



LEND LEASE

**BARANGAROO SOUTH PUBLIC DOMAIN
STAGE 1B**

ACCESS REVIEW

Morris-Goding Accessibility Consulting

FINAL v5

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1. EXECUTIVE SUMMARY

The Access Review Report is a key element in design development of Barangaroo South Public Domain Stage 1B, and an appropriate response to the AS1428 series, the 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 paths of travel and circulation areas comply with relevant statutory guidelines.

In general, the development has accessible paths of travel that are continuous throughout. The proposed development has demonstrated an appropriate degree of accessibility. The Development Application drawings indicate that compliance with statutory requirements, pertaining to site access and common area access, can be readily achieved.

Consideration will be given during detailed design stage for the provision of best-practice accessibility elements within the development. Detailed design elements will need to be reviewed and assessed during design development stage to ensure appropriate accessibility requirements are implemented.

2. INTRODUCTION

2.1. The Site

Barangaroo is located on the north-western edge of the Sydney Central Business District, bounded by Sydney Harbour to the west and north, the historic precinct of Millers Point (for the northern half), The Rocks and the Sydney Harbour Bridge approach to the east; and bounded to the south by a range of new development dominated by CBD commercial tenants.

The Stage 1B Public Domain site is generally located to the north of the Stage 1A site, on land identified as public domain between and around Blocks 4A, 4B and Y in the approved Concept Plan (Mod 8), as shown in **Figure 1**. The majority of the site is legally described as Lot 212 in DP 1217691 but also includes an area of Darling Harbour. It is noted that an additional area of Darling Harbour was added to the site by the Planning Assessment Commission in their determination of Concept Plan MOD 8. This additional area is reflected in the site area identified in **Figure 1**.

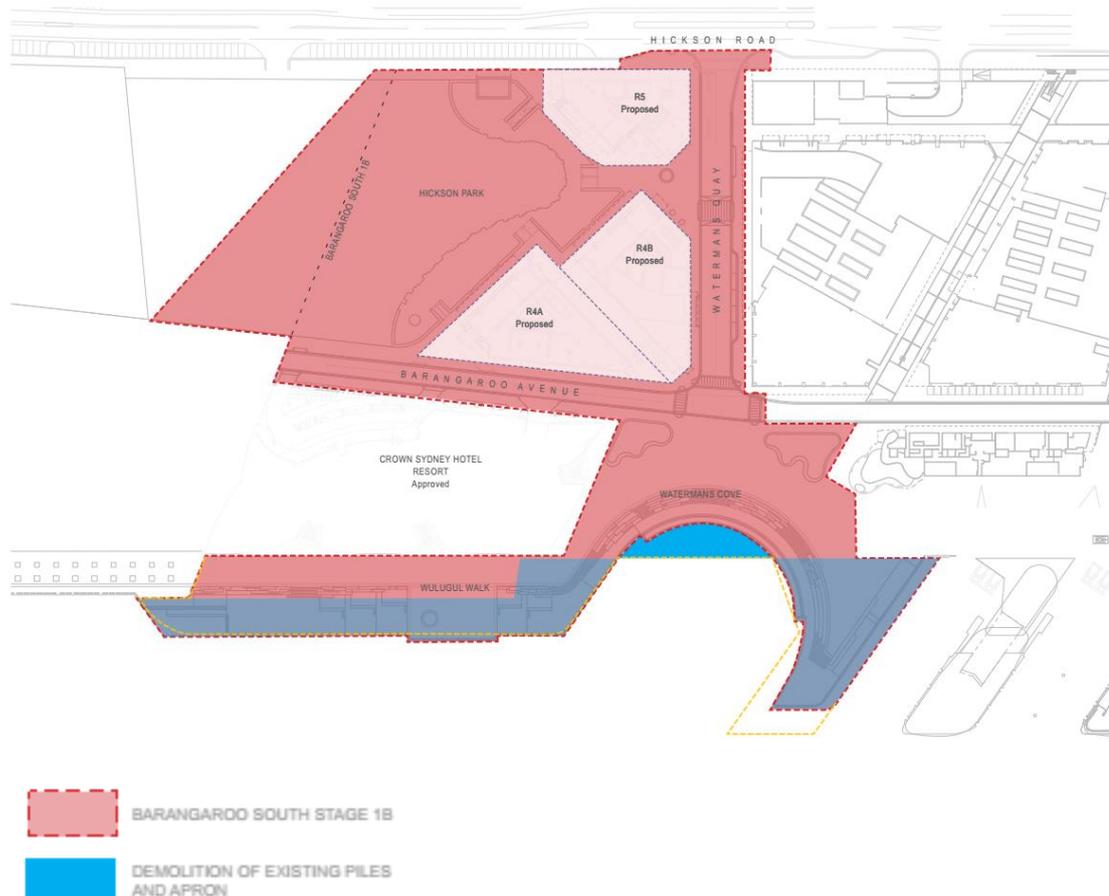


Figure 1 – Site plan

2.2. Description of Proposed Development

The SSD application will seek consent for all public domain works within ‘Stage 1B’ of the Barangaroo South Site, as well as the additional area of Hickson Park that was

added through Concept Plan MOD 8. The extent of public domain works is illustrated on the site plan prepared by Lend Lease in **Figure 1**, and the preliminary indicative design drawing in **Figure 2**.

The public domain works include the construction of Waterman's Cove and public pier along the foreshore, the provision of a potential future building on the public pier, public domain works associated with Hickson Park as well as all typical public domain features such as trees and other landscape features, walkways, street paving, street furniture, lighting, roads and planting. Various services and infrastructure such as power and water with landowner consent will be included in the public domain to enable it to be used for a range of different activities. Opportunity for boat set down/pick up (i.e. no berthing), including the potential for water taxi drop off and pick up is also included in the design.

Staging of the proposed public domain works will be a key component in order to accommodate the efficient and timely construction of the works and to integrate with the construction of the residential buildings R4A, R4B and R5 located within the Stage 1B Site and The Crown Sydney Hotel Resort.

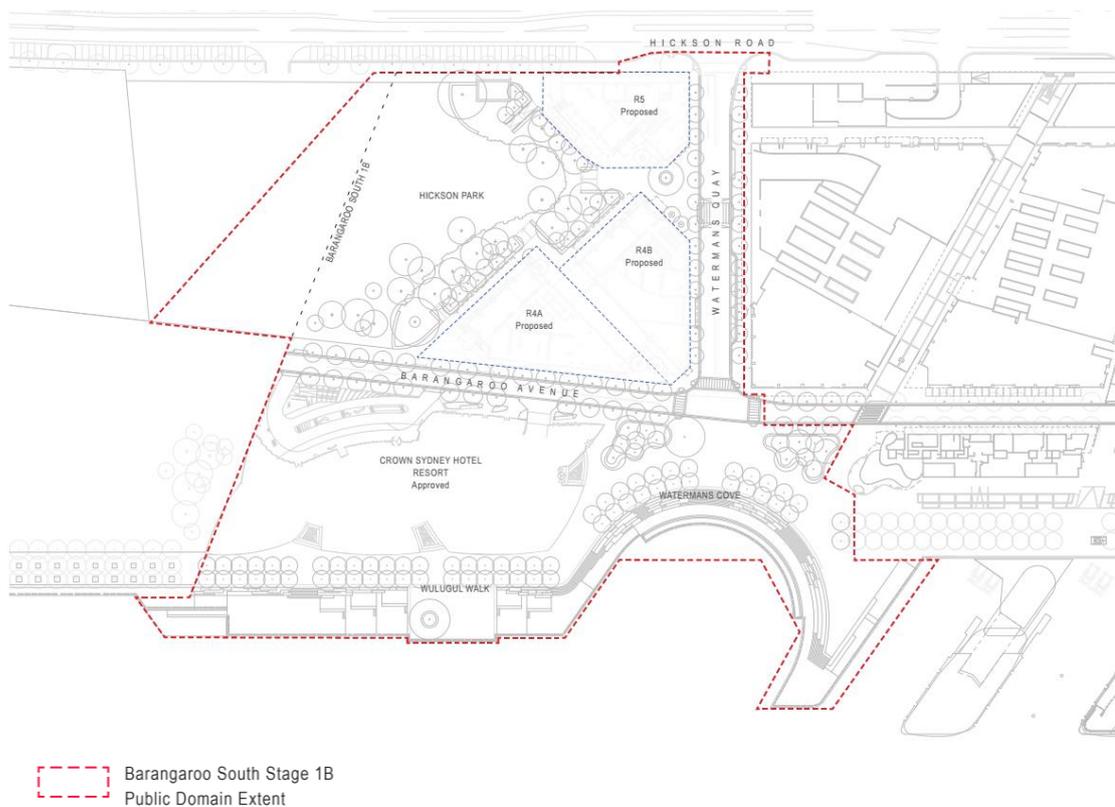


Figure 2 – Preliminary indicative design

2.3. Planning Context

The proposed Stage 1B Public Domain SSD DA will be submitted to reflect the public domain as envisaged in the Concept Plan (Mod 8) layout. The Statement of Commitments (Schedule 3) of the Mod 8 Instrument of Approval specifies some key conditions and commitments relevant to public domain applications which will need to be considered, with one of the key commitments being the provision of a public domain plan to be prepared for any public domain project application. Accordingly,

the public domain design to be included with the project application will provide details with respect to the following:

- Proposed levels in parks, streets and other spaces, edge conditions/integration of public domain and private development, and pedestrian connections;
- Materials and planting;
- Safe and convenient walking routes and facilities;
- Street furniture;
- Proposed built forms such as public amenities building;
- Design standards for road network (dimensions, materials, drainage), kerb parking and loading spaces, crossings, cycling, and taxi facilities, including bicycle parking facilities);
- Design guidelines/requirements for integrated water management/water sensitive urban design consistent with Water Management Plan;
- Design requirements and details relating to recreational facilities.

3. PROJECT REQUIREMENTS

3.1. General

Lend Lease has engaged Morris Goding Accessibility Consulting to provide an accessibility compliance design review of the Stage 1B Public Domain Works at Barangaroo South ('the subject works') in Barangaroo NSW 2000.

The requirements of the investigation were to:

- Review supplied development application drawings;
- Provide a report that will analyse the provisions of disability design; and
- Recommend solutions that will ensure the design complies with the Disability Discrimination Act ('DDA'), Building Code of Australia ('BCA') and AS 1428 series.

3.2. Objectives

The Report considers user groups, who include residents, staff, and visitors. The Report seeks to deliver equality, independence and functionality for people with a disability, inclusive of:

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

The Report seeks to ensure fulfilment of the DDA's objective to eliminate, as far as possible, discrimination against persons on the ground of disability and ensure, as far as practicable, that persons with a disability have the same rights of access to premises and as the rest of the community.

3.3. Limitations

This report is limited to the accessibility provisions of the public domain in general. Detailed design issues will be reviewed and addressed in construction documentation.

3.4. Regulatory Standards

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

- AS1428.1(2009) (Amendment 1) – Design for Access and Mobility
- AS1735.12(1999) – Passenger Lift Access for People with a Disability
- Disability (Access to Premises – Buildings) Standards 2010, Schedule 1 of which is also known as the 'Access Code 2010' (current to 1 May 2011)
- BCA – Building Code of Australia 2016

4. ACCESSIBILITY COMPLIANCE FRAMEWORK

4.1. Disability Regulatory Framework

The Disability Discrimination Act 1992 ('DDA') is Commonwealth legislation that provides that it is unlawful to discriminate on the basis of disability.

The Premises Standards 2010 are a set of disability standards that were made pursuant to the DDA. The Premises Standards 2010 pertains to buildings in particular. It is unlawful to not comply with the Premises Standards 2010.

Schedule 1 to the Premises Standards 2010 is also known as the 'Access Code 2010'. The Access Code 2010 sets out the minimum accessibility design and performance requirements for buildings. The Building Code of Australia ('BCA') was amended to mirror the provisions of the DDA Access Code 2010, effective from 1 May 2011.

Enforcement of the DDA is principally via a complaints mechanism. Under this mechanism, an aggrieved individual has the right to lodge a complaint of disability discrimination with the Australian Human Rights Commission.

4.2. Applicability of the Accessibility Codes

In general, the scope of the Premises Standards 2010 and BCA is limited to buildings and the external areas that are within the allotments of those buildings. In general, neither the Premises Standards 2010 nor the BCA are applicable to external areas that are outside of the allotment of a building.

The subject works consist of external public domain areas. Insofar as these areas are not associated with the commercial, retail, residential, or ferry wharf buildings, the Premises Standards 2010 and the BCA would have no direct application.

The scope of the DDA itself is not limited to equitable access to buildings. Rather, the DDA pertains to disability discrimination in general. It follows that it would not be impossible for a built streetscape that provides poor access for a person with a disability to be subject to a DDA complaint.

The designer, developer, certifier and manager of the streetscapes in question are, therefore, advised to give due consideration to accessibility aspects of the subject works.

Australian Standard 1428.1(2009) pertains to 'design for access and mobility' for new building works. It is the principal Australian Standard in relation to accessible building design and has been used in this report as a guide.

5. PATHS OF TRAVEL

5.1. Access to Buildings

The following buildings are located immediately adjacent to the extents of the Stage 1B works of Barangaroo South Public Domain:

- Crown Sydney Hotel Resort building on Barangaroo Avenue;
- Residential building R4A on Barangaroo Avenue;
- Residential building R4B on Watermans Quay;
- Residential building R5 at the intersection of Watermans Quay and Hickson Road; and
- The potential future pier community building at the southern end of Watermans Cove.

Each of the above buildings is subject to approvals that are separate to the present assessment of Barangaroo South Public Domain Stage 1B.

The concept drawings indicate that the provision of paths of travel that have clearances and gradients that would be suitable for both wheelchair users and people with a mobility impairment from the nearby public roadways to the principal pedestrian entrance of each of the above buildings is achievable.

It is to be noted in particular that the main entrances into the potential future pier community building at Watermans Cove will need to be located and designed to comply with the DDA Access Code 2010 / BCA.

It is also noted that there is a porte cochere in front of the principal pedestrian entrance of the R4A building that is within the scope of the Stage 1B works. The vehicular driveway at the porte cochere is on-grade with the adjacent pedestrian paths of travel.

Detailed design elements will be reviewed and assessed during design development stage to ensure appropriate accessibility requirements are implemented.

5.2. Pedestrian Footpaths on Landside

The scope of the Stage 1B works includes a number of pedestrian footpaths adjacent to each of the following roadways: Hickson Road; Watermans Quay; and Barangaroo Avenue. The scope of the subject works also includes the provision of pedestrian footpaths on Wulugul Walk and along a new timber boardwalk at the waterside edge.

The concept design will allow for suitable paths of travel for wheelchair users along each of the above footpaths. The footpaths will have sufficient clear width to enable both two wheelchair users to pass each other, and a single wheelchair user to execute a 180-degree turn, in an independent and equitable manner as defined under AS1428.1(2009).

It is noted that the vehicular paths of travel directly cross over pedestrian footpaths at each of the following points within the subject works:

- On the western side of Barangaroo Avenue at the porte cochere and car park vehicular main entrances into the Crown Sydney Hotel;

- On the eastern side of Barangaroo Avenue at the port cochere entrance to building R4A;
- On the northern side of Watermans Quay at the vehicular entrance into building R4B; and
- On the southern side of Watermans Quay at the vehicular main entrance into Tower T1.

Detailed design elements will be reviewed and assessed during design development stage to ensure appropriate accessibility requirements are implemented.

5.3. Pedestrian Crossings Across Roadways on Landside

There is a new east-west pedestrian crossing at the intersection of Hickson Road and the eastern end of Watermans Quay. The new kerb ramp at the western side of Hickson Road should be aligned with any kerb ramp on the opposite side of the pedestrian crossing for compliance with AS1428.1(2009).

There are three new pedestrian crossings at the intersection of Barangaroo Avenue and the western end of Watermans Quay. The lower edges of the kerb ramps at those crossings should be oriented perpendicular with the dominant direction of travel in accordance with AS1428.1(2009).

There is a new raised pedestrian crossing on Watermans Quay. The provision of warning TGSIs will be required on either side of the above crossing during design development stage.

5.4. Hickson Park

There is a new public park that is located to the north of residential buildings R4A, R4B, and R5 that spans from Barangaroo Avenue to Hickson Road, known as Hickson Park. The FFL of the park is variously located at FFL3.60 and FFL3.70.

The footpaths that are immediately adjacent to the park are located at FFL3.40. The design for Stage 1B includes the provision of three separate graded footpaths leading to the park itself, all three of which are located at the southern edge of the park. The provision of ramped pedestrian access into Hickson Park will, in general, be of direct benefit for people with a disability.

Two of the graded walkways have gradients and clear widths that are suitable for compliance with AS1428.1(2009). The third graded walkway, being the ramp that is located immediately to the north of building R5, has a gradient of 1:15.

A footpath with a grade of 1:15 would be classified as a 'ramp' under AS1428.1(2009). AS1428.1(2009) would, in turn, require the provision handrails and warning tactile ground surface indicators ('TGSIs') at such a ramp. It would be suggested for the gradient of this particular ramp to be reduced to 1:20 or shallower so as to eliminate the requirement for TGSIs and handrails under AS1428.1(2009).

The main body of the park itself consist of turf. There is a hardstand paved area at the southern perimeter of the park adjacent to the turfed main body. The interface between the turf and the hardstand area has a serrated design. Consideration could be given during the detailed design stage for provision of a clear 'tide line' within the context of the soft edge proposed by the design.

Detailed design elements will be reviewed and assessed during design development stage to ensure appropriate accessibility requirements are implemented.

5.5. Wulugul Walk and Timber Boardwalk

There are footpaths at Wulugul Walk at RL3.3 that run from the north to the south of the site. The clearances and gradients at the footpaths will allow for wheelchair access within the meaning of AS1428.1(2009).

There is a timber boardwalk that runs along the entire waterside edge at the western side of the site of the Stage 1B works. The clearances and gradients at the timber boardwalk will allow for wheelchair access within the meaning of AS1428.1(2009).

In addition to functioning as circulation for pedestrians, the boardwalk will also allow pedestrians to pause and observe the view at waterside. The clearances at the will allow wheelchair users to pause to observe the view, should they wish to do so.

There are three separate graded paths of travel that run from the Wulugul Walk, at RL3.3, to the timber boardwalk below. The first two graded paths are respectively located to the west of the Crown Sydney Hotel site. The third graded path runs on the southern edge of the new community building at the southern end of the subject site.

Each of the above graded walkways will have gradients, clear widths, and level landings that meet AS1428.1(2009). This will allow for access for people in wheelchairs in particular, and people with mobility impairments in general, to and from the majority of the waterside edge at the subject site.

There is also an arced, lower timber deck that runs between the main boardwalk and waterside at Watermans Cove. There is stairway access only from the main boardwalk to the lower deck. The lower deck does not, however, provide a link to any facility or amenity. Further, the lower deck also does not offer radically different views of the surrounds for pedestrians as compared to those from the main boardwalk.

Detailed design elements will be reviewed and assessed during design development stage to ensure appropriate accessibility requirements are implemented.

5.6. Stairways

The subject works include the following external public stairways:

- Multiple stairways that run in an east-west alignment from the upper level of Wulugul Walk to the lower, boardwalk level;
- Multiple smaller stairways along the boardwalk itself, each of which runs in a north-south alignment; and
- A single arced stairway near the waterside edge of the boardwalk at Watermans Cove.

Each of the above stairways will require handrails that comply with AS1428.1(2009) on each side, including handrail extensions. In the current design, it is noted that any handrail extensions at the stairways at Watermans Cove in particular would encroach into the transverse pedestrian path of travel. Detailed design elements will be reviewed and assessed during design development stage to ensure appropriate accessibility requirements are implemented.

6. PUBLIC FACILITIES

6.1. Public Pontoon Wharf

There is a new public pontoon on the western side of Wulugul Walk. There is a gangway that connects Wulugul Walk with the pontoon. The pontoon is intended to receive water taxis, and is not intended to receive any public ferries.

The federal Disability Standards for Accessible Public Transport 2002 (DSAPT 2002) pertains to public transport services and infrastructure. The DSAPT 2002 requires specific modes of public transport, and specific types of infrastructure that support those modes of public transport, to be designed to be accessible in accordance with prescribed standards.

Section 1.12 of the DSAPT 2002 explicitly excludes water taxis from the scope of the DSAPT 2002. So, if the pontoon at Wulugul Walk is intended to cater solely for water taxis, it would follow that the pontoon will not be required to meet the prescribed accessible design criteria of the DSAPT 2002.

Entry for pedestrians into the pontoon from Wulugul Walk will, however, not be restricted solely to water taxi customers. Rather, pedestrians would be permitted to go down to the pontoon, even if they had no intention of catching a water taxi at all.

As a public area, the pontoon should be accessible for people with a disability.

6.2. Taxi Rank

There is a new taxi rank on the southern side of Watermans Quay. There is no requirement under the DDA Access Code 2010 or the BCA for the provision of an accessible taxi bay at a taxi rank.

6.3. Public Seating Benches

The drawings show a number of seating bench designs. One of the designs is for a bench that includes both armrests and backrests. This will be of benefit for people with an ambulant disability. It is recommended that the quantity of this type of bench is maximised during design development stage.

There are public fixed tables and seats within Hickson Park. The provision of not less than one wheelchair-accessible table is recommended during design development stage on the grounds of equality of access.

6.4. Watermans Cove

The boardwalks and steps at Watermans Cove are intended for promenading and other passive recreation activities on a daily basis. The steps from Wulugul Walk down to the timber boardwalk also appear to be capable of functioning as bleacher seating for spectators on occasion, and the Cove itself appears capable of accommodating a temporary floating stage for performers.

As a matter of accessibility best practice it is recommended that, insofar as the area is intended to be capable of functioning as an amphitheatre, the design should consider capabilities for both wheelchair seating and hearing augmentation.

Detailed design element will be reviewed and assessed during design development stage to ensure appropriate accessibility requirements are implemented.

6.5. Signage

The use of signage in the precinct should aim to enhance the experience of people with a disability in the precinct. The detail of the systems can be addressed during design development stage.

Where applicable, the accessible facilities in the public domain should possess accessible identification signage.

Consideration should also be given to providing directional and informative signage in the precinct that is accessible for wheelchair users and people with sensory impairments – that is, vision and hearing. The signage should direct users to key features and attractions, including public transport linkages.

The provision of a signage system that caters for people with a disability will be addressed during design development.

7. CONCLUSION

The subject works at Barangaroo South Public Domain Stage 1B are capable of providing seamless connections for people with a disability to the various buildings within the Barangaroo South precinct for the satisfaction of the relevant provisions of the Disability (Access to Premises – Buildings) Standards 2010 and the Building Code of Australia 2016.

The design of the subject works will include an extensive system of continuously accessible paths of travel within the meaning of AS1428.1(2009) to enable users with a disability to traverse the site in a safe and independent manner. Consideration will also be given for the provision of best-practice accessible design within the site during detailed design development stage.