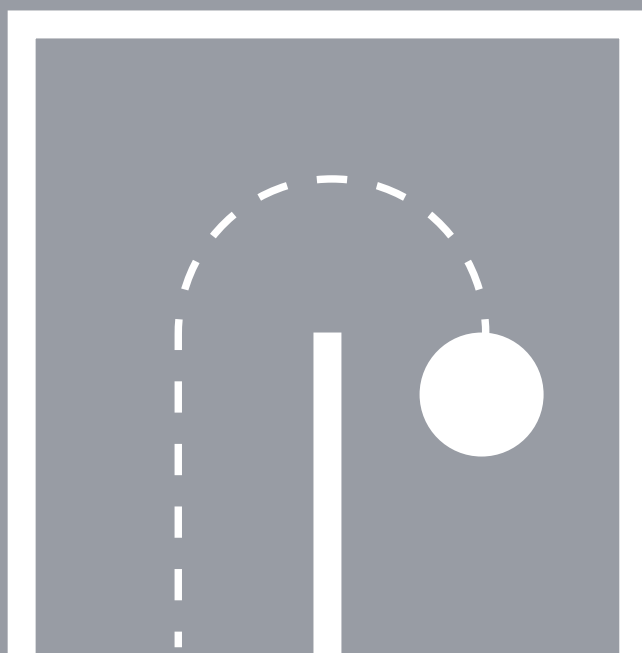




Access Review

University of Wollongong
Molecular & Life Sciences Building
Issue 3
31/03/17



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Reviewed by: R Thompson

Document History:

Issue 1: 15/12/16 [draft]

Issue 2: 09/03/17

Issue 3: 31/03/17



Introduction

Background

The UOW proposed Molecular and Life Sciences (MLS) building is to be located on the Wollongong Campus. The proposed new building will contain a Cryogenic Transmission Electron Microscope (Cryo-TEM) microscopy suite, other advanced microscopy suites, biological laboratories and accommodation, animal holding and support facilities and a lab and rooftop platform for Atmospheric Chemistry.

The proposed site is bounded by Building 32 Illawarra Health and Medical Research Institute (IHMRI) to the north, ring road and Building 43 Science Teaching Facility (STF) to the east, Building 42 (The Sciences Annex) and Science Road to the south and Building 41 (Faculty of Science, Medicine & Health) to the west.

This review of the schematic design documents addresses the requirements for access by staff, students and visitors with a disability or who are older, to the proposed new facility.

The review addresses compliance with the Disability (Access to Premises - Buildings) Standards 2010, Parts D3, E3.6 and F2.4 of the Building Code of Australia 2016 (BCA) and Australian Standards on Access and Mobility.

The key issue in the provision of appropriate access to the new facility is the provision of continuous accessible paths of travel:

- (i) from the main points of pedestrian entry at the allotment boundary;
- (ii) from another accessible building connected by a pedestrian link;
- (iii) from accessible visitor parking to the principal building entrance; and
- (iv) to and within areas normally used by the occupants.

We have reviewed the drawings listed to assess the level of accessibility and compliance with the relevant codes, standards and legislation. The designs have been assessed to ensure that equitable and dignified access for people with disabilities that meets the intent of the Disability Discrimination Act (DDA) can be provided. In carrying out an accessibility assessment, the main objective is to ensure access is provided through the provision of accessible facilities and continuous paths of travel to and within all appropriate areas of the buildings.

The BCA (2016) in conjunction with the Disability (Access to Premises - Buildings) Standards 2010 (Premises Standards) apply to new buildings and existing buildings that undergo refurbishment.

Under the Premises Standards, access must be provided, to the degree necessary, to enable people to approach the building from the road boundary and from any accessible carparking spaces associated with the building; approach the building from any accessible associated building; access work and public spaces, accommodation and facilities for personal hygiene; and to enable identification of access ways at appropriate locations which are easy to find.

Under the BCA 2016 and Premises Standards, table D3.1 Requirements for access for people with a disability, access to the new facility (classes 5, 8, 9b) is required to and within all areas normally used by the occupants.



Context for Planning & Design

Legislation & Standards

The new work is subject to access provisions in the following referenced documents:

- Disability (Access to Premises - Buildings) Standards 2010
- The Building Code of Australia (BCA) 2016 parts D3, F2.4 and E3.6
- AS1428.1 (2009) (Incorporating Amendment No 1): 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 (2009) (Incorporating Amendment No 1): Design for access and mobility Part 4.1: Means to assist the orientation of people with vision impairment -tactile ground surface indicators
- AS1735.12 (1999) Lifts, escalators and moving walks Part 12: Facilities for persons with disabilities AS1428.4 (1992) Design for access and mobility. Part 4: Tactile ground surface indicators for the orientation of people with vision impairment
- AS2890.6 (2009) Parking Facilities - Off-street parking for people with disabilities
- AS3745 (2009) Planning for Emergencies in Facilities (referenced)
- AS1428.5 (2010) Design for access and mobility Part 5: Communications for people who are deaf or hearing impaired (referenced)
- Australian Human Rights Commission Guideline on the Application of the Premises Standards (2013)
- The Disability Discrimination Act 1992 (DDA)
- Disability Standards for Education 2005



Context for Planning & Design

Legislation & Standards

DDA

The objectives of the Disability Discrimination Act 1992 (DDA) – section 23, focus on the provision of equitable, independent and dignified access to services and facilities for people with mobility, sensory and cognitive disabilities. 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.

Premises Standards

Disability (Access to Premises - Buildings) Standards (Premises Standards) 2010 which commenced on 01 May 2011, has been incorporated into the BCA (2016) to ensure that access provisions for people with disabilities more fully meet the intent of the DDA. Meeting the Premises Standards ensures fulfilment of obligations under the Disability Discrimination Act in relation to physical access within the buildings. Schedule 1 of the Premises Standards contains the Access Code for Buildings and is equivalent to the BCA provisions for access.

BCA

The Building Code of Australia (BCA)(2016) applies to new buildings and existing buildings that undergo refurbishment. In this report the description of the level of accessibility throughout the new work is generally measured against the Deemed-to-Satisfy Provisions of the BCA, in particular Parts D3, E3.6 & F2.4.

AS1428 – Standards for Access

The Australian Standards design for access and mobility are a suite of standards relating to the inclusion of features in the built environment that improve access and mobility for people with a disability.

AS1428.1 (2009) sets out minimum requirements for design of buildings and facilities, while AS1428.2 includes enhanced and additional requirements that are not covered in AS1428.1, such as street furniture and reach ranges.

AS1428.4.1 (2009) Design for access and mobility Part 4.1: Means to assist the orientation of people with vision impairment primarily details the requirements for the application of tactile ground surface indicators (TGSIs).

Disability Standards for Education 2005

The objects of these standards are:

- to eliminate, as far as possible, discrimination against persons on the ground of disability in the area of education and training; and
- to ensure, as far as practicable, that persons with disabilities have the same rights to equality before the law in the area of education and training as the rest of the community; and
- to promote recognition and acceptance within the community of the principle that persons with disabilities have the same fundamental rights as the rest of the community.

Reasonable adjustment is an adjustment, measure or action (or a group of measures or actions) taken by an education provider that has the effect of assisting a student with a disability.



Context for Planning & Design

Documentation Reviewed

Documentation

This assessment is based on discussion with the design team and review of the following design documentation prepared by Denton Corker Marshall & Jacobs, issued to funktion on 24/03/17, and landscape concept documentation prepared by ASPECT Studios, issued to funktion on 30/03/17.

Site Plan Proposed IA126000-00SD-RB-DRG-0101 [F]

Site Demolition Plan IA126000-00SD-RB-DRG-0201 [F]

Ground Level Plan IA126000-00SD-RB-DRG-1100 [F]

Mezzanine Level IA126000-00SD-RB-DRG-1105 [F]

Level 01 Plan IA126000-00SD-RB-DRG-1110 [F]

Level 02 Plan IA126000-00SD-RB-DRG-1120 [F]

Level 03 Plan IA126000-00SD-RB-DRG-1130 [F]

Level 04 Plan IA126000-00SD-RB-DRG-1140 [F]

Plant Level – Roof IA126000-00SD-RB-DRG-1150 [F]

Upper Plant Level IA126000-00SD-RB-DRG-1160 [F]

Roof Plan IA126000-00SD-RB-DRG-1170 [F]

Section AA IA126000-00SD-RB-DRG-5001 [F]

Section BB IA126000-00SD-RB-DRG-5002 [F]

Section CC IA126000-00SD-RB-DRG-5003 [F]

North Elevation IA126000-00SD-RB-DRG-4001 [D]

East Elevation IA126000-00SD-RB-DRG-4002 [D]

South Elevation IA126000-00SD-RB-DRG-4003 [D]

West Elevation IA126000-00SD-RB-DRG-4004 [D]

Landscape Concept Plan:

A16060-SK01 Rev I



Context for Planning & Design

Exempt Areas

Due to the nature of the duties required to be undertaken by staff in some areas, it is our understanding that certain areas of the building will meet the requirements of the Disability (Access to Premises - Buildings) Standards and the Building Code of Australia part D3.4 (a) as areas that are not required to be accessible, as they are areas where access would be inappropriate because of the particular purpose for which they are used. These areas could pose an occupational health and safety risk to people using ferrous materials (wheelchairs) or will be accessed by staff who will be required to undertake manual handling in plant areas and safely handle hazardous materials.

The areas are:

1. Cryo 1 & 2 and interference zones
2. Clean labs
3. Cold / Freezer Rooms
4. Cleaner Rooms
5. Plant Rooms
6. Comms Room

This exemption is in line with the Australian Human Rights Commission Guideline on the application of the Premises Standards which states "areas that would impose a health or safety risk for people with disability are not required to be accessible. These areas could include plant and equipment rooms and other similar areas".

The NCC Guide to the NCC Volume 1 states that BCA D3.4 provides details on buildings or parts of buildings not required to be accessible under the BCA. D3.4 details exemptions to the requirements for access to certain areas within buildings where providing access would be inappropriate because of the nature of the area or the tasks undertaken. These areas could include waste containment areas, plant and equipment rooms and other similar areas.



Context for Planning & Design

Management Strategies

In the existing facilities and proposed new building work it is important, within the limitations of the existing structure, to provide general paths of travel, circulation spaces and accessible facilities, within areas not exempt by the BCA part D3.4, to meet the intent of the DDA.

In addition to accessible paths of travel, accessible parking and accessible sanitary facilities, it will be necessary to develop operational management strategies that meet the proposed intention to provide equipment and adapt areas within the building to meet the requirements of specific individuals with a disability.

Operational management strategies are required to meet the specific requirements of visitors, post graduate students and staff with a disability whose individual requirements cannot be addressed within the base buildings and existing building facilities.

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. Ongoing development of operational management strategies are recommended for the following:

- emergency egress for people with sensory and mobility impairment
- evacuation plans for people with mobility impairment who use refuges to wait for assistance

- modification of individual work areas to meet individual staff and student requirements
- allocation of accessible parking to individuals as required
- allocation of wheelchair seating spaces within conference room flexible seating arrangements as required by individuals
- the facilitation of access by visitors and staff with a disability to required laboratory areas by the provision of individually required equipment (including mobility equipment) and the adaption of required areas (including possible counter/bench heights and additional circulation space)
- navigating access restrictions around Cryo-TEM interference zones.



Design Review

Accessibility Assessment

Accessible Paths of Travel To the Building

To meet the Access to Premises Standards Part 2.1 and BCA D3.2, accessible paths of travel that comply with AS1428.1 clause 6 are proposed to be provided from the proposed new accessible parking spaces in the existing carpark to the east of the building; and from surrounding buildings and facilities along primary pedestrian links through the university.

To meet the Premises Standards clause D3.2 and BCA 2016 D3.2, there are two designated accessible car parking spaces indicated in the existing carpark. To meet the Premises Standards D3.2, accessible car parking spaces are proposed to meet AS2890.6, including compliant dimensions in the adjacent shared space.

The following pathways provide accessible links to the proposed new building:

- A primary pedestrian link from the south to the principal entrance via a 1:27 path
- A primary pedestrian link from the north that also links to the adjacent IHMRI building
- A 1:28 pedestrian link from the accessible car parking to the principal pedestrian entrance through the proposed rainforest planting
- A primary pedestrian link from the northwest to the central atrium entrance
- A pedestrian bridge linking the adjacent IHMRI building

Recommendations

- i. The designated accessible parking spaces to include dimensions and a layout to meet the requirements of AS2890.6 (2009) and identification signage. This includes a dedicated (non-shared) space with dimensions 2.4m wide x 5.4m long; a shared area on one side of the dedicated space 2.4m wide x 5.4m long; a shared area at the end of each space 2.4m x 2.4m and a 1200mm high bollard located in the centre and 800mm from the front edge of the shared space.
- ii. Parking space related walking and wheelchair unloading areas comprise a slip-resistant, firm plane surface with a fall not exceeding 1:40 in any direction or 1:33 if the surface is a bituminous seal.



Design Review

Accessibility Assessment

Accessible Paths of Travel Within the Building

To meet the requirements of the Premises Standards and BCA part D3.1, continuous accessible paths of travel meeting the functional requirements of AS1428.1 (2009) are proposed throughout the building via the provision of lift access linking all levels of the building and circulation space at corridors, lift lobbies and doors. There are two small breakout spaces, one on the mezzanine level and one between Levels 01 and 02 of the south wing that are not proposed to be linked with lift access.

Doors in areas required to be accessible are proposed to provide clear opening width and circulation space to meet AS1428.1 clause 13.3.

The conference room is not proposed to have fixed seating and so does not require allocated wheelchair seating spaces.

Some areas of the building will meet the requirements of the Disability (Access to Premises - Buildings) Standards and the BCA part D3.4 (a) as areas that are not required to be accessible, as they are areas where access would be inappropriate because of the particular purpose for which they are used. These areas will be accessed by staff who will be required to undertake manual handling in plant areas and safely handle hazardous materials. The areas are: Cryo 1 & 2 and interference zones, Clean labs, Cold / Freezer Rooms, Cleaner Rooms, Plant Rooms, Comms Room.

Recommendations

- i. Circulation space at the sliding doors on the bridge link to IHMRI are to provide circulation space in accordance with AS1428.1 2009 clause 13.3, or be automated.
- ii. Ensure in ongoing design that all frameless or fully glazed door, sidelights and any glazing capable of being mistaken for a doorway or opening, is clearly marked in accordance with AS1428.1 clause 6.6.
- iii. Doorways are to be provided with luminance contrast to meet the requirements of AS1428.1 (2009) clause 13.1.
- iv. To meet the Premises Standards and BCA (2016) part D3.7, if an inbuilt amplification system is installed in the conference room and meeting rooms, a hearing augmentation system is to be provided, to not less than 80% of the floor area of the room.
- v. Further investigation and discussion is required regarding areas that require a performance based solution to provide equitable access to meet the Premises Standards and BCA – such as specialised lab areas or clean areas.
- vi. Development of a performance based solution is required to address the small breakout areas that are not linked by lift access.
- vii. In ongoing design, ensure the door to the meeting room on Level 1 provides circulation space to meet AS1428.1.



Design Review

Accessibility Assessment

Vertical Links

The building is proposed to include the following vertical links:

- Stair at principal entrance
- Stair access linking all levels of the building
- One passenger lift and one goods lift linking all levels of the building
- Fire isolated stair in northern wing of building
- Fire isolated stair in southern wing of building
- Bridge link from adjacent IHMRI Building
- Ramp link to atmospheric chemistry platform

Recommendations

- i. The ramp link to the atmospheric chemistry platform to meet the requirements of AS1428.1 clause 10.3 and figures 13-19 to include:
 - a. A maximum slope of 1:14
 - b. A constant gradient between level landings
 - c. Handrails and kerbs on both sides
 - d. Adequate space for landings to meet AS1428.1 clause 13.
 - e. A performance solution for the deletion of tgsi due to the equipment used
- ii. To meet the BCA (2016) part D3.3 (a) stairways, (except for stairways in exempted areas and fire isolated stairs) are required to comply with AS1428.1 clause 11 and BCA D3 to include handrails on both sides that include a 300mm horizontal extension at the top and bottom set back by a minimum of 600mm so that the handrail does not protrude into the transverse path of travel as per AS1428.1 (2009) figure 26(A); nosing profiles which include 50-75mm wide solid slip resistant highlighting strips on the tread at the nosing that includes a minimum luminance contrast of 30% with the tread to comply with AS1428.1 figures 27(a) and (b); tactile ground surface indicators (tgsi) in a band 600mm deep set back 300mm from the top and bottom tread and opaque risers.
- iii. A performance solution is proposed for stair B – handrails on both sides, reduced length handrail ending and inclusion of tgsi as this fire stair is proposed to be used as a communication stair.
- iv. To comply with BCA D3.3 (b) and E3.6, the new lift is to be one of the types identified in BCA Table E3.6a, and include the following features in accordance with AS1735.12:
 - a. A handrail complying with the provisions for a mandatory handrail in AS 1735.12 clause 5.3
 - b. Minimum clear door opening of 900mm as in AS 1735.12 section 2
 - c. Passenger protection system complying with AS 1735.12 clause 4.2
 - d. Lift car and landing control buttons complying with AS 1735.12 section 7 for Braille, tactile and luminance contrast
 - e. Lighting complying with AS 1735.12 section 10
 - f. Emergency hands-free communication, including a button that alerts a call centre of a problem and a light to signal that the call has been received



Design Review

Accessibility Assessment

Sanitary Facilities & Emergency Egress

To meet the Premises Standards and BCA (2016) part F2.4 the new facility is proposed to include sanitary facilities on the ground floor and Levels 1-4, in the southern part of the building. Unisex toilets are also provided on Level 04 in the northern wing.

The toilets include unisex accessible sanitary facilities (3 x right hand layout and 2 x left hand layout) and a cubicle suitable for a person with an ambulant disability for use by males and females. The dimensions and layout are proposed to comply with AS1428.1 clause 15 and 16.

To meet the intent of the Disability Discrimination Act, a refuge for wheelchair users is proposed to be provided in the southern fire stair.

Recommendations

- i. If showers are provided in the building, to meet the Premises Standards and BCA F2.4(b), an accessible shower must be provided in the building. This can be combined with one of the unisex accessible sanitary facilities.
- ii. Ensure in ongoing design the unisex accessible sanitary facilities include fittings to meet AS1428.1 clause 15.
- iii. Ensure in ongoing design the cubicles for people with an ambulant disability include fittings to meet AS1428.1 clause 16.
- iv. Development of individual evacuation plans for staff or students with a disability is recommended as part of the facility operational management strategy.
- v. To meet AS3745 (2009) Planning for Emergencies in Facilities we recommend that consideration be given to the inclusion of suitable emergency evacuation devices for people to be carried down the stairwell.



Conclusion

Conclusion

Having reviewed the listed drawings, it is our opinion that at this stage of the schematic design, the access provisions for people with physical and sensory disabilities in the proposed new Molecular and Life Sciences Building can comply with the functional accessibility requirements of BCA (2016) sections D3, E3.6 and F2.4; AS1428.1, AS2890.6, AS1735.12 and the Disability (Access to Premises - Buildings) Standards 2010 for accessibility and equity.

At this stage of the design, the provision of access for people with a disability in the proposed new facility can provide continuous accessible paths of travel and the equitable provision of accessible facilities to provide inclusive design to meet the anticipated requirements of staff, students and visitors.

I certify that I am an appropriately qualified and competent person practising in the relevant area of work. I have recognised relevant experience in the area of work being reviewed. My company is holding appropriate current insurance policies.

A handwritten signature in dark ink, appearing to read 'Jen Barling', located below the certification text.

Jen Barling | Access + Inclusion Consultant

Qualifications: Bachelor of Applied Science (Occupational Therapy) (1999)

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