



6.

Hardscape

6.1 Hardscape Strategy

CONCEPT

The overarching strategy for the selection, and composition of the elements that will collectively define the hardscape spaces has been to ensure that they assist to strengthen the respective character types of the different spaces. At the same time there are areas - particularly the streetscapes - where the hardscape strategy has been to clearly extend the existing character that has already been established.

Ultimately the final design and quality of detailing will have a dramatic effect the success of the hardscape elements of the place. However it is important to underpin these aspects with guiding principles that will establish how these particular design aspects will be approached. For example how will the new paving in Watermans Cove join to the existing paving in Wulugul Walk Stage 1A ? How will the interface of pit lids with the future paving work given that the services have already been installed? These challenges are yet to be investigated in any great detail however we have identified the following guiding principles.

- The design will be developed to facilitate high quality detailing and workmanship throughout.
- All sandstone elements will be used in a manner that is restrained but that also maximises their natural colour and texture.
- All hardscape spaces will be robust enough to withstand the location and the anticipated amount and type of use for the area.
- The design will ensure that bronze will be used as a key materials to re-enforce an overall design narrative and identity across all parts of the public realm. This may include tree pits/grilles, manhole covers and even handrails.
- Significant co-ordination work will be developed at the detailed design stages to ensure that all existing services infrastructure is as integrated as possible into the finished paving.

- Awkward joints and diversions from overall paving patterns will be avoided. Detailed pavement interfaces will be studied to co-ordinated - and resolve - all pavement joints and changes of direction.
- Ensure that manholes and inspection covers are concealed with recessed access covers and filled with the same material as the surrounding areas.



Austral Black pavements with detailing



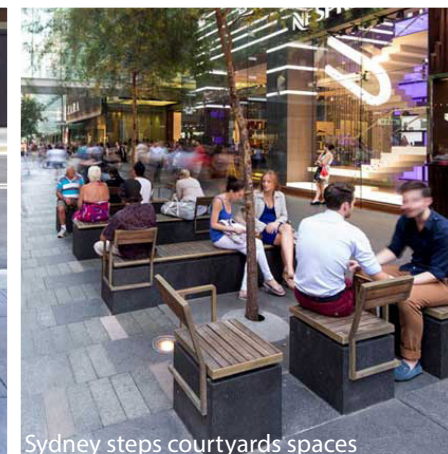
Continuation of Barangaroo benches



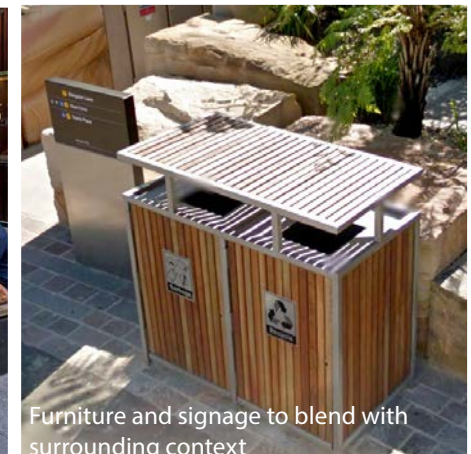
CoS street furniture



CoS street furniture



Sydney steps courtyards spaces



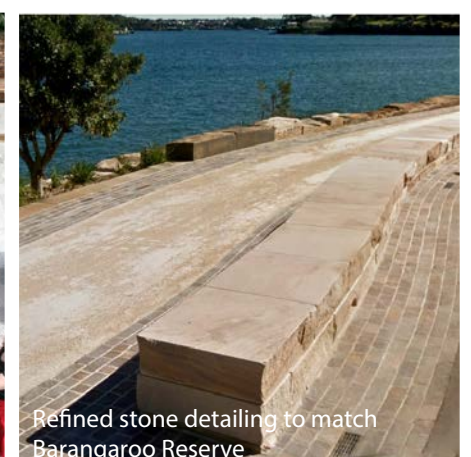
Furniture and signage to blend with surrounding context



Shared surface streetscape



Shared surface streetscape



Refined stone detailing to match Barangaroo Reserve

HARDSCAPE MATERIAL PALETTE

The adjacent diagrams identifies the hardscape materials palette.

LEGEND

- Timber Deck + Terraces
- Stone Steps to Match Reserve
- Porphyry Paving
- Precast Unit paving
- Precast Concrete Edge
- Precast Concrete and Timber Raised Seat + Planters
- Sandstone + Timber Terraces
- Streetscape to Park Transition Paving
- City of Sydney Granite Paving
- Roadway

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HARDSCAPE MATERIALS PALETTE

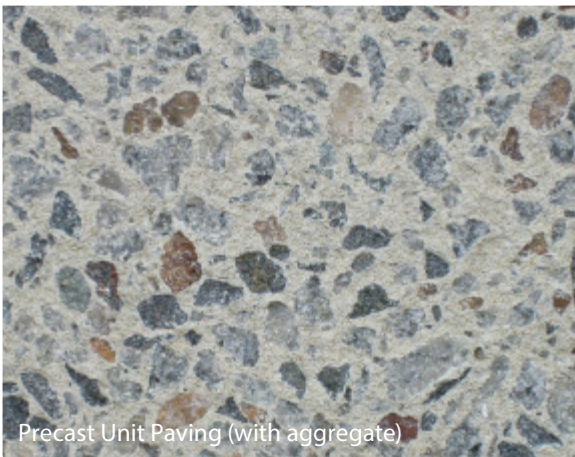
The hardscape palette defines a refined selection of materials that are - in part - inspired by the existing character of Barangaroo Reserve and the blend of these into the strong civic character of the city fringe.

The paving that is proposed for Wulugul Walk and Watermans Cove has been selected to unify the area of paving along the waterfront edge and allow the porphyry paving in the former Spirit of Tasmania loading dock and under the trees in the Cove to define special places along the Walk.





Roadway



Precast Unit Paving (with aggregate)



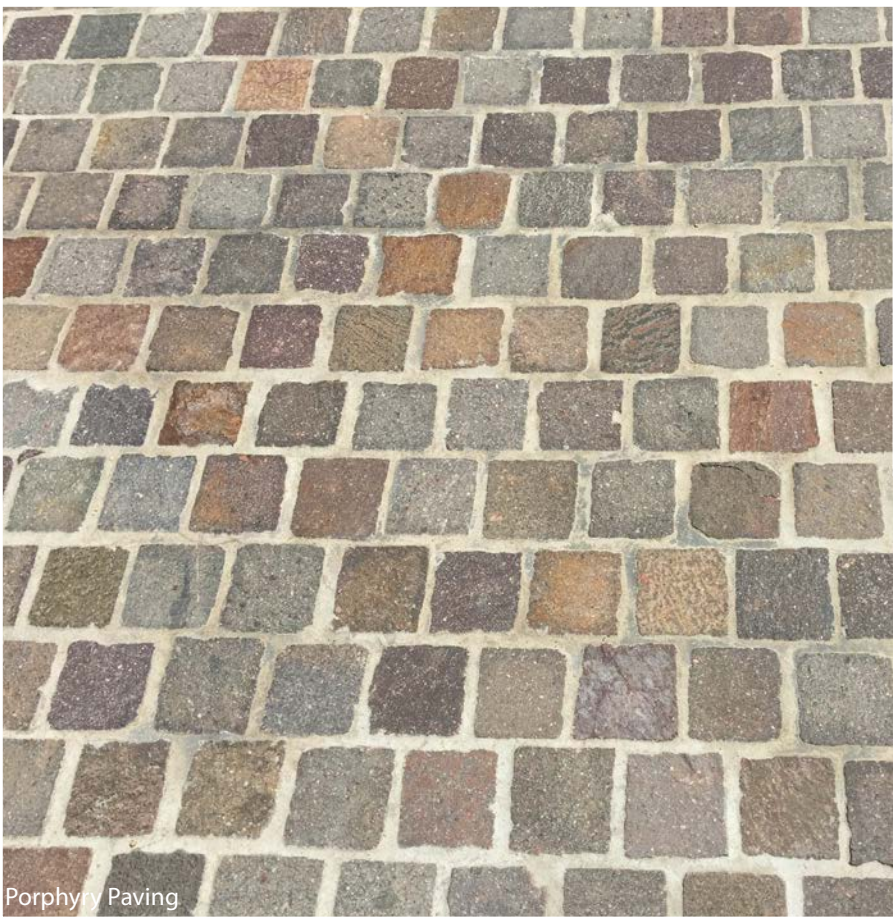
Precast Concrete Edge



Precast Concrete + Timber Raised Seater + Raised Planters



Stone Steps to Match Reserve



Porphyry Paving



City of Sydney Granite Paving



Streetscape to Park Transition Paving



Sandstone Walls + Terraces



Timber Deck + Terraces

6.2

Paving Strategy

PAVING MATERIALS STRATEGY

A strong tone has already been set for a number of key aspects of the materials strategy given that Stage 1B is surrounded by significant completed areas of other parts of the project. In order to be able to develop the whole of Barangaroo with a sense of unity there is the need to continue the materiality for some of the main spaces, this includes Barangaroo Avenue and Watermans Quay. These streets will continue the City of Sydney materiality in the form of the Austral Black Granite paving. One other key area where materiality is proposed to unify the different parts of the precinct is along the waterfront. We have proposed that the existing porphyry paving and sandstone walls - that exist in Central and the Reserve - are continued through Wulugul Walk and the Cove as fundamental parts of a holistic materials palette. This will continue the relationship that has been established with these materials along the water's edge.

PORPHYRY AS A KEY UNIFYING MATERIAL

The use of porphyry as a key paving material and a significant arrival statement for Barangaroo Reserve has inspired us to define several of the key spaces in Barangaroo South in a similar way. A porphyry "matt" is proposed at the junction of Barangaroo Central and Stage 1B, to help define this as a significant place along the waterfront and also reflect the existing entry treatment to the Reserve in the North. Similarly the use of porphyry under the allee of trees in Watermans Cove and the former Spirit of Tasmania loading dock underpin these spaces as key places with the context of the development and Wulugul Walk.

CONTINUING STAGE 1A MATERIALITY

The City of Sydney has established a standard palette of paving type, and laying pattern, that requires the implementation of Austral Black Granite unit

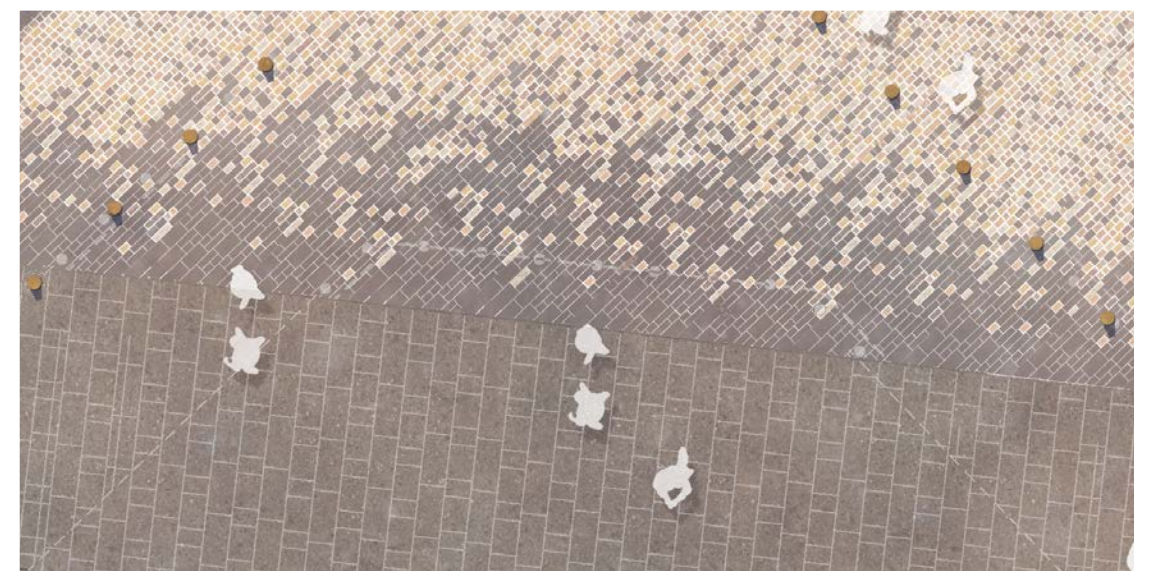
paving to be applied to throughout the City's streets. Watermans Quay and Barangaroo Avenue will be paved in the same way so as to integrate with the existing pavements that have been constructed in Barangaroo Avenue and the remainder of the streets and laneways in Stage 1A.

FROM CITY TO PARK

An important element of the strategy is to create a strong sense of unity through the use of a common materials palette. In addition to this, the strategy aims to also create spaces with a their own unique identity. We envision interfaces between the 'City and Park' and 'City to Cove' to be a carefully choreographed transition of materials that both continue the language and announce an arrival.

WATERMANS COVE AND WULUGUL WALK + BOARDWALK

The selection of materiality for Watermans Cove has carefully considered the need to define a particularly unique character to this important part of Barangaroo. In this context the paving around the Cove will need to work especially hard to define a ground plane that has a restrained beauty, that successfully unifies the existing paving in Wulugul Walk + Boardwalk in Stage 1A but that also considers a number of pragmatic issues associated with glare and heat reflection from the western sun. The proposed paving for Watermans Cove and Wulugul Walk + Boardwalk includes a precast concrete unit paver of a large format that will include a bespoke mix of aggregate colours selected to complement the porphyry paving tones. The paving will have two distinct shades that will aim to clearly distinguish the main allee of trees along the Waterfront. The second, lighter toned paver, will form the remainder of the main paving character and will link the remaining areas of Watermans Cove and Wulugul Walk + boardwalk into a single type. The adjacent diagram identifies the key materials that are proposed for the public realm.



'CITY TO PARK'

Notwithstanding that it is important to create a sense of unity through the use of a common materials palette there is also a need for some spaces to have their own unique identity.

One example where materiality has been used to define special moments is the interface between City to Park and City to Cove. At these interfaces, and key entry points to Hickson Park, we envisage a carefully choreographed transition of materials – one distinctly park like and a continuation of the porphyry stone paving - and one distinctly civic through the continuation of the City of Sydney Austral Black granite paving.

This is particularly difficult because of the difference in unit sizes of the paving however we have suggested a series of paving modules that are shown below that will be applied in these pavement transition zones. They will ensure that the change in pavement type successfully reinforces the change in character between these distinctly different spaces.

Further into Hickson Park, under the tree belt canopy and to the interface of the grass, the porphyry paving scale and composition changes again to suggest a further moment of transition in character from the hustle and bustle of the city streets to a more relaxed space – a respite from its urban context.

CITY



CITY TO PARK PAVING TRANSITION

The porphyry and austral black granite paving will be composed to blur the edges of the park and surrounding streetscapes. This defines a series of softer more inviting thresholds into the park and begins to establish a more relaxed language consisting of fractured edges and richer, less rigid, geometries.

- 1 Roadway
- 2 Granite kerb
- 3 Cast iron tree grate
- 4 City of Sydney granite paving
- 5 Streetscape to park transition paving
- 6 Porphyry paving



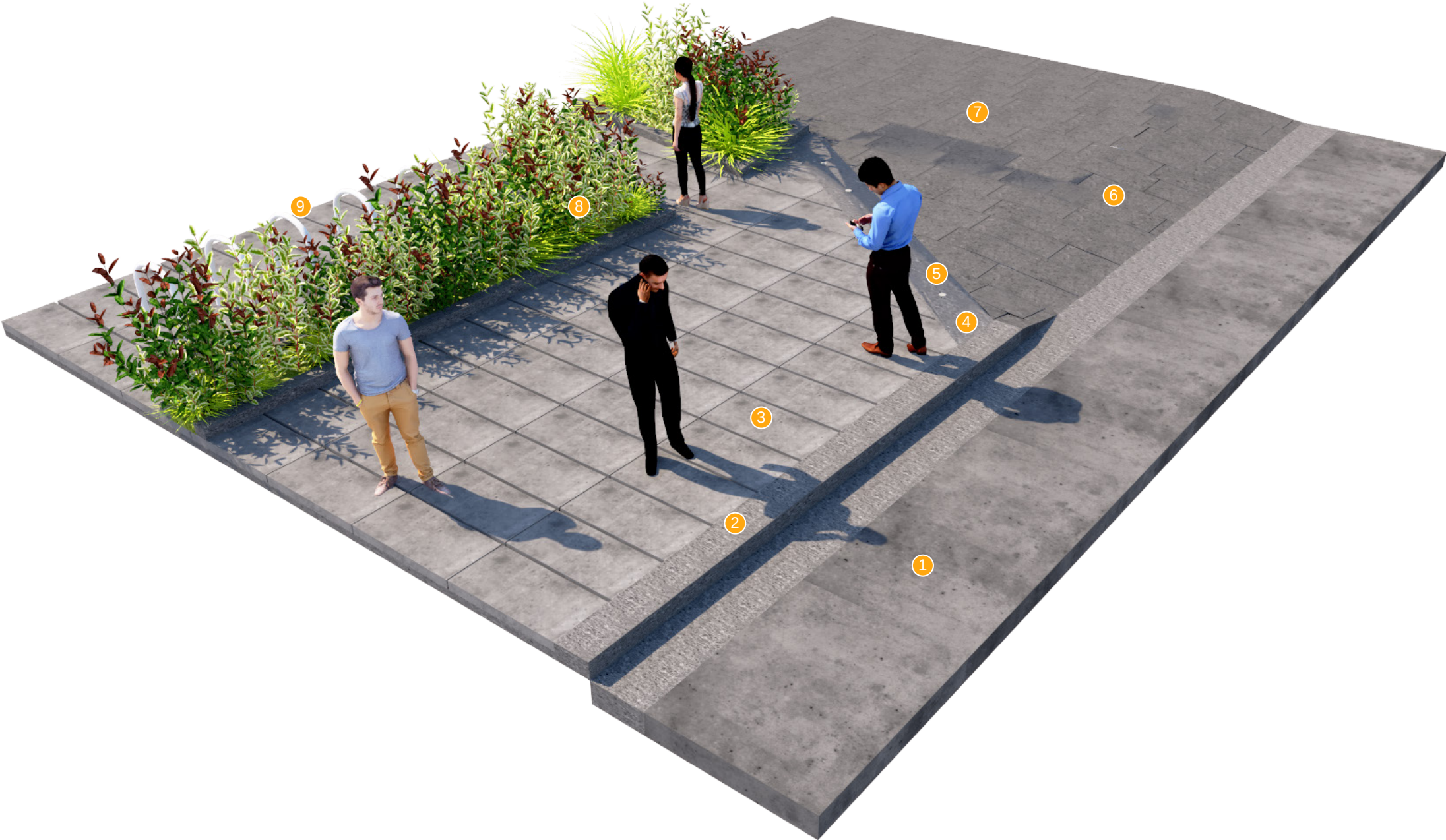
KEY PLAN



CITY TO COVE PAVING TRANSITION

The Cove paving will extend to the western kerb edge of Barangaroo Avenue so as to minimise any difficult paving interface with the City of Sydney street paving. The Cove paving will extend to the southern boundary of the Crown Sydney basement entry. The crossing will be defined by a flush concrete edge and flush crossing indicator discs.

- 1 Barangaroo Avenue
- 2 Kerb
- 3 Cove concrete unit paver
- 4 Precast concrete banding
- 5 City of Sydney driveway crossover demarcation
- 6 Crown Sydney basement entry
- 7 City of Sydney granite paving
- 8 Planter bed - under Crown Sydney D.A application
- 9 City of Sydney bike racks



KEY PLAN

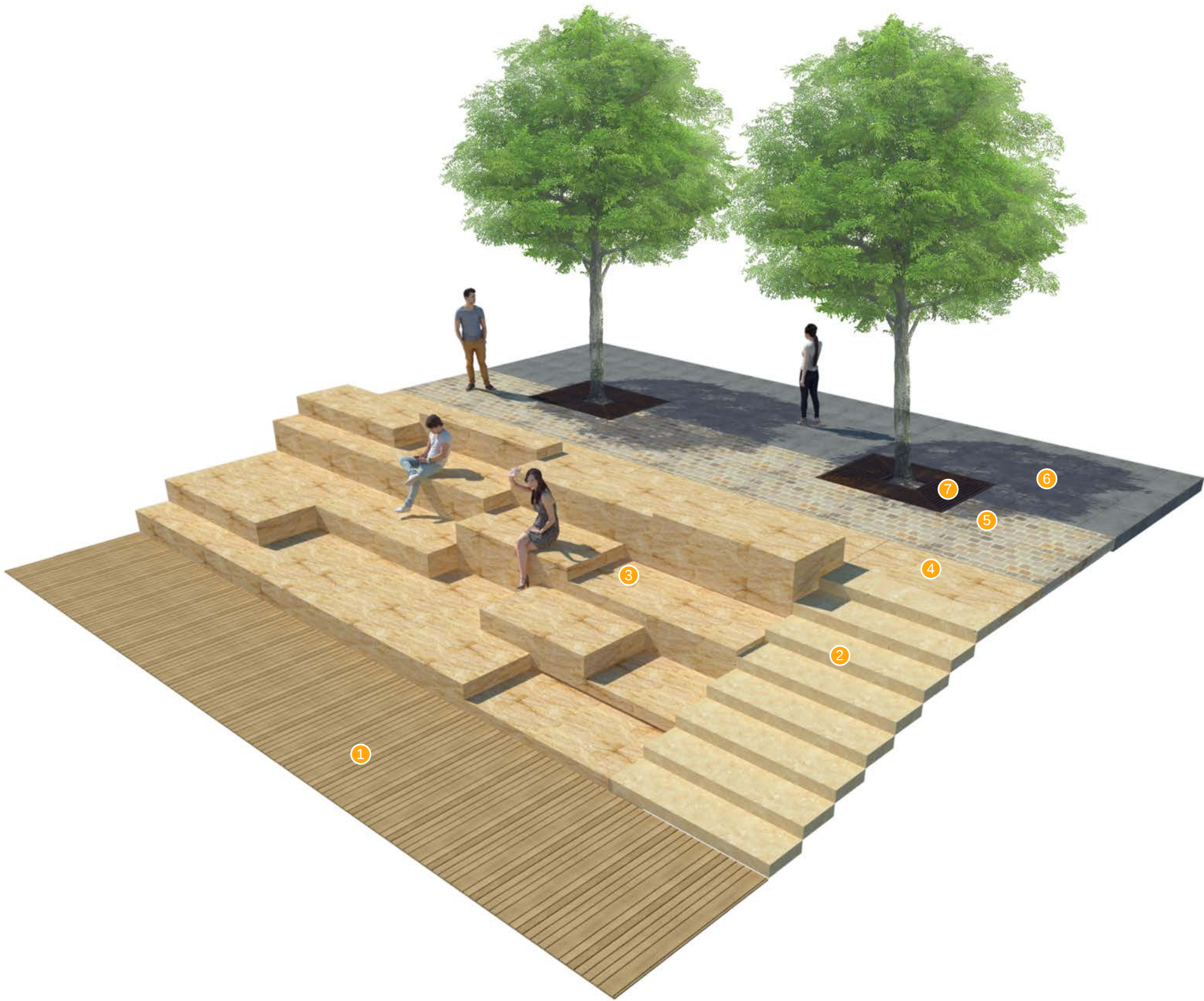
WULUGUL WALK AND BOARDWALK PAVING
TRANSITION

The edges of Wulugul Walk and the Boardwalk are defined by a mix of porphyry and sandstone. These key materials are extruded from Central to ensure continuity of the foreshore edge.

- 1 Timber deck
- 2 Stone steps to match Barangaroo Reserve
- 3 Sandstone sitting terraces
- 4 Sandstone paving
- 5 Porphyry paving
- 6 Precast unit paving
- 7 Cast iron tree grate



KEY PLAN



Furniture Strategy

INTEGRATING A NEW FURNITURE PALETTE

Given that there is a need to continue the existing furniture types that have been installed along Wulugul Walk and Barangaroo Avenue a strategy was developed to try and establish an equally strong but integrated character for the furniture for Hickson Park and Watermans Cove. One of the guiding principles was to ensure that there was adequate seating provision in the form of walls and other elements that not only provided formal opportunities to sit and rest but also provided for ad-hoc chance meetings between colleagues and friends at lunch time or early evenings.

The furniture strategy includes the continuation of sandstone and bronze as two key existing materials that have been used in Central and Stage 1A. These materials will be used in new ways to create a disinctive new furniture suite that will contribute to the unique characters for each of the 1B spaces. Ultimately relate and define a singular cohesive character to the entire Barangaroo development. The furniture that is identified in this section is indicative only and will be subject to design development.

HICKSON PARK

The seating for Hickson Park will use the large format sandstone blocks that are envisaged as part of a family of parts within the tree belt and edges of the Park. This has allowed the design of the furniture to represent the change of character from the streetscapes and civic character to a more relaxed park like palette. We have proposed that the sandstone seats are composed different and are of different sizes to facilitate small group seating, individual spots or larger seating places under the shade of the large fig trees. The sandstone will include seats that have arm rest and back rests in selected locations.

RAISED PLANTER SEATS

The raised planter seats are located at various strategic locations around the public realm. They aim to activate spaces, define key entries and provide opportunities for conversation and rest. Additionally they provide soil depth for large figs trees that are otherwise constrained by existing slab depths. The raised planter seat at the entry to Hickson Park from Watermans Quay is envisaged as a beautifully contoured piece of sandstone that immediately sets the tone for a change of character and materiality as you enter the Park.

CYCLING STRATEGY

Cycling is a fundamental part of transport for both recreational and everyday commuter cyclists throughout the City. Hickson road in particular serves as a key route for cyclists travelling from north of the city over the bridge to work. Headland Park provides an opportunity - primarily for recreational cyclists - to travel in a similar way along the waterfront. The successful integration, and adequate storage facilities for cyclists in the public domain is a fundamental part of Barangaroo's connectivity to the city and beyond.

For Barangaroo 1B the key principle for the location of cycle parking throughout the public realm has been to locate cycle parking hoops at key arrival and departure locations. They have been located so as not to conflict with primary pedestrian movement corridors, building entries or licensed seating areas. Stage 1A has set a precedent for the location of cycle stands in Barangaroo Avenue and elsewhere around this part of the precinct. New cycle parking proposed in this Development Application adopts the same principles and locates cycle stands to complement tree planting and other furniture elements within the streetscape.

The total cycle parking no. requirement for Barangaroo South is 240 No. spaces. The integration of cycling parking in this application has necessitated the removal of some of the cycle parking that is

already approved, and constructed, in Stage 1A. These have been replaced so that the overall cycle parking numbers for Barangaroo South is in accordance with the final population predictions and the approval for stage 1A. The number of spaces that are required for this Application has therefore been calculated as follows.

Total required number of spaces for Barangaroo South	240
Minus number of spaces public domain spaces constructed for Stage 1A Commercial building visitors	25
Minus number of spaces allocated in Stage 1A public realm	<u>120</u>
Remaining number of spaces required for stage 1B	95
Plus those that are required to be relocated from Stage 1A	42
Minus those provided by the future Crown Hotel development	37
Remaining number of spaces required for stage 1B	<u>100</u>

These spaces have been provided as follows.

- 32 no. by the provision of two cycle hoop stands on most street lighting poles
- 10 no. Along the southern side of Watermans Quay where a wider footpath width allows the CoS cyclestands to be more appropriately located.
- 58 no. Along Barangaroo Avenue and Hickson Road so that they are located near to the entry to Watermans Cove and Hickson Park key entry and arrival points.

HICKSON PARK - FURNITURE KIT OF PARTS

Sandstone will be used to define a clean edge between the main pedestrian route around the base of the buildings and the Park tree belt. A variety of seating types will be provided that respond to the different Park user groups. The seats will include timber and bronze as part of the materiality so as to develop the overall existing materials narrative as part of stage 1B.

LOW SANDSTONE EDGE

A low sandstone edge defines a particularly formal edge to the park and the main pedestrian walk way around the buildings. It includes selected locations for access into the Park through the fern gardens and tree belt.

SANDSTONE BLOCKS

Larger format sandstone blocks initiate the deconstruction of the more formal edge into a series of permanent seats. They provide opportunities for smaller group seating.

- 1 Continuous low sandstone edge
- 2 Sandstone steps
- 3 Tree Belt planting
- 4 Fern garden
- 5 "Feathered" lawn edge
- 6 Porphyry paving
- 7 Sandstone seating block



KEY PLAN



DOUBLE SEAT AND BACK RESTS

Double seats integrate timber and bronze as key elements to encourage conversations in couples and provide seats for people that wish to stay longer.

SINGLE SEATS

For individuals to sit and continue work as a break from the office environment. A chance to read a book or have more private conversations. The scale of the bench is reduced further.

GROUPS

Individual benches for smaller, shorter, conversations or chance meetings in the Park. A area just to rest shortly or grab a quick bite overlooking the Park.



HICKSON PARK - FURNITURE KIT OF PARTS

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- 1 Accent Paving
- 2 Sandstone Table
- 3 In-built Table Planter
- 4 Movable Furniture



KEY PLAN

