footpath to the communal external area in front of the level 1 Nanoscience building entrances is provided, in accordance with DDA Premises Standards and AS1428.1-2009.

The communal external area in front of the level 1 building entrances provide appropriate level circulation areas for wheelchair users to access the Nanoscience building.

In general, there are sufficient circulation areas internally and externally in front of the three main entry doorways, to allow wheelchair users to perform a 180° turn and to pass one another while entering and exiting the building, in accordance with DDA Premises Standards.

There is an accessible path of travel from the main entrances to the facilities (i.e. labs, office and sanitary facilities) on level 1 and to the passenger lifts in the building, in accordance with AS1428.1-2009.

3.3. Level 2 Southern and Eastern Entrances

There are 2 entrances in the south eastern side of the building. The two entrances are located near the Entry Forecourt, which potentially could provide a linkage to the future St. Paul's development to the south and Fisher Road public footpath to the east.

The south-eastern entry is fully accessible and has appropriate circulation areas in accordance with DDA Premises Standards.

The eastern entry is only accessed by stairs. However as this entry is within 50 metres from the accessible south-eastern entrance, the entrance design is suitable in accordance with DDA Premises Standards.

Once inside the automatic doors of the south-eastern entrance, there is a series of 1:14 gradient ramps with a length of no more than 9 metres, which provide a continuous accessible path of travel to the facilities and passenger lift on level 2 at RL 30.0 of the building, compliant with AS1428.1-2009.

Recommendations:

- (i) Ensure the ramps at the south-eastern entry point have a minimum 1200mm unobstructed width path of travel, compliant with City of Sydney Access DCP 2004.
- (ii) Ensure the stairs to the eastern entry have handrail provisions, in accordance with AS1428.1-2009.

3.4. Level 2 McLeod Road Southern Entrance

There is another pedestrian entry along an external walkway from McLeod Road, which provide direct access into level 2 of the building.

In general, the external walkway is flush with McLeod Road and provides sufficient circulation areas for wheelchair users to pass one another and to access the alternative southern entrance of the building in an equitable and dignified manner.

There are egress stairways that connect the external walkway with a pathway to the south eastern Entry Forecourt area.

As before, the entry point of the egress stairs is located within 50 metres from the accessible southern entrance and is therefore suitable in accordance with DDA Premises Standards.

Recommendation:

- (i) Ensure the stair handrails are compliant with AS1428.1-2009.

3.5. Emergency Egress

The level 1 and level 2 entrances are seen as the most appropriate accessible egress in the event of an emergency situation.

Level 2 also has accessible bridge links to the adjacent northern building.

There are 3 series of emergency egress stairs, which are evenly spread throughout the building.

Recommendation:

- (i) Should the provision of any emergency systems be installed within the building, the systems should include audible and visual warnings indicators to assist people with sensory disabilities, in accordance with City of Sydney Access DCP 2004.

4. PATHS OF TRAVEL

4.1. General

In general, the circulation areas within all levels 1-4 are appropriate for persons in a wheelchair.

There is a continuous accessible path of travel between all floors for students & staff throughout via the use of passenger lifts.

The main arterial corridors have ample clear widths which will allow wheelchair users the ability to turn 180° in an equitable and dignified manner. The main arterial corridors will also allow two wheelchair users, the ability to pass each other when travelling in the opposite direction.

4.2. Internal Linkage

There are two pedestrian bridge linkages provided between level 2 of the existing Physics Building and the 2 of the new development.

In general, the pedestrian bridge linkages provide a continuous accessible path of travel between the two buildings, compliant with BCA and DDA Premises Standards.

The 1:14 ramps used have a length of no more than 9 metres and landing areas, in accordance with AS1428.1-2009. The doorways to the existing Physics Building have sufficient door circulation areas, in accordance with AS1428.1-2009.

The ramps across the pedestrian bridge linkages have a sufficient clear opening width, in accordance with City of Sydney Access DCP 2004.

4.3. Passengers Lifts

There are two passenger lifts within the building which provide a continuous accessible path of travel from level 1 (main entrance level) to the upper levels 2 to 4 of the building, in accordance with BCA and DDA Premises Standards. The lifts are well positioned adjacent accessible entrances and also the level 2 bridge links.

The two new passenger lifts have minimum 1400mm x 1700mm internal dimensions, compliant with DDA Premises Standards and City of Sydney Access DCP 2004.

The lift lobbies on all levels will allow a person in a wheelchair the ability to enter and exit the passenger lifts in an equitable and dignified manner.

Recommendation:

- (i) Ensure that components in the lift car (control panels, audio/visual indicators, handrails and light levels) comply with DDA Premises Standards and AS1735.12.

4.4. Internal Stairs

There are three stairs within the building that connect the building entry levels with the upper levels of the building.

In general, the three stairs are positioned within proximity of a passenger lift in the building, to ensure an equitable and continuous accessible path of travel is provided, in accordance with BCA and DDA Premises Standards.

Review is required, to ensure the stairs are appropriately set back from the corridors, to allow for suitable handrail extensions at the bottom and top of the stairs, compliant with AS1428.1-2009, which is believed to be achievable.

Additionally, there is a stair (stair 4) that connects level 3 with the roof area on level 4. This stair appears to be a fire isolated stairway which generally is not used by the public.

Recommendations:

- (i) Stairs 1, 2 and 3 shall be reconfigured to ensure the handrail extensions at the bottom and top of the flights of stairs are compliant with AS1428.1-2009.
- (ii) Ensure the stairs are set back from the transverse path of travel, to allow for adequate handrail extensions at the top and bottom of the stairs, compliant with AS1428.1-2009.
- (iii) Confirm if stair 4 is a fire-isolated stairway. It should be noted that stair 4 requires handrail provisions in accordance with AS1428.1-2009 when the stair is a non-fire isolated stairway.

4.5. Doors

In general, all doors of laboratories, meeting room, and office on level 1-4 can achieve the required 850mm clear width and circulation areas in accordance with AS1428.1.

5. FACILITIES

5.1. Café and Breakout / Teapoint

There is a Café area provided on level 1 and Breakout/Teapoint areas on levels 2 and 3 of the building. In general, there is a continuous accessible path of travel to and from these facilities, in accordance with AS1428.1-2009.

The Café area and Breakout/Teapoint areas consists of sufficient circulation areas for a person in a wheelchair to make a 180° turn in an equitable and dignified manner, in accordance with AS1428.1-2009.

5.2. Lecture Theatre

There is a Lecture Theatre provided on level 2 of the building, with a total of 293 fixed seats. There are also 4 wheelchair seating spaces provided within the theatre. The provision of 4 wheelchair seating spaces is not sufficient to meet the minimum requirements of the BCA and DDA Premises Standards Table 3.9.

The proposed wheelchair seating spaces are located in the front row, near the lectern. Review is required, to ensure the seats are grouped and positioned in line with the adjacent fixed seats, in accordance with DDA Premises Standards and AS1428.1-2009.

In general, there is a continuous accessible path of travel from the Lecture Theatre entry doorways on level 2 to the wheelchair seating spaces and the lectern in the theatre, in accordance with AS1428.1-2009.

Recommendations:

- (i) Provide a minimum of 6 wheelchair seating spaces in the Lecture Theatre with 293 fixed seats, compliant with BCA and DDA Premises Standards D3.9.

Wheelchair seating spaces may be achieved by providing removable seating.

- (ii) Ensure the wheelchair seatings paces are grouped in accordance with BCA and DDA Premises Standards D3.9.
- (iii) Ensure the fixed seats adjacent the wheelchair seating spaces are set a minimum 330mm forwards, to ensure wheelchair users could sit in line with the person adjacent, in accordance with AS1428.1-2009.

5.3. Case Study Lecture Theatre

There is also a Case Study Lecture Theatre provided on level 2 of the building, with a total of 37 fixed seats. There are currently no wheelchair seating spaces provided within the theatre.

Review is required to ensure a minimum of 3 wheelchair seating spaces are provided within the theatre, compliant with BCA and DDA Premises Standards D3.9.

In general, there is a continuous accessible path of travel from the lecture theatre entry doorways on level 2 to the lectern in the theatre, in accordance with AS1428.1-2009.

Recommendations:

- (i) Provide a minimum of 3 wheelchair seating spaces in the Case Study Lecture Theatre with 37 fixed seats, compliant with BCA and DDA Premises Standards D3.9.

Wheelchair seating spaces may be achieved by providing removable seating.

- (ii) Ensure the wheelchair seating spaces are grouped in accordance with BCA and DDA Premises Standards D3.9.

5.4. Student Commons

There is a Student Commons area provided on level 3 of the building. In general, there is a continuous accessible path of travel to and from the area, in accordance with AS1428.1-2009.

The Student Commons area consists of sufficient circulation areas for a person in a wheelchair to make a 180° turn in an equitable and dignified manner, in accordance with AS1428.1-2009.

5.5. Other Facilities

In general, there is a continuous accessible path of travel from the entrances and the passenger lifts to other facilities in the building, including Medium Seminar Room, Meeting Room, Large Seminar Room, Learning Studio, 3rd Year Teaching Lab and Lab Teaching areas in the building, in accordance with AS1428.1-2009.

The doorways to the other facilities have sufficient circulation areas for wheelchair users to enter the room in an equitable and dignified manner, in accordance with AS1428.1-2009.

Recommendation:

- (i) Ensure a minimum 1000mm width path of travel and appropriate circulation areas are provided within the rooms (e.g. Lab, Seminar Rooms, Learning Studio and Teaching Lab) after utilities and furniture are installed, in accordance with AS1428.1-2009.

6. SANITARY FACILITIES

6.1. General

There are bank of toilet facilities provided on level 1 to 3 of the development. There is an accessible unisex toilet facility provided on each of these levels in accordance with BCA and DDA Premises Standards.

6.2. Level 1

There is one bank of toilet facilities, including male, female and accessible unisex toilet provided on level 1 of the development, which is compliant with DDA Premises Standards.

The accessible unisex toilet has sufficient internal dimensions to achieve a minimum 2300mm x 1900mm unobstructed circulation areas around the toilet pan, compliant with AS1428.1-2009.

In general, there is a continuous accessible path of travel from the entrances and the passenger lift to the accessible unisex toilet facility, in accordance with AS1428.1-2009.

Recommendation:

- (i) Ensure all required fixtures in the accessible toilet facility are installed in accordance with BCA F2.4, AS1428.1-2009.

6.3. Levels 2

There are two banks of toilet facilities provided on level 2 of the building. There is an accessible unisex toilet facilities provided at both bank of toilets, which is above the minimum requirements of the BCA and DDA Premises Standards.

One of the accessible unisex facilities also contains accessible shower facilities. In general, the accessible unisex toilet with shower has adequate internal dimensions to accommodate sufficient toilet pan and shower circulation areas, in accordance with AS1428.1-2009.

Review is required, to ensure the accessible unisex toilet, positioned near the lecture theatre is enlarged to a minimum 2650mm in depth, to provide minimum 2300mm depth clearance around the toilet pan, compliant with AS1428.1-2009.

In general, there is a continuous accessible path of travel from entrances, linkages and the passenger lifts to both accessible toilet facilities, in accordance with AS1428.1-2009.

Recommendations:

- (i) Ensure the accessible unisex toilet facility near the lecture theatre is enlarged to provide a minimum 2300mm x 1900mm unobstructed circulation area around the toilet pan. The washbasin of a minimum 430mm in depth may encroach up to 100mm into this circulation area, in accordance with AS1428.1-2009.
- (ii) Ensure all required fixtures in the accessible toilet facilities are installed in accordance with BCA F2.4, AS1428.1-2009.

6.4. Levels 3

There are two banks of toilet facilities provided on level 3 of the building. There is an accessible unisex toilet with shower facilities provided at one bank of toilets, which satisfies the minimum requirements of the BCA and DDA Premises Standards.

In general, the accessible unisex toilet with shower has adequate internal dimensions to accommodate sufficient toilet pan and shower circulation areas, in accordance with AS1428.1-2009.

In general, there is a continuous accessible path of travel from entrances, linkages and the passenger lifts to accessible toilet with shower facility, in accordance with AS1428.1-2009.

Recommendation:

- (i) Ensure all required fixtures in the accessible toilet facilities are installed in accordance with BCA F2.4, AS1428.1-2009.

6.5. Ambulant Cubicles

There is an ambulant cubicle facility provided in each of the male and female toilet facilities on levels 1, 2 and 3, compliant with DDA Premises Standards.

In general, there are sufficient 900mm x 900mm unobstructed circulation areas provided along the path of travel to the ambulant facilities, in accordance with AS1428.1-2009.

Review is required to ensure the airlocks to male and female toilets have sufficient circulation areas for people with an ambulant disability, in accordance with AS1428.1-2009.

Recommendations:

- (i) Ensure the airlock to the male and female toilets (e.g. level 2 and 3) have a minimum 900mm x 900mm unobstructed clearance (clear of the swing of the airlock doors), compliant with AS1428.1-2009.
- (ii) Ensure the ambulant cubicles are installed in accordance with AS1428.1-2009 Figure 53.

7. MISCELLANEOUS

7.1. Car Parking

There are two new car parking bays provided on level 1, between the new development and the existing Edward Ford Building (A27) to the east.

One of the car parking bays is nominated as accessible car parking bays, which is compliant with BCA and DDA Premises Standards.

The accessible car parking bay has a minimum 2.4m width and an equivalent shared zone with bollard adjacent, compliant with AS2890.6-2009. It should however be noted that it is not mandatory to identify the accessible car parking bay and shared zone when less than 5 car parking bays are provided, in accordance with BCA and DDA Premises Standards.

In general, there is a continuous accessible path of travel from the nominated accessible car parking bay to the courtyard and adjoining main entrance on level 1 of the building, in accordance with AS1428.1-2009.

Recommendation:

- (i) Unless required by the university, it should be noted that it is not mandatory to allocate potentially two car parking bays for an accessible car parking bay and shared zone when less than 5 car parking bays are provided, in accordance with BCA and DDA Premises Standards.

7.2. Hearing Augmentation

Recommendations:

- (i) In accordance with the DDA Premises Standards, where an inbuilt amplification systems are to be installed within the building (other than one used only for emergency warning) hearing augmentation systems to assist people who are deaf or hearing impaired must be installed.

Potentially an inbuilt amplification systems is installed within Lecture Theatre, Case Study Lecture Theatre, Medium Seminar Room, Meeting Rooms, Large Seminar Room, Learning Studio, 3rd Year Teaching Lab, Lab Teaching areas and other rooms.

- (ii) The hearing augmentation system (for induction loops) must be provided to at least 80% of the floor area, in accordance with DDA Premises Standards and BCA Part D3.7.

7.3. Signage

Recommendation:

- (i) Provide suitable signage to identify accessible and sanitary facilities, compliant with the DDA Premises Standards and BCA part D3.6.

7.4. Lighting

Recommendation:

- (i) In general the illumination levels should be 150 lux for paths of travel, corridors and stairs. Ensure all lighting levels comply with AS1680.