

One Sydney Harbour

Stage 1B: Basement

Barangaroo South SSD 6960

State Significant Development Application
Landscape Design Statement
Nov 2015 Rev 06

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Introduction

01 Introduction

Purpose

Grant Associates has been appointed by Lendlease to develop the Landscape and Public Realm Proposals for the Stage 1B, One Sydney Harbour Residential Buildings at Barangaroo South.

This document explains the principles, strategies and proposals for the landscape and public realm surrounding and in the development. They have been prepared in conjunction with the project design team including Renzo Piano Building Workshop, Lendlease and Cardno. This report should be read in conjunction with the various other development application reports, and associated drawings, provided by the project design team as part of the application.

This Landscape Design Statement has been prepared to accompany a State Significant Development Application (SSD 6960) for Stage 1B Basement.

Interim Landscape Proposals

In accordance with the staged approval process, and in addition to the permanent landscape proposals that are proposed for the building ground floor and podiums, this Design Statement includes an interim landscape proposal for areas that are intended to be replaced by subsequent development applications.



Reference Images
Roof top podiums including raised planting
and lawns and flexible use open spaces

01 Introduction

Design Approach

The design approach for the landscape and public realm proposals is a pragmatic response to the need to create a flexible interim landscape that is combined with more permanent solutions and integration to the existing streetscape. The proposals, whilst not elaborate, do ensure that the park is useable in the periods where there are proposed future development applications.

Scope

Stage 1B includes significant public realm components that will (when completed) be an important legacy for the project and a significant asset to the City’s existing network of parks and public spaces. The public realm for Stage 1B includes Hickson Park (not part of this application), Watermans Cove (not part of this application) and Wulumay Walk (not part of this application). The streetscape includes Watermans Quay (part) and Barangaroo Avenue.

The diagram adjacent indicates the scope of the landscape proposals, streetscape and public realm that are included in this Landscape Design Statement.

Relevant Existing Policy and Codes

The design of the landscape and public realm, in particular the streetscape proposals, recognises the existing City of Sydney standards for particular components of the public realm. This includes the integration of the proposals from Stage 1A so that there is a continuation of character and theme in the key connecting streets. This report has therefore considered the following:

- Barangaroo South Design Guidelines 2015 concept plan (mod8)
- City of Sydney – Sydney Streets Design Code 2013
- City of Sydney – Public Domain Manual 2013
- City of Sydney – Sydney Lights Design Code
- Aspect | Oculus Existing Design Proposals For Stage 1A

Basement footprint below

- 1 Harpullia pendula
- Interim streetscape
- Basement Infrastructure
- Interim public domain



02 Context

Background

Barangaroo, formerly known as East Darling Harbour, is a 22 ha site with a 1.4 km harbour foreshore frontage located on the north western edge of the Sydney CBD. The site is bound by the Sydney Harbour foreshore to the north and west, the historic precincts of Millers Point, The Rocks and Sydney Harbour Bridge to the east and the Darling Harbour/King Street Wharf precincts to the south.

An International design competition to identify a potential framework for the redevelopment of the entire Barangaroo site preceded a competitive process to select a preferred developer for the southern part of the site, Barangaroo South. Lendlease were successful in securing the development rights for the southern 7ha parcel of harbour front land, and are now well advanced in the delivery of the first precinct on the site.

Initial stages are scheduled for occupation during 2015 and 2016. Design for the second stage of the project, described as Stage 1B, is advancing and includes the proposed residential buildings by Renzo Piano Building Workshop and the Crown Sydney Hotel Resort by Wilkinson Eyre Architects. Grant Associates has been appointed as the Landscape Architect for the public realm associated with Stage 1B, including the landscape for the residential buildings.

Aerial View of the completed Barangaroo development including the soon to be completed Barangaroo Reserve and the Crown Sydney Hotel Resort and Stage 1B residential buildings.



02 Context

Views

The topography and urban overlay of Sydney Harbour creates an extraordinarily rich diversity of views, micro climates and character that ranges from raw natural coastlines, villages melded into the landscape and then the bustling high density heart of Sydney rising as a distinctive skyline.

From Barangaroo South the views across the harbour change in character from low rise urban backdrops to the south and west through to the tree and steeple profile of Balmain East and then to the more natural profiles of Goat Island, Balls Head Reserve, the Barangaroo Reserve to the north west.

Barangaroo South Stage 1B, and in particular Hickson Park (subject to a seperate application) has the potential to create a distinctive transition between the high rise development and the calmer, lower rise qualities of the CBD to Barangaroo South. The backdrop views (from the elevated position of the R4A podium) of the harbour (over Barangaroo Central and Watermans Cove) offer a unique aspect that is intended to be used to maximum effect in views from within the Park.

01_View west towards Balmain

02_View Eastward from future Hickson Park towards the CBD

03_View from the Bond towards the future Hickson Park

04_View from Pymont towards Barangaroo



02



04



02 Context

Waterside Places and Spaces

The CBD is blessed with a rich variety of significant urban and green public open space which, facilitated by a comfortable climate, allow for a wide range of public activities from lunch time breaks, promenading, jogging, high energy sports and evening entertainment.

- Primary International Landmark
- Secondary (City) Landmarks
- Key Spaces and Landmarks
- Waterfront Connections



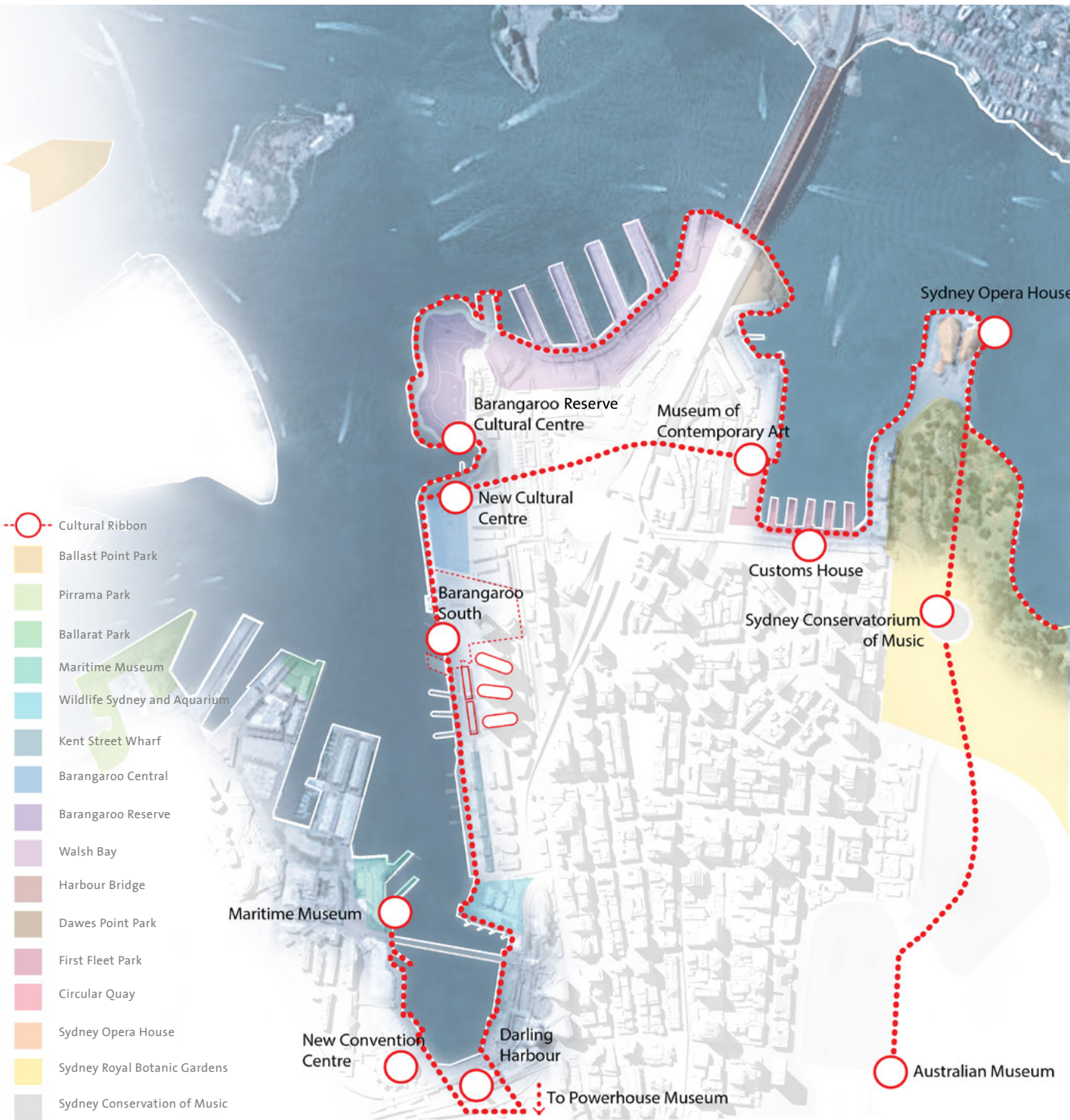
- 1 Ballast Point Park
- 2 Pirrama Park
- 3 Ballarat Park
- 4 Maritime Museum
- 5 Pyrmont Bridge
- 6 Darling Harbour
- 7 Wildlife Sydney and Aquarium
- 8 Kent Street Wharf
- 9 Waterman's Cove
- 10 Barangaroo Central
- 11 Barangaroo Reserve
- 12 Walsh Bay
- 13 Harbour Bridge
- 14 Dawes Point Park
- 15 First Fleet Park
- 16 Circular Quay
- 17 Sydney Opera House
- 18 Sydney Royal Botanic Garden

02 Context

Cultural Ribbon

The Cultural Ribbon, one of the major cultural proposals of Sustainable Sydney 2030, is a foreshore walk linking the City's leading cultural institutions. The Cultural Ribbon aims to recognise the crucial role the arts plays in the City's life and identity. Along with the Eora Journey, the Cultural Ribbon will be a key cultural pathway on the City's proposed Liveable Green Network. The Cultural Ribbon will link the Powerhouse Museum and Maritime Museum at Darling Harbour to future cultural venues at Barangaroo, to Circular Quay and the Opera House and on to the Art Gallery of NSW and the Australian Museum. Barangaroo South will form an important part of this foreshore link.

The Barangaroo Draft Public Arts and Cultural Plan (Jan 2015) also identifies an Integrated Strategy for the Implementation of public art across the entire precinct.



- Cultural Ribbon
- Ballast Point Park
- Pirrama Park
- Ballarat Park
- Maritime Museum
- Wildlife Sydney and Aquarium
- Kent Street Wharf
- Barangaroo Central
- Barangaroo Reserve
- Walsh Bay
- Harbour Bridge
- Dawes Point Park
- First Fleet Park
- Circular Quay
- Sydney Opera House
- Sydney Royal Botanic Gardens
- Sydney Conservation of Music

- New Convention Centre
- Darling Harbour
- To Powerhouse Museum
- Australian Museum

02 Context

City Links and Spaces

Connecting routes to and from the City are varied and each has its own sequence of levels, experiences and qualities. Barangaroo South needs to complete these journeys and connections in a meaningful way that also reflects the individuality of each route and engages the City with its harbour.

Barangaroo South, particularly Hickson Park, will be a significant new addition to the framework of the public realm for the City. Its successful integration, permeability and connection to the existing network of spaces is essential.

- Open Spaces and Parks
- Hardscape Open Spaces
- Key Pedestrian Connections
- City Rail Network
- Proposed Light Rail Extension
- Key East-West Links
- Continuous Public Foreshore
- Water Linkages

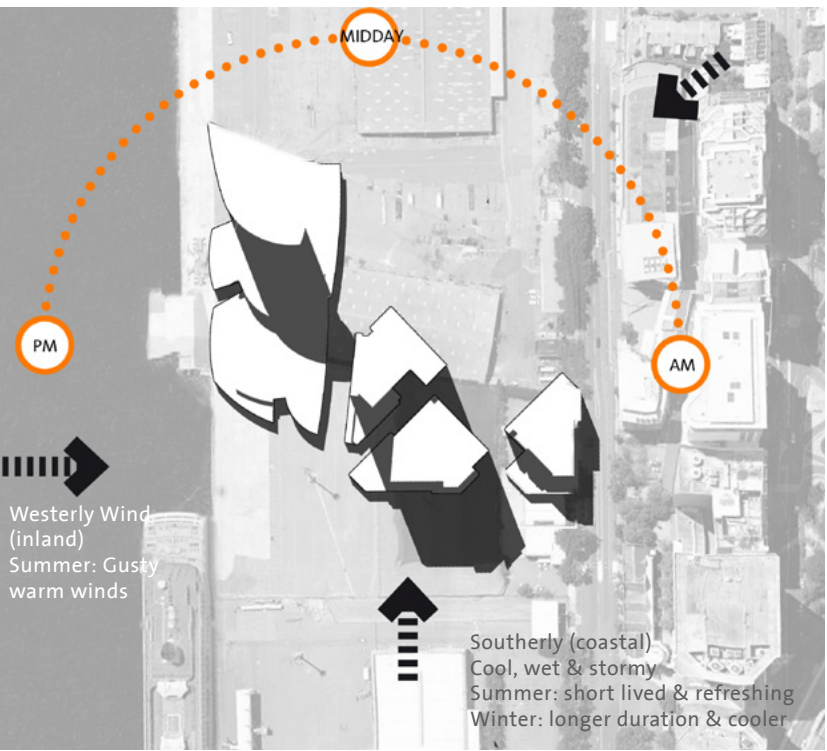


02 Context

Microclimate (refer also Pedestrian Wind Environment Study)

Wind, sun and shade are the main elements of consideration for the public spaces in Barangaroo South. Wind has the potential to dramatically impact general pedestrian amenity and external dining and comfort in the public realm (refer also the Pedestrian Wind Environment Study).

The balance of shade and sun is important for amenity in the hot summer months. Equally, access to winter sun is an important factor for the success and use of all of the outdoor spaces.



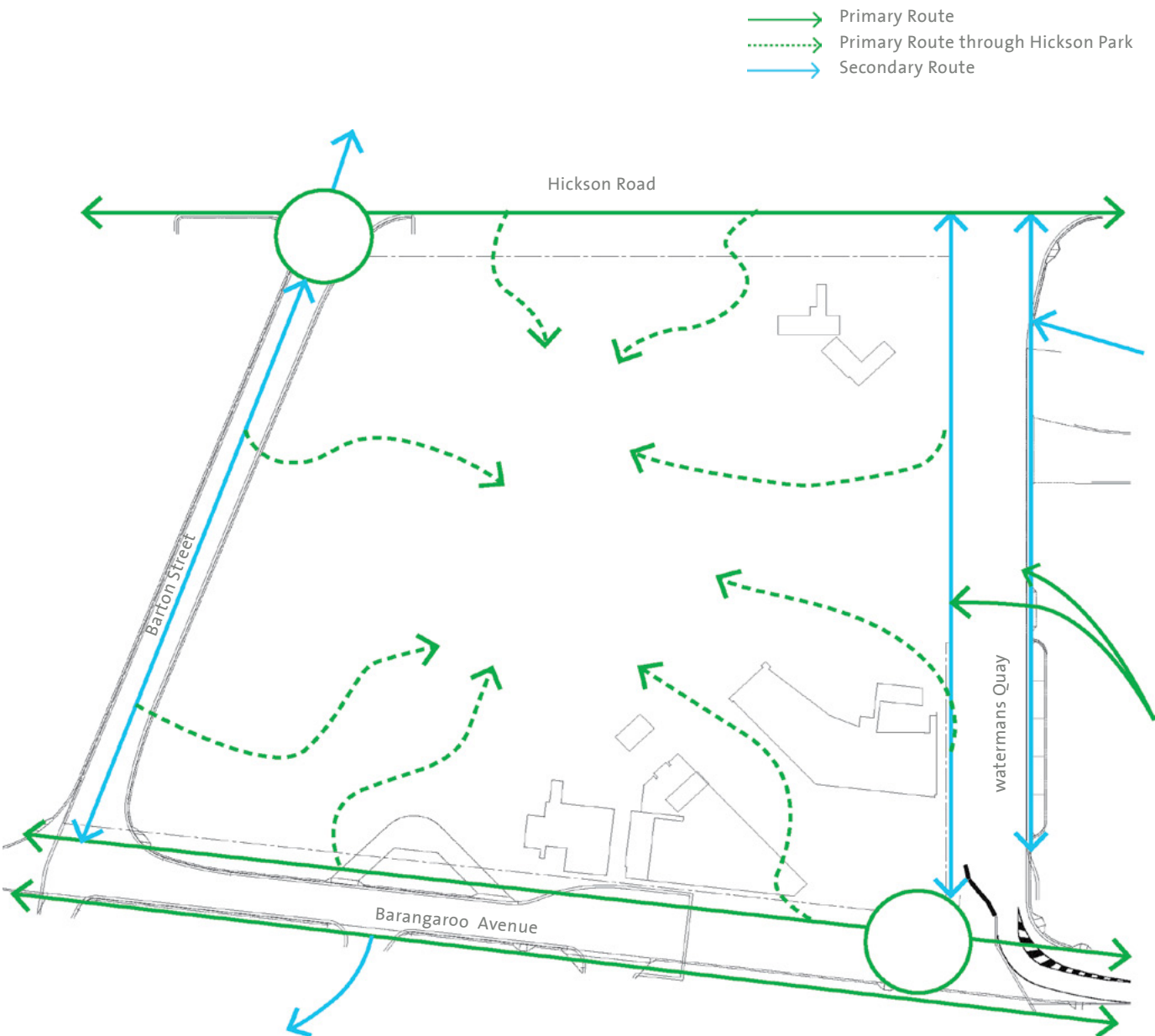
North easterly wind
(Cyclical & sea breeze)
Cool & humid: calm
morning/strong evening

02 Context

Pedestrian Movement

There are several key arrival points into Stage 1B, including a continuous access along the waterfront, Barangaroo Avenue and Scotch Row. This indicates that pedestrian movement north south, as well as east west to and from the city are important.

The key pedestrian movement (prior to the completion of Hickson Park) is expected to be generated by Stage 1A workers to the interim grass space (future Hickson Park), Wulumay Walk and onwards to Barangaroo Reserve. Other key pedestrian links to the CBD include Wyndyard Walk/City Walk Bridge and the stairs and lift adjacent to the Bond building (however this is envisaged to be less used). There is a convoluted collection of stairs and steep climbs to the connection with Kent Street.

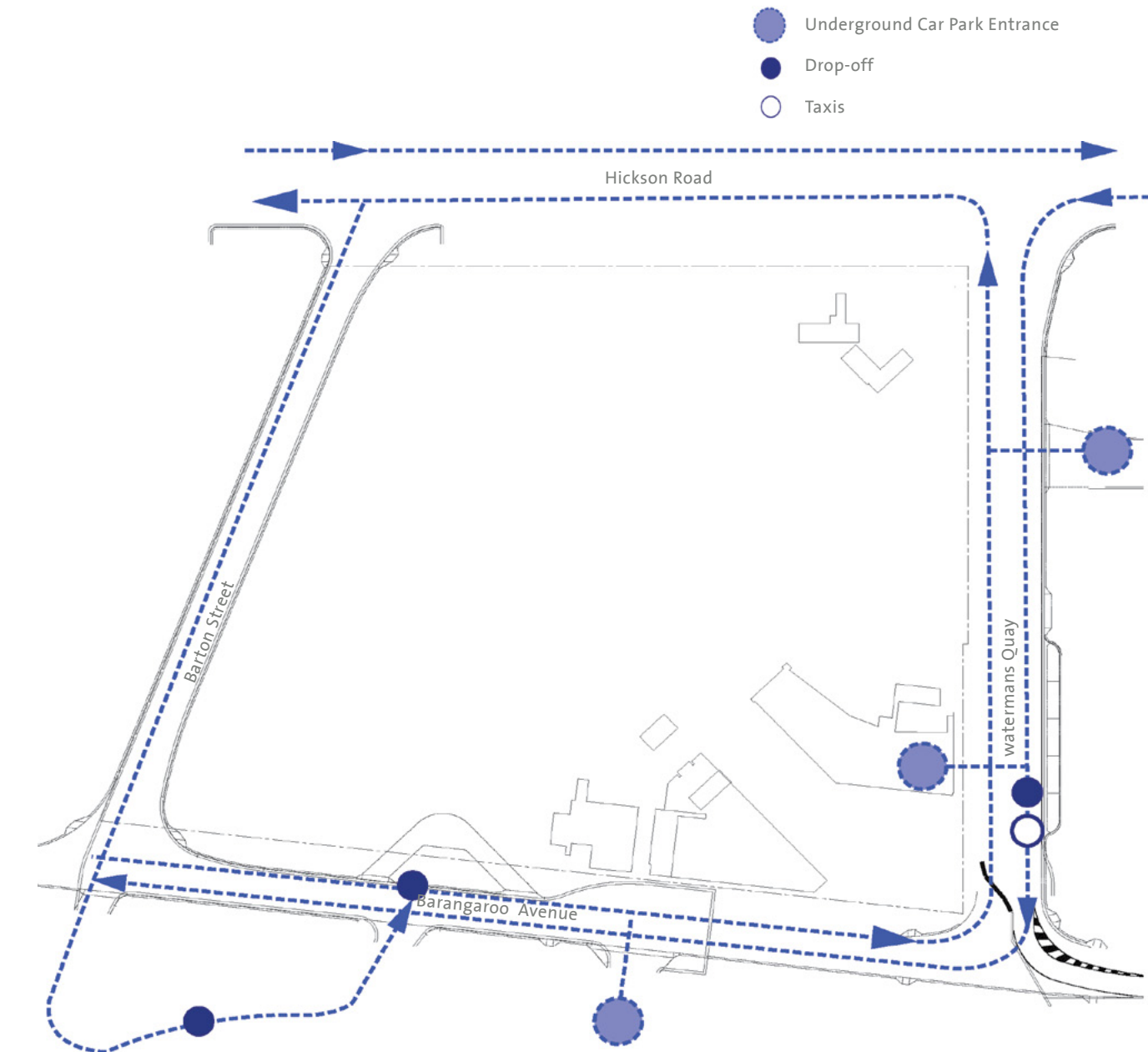


02 Context

Vechicular Movement

The Basement entries for Stage 1A and 1B are located on Watermans Quay. Basement access is for both private and service vehicles.

Other vehicular entries on Barangaroo Avenue include access to the proposed Crown Sydney Hotel Resort and the porte cochere for the R4A building. Refer traffic report for further detail.



03

Interim Landscape and Public Realm Design Concept

03 Interim Landscape and Public Realm Design Concept

General

The landscape and public realm proposals have been developed to ensure that the permanent works seamlessly integrate with ultimate proposal for Barangaroo Stage 1B public domain and the existing materiality and composition of the approved works in Stage 1A, which will be completed prior to stage 1B commencing.

It is also necessary that the proposals have a certain functional quality which acknowledges key pedestrian movement corridors and access to the entries of the associated buildings, including vehicular entries.

The landscape proposal for the interim public domain which forms part of SSD 6960 for the ground floor level treatment to basement will generally adopt the following key principles.

- Provides a flexible and useable large open lawn that could be used throughout the day for various activities including fitness and training programs, temporary events, displays and informal play.
- Continue the materiality and street tree composition that has been adopted for Stage 1A and that is in consistent with the City of Sydney public realm guidelines.
- Provide interim streetscape and parkland settings that permit maximum re-use of materials for subsequent permanent landscape proposals following the construction of the residential buildings.

The landscape proposal consists of two fundamental types of spaces. These being Hickson Park and streetscapes. These are as described in further detail on the following pages.

Basement footprint below

- 1 Harpullia pendula
- 2 Turf (Interim landscape)
- 3 Interim Paving
- 4 Interim bitumen paving
- 5 Future roads (Refer to Public Domain DA)
- 6 Stage 1B Basement entry
- 7 Stage 1B Basement infrastructure
- 8 Interim paving for basement exit



03 Interim Landscape and Public Realm Design Concept

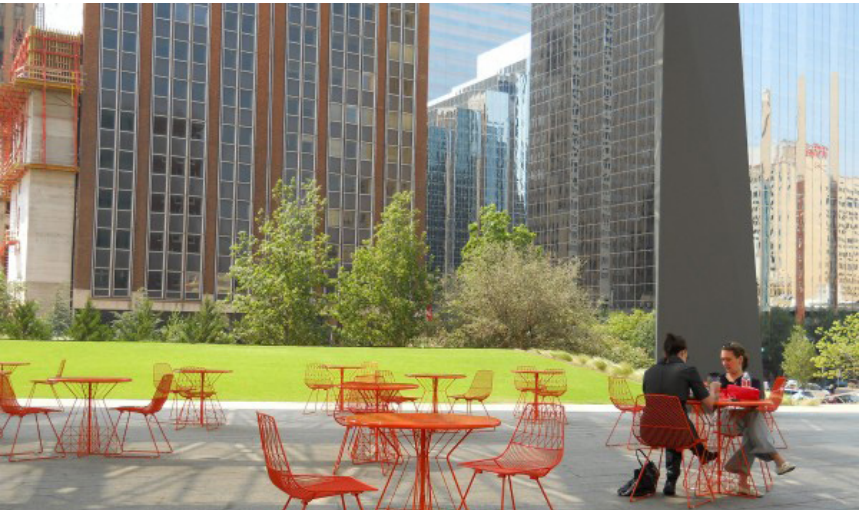
03 Interim Landscape and Public Realm Design Concept

Hickson Park

Hickson Park is a interim flexible open lawn that can facilitate a wide range of activities during all parts of the day. It will provide variation to this part of Barangaroo - that otherwise exhibits an urban character - and will attract local workers for a wide range of recreational facilities during the lunch hour and both pre and post work.

The park will also play a significant contribution towards the site’s management and treatment of urban stormwater. Stormwater will be filtered through the grass and growing media to maximise the filtration of impurities before being discharged, via a Gross Pollutant Trap and stormwater treatment system into the harbour.

01



01_Sandridge Plaza, Oklahoma. Hoerr Schaudt

02_Tumbalong park, Darling Harbour, Sydney

03_Darling Quarter, Sydney



03 Interim Landscape and Public Realm Design Concept



03 Interim Landscape and Public Realm Design Concept

Streetscapes

The streets act as the main circulation routes for vehicles to access the 1A and 1B basements, the proposed Crown Sydney Hotel Resort basement and the R4A Porte Cochere.

Pedestrian movement and the character of the street is therefore often impacted by vehicle crossings, this includes two large basement driveway crossings on Waterman’s Quay (for the Stage 1A and 1B basements) and three proposed crossings on the west side of Barangaroo Avenue (for vehicular access into the proposed Crown Sydney Hotel Resort). Barangaroo Avenue and Watermans Quay provide pedestrians with direct access to the Harbour, Barangaroo Central and the key public thoroughfare of the Waterfront Promenade.

The landscape proposals therefore set out to provide strong street tree planting to strengthen the street connection with the proposed planting at Watermans Cove and the Waterfront Promenade and for pedestrian amenity. Safe and clear pedestrian movement to and from the buildings is provided by generously planted streetscapes and appropriate pavement widths. For Barangaroo Avenue the street tree spacing is proposed to match the spacing that is already been established in 1A to continue the character of the street all the way to Barangaroo Central.



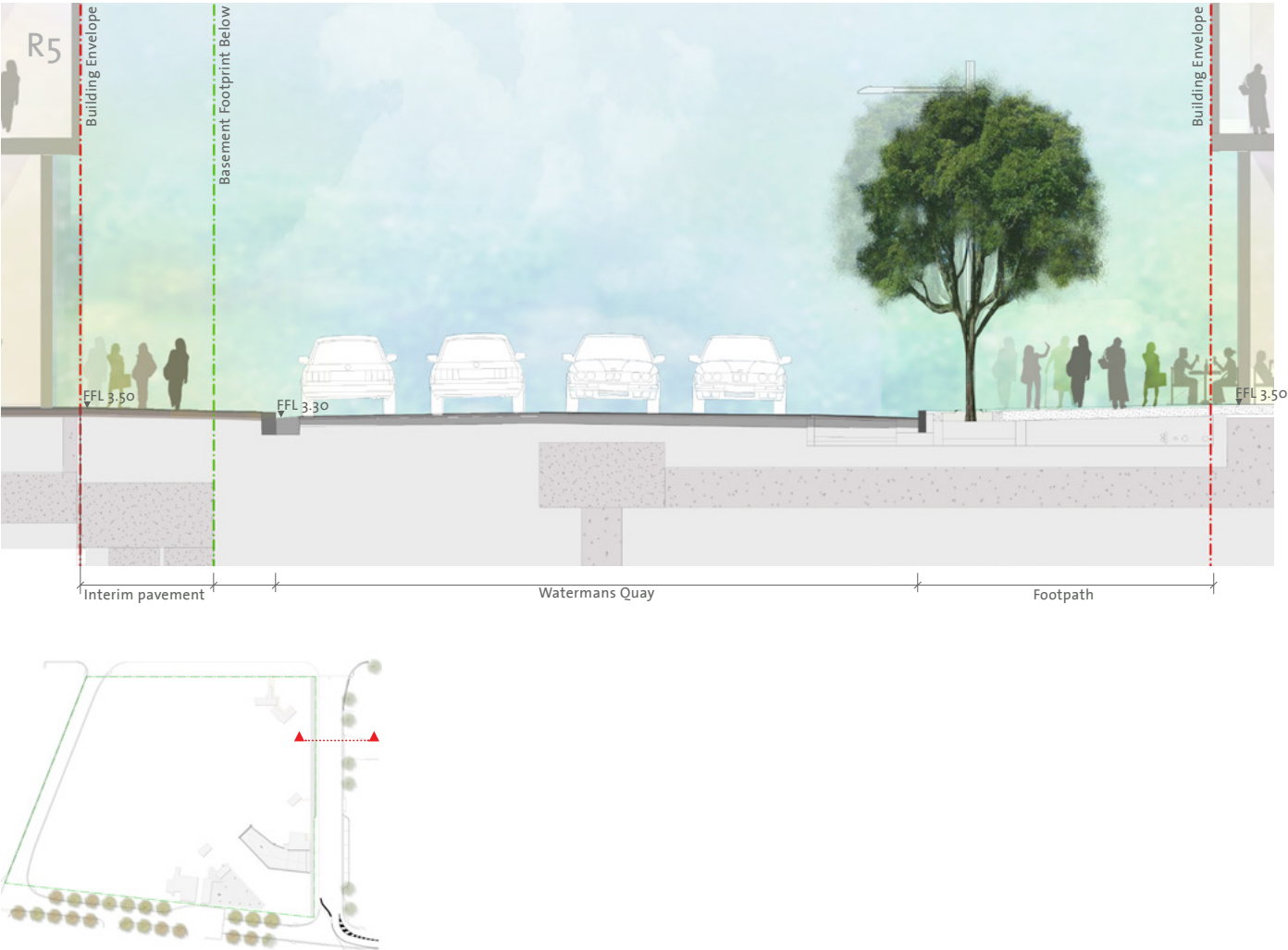
03 Interim Landscape and Public Realm Design Concept

Streetscapes and Street Tree Planting

The streetscapes are envisaged as an environment in which pedestrian safety and movement is a priority. Street trees have been carefully composed to match the existing spacing of the street trees that are already planted in 1A and have due consideration of required underground services. The streets are intended to be spaces where people and vehicles can safely populate and where they can feel safe to be in.

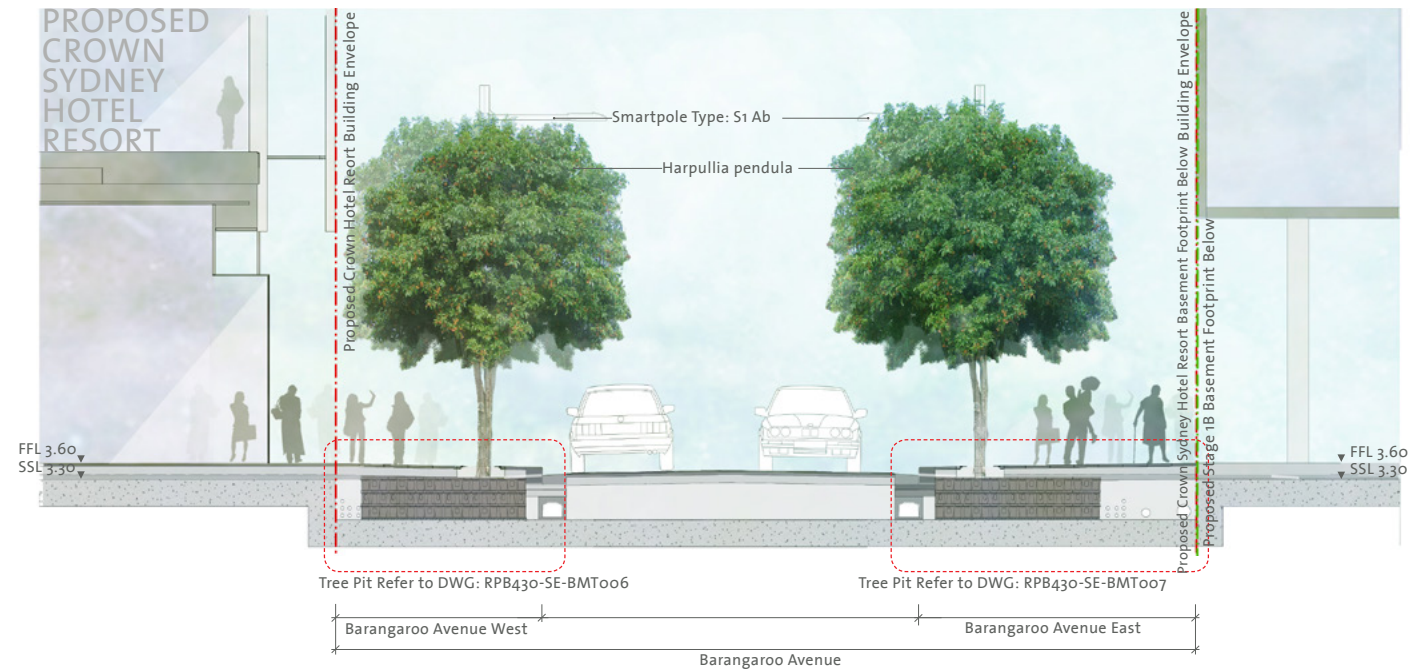
The following sections indicate the varying conditions of the proposed street tree planting along Barangaroo Avenue and Watermans Quay. They ensure that adequate soil volume has been provided to promote mature healthy tree growth and include a structural soil cell modular system (similar to 1A and Barangaroo Reserve) to remove the risk of soil compaction and irregular tree growth and/or damage to services infrastructure by roots.

Section - Watermans Quay

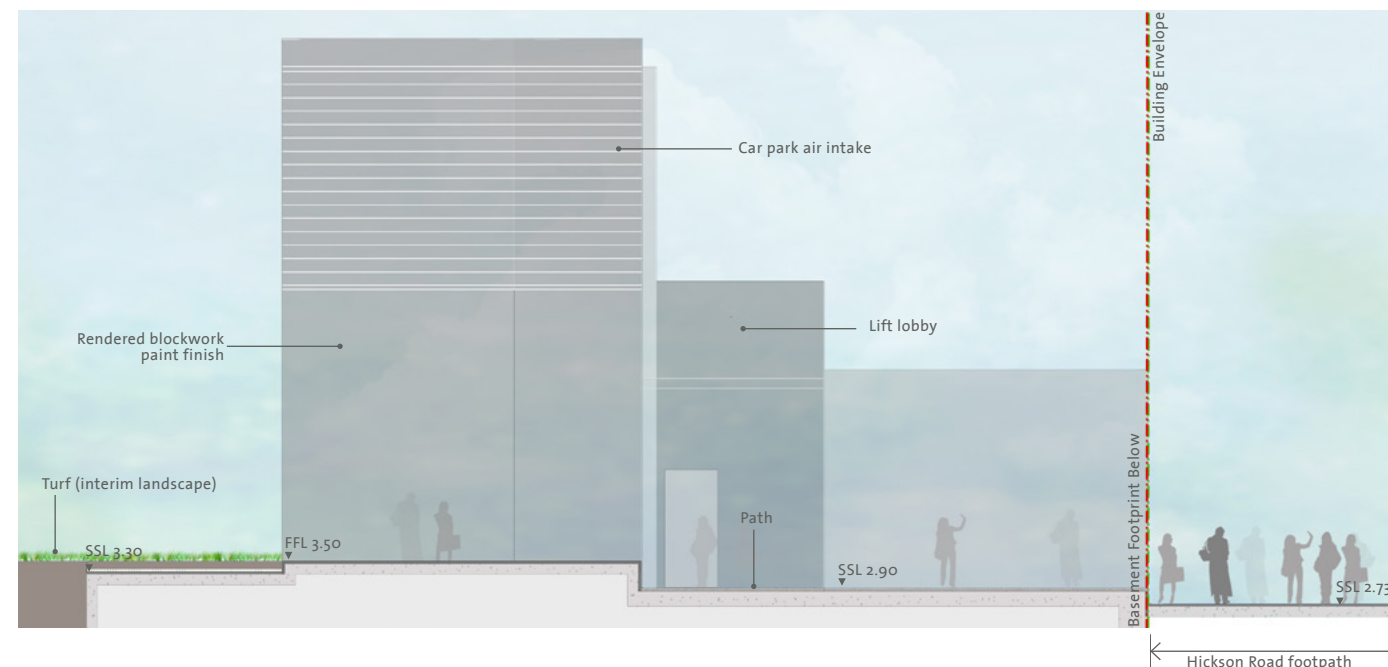


03 Interim Landscape and Public Realm Design Concept

Section 1- Barangaroo Avenue

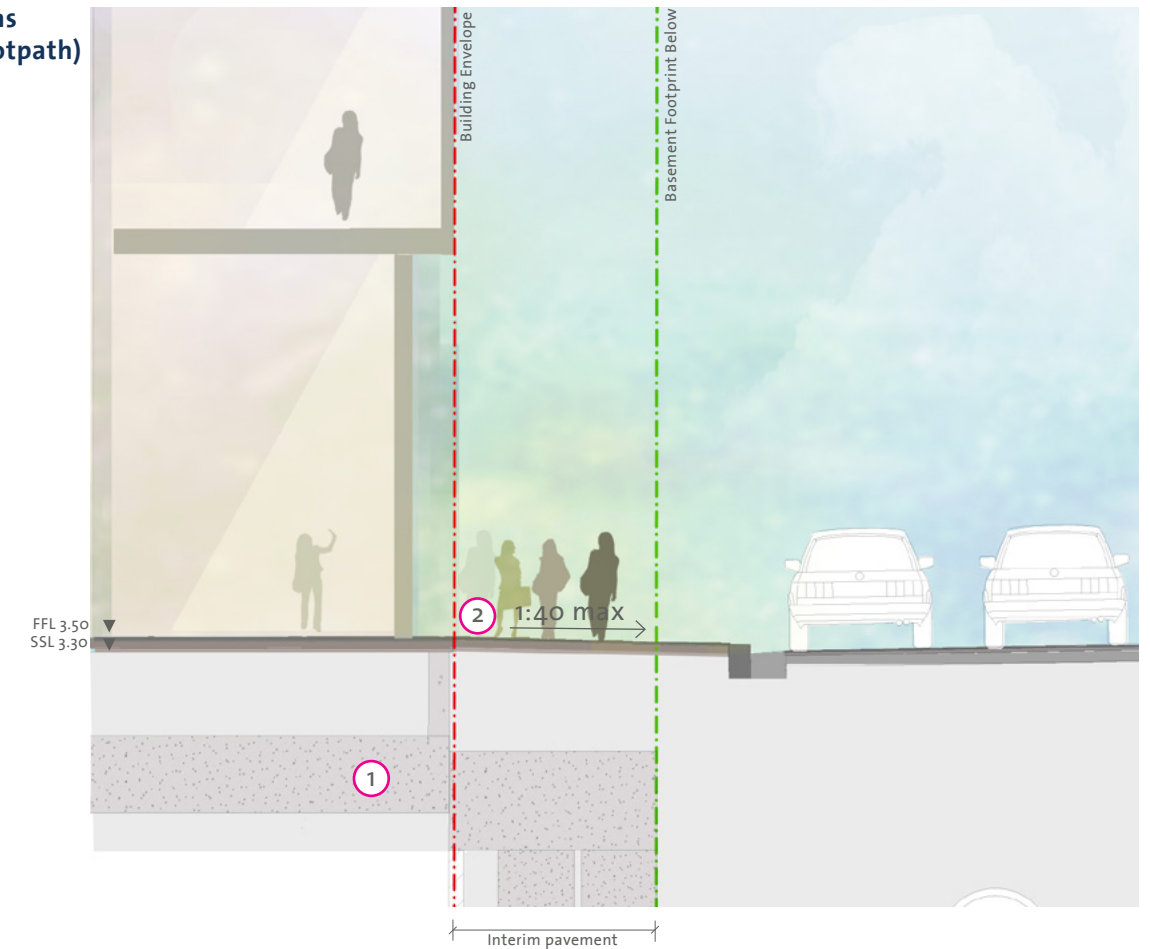


Section 2- Hickson Road



03 Interim Landscape and Public Realm Design Concept

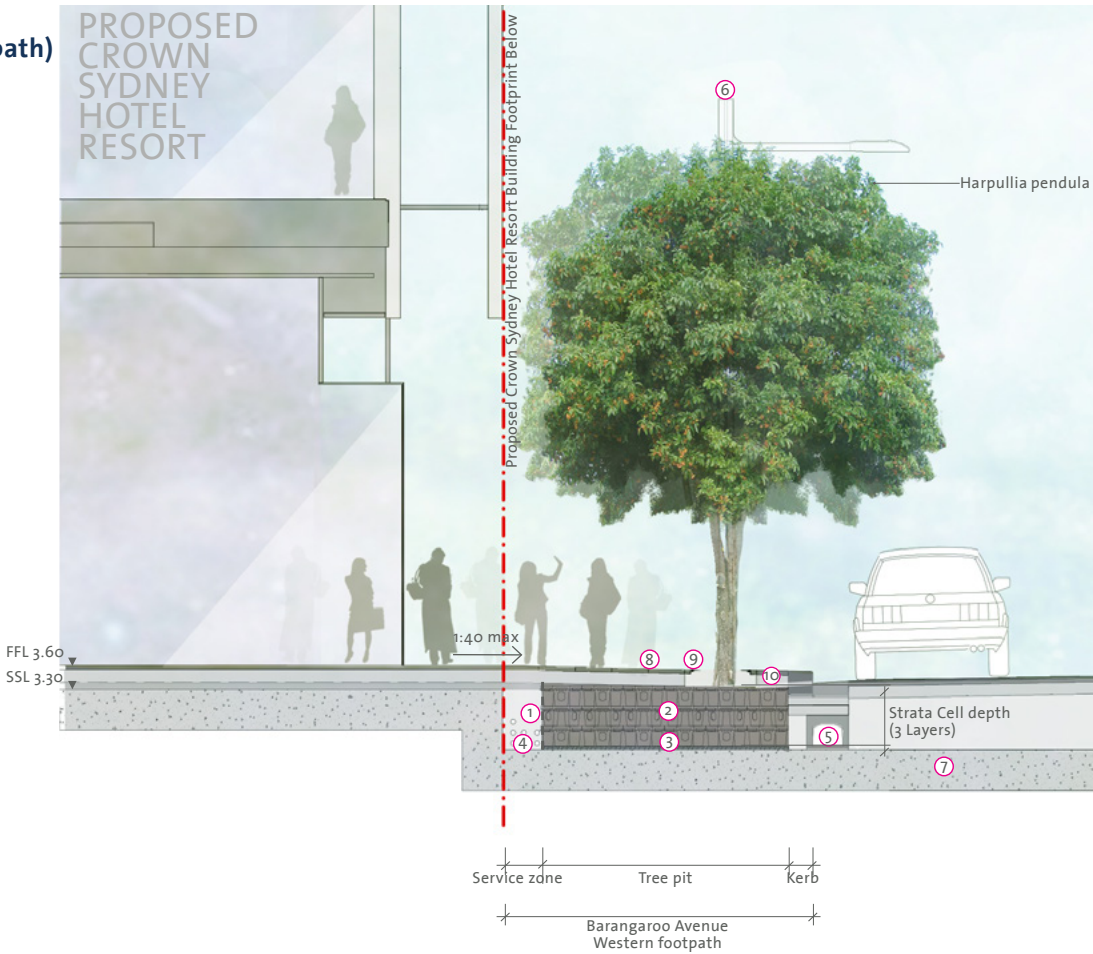
Section - Watermans Quay (Northern Footpath)



-  Building envelope boundary
-  Basement footprint below
-  Basement slab
-  Interim paving

03 Interim Landscape and Public Realm Design Concept

Section - Barangaroo Avenue (Western Footpath)



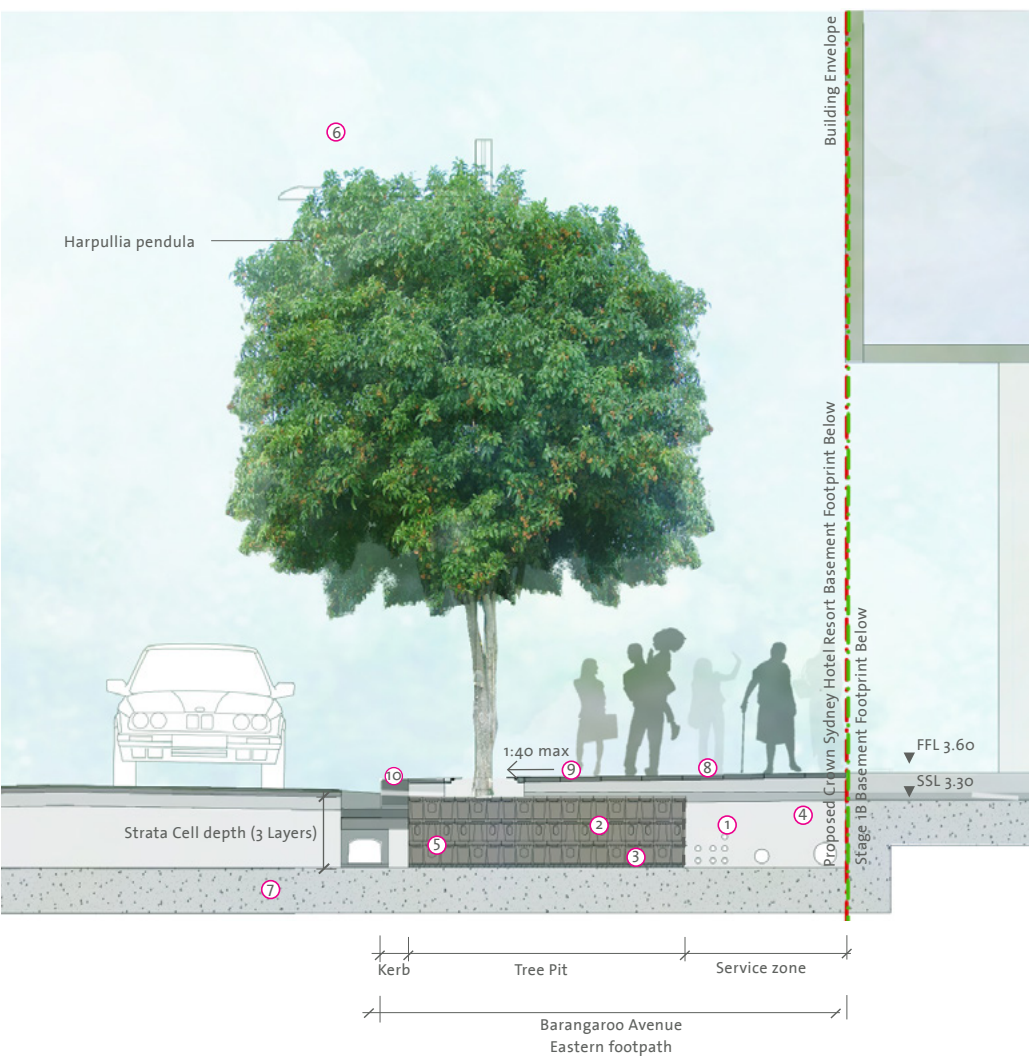
--- Building envelope boundary

- ① Root protection barrier
- ② Strata cell
- ③ Drainage media
- ④ Service zone
- ⑤ Road drainage
- ⑥ Smartpole type: S1 Ab (In line with tree planting)
- ⑦ Proposed Crown Sydney Hotel Resort basement slab
- ⑧ Interim Paving
- ⑨ Tree grate
- ⑩ Low stormwater flows to irrigate street tree pit



03 Interim Landscape and Public Realm Design Concept

Section - Barangaroo Avenue (Eastern Footpath)



--- Building envelope boundary

- ① Root protection barrier
- ② Strata cell
- ③ Drainage media
- ④ Service zone
- ⑤ Road drainage
- ⑥ Smartpole type: S1 Ab (In line with tree planting)
- ⑦ Proposed Crown Sydney Hotel Resort basement slab
- ⑧ Interim Paving
- ⑨ Tree grate
- ⑩ Low stormwater flows to irrigate street tree pit



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Hard Materials Strategy

04 Hard Materials Strategy

General

The proposals will use a simple palette of high quality complementary materials. They will be selected on the basis of a seamless integration to the completed Stage 1A.

Streetscape

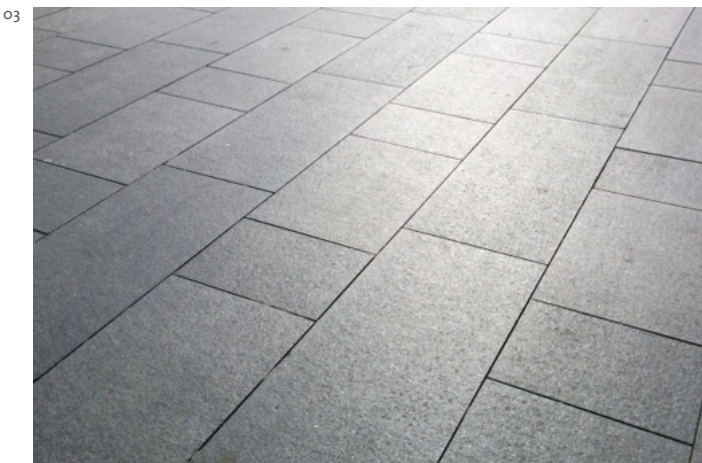
The streetscape paving will match the existing paving in the streetscapes of Stage 1A and is subject to design development.

The tree pits will be treated with a paving infill material so that they are pedestrian “trafficable”.

Interim Paving

It is necessary for some interim paving to be installed to facilitate access to various lift cores and other basement structures at the ground level. These will be kept to a minimum but will ensure access to the proposed streets where appropriate. It is not proposed that any of these works are incorporated into the future Residential buildings.

04 Hard Materials Strategy



01_City of Sydney Austral Black Granite

02_Austral Black Granite in a finer grain for external dining areas

03_Austral Black Granite funtion of standard paving and dining areas

05

Planting Strategy

05 Planting Strategy

Street Trees

Street tree planting species for Watermans Quay and Barangaroo Avenue have been selected to match those already proposed for Stage 1A. Street trees will be planted to match the spacing of the existing trees. Evergreen tree species are proposed as *Harpulia pendula* for Barangaroo Avenue and *Flindersia australis* for Watermans Quay. All street trees will enable clear visibility and will have clear stems to approximately 2.5 - 3 meters.

Street tree planting pits are co-ordinated with existing and proposed underground services. Tree soil volumes have been calculated to ensure that there is adequate soil volume for each of the trees to be able to reach its optimum height.

Street trees will be installed at 400L size and have been placed to accomodate turning circlies for vehicles accessing the Stage 1B basement. The detail of the tree pits will include a structural cell system (Citygreen or equivalent) to ensure adequate root growth in the urban environment. This will be the same system as already adopled in Barangaroo South Stage 1A. Street trees will be automatically irrigated.

01_Harpullia pendula. Barangaroo Avenue



o6

Sustainability and Management

o6 Sustainability and Management

Sustainability

Measures to address issues of sustainability are embedded within the principle concept for the design of the landscape. This will be considered at every stage of the project from design through to construction and its on-going management.

These measures include.

- Considering from the outset of the design process how the landscape will be managed and maintained in the long term.
- Creating places that are inherently flexible taking account of the future impacts of climate change, and adaptation measures that may need to be retrofitted.
- Considering the implementation of water management and recycling schemes.
- Developing planting pallettes that have a strong native component and that promote new habitat for birds and butterflies.

Further sustainable initiatives will include.

Materials Specification

Seek to select materials from sustainable sources where fit for their purpose.

- Aim to use locally sourced materials where practicable.
- Examine the potential for retaining and reusing Site materials.
- Seek to maximise the design life by optimising the use of durable materials that last longer.
- Consider the use of prefabrication and standardisation techniques to minimise waste.
- Consider the use of recycled materials (e.g Planting Mulch).
- Specify Forest Stewardship Council (FSC) certified timber.
- Seek to install energy efficient materials (e.g Lighting).

Water Conservation

- Seek to install plants that require less irrigation.
- Seek to install water efficient products/features.
- Reduce the volume of water produced over the developments’ life time.

Biodiversity

- Provide a network of shrubs and green spaces which promote new wildlife habitats in urban areas.
- Promote an environment where quality of life and quality of environment are integral to the development.
- Promote sustainable planting by developing planting designs that are appropriate for their location, including the availability of sunlight and water.
- Improve the local urban biodiversity by selecting appropriate plants with known benefits to local fauna.
- Seek to include locally endemic species.

o6 Sustainability and Management

Management

Appropriate public realm management and maintenance is vital to the success of the public realm. Even the best-designed spaces need to be cared for and inappropriate behaviour needs an effective response. The designs should foster perceptions of safety and a degree of self regulation of behaviour through encouraging active, positive uses by a diverse mix of users, while offering specific places for young people to meet.

The following key factors will need to be addressed in order to sustain a high quality public realm.

- Safety and Security
- Cleanliness
- Repair and Replacement
- Horticultural Health

Safety and Security

A safe environment is one that is accessible to all. As well as adopting Crime Prevention Through Environmental Design principles in the design, long term management and maintenance of the redevelopment proposals will be required. Well looked after places are less likely to suffer from crime as they are more likely to be visited or used, with the premise that more ‘eyes on the street’ will deter anti-social behaviour. All street trees will enable clear visibility and will have clear stems to approximately 2.5-3 metres.

Cleanliness

Cleanliness is the principal indication of the quality of management of the public realm and could be perceived by many as a clear indicator of the success of the proposals. Regular pavement cleaning, litter picking, and the removal of graffiti, bill posters and chewing gum will be a necessity to uphold public realm cleanliness.

Repair and Replacement

The need for repair and replacement of finishes will be mitigated by the use of appropriate and durable materials. Nevertheless, in the long term a degree of maintenance and replacement is unavoidable. In order to ensure that the public realm remains safe and in good condition, all worn-out, damaged and broken elements will be promptly repaired or replaced. In the short term this will be carried out within the clearly defined defects liability periods of the various contractors who installed the work. The longer term solution will form part of the on going management plan.

Horticultural Health

The health and general condition of planted areas including trees, shrubs, perennial plants and lawns is clearly indicative of the level of care and attention they receive. Planting, including any replacements to dead or dying material, will be maintained in accordance with a Landscape Maintenance Specification, the submission and approval of which could be controlled by the imposition of a suitably worded planning condition.

The horticultural health of all tree and shrub planting over the basement slab will be ensured by the provision of adequate soil depth, drainage and soil volume.