



Review of Environmental Factors

Hickson Road South Upgrade

Prepared on behalf of Infrastructure NSW

Prepared by Colliers Urban Planning

11 March 2026 | 2230503



'Gura Bulga'

Liz Belanjee Cameron

'Gura Bulga' – translates to Warm Green Country. Representing New South Wales.



'Dagura Buumarri'

Liz Belanjee Cameron

'Dagura Buumarri' – translates to Cold Brown Country. Representing Victoria.



'Gadalung Djarri'

Liz Belanjee Cameron

'Gadalung Djarri' – translates to Hot Red Country. Representing Queensland.

Colliers Urban Planning acknowledges the Traditional Custodians of Country throughout Australia and recognises their continuing connection to land, waters and culture.

We pay our respects to their Elders past and present.

In supporting the Uluru Statement from the Heart, we walk with Aboriginal and Torres Strait Islander people in a movement of the Australian people for a better future.

Contact Ella Coleman
Principal- Planning Ella.coleman@colliers.com
0400 887 082

This document has been prepared by

Joseph Heraghty, Liam Serra 11 March 2026

This document has been reviewed by

Ella Coleman, Alexis Cella 11 March 2026

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E. Air Quality Report	Environmental Resources Management
F. Arboricultural Report	Elke Landscape Architecture
G. Construction Noise and Vibration Impact Assessment	RDWI

H. Construction Traffic Environmental Management Plan	Lendlease
I. CPTED Report	ACAD Services
J. Flood Report	Rhelm
K. Geotechnical Report	Tetra Tech Coffey
L. Historical Archaeological Report	Casey & Lowe (updated by Heritage Now, 2025)
M. Hickson Road Upgrade – Stage 3 Landscape Plans	Hassell
N. Hickson Road Upgrade – Stage 4 Landscape Plans	Hassell
O. Landscape Design Report	Hassell
P. Landscape Architectural Specification	Hassell
Q. Preliminary Site Investigation	Environmental Resources Management
R. Statement of Heritage Impact	TKD Architects
S. Transport Impact Assessment	JMT Consulting
T. Wayfinding Signage Report	THERE Studio
U. Streetlighting Compliance Plans Stage 3 and Stage 4	DEP
V. Utilities Plans	RPS
W. Contamination and Environmental Management Plan	ERM
X. Schedule 5 Industry and Employment SEPP Assessment	Colliers Urban Planning

Declaration and Determination

This Review of Environmental Factors (REF) has been prepared for Infrastructure NSW (INSW). This REF fulfils the obligation under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to examine and take into account to the fullest possible extent of all matters affecting, or likely to affect, the environment by reason of the Activity (being the upgrade and refurbishment of **Hickson Road South – refer Locality Plan – Hickson Road South 240059-00-REF-C01.31** adjacent to Barangaroo South and Central Barangaroo), as defined in **Section 3.0** of this REF.

The proposed Activity comprises of the design and construction of **Hickson Road South**, comprising the upgrade of Hickson Road from the northern side of the Napolean Street intersection connecting to the existing road upgrade north of the High Street Steps, along with utility and drainage upgrades running adjacent to Barton Street, and intersection upgrades.

This REF has been prepared in accordance with the relevant provisions of the EP&A Act, the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) and *State Environmental Planning Policy (Transport and Infrastructure) 2021* (T&I SEPP) and other relevant SEPPs, the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the Guidelines for Division 5.1 Assessments, prepared by the Department of Planning, Housing and Infrastructure (2025).

This REF provides a true and fair review of the Activity in relation to its likely impact on the environment. It addresses all the factors listed in section 171 of the EP&A Regulation and the EPBC Act.

On the basis of the information presented in this REF, it is concluded that by adopting the recommended mitigation measures it is unlikely there would be any significant environmental impacts associated with the Activity. Consequently, an Environmental Impact Statement (EIS) is not required.

Person(s) who prepared the REF:

I confirm I have prepared this Review of Environmental Factors and it neither contains false or misleading information.

Name: Ella Coleman

Position: Principal, Colliers Urban Planning



Date: 11/03/2026

Reviewer:

I confirm I have examined this Review of Environmental Factors and satisfied it addresses to the fullest extent possible, all matters affecting or likely to affect the environment.

Name: Alexis Cella

Position: Director, Colliers Urban Planning



Date: 11/03/2026

Determination:

I certify that the assessment undertaken in this Review of Environmental Factors complies with, and satisfies, the requirements of Part 5 of the EP&A Act and Section 171 of the EP&A Regulations.

Name:

Position:

Organisation:

Date:

1.0 Introduction

1.1 Overview

This REF has been prepared for INSW This REF fulfils the obligation under Division 5.1 of the *EP&A* to examine and take into account to the fullest possible extent of all matters affecting, or likely to affect, the environment by reason of the Activity (being the upgrade and refurbishment of Hickson Road South (refer **Figure 1**) adjacent to Barangaroo South and Central Barangaroo), as defined in **Section 3.0** of this REF.



Figure 1 Site Locality Plan

Source: Enspire

The proposed Activity comprises of the design and construction of Hickson Road South, comprising the upgrade of Hickson Road from the northern side of the Napoleon Street intersection connecting to the existing road upgrade north of the High Street Steps, along with utility and drainage upgrades running adjacent to Barton Street, and intersection upgrades.

This REF identifies that the proposed Activity can be carried out under section 2.109(1) of *State Environmental Planning Policy (Transport and Infrastructure) 2021* (T&I SEPP) as 'Development Permitted without Consent'. It considers the requirements of Part 5 of the EP&A Act, as well as section 171 of the *Environmental Planning and Assessment Regulations 2021* (EP&A Regulations). This REF also sets out mitigation measures to manage any environmental impacts arising from the proposal.

This report describes the site, its environs, the proposed Activity and provides an assessment of the environmental impacts and identifies the steps to be taken to protect or lessen the potential impacts on the environment.

1.2 Background

Barangaroo Concept Plan (MP06_0162) History

Barangaroo is a substantial urban renewal precinct situated at the north-western edge of Sydney's Central Business District (CBD), along the foreshore of Sydney Harbour in the City of Sydney local government area (LGA). It comprises almost 22 hectares and includes three separate redevelopment precincts, being Barangaroo Reserve, Central Barangaroo, and Barangaroo South.

On 9 February 2007, the then Minister for Planning approved the Barangaroo Concept Plan (MP 06_0162) under Part 3A of the EP&A Act (Part 3A has since been repealed) (the Concept Plan) and the Concept Plan, not including withdrawn modification applications, has subsequently been modified 10 times (with one withdrawn application), herein the Concept Approval. The Concept Approval is a transitional Part 3A project under Schedule 2 of the Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017.

The Concept Approval provides for a mixed-use development comprising commercial, residential, tourist, retail, community, and public recreation uses. It sets out the built form, land uses, maximum building heights and the gross floor area (GFA) for each development block. The detailed design and construction of future buildings, open space areas, and public domain are subject to separate development approval guided by the Concept Approval. Hickson Road provides a north-south spine connector along the eastern edge of the Barangaroo development, supporting the Barangaroo Concept Plan.

The Barangaroo Concept Plan, not including withdrawn modification applications, has been modified 10 times (with one withdrawn application), with the most recent (Modification 9) increasing the total GFA across Barangaroo by 53,510m², increasing residential GFA within Central Barangaroo by 47,000m² and allocating 18,000 m² GFA to The Cutaway in Barangaroo Reserve. Modification 9 also amended the height and layout of Blocks 5, 6 and 7 in Central Barangaroo, traffic and access arrangements, reduced the size of Hickson Park, introduced Central Barangaroo Design Guidelines and revised the Proponent's Statement of Commitments (SoC).

The Concept Approval also envisaged the Barangaroo Reserve, located in the northern-most portion of Barangaroo. This park and foreshore works have since been approved and constructed.

Central Barangaroo History

Following the approval of Modification 9, the early works State Significant Development Applications for the basement excavation and perimeter wall have been approved (on 14 February and 23 December 2025, respectively). The development will deliver approximately 75,000 sqm of residential space, nearly 16,000 sqm for a hotel, and more than 50 retail tenancies, including 2 hectares of parkland and public areas, including the new Harbour Park located on the foreshore of Central Barangaroo.

A 270-metre-long, 8-metre-wide boulevard will connect Hickson Park to Nawi Cove, representing an extension to the existing Barangaroo Avenue in the south. Additionally, a new entrance to the Barangaroo Metro Station will enhance access to the precinct.

Barangaroo South History

Barangaroo South is the southern-most precinct within Barangaroo and is bounded by Hickson Road to the east, King Street Wharf to the south, Sydney Harbour to the west and Central Barangaroo to the north. The precinct is comprised of seven blocks together with public domain and open spaces. Barangaroo Concept Plan's MOD 4, 8 and 10 have largely shaped the form of Barangaroo South, with other modifications (apart from MOD 9) also contributing to the final form of the precinct.

Barangaroo South, spanning approximately 7.5 hectares, has been progressively developed by Lendlease over the last 15 years into a mixed-use precinct. It now includes several significant commercial office towers, residential buildings, retail premises comprising cafés, restaurants, pubs and shops, the Crown Resort, community facilities, public artworks, a ferry terminal and public open spaces such as the Hickson Park, Watermans Cove and the Pier Pavilion. Upgrades to Hickson Road have also been completed, from Sussex Street to near Napoleon Street, which Hickson Road South will connect with. The construction of Barangaroo South is now largely complete.



Figure 2 Aerial photo of relationship between Hickson Road and Barangaroo South and Central Barangaroo

Source: Nearmap edited by Colliers Urban Planning

1.3 Activity Objectives

The need for the proposed Activity are embedded in its objectives, which are to:

- Provide an improved and refurbished outcome for Hickson Road, which will enable the delivery of an activated and pedestrian focused north-south spine along the eastern boundary of Barangaroo.
- Cater for improved pedestrian and active transport outcomes along Hickson Road, including to and from the Barangaroo Metro Station.
- Provide improved pedestrian linkages to the Barangaroo waterfront from Hickson Road via Watermans Cove, Barton Street and future east-west connections into Central Barangaroo.
- Provide for a safer pedestrian environment and support active and public transport access through the provision of improved pedestrian linkages, minimising conflicts between uses and activities within and surrounding Hickson Road.
- Manage existing flooding and stormwater impacts on the site.

1.4 Analysis of Alternatives

The following options were considered:

Option 1 – Do Nothing

Under the ‘do nothing’ option, the Hickson Road South area will remain in situ serving as a local road.

Option 2 – The proposed Activity

The proposed Activity is sought to be approved under Part 5 of the EP&A Act 1979 as outlined at **Section 3.0**. The Activity is needed to support the refurbishment and upgrade of the remaining portion of Hickson Road to facilitate the orderly function of the already completed residential, mixed-use and commercial buildings within Barangaroo South and those envisaged for Central Barangaroo. It will also facilitate the pedestrianisation and prioritisation of active transport within the local road network, connecting to the remainder of Hickson Road (which provides access to Millers Point to the north and areas of the CBD to the south). The proposed road refurbishment and construction works are consistent with the City of Sydney design requirements and support good urban design outcomes. As such, option 2 is the preferred option.

1.5 Purpose of the REF

The purpose of this REF is to describe the road refurbishment and construction works as outlined in **Section 1.1** (the 'Activity'), to review and document the likely environmental impacts of the Activity and to detail mitigation measures that would be implemented as part of the Activity. INSW is the determining authority for the Activity under Part 5 of the EP&A Act.

The Activity involves the refurbishment of the Hickson Road South area. INSW is the relevant determining authority for the REF, as the Activity is located within the boundary of the Barangaroo site under the Barangaroo Act 2009 (as amended), and to which the City of Sydney is the appropriate roads authority for operation.

This REF has been prepared in accordance with the requirements of all potentially relevant NSW and Commonwealth legislation. In doing so, the REF satisfies the requirements of Section 5.5 of the EP&A Act, which requires Infrastructure NSW to examine and take into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the Activity.

2.0 Site Analysis and Description

2.1 Site Location and Context

Barangaroo is located on the northwestern edge of Central Sydney bounded by Sydney Harbour to the west and north; the historic precinct of Millers Point (for the northern portion), The Rocks and the Sydney Harbour Bridge approach to the east; and remainder areas of the Sydney CBD to the east and south.

Barangaroo has been divided into three distinct redevelopment areas, comprising Barangaroo Reserve, Central Barangaroo and Barangaroo South. The REF relates to land within Barangaroo South and Central Barangaroo. An aerial photo of Barangaroo and its context is shown at **Figure 3**.

Barangaroo South is largely established in the southern portion of Barangaroo with significant commercial and retail buildings, residential, as well as the ferry wharves and waterfront public domain. The remaining northern area of Barangaroo South was also recently completed and includes the One Sydney Harbour development comprising Residential Building R4A, Building R4B and Building R5, the Crown Hotel Resort, retail premises, Hickson Park, Watermans Cove and the Pier Pavillion.

The Barangaroo Metro Station within the Central Barangaroo area was also completed in August 2024.

A Part 3A Modification amended the Barangaroo Concept Plan (MP06_0162) and development standards under the State Environmental Planning Policy (Precincts - Eastern Harbour City) 2021 (Eastern Harbour City SEPP). The Central Barangaroo Early Works Phase 1 SSSA-39587022 was approved by the Independent Planning Commission on 29 January 2025 and the Central Barangaroo Early Works Phase 2 SSSA-46922214 was approved on 23 December 2025.



Figure 3 Aerial photo of Barangaroo, showing Barangaroo South, Central and the Reserve

Source: Nearmap edited by Colliers Urban Planning

2.2 Site Description

Hickson Road South runs north-south along the eastern border of the precinct (as defined by the Hickson Road South site (REF site)) It then extends north, immediately adjacent to Central Barangaroo, and adjoins land which connect to the Barangaroo Metro infrastructure to the north, being Block 5, 6 and 7 of the Barangaroo Concept Plan (as modified),

Figure 4 shows an aerial view of the Hickson Road South REF site, which is currently contained along the existing alignment of Hickson Road and a small portion of Hickson Park.

For purposes of the REF, including technical reports that support it, Hickson Road South can be described as relating to two stages: Stage 3 and Stage 4. Stage 3 is located adjacent to the Barangaroo South area, with Stage 4, located adjacent to the Central Barangaroo area. For assessment purposes the proposed Activity is considered by the REF as 'Hickson Road South', and the activity is to be delivered holistically. This staging is merely for documentation purposes, hence some documentation attached to this REF refers to Stage 3 and Stage 4



Figure 4 Aerial photograph of the general REF site

Source: Nearmap (edited by Colliers Urban Planning)



Figure 5 *Hickson Road South – looking north*

Source: Lendlease



Figure 6 *Hickson Road South – looking south*

Source: Lendlease

2.3 Heritage Context

The REF site is not identified as an item of heritage significance, nor is it located within a heritage conservation area. However, the REF site does lie immediately adjacent to three State heritage items along its immediate eastern boundary, being:

- State Heritage Item I880 – Former warehouse “MSB Stores”. Currently adaptively re-used for commercial and hospitality uses.
- State Heritage Item I1813 – Former warehouse “Grafton Bond Store” including interiors. Currently adaptively re-used for commercial uses.
- State Heritage Item I1890 – Former Sydney General Post Office including interior.

Additionally, the Millers Point / Dawes Point Village Conservation Area is located to the east.

It is intended that the proposed Activity would not interfere or impact the curtilage of the adjacent heritage items. Images of some adjoining heritage items are provided in **Figure 7** and **Figure 8**. Further assessment regarding heritage impact is provided at **Section 6.6.1** of this report

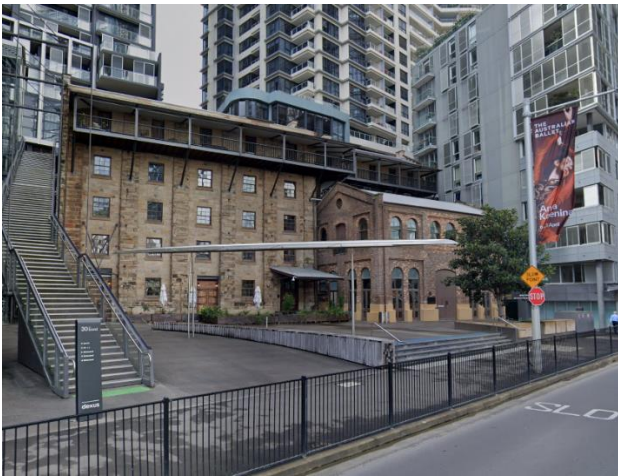


Figure 7 Former warehouse “MSB Stores” (1880)

Source: Google Maps



Figure 8 Former warehouse “Grafton Bond Store” (1813)

Source: Google Maps

2.4 Existing Development

The predominant existing REF site, which currently serves as a two-lane local road, includes (moving south to north)

- A partial section of an asphalted, primarily two-lane road (Hickson Road) with a small slip lane for which provides entry to the rear of the site at 2 Watermans Quay.
- Concrete pedestrian footpaths east and west of Hickson Road, some of which are not accessible due to construction at Central Barangaroo.
- Small trees/ vegetation aligned evenly on the eastern pedestrian sidewalk.
- A traffic island to allow for pedestrian crossing.
- A partial section of an asphalted, primarily two-lane road (Hickson Road).
- Concrete pedestrian footpaths east and west of Hickson Road.
- A zebra crossing to allow for pedestrian crossing east-west across Hickson Road.
- Hoarding to cover construction at Central Barangaroo, with associated pedestrian redirection signage.
- The recently opened Barangaroo Metro Station characterises the area at the northern site boundary.

2.5 Surrounding Development

Adjoining the completed Barangaroo South and transitioning Central Barangaroo precinct, the REF site is situated in a highly urbanised context.

The existing development surrounding the REF site is further described below.

- **North:** Adjacent to this portion of Hickson Road is currently vacant land associated with Central Barangaroo. This portion of broader Barangaroo currently has an approved State Significant Development Application (SSD-46922214), associated with the future residential and commercial development of Central Barangaroo. Further north is the recently completed Barangaroo Metro Station, Nawi Cove and Barangaroo Reserve.
- **South:** To the immediate south is the already refurbished portion of Hickson Road. This is adjacent to the remainder of the Barangaroo South precinct, which most notably includes the International Towers, three distinct commercial buildings. Further south Hickson Road transitions into Sussex Street, (marking the southern boundary of Barangaroo), with the Western Distributor also running in a southern direction on an elevated overpass above Hickson Road/Sussex Street.
- **East:** To the immediate east of the site is a series of 10-12 storey commercial and residential buildings, most notably 30 Hickson Road (know as 30 The Bond) and 38 Hickson Road, which are located immediately adjacent to Hickson Road. State Heritage Item I880 and I1813 (described within Section 2.3) area located within the vicinity of the Bond Plaza, a public square to the east of Hickson Road. The immediate eastern boundary also includes a blank escarpment which adjoins Jenkins Street further beyond. Further east is Kent Street, with the Western Distributor lying further beyond.
- **West:** Immediately west of the REF site is the Barangaroo South and Central Barangaroo precincts, including Barton Street, Hickson Park and Watermans Quay.

2.6 Future Surrounding Development

Modification 9 of the Concept Plan Approval set out that the following development can occur across the Barangaroo precinct:

- A mixed-use development with a maximum of 655,864m² of GFA comprised of:
 - A maximum 237,031m² of residential GFA of which a maximum 162,031m² will be in Barangaroo South,
 - A maximum 76,000m² of GFA for tourist uses of which a maximum 59,000m² will be in Barangaroo South,
 - A maximum 44,766m² of GFA for retail uses of which a maximum 30,000m² will be in Barangaroo South,
 - A maximum 5,000m² of GFA for active uses in the Public Recreation zone of which a maximum 3,500m² will be in Barangaroo South, and
 - A minimum of 14,800m² of GFA for community uses.
- Approximately 11 hectares of new public open space/public domain, with a range of formal and informal open spaces serving separate recreational functions and including an approximate 2.2km foreshore promenade.

As discussed in **Section 1.2**, Barangaroo South is mostly complete, with early stages of construction set to commence at Central Barangaroo. Furthermore, the Barangaroo Metro Station and Barangaroo Reserve are completed. As large components of Barangaroo are completed, the proposed Activity is a critical piece of infrastructure which will support a north-south connection across the precinct.

3.0 Description of the Activity

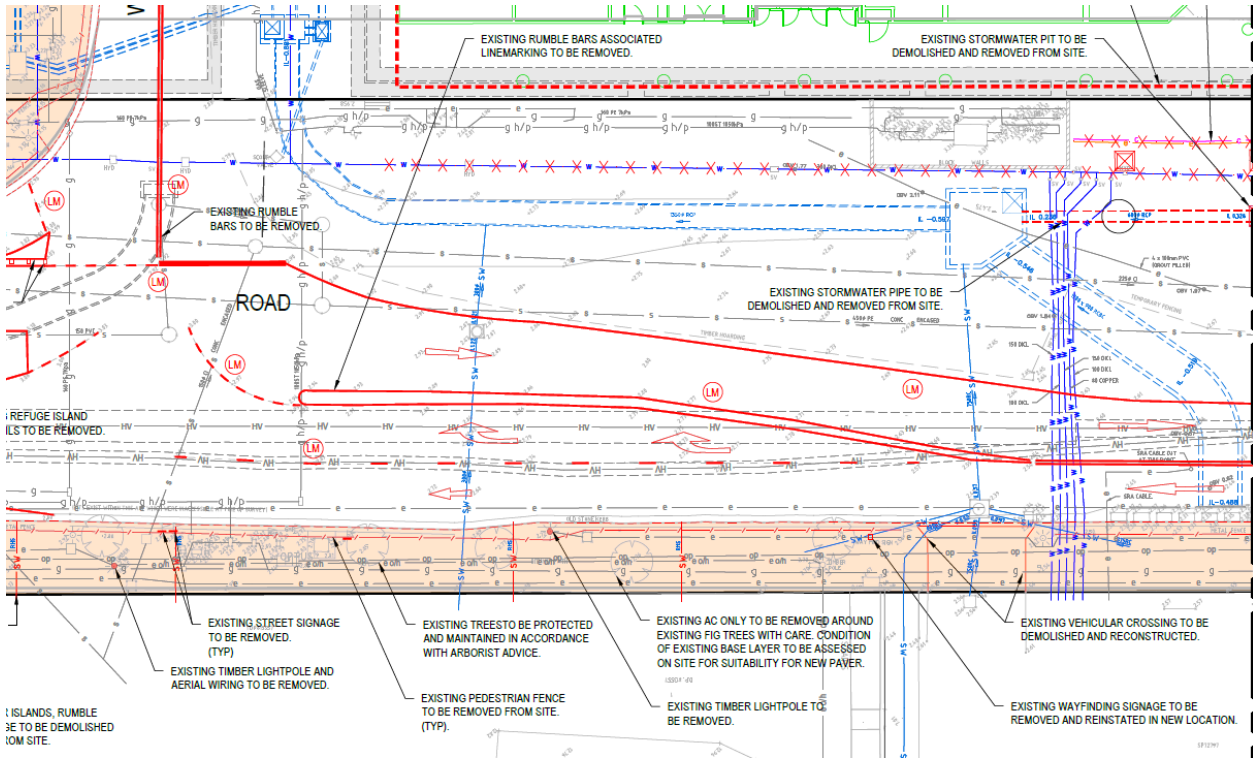
The proposed Activity involves the following works:

- Adjustment to horizontal geometry (i.e. alignment) of the existing Hickson Road, enabling the provision of:
 - Additional short term parking bays along the western side of the roadway;
 - A new two-way separated cycleway along the eastern edge of the roadway;
- Provision of two (2) un-signalised pedestrian crossing intersections along Hickson Road, creating pedestrian connections to Hickson Park and Central Barangaroo;
- Provision of two (2) un-signalised pedestrian crossing intersections along Watermans Quay and Barton Street respectively;
- Installation of a formal left turn slip lane into Watermans Quay from the north-bound approach on Hickson Road;
- Constructing new footpaths on the western and eastern sides of Hickson Road to match the already completed footpath works to the north and south of the existing extent of proposed works;
- Provision of permeable paving to accommodate existing trees;
- Landscaping works including the establishment of low-median planting between the eastern edge of the road carriageway and eastern footpath and installation of additional medium sized trees along both the eastern and western footpaths and within the landscape medians;
- Relocation and augmentation of utilities where necessary, including electrical, gas, water and telecommunications;
- Final roadworks, including kerb and gutters, road and footpath pavements, signage, lighting and line marking;
- Installation of new stormwater drainage pit and pipe infrastructure, including a trunk drainage line running adjacent Barton Street to an existing outlet to Sydney Harbour;
- Ancillary works for the project including, but not limited to, road furniture, tie-in works, earthworks, adjustments to existing stormwater drainage infrastructure and flood mitigation works.

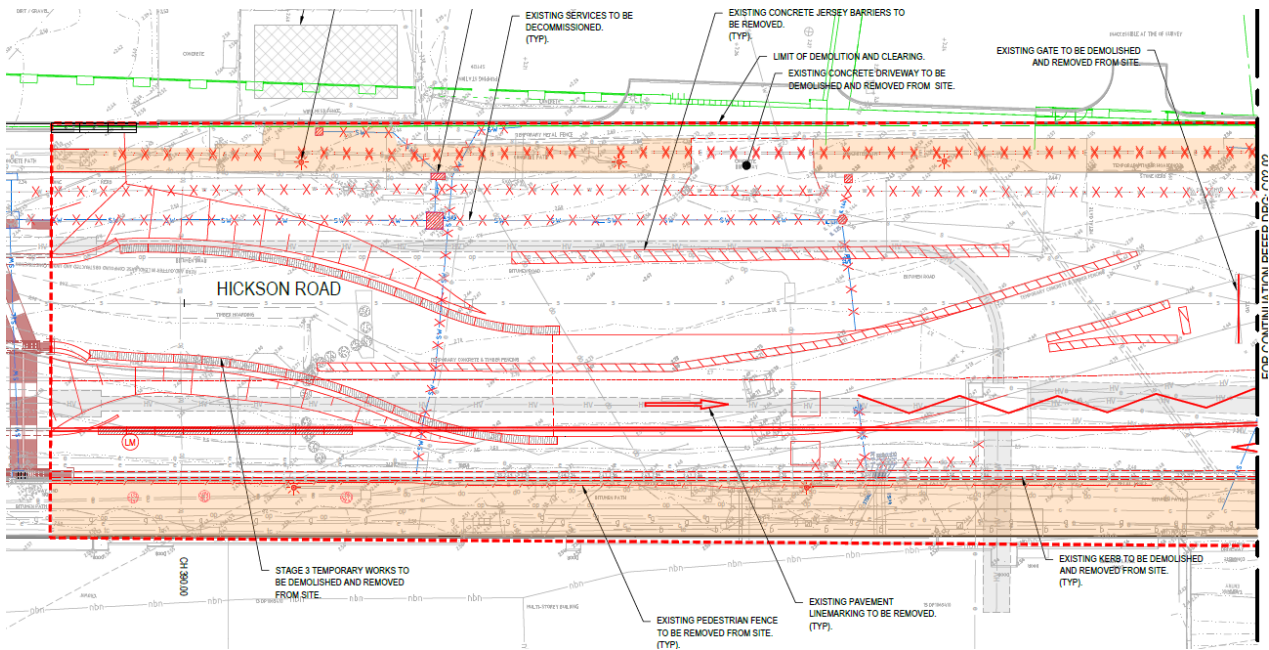
3.1 Site Preparation

3.1.1 Demolition

To enable the construction of the Hickson Road South upgrades, demolition of existing structures and roadway is required to be undertaken. This includes the demolition of kerb and gutter, concrete islands, existing street furniture and light fittings in a number of locations, as well as the asphalt of the road itself. An extract of the demolition plans are shown in **Figure 9**, with detailed plans provided at **Appendix A** and **Appendix B**.



Extract of Stage 3 demolition works



Extract of Stage 4 demolition works

Figure 9 Extract of demolition plans

Source: Enspire

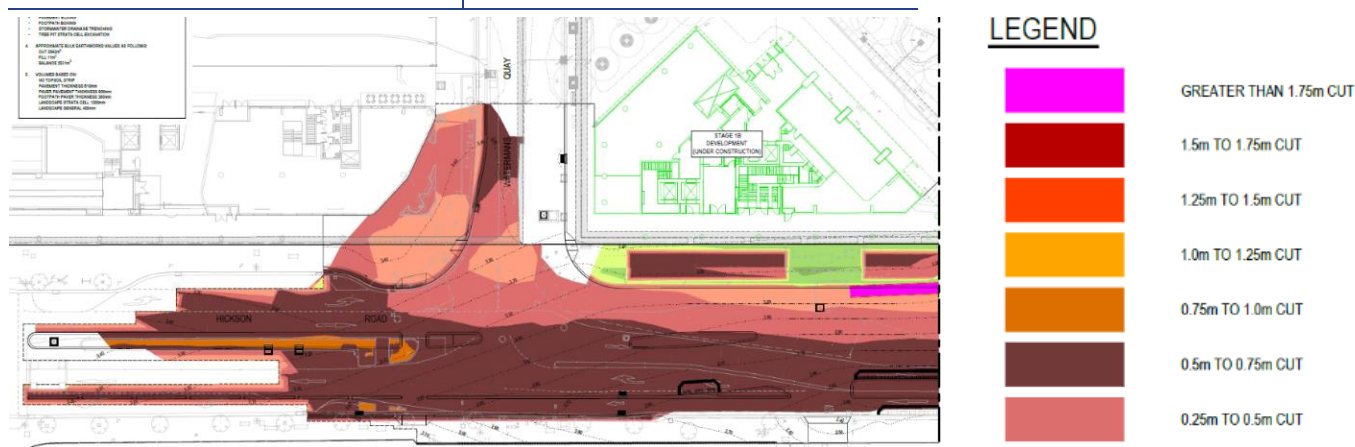
3.1.2 Earthworks

As part of civil works, earthworks on the site will generally consist of cut and fill operations to establish proposed road formations and site levels. The levels have been designed to maintain existing levels along the eastern extent of Hickson Road whilst allowing the levels along the western boundary to be raised to integrate into the Barangaroo South and future Central Barangaroo developments.

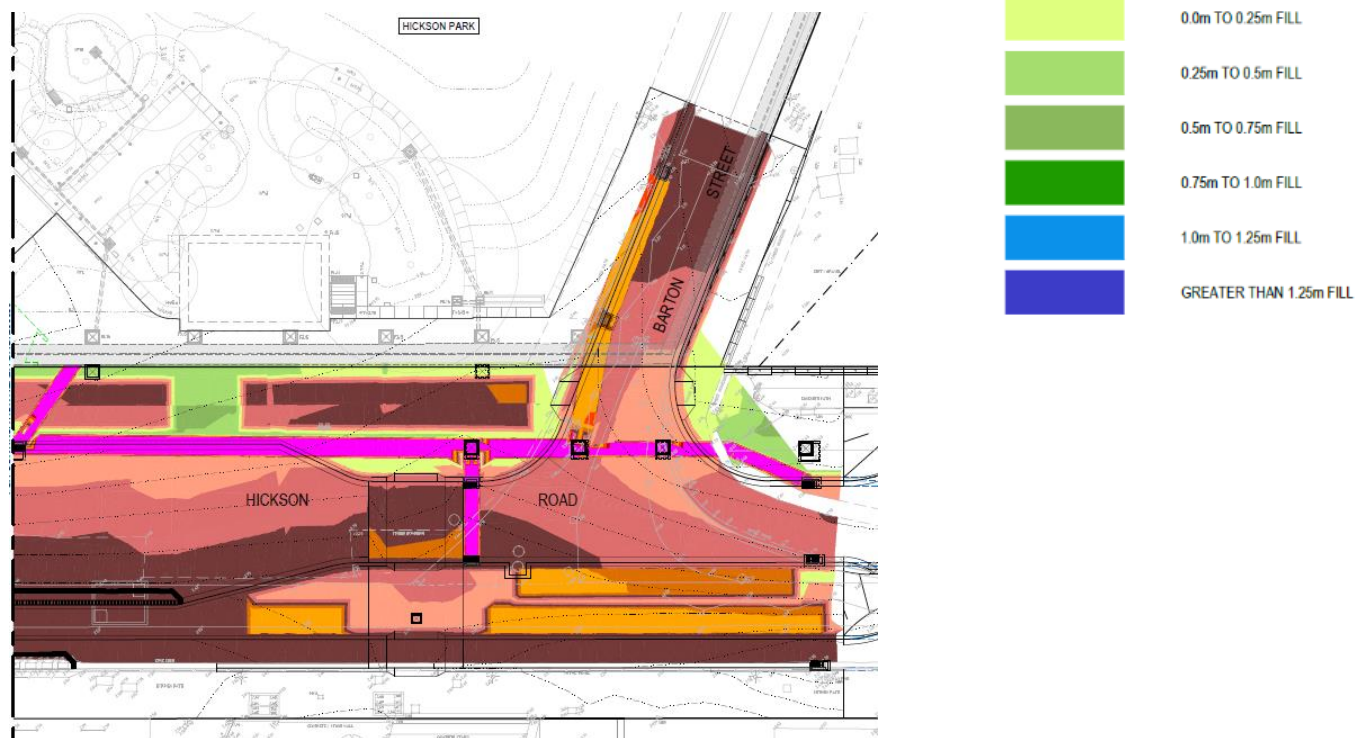
The proposed approximate cut and fill volumes proposed throughout the REF site are as follows, with an extract of the cut and fill plan provided in **Figure 10**.

Table 1 Approximate Cut and Fill Volumes

Earthworks	Volume (m3)
Cut	948
Fill	603
Balance	345 (exported off site)



Stage 3 cut and fill (not to scale)



Stage 4 cut and fill (not to scale)

Figure 10 Cut and fill plan

Source: Enspire Solutions

3.2 Proposed Design

The proposed Activity will result in the proposed Activity of the existing Hickson Road South area along the eastern boundary of Barangaroo (refer to **Figure 11** for context). Hickson Road currently runs north-south between Millers Point to the north and Sussex Street to the south.

The refurbishment and upgrade Activity will be installed permanently within Hickson Road and align with the remainder of the street to the south, which has already been upgraded. This will connect with the remainder of Hickson Road to the north, with its upgrade already delivered as part of the Barangaroo Metro works.

Figure 11 illustrates the location of Hickson Road South, noting that some additional drainage works are proposed to be undertaken generally in alignment with Barton Street, the extent of which is indicated in blue below (refer to **Figure 1** for a detailed locality plan of the drainage works).

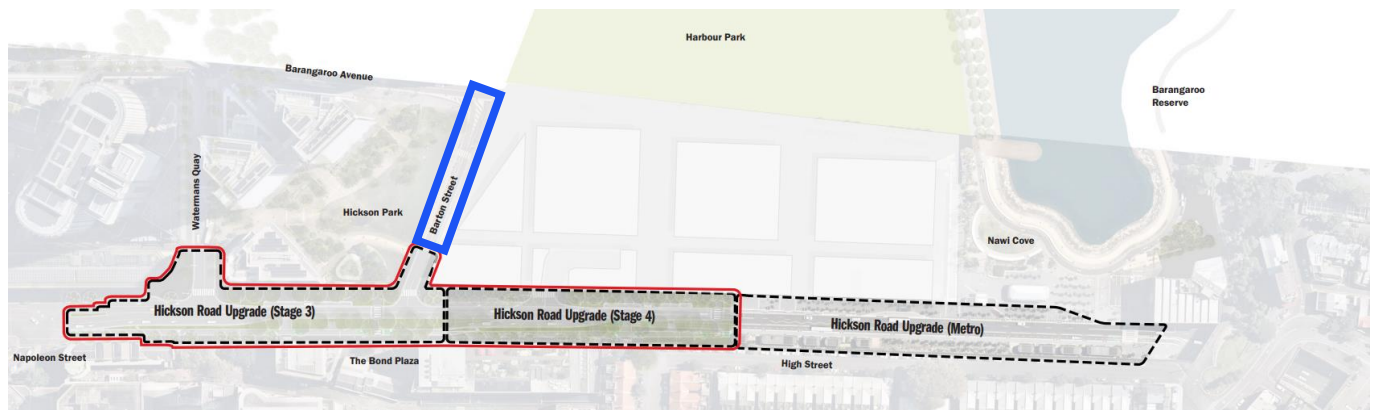


Figure 11 Proposed Hickson Road South Location

Source: Hassell

3.2.1 Road Design

Hickson Road is designed as a 6.4m carriageway, comprising two 3.2m lanes. The lanes will permit travel in both north-south directions, facilitating Hickson Road to operate as a key connector street within Barangaroo, as well as linking with the Sydney CBD in the south and Walsh Bay in the north.

In addition to the road carriageway, the scope also includes works to the eastern and western verges. These include:

- Eastern verge: A 3.0m at-grade separated cycling path, supported by an adjacent 3.5m-4.6m wide footpath
- Western verge: A 3.8m-9.95m wide pedestrian zone supported by staggered tree planting, with intermittent parking bays.

Furthermore, a new, north bound bus stop is proposed to be established south of Barton Street, with the provision of a south bound bus stop also envisaged to be allocated in front of 38 Hickson Road.

Ultimately, both verges will provide pedestrian access along the eastern boundary of the Barangaroo precinct, which will connect to the existing pedestrian network along Watermans Quay and Barton Street. These verge areas will be supported with smart poles for street lighting, which will be installed to City of Sydney standards (see **Section 3.2.5** for further discussion) and the finished levels of Hickson Road will match in with the existing levels of Watermans Quay, Barton Street and Sussex Street.

The proposed Hickson Road South will be signposted at 40 km/h to be consistent with the remainder of the roadway, whilst maintaining low construction vehicle speeds to facilitate pedestrian safety. The 40 km/h speed limit is consistent with the remainder of the Barangaroo precinct. The proposed arrangement of road line marking and signage is illustrated on the general road layout within the Civil Plans (refer to **Appendix A** and **Appendix B**).

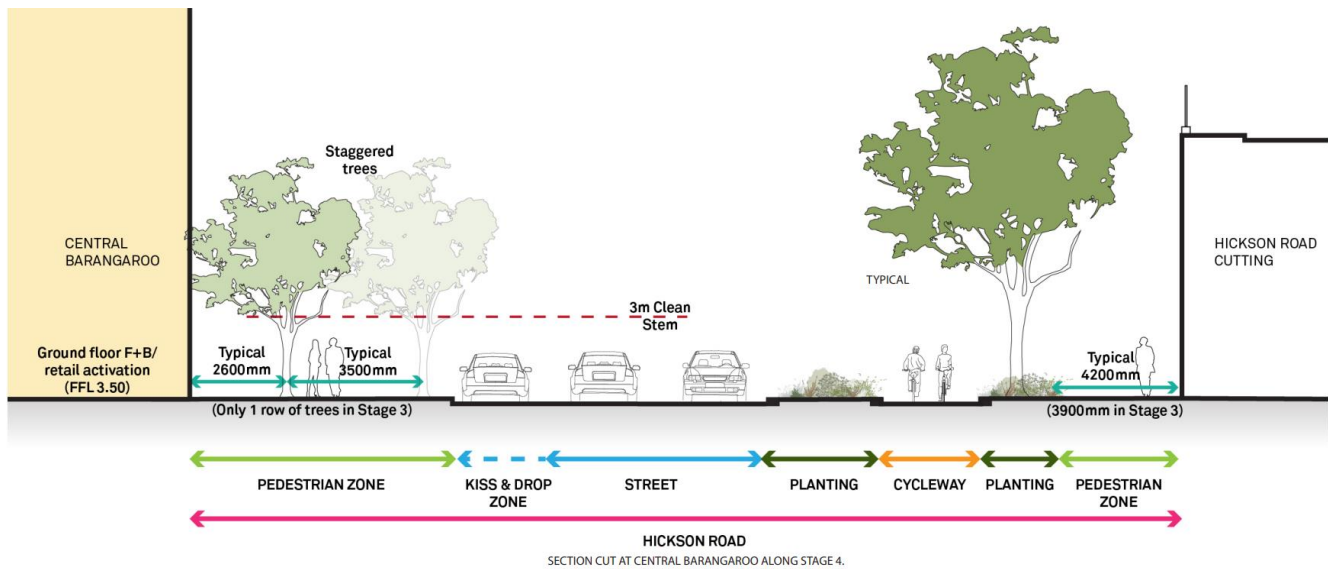


Figure 12 Concept Section of Hickson Road South facing north

Source: Hassell

3.2.2 Paving Strategy

The paving strategy seeks to make wayfinding and passage throughout the proposed Hickson Road South walkway areas as clear as possible through providing a consistent ground plane. This has been formulated through the following design choices:

- Usage of a high-quality paving palette that is consistent with the City of Sydney paving suite.
- Provision of paved raised crossing zones to promote east-west movement across Hickson Road.
- Provision of paved raised crossing to island bus stop.
- Provision of paved parking bays integrated within the verge.

The proposed Activity will introduce the following paved elements:

- Footpath (City of Sydney granite paving)
- Footpath trafficable (City of Sydney granite paving vehicular)
- Parking bays and crossings (City of Sydney stone setts)
- Permeable paving (Existing tree surround)
- Barrier kerb
- Driveway layback
- Kerb ramp
- Cycleway median kerb

The paving Palette is shown at **Figure 13**, while **Figure 14** provides context of the paving elements.

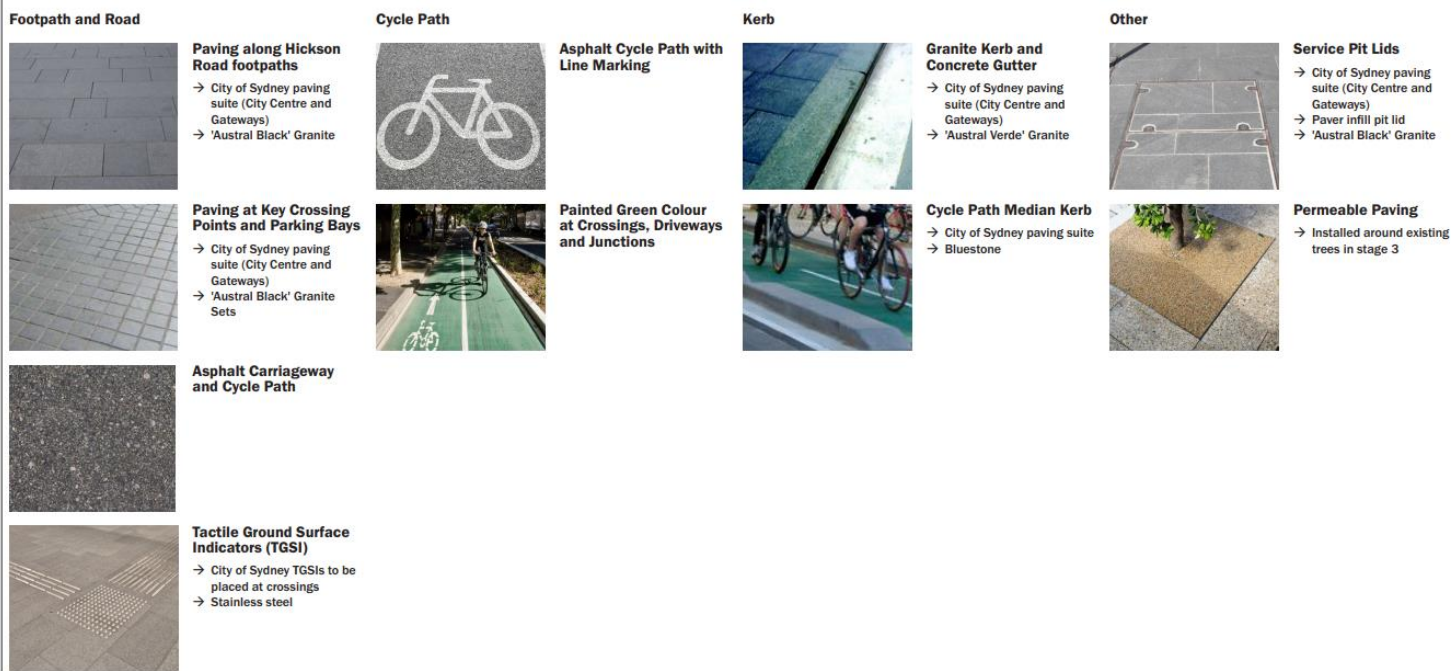


Figure 13 Proposed paving and street palette for Hickson Road South

Source: Hassell

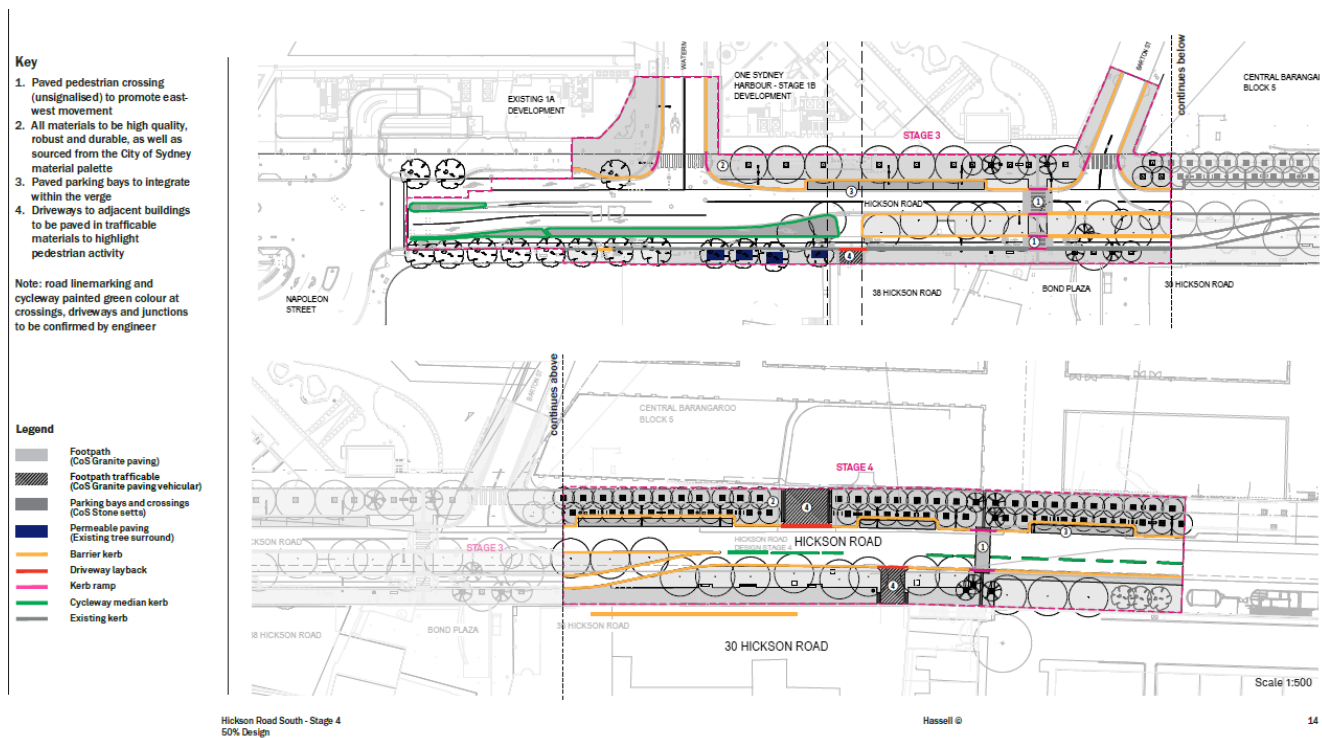


Figure 14 Proposed paving strategy for Hickson Road South.

Source: Hassell

3.2.3 Furniture Strategy

Street furniture will be positioned in alignment with the inner row of street trees, offering shaded seating areas while minimising visual clutter and avoiding interference with pedestrian movement. Furniture will be excluded from parking zones to avoid conflicts with vehicle door swings and drop-off activities. Along the eastern and western footpaths, shaded benches will provide respite for pedestrians, with accessible stopping points integrated alongside selected benches to support inclusive access.

The furniture palette will be consistent with existing street furniture located at Barangaroo and the wider City context, and includes:

- Bench seats from the City of Sydney Furniture Suite, featuring a stainless-steel frame and timber seating.
- Stainless Steel frame tree grates with paved infill.
- Smart poles with street and pedestrian lighting from the City of Sydney furniture suite.
- Rubbish/ recycle bin consistent with the City of Sydney public domain requirements.
- Stainless steel frame and blackbutt timber seat to be consistent with the City of Sydney public domain requirements.
- Stainless steel bicycle hoop, consistent with the City of Sydney public domain requirements.

The number of furniture elements are outlined below:

- 9 x bench seats
- 4 x single seats
- 6 x rubbish bins
- 42 x streetlights
- 5 x bicycle hoops

A photomontage of the furniture palette is shown at **Figure 15**. The location of the proposed furniture elements is provided within **Figure 16**.

Furniture



Bench seat

- City of Sydney furniture suite (City Centre and Gateways)
- Stainless Steel frame and Blackbutt timber seat



Tree grate with paved in-fill

- Stainless Steel frame
- 1350x1350mm with growth ring and water & aeration inlets



Rubbish / recycle bin

- CoS furniture suite (City Centre and Gateways)
- Silver powdercoated aluminium.
- Hood and bin lid opening surface and ash receptacle – polished stainless steel.



Single seat

- Stainless Steel frame and Blackbutt timber seat to match CoS bench seat.
- Indicative image shown, final selection subject to detailed design



Bicycle hoop

- CoS furniture suite (City Centre and Gateways)
- Stainless steel

Lighting

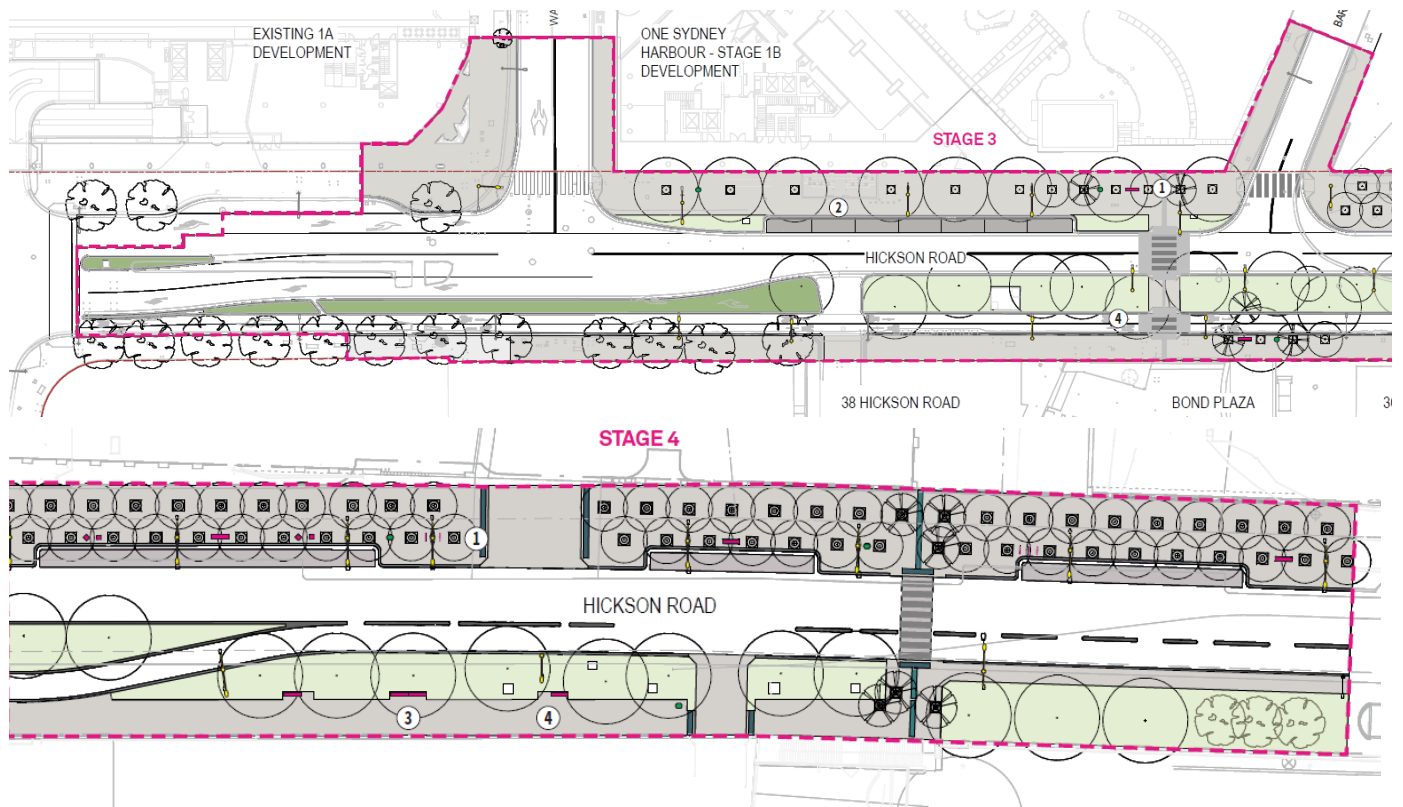


Smart pole with street and pedestrian lighting

- City of Sydney furniture suite (City Centre and Gateways)

Figure 15 Proposed furniture palette for Hickson Road South

Source: Hassell



Legend

- Scope of works boundary
- Planting
- Seating (bench seats)
- Seating (single seats)
- Rubbish bin
- Street light new
- - - Bike hoop

Figure 16 Proposed furniture strategy for Hickson Road South

Source: Hassell

3.2.4 Signage and Wayfinding Strategy

A Wayfinding and Signage Strategy prepared by THERE Design is provided in Appendix T of this report. Signage included within the proposal comprising both wayfinding and informational signage, supporting clear pedestrian connectivity. The proposed Activity includes five signs in total, with **Table 2** below providing a summary:

Table 2 Signage details

Sign Type	Quantity	Stage	Location
W1 Freestanding Pylon Sign	2	Stage 3	<ul style="list-style-type: none"> Eastern footpath of Hickson Road at southern extent of site Western footpath of Hickson Road at northern extent of site
W4 Flag Sign	1	Stage 4	<ul style="list-style-type: none"> Eastern footpath of Hickson Road opposite Barton Street junction
W13 Public Transport Flag Sign	2	Stage 3	<ul style="list-style-type: none"> Watermans Quay after junction with Hickson Road Western footpath of Hickson Road before junction with Barton Street

Wayfinding signage will be located at access points to the site and at key points along the footpaths, with signage proposed to be installed in existing clearings, where possible. The signage will not include any illumination. The types of wayfinding signage is shown in **Figure 17** below.



Figure 17 Proposed wayfinding signage types

Source: Hassell

3.2.5 Lighting Strategy

Streetlighting Compliance Plans prepared by DEP are provided in **Appendix U** of this report. The lighting strategy details 42 new streetlights in total, retaining some existing street lamps. The proposed new lighting has been designed to meet all relevant Australian Standards and luminance requirements, as well as the City of Sydney’s lighting specification, namely the Public Lighting Policy reference AS1158. Further details of the types of streetlights and the locations are provided at **Appendix O**.

3.2.6 Landscaping

The proposed landscaping and planting design is detailed within the Landscape Design Report at **Appendix O**. The design has been driven by the focal vision to embellish a ‘Connected Green Canopy’ along the length of Hickson Road and is responsive to context in terms of planting typology.

Planting Strategy

The proposed planting comprises a diverse planting mix which is representative of species present within the Sydney Basin. The planting strategy of these species has been categorised into the following:

- Mix A – verge planting (2m wide beds supplemented with native wildflowers providing colour and green grasses).
- Mix B – median planting (1-2m wide beds within the road median with low maintenance species).

Tree Strategy

The proposed Activity seeks to plant an additional 108 street trees, comprised of *Fraxinus pennsylvanica* ‘Urbanite Ash’, *Lophostemon Confertus* ‘Brush Box’ and *Livistona Australis* ‘Cabbage Tree Palm’. 16 existing trees are proposed to be retained.

The proposed tree strategy for Hickson Road South is illustrated in **Figure 18** below.

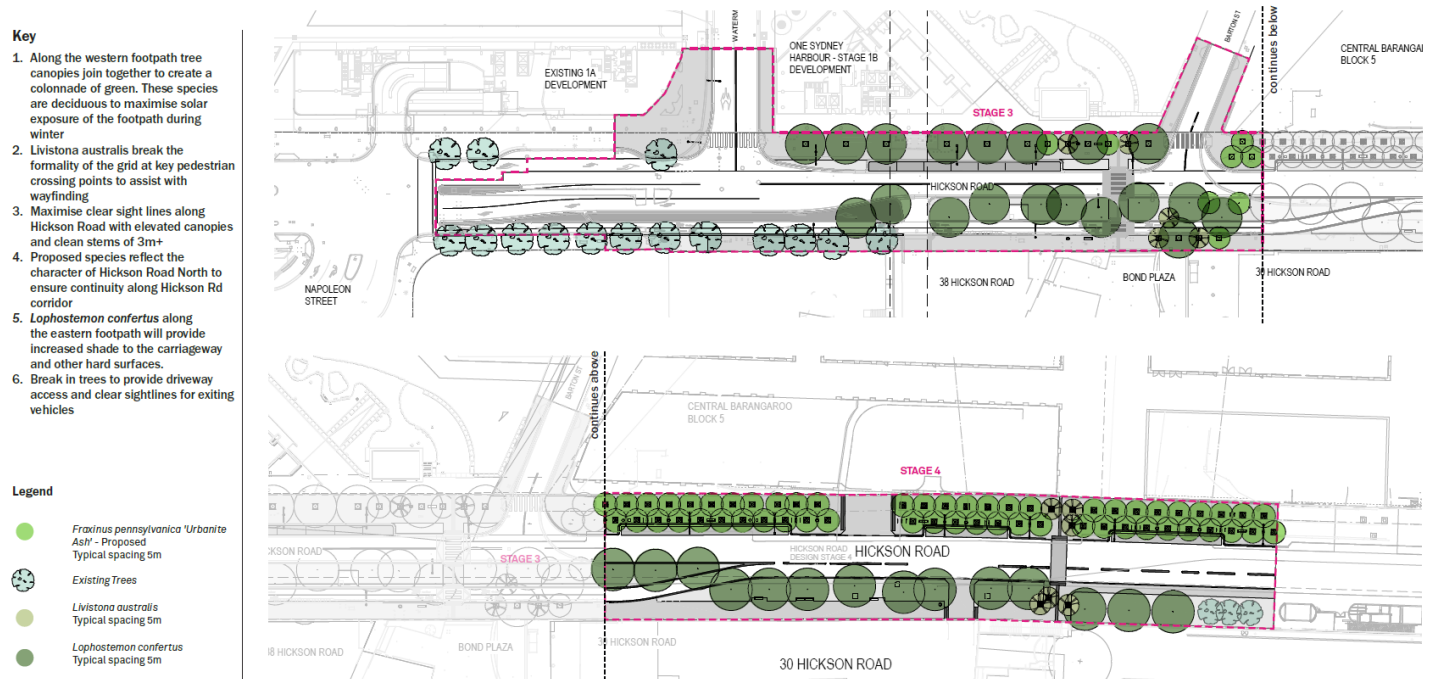


Figure 18 Proposed tree strategy for Hickson Road South

Source: Hassell

3.2.7 Traffic Movements

The proposed Activity comprises the following transport related key features:

- Provision of a single lane of traffic in both the northbound and southbound directions.
- Introduction of a dedicated, bi-directional bicycle lane on the eastern side of Hickson Road between Napoleon Street and the existing cycleway to the north of Barton Street.
- Upgrades to the Hickson Road/Watermans Quay intersection . This includes the removal of the existing left turn slip lane into Watermans Quay and the introduction of a dedicated left turn lane.
- Introduction of a new raised pedestrian crossing on Hickson Road immediately south of Barton Street.
- Five-minute parking zone on the western kerb of Hickson Road.
- Minor modifications to the existing Hickson Road / Napoleon Street signalised intersection to accommodate the future separated cycleway. Works will include a new detector loop and amendments to the existing signal lantern to incorporate a crossing light for cyclists.

3.2.8 Pedestrian Safety

The proposed Activity will provide enhancements to the walking and cycling network, comprising:

- At-grade separated cycleway on the eastern side of Hickson Road.
- Introduction of several new zebra crossings across the redevelopment site.
- Significantly widened footpath on the western side of Hickson Road, complemented by enhanced public domain treatments such as street trees and street furniture.

3.2.9 Stormwater

The proposed stormwater works have been detailed in the Civil Design Report provided by Enspire, which can be found at **Appendix C** of this report. The predominant change in drainage as compared to the existing arrangement is to provide a one-way cross fall from west to east, ensuring surface flows are collected and conveyed into the existing Sydney Water trunk drainage system. A series of inlet pits are proposed along proposed kerb alignments.

A stormwater trunk drainage line from Hickson Road to the existing outlet to Darling Harbour at Wulugul Walk will be constructed, generally in alignment with Barton Street. The existing DN600 and seawall outlet to Darling Harbour will not be replaced or upsized but inspected and cleaned as part of the proposed Activity.

Proposed pits are located to control flow width in accordance with the City of Sydney's design criteria for rain events, and shall be constructed to meet City of Sydney's standards. Minor adjustments are required to junction pits and kerb outlets to meet proposed surface levels, kerb alignments and raised pedestrian ramps.

Final stormwater drainage pipe alignments and pit locations will be determined at the completion of physical test pits to determine accurate locations of all existing utility services to remain.

3.2.10 Utilities and Services

The subject site currently has several existing utilities and services present, including:

- Potable water
- Waste water
- High and low voltage electrical
- Street Lighting
- Natural gas
- Telecommunications, both phone and internet

In consideration of these existing utilities and services, proposed Hickson Road upgrade works will include the following services interventions:

- Existing street lighting along the eastern side of Hickson Road will be replaced with new lighting that is in accordance with the City of Sydney requirements. Additionally, new street lighting will be installed along the western verge alignment and at pedestrian crossing facilities.

- Existing telecommunications pits within the eastern footway will be adjusted as required to suit the installation of pave infills.
- All existing natural gas services will be maintained on the western and eastern sides of Hickson Road. Ultimately, extension works to the north will be undertaken in accordance with the current operator's (Jemena) scope. Jemena will continue to be engaged throughout the development and construction process as required.
- Sydney Water records indicate a 300 dia CICL potable water pipe exists on the western side of Hickson Road. This main was constructed in circa 1928. Due to the age of the existing asset and the limited space within the verge area, constrained by proposed trees and existing services, it is proposed to install a new main within the road carriageway connecting to the existing main constructed to the north. Enspire have lodged an application to Sydney Water and are currently awaiting consent to commence Design Investigation for the adjustment/deviation of assets.
- A number of existing sewer manholes are located within the existing and proposed carriageway. Adjustments to these manholes are required to match proposed surface levels and will be undertaken as part of this REF. No additional infrastructure is proposed as part of the Hickson Road South works including coordination of or design of the potential sewer pump station relocation.
- There is no intention to adjust any high voltage or low voltage electrical assets within the Hickson Road South works area.

Further detail on the proposed utilities and services provisions for the Hickson Road South works is provided within Civil Design Report prepared by Enspire Solutions at **Appendix C** and in the detailed utilities plans prepared by RPS at **Appendix V**.

3.3 Construction Delivery

The Hickson Road South works will be delivered in a logical and efficient sequence having consideration for road users and pedestrians, adjacent properties and the surrounding community. The construction contractor will outline construction approaches, including staging and a construction program.

Appropriate traffic control provisions will be implemented throughout construction to ensure vehicle, cyclist and pedestrian safety, along with arrangements for construction vehicle and truck access and movements. A detailed Construction Traffic Environmental Management Plan (CTEMP) will be prepared prior to the commencement of works and will be updated to reflect construction activities and staging, as needed.

3.4 Construction Management

A Preliminary Construction, Traffic, Environmental Management Plan (CTEMP) has been prepared at **Appendix H**. This plan, along with measures in **Section 7.0** of this REF sets the parameters for a construction methodology, and management and mitigation measures to be undertaken to support the delivery of the proposed Activity.

A final CTEMP would be implemented prior to works commencing and would address the following considerations:

- Air Quality Management
- Contamination Management
- Emergency Response Management
- Fitness for Work Fatigue Management
- Fitness For Work - Drugs & Alcohol Testing Management
- Heritage & Archaeological Management
- Noise & Vibration Management
- Stormwater, Erosion and Sedimentation Management
- Tenancy Management
- Traffic and Parking Management
- Waste Management
- Noise & Vibration Management
- Stormwater, Erosion and Sedimentation Management
- Tenancy Management

- Traffic & Parking Management
- Waste Management

The proposed hours of demolition and construction, including delivery of materials to and from the REF site, is anticipated to be as follows:

- between 7:00am and 6:00pm, Monday to Friday
- between 7:00am and 5:00pm on Saturdays
- occasional night works and works on Sundays or public holidays would be required where dictated by authority requirements or for worker or public safety

The expected duration of the project is approximately 18 months.

4.0 Planning Context

The proposed Activity can utilise the 'Development without consent' planning pathway under the T&I SEPP. As a result, an assessment under Part 5 - Infrastructure and Environmental Impact Assessment of the EP&A Act is required. This REF has been prepared on this basis. Further consideration of the 'Development without consent' provisions are provided at **Section 4.5** of this REF.

4.1 Environmental Planning and Assessment Act 1979

Section 5.5 of the EP&A Act requires determining authorities, when assessing activities under Part 5, to examine and take into account to the fullest extent possible all matters affecting, or likely to affect the environment by reason of that Activity.

INSW is a determining authority for the purpose of Part 5 of the EP&A Act. 'Determining authority' is defined as "a Minister or public authority and, in relation to any activity, means the Minister or public authority by or on whose behalf the activity is or is to be carried out or any Minister or public authority whose approval is required in order to enable the activity to be carried out." INSW meets the definition of a public authority for these purposes.

Hickson Road South is located within the boundary of the Barangaroo site, as defined by the Barangaroo Act 2009. INSW is the public authority coordinating the delivery of Barangaroo, and landowner of the site. INSW is a public authority as defined under section 1.4 of the EP&A Act as it is a "Public Service agency", which is defined in the *Government Sector Employment Act 2013* to include INSW.

The proposed Activity will be carried out by or on behalf of INSW.

To satisfy the objectives of the EP&A Act relating to the protection and enhancement of the environment, a determining authority shall examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that Activity (refer to sub-section 1 of Section 5.5). Any other provisions of the Act or the provisions of any other Act or of any instrument made under the EP&A Act or any other Act should also be taken into consideration.

This REF addresses the provisions of Section 5.5 of the EP&A Act. **Table 3** demonstrates the effect of the proposed Activity on the matters listed for consideration in sub-section 3 of Section 5.5.

Table 3 Matters for consideration under Sub-Section 3 Section 5 of the EP&A Act

Matters for Consideration	Impact of Activity
Subsection 3: Without limiting subsection 1, a determining authority shall consider the effect of any activity on any wilderness area (within the meaning of the <i>Wilderness Act 1987</i>) in the locality in which the activity is intended to be carried on.	No effect, as the site is not located within or in vicinity of a wilderness area as defined under the <i>Wilderness Act 1987</i> .
Note: If a biobanking statement has been issued in respect of a development under Part 7A of the <i>Threatened Species Conservation Act 1995</i> , the determining authority is not required to consider the impact of the activity on biodiversity values.	

4.2 Environmental Planning and Assessment Regulation 2021

Section 171(1) of the EP&A Regulation provides a list of factors that must be taken into account for an environmental assessment under Part 5 of the EP&A Act, including the Guidelines for Division 5.1 Assessments prepared by the Department of Planning, Housing and Infrastructure (2025). These Guidelines then require the consideration of the environmental factors listed in 171(2) of the EP&A Regulations. These requirements are considered at **Section 6.1** of this REF report.

Section 2.109(1) of the T&I SEPP identifies the project as a type of development permitted without consent. It can therefore be assessed as an Activity under Part 5, Division 5.1 of the EP&A Act.

Whilst situated within the Barangaroo precinct, Hickson Road South is existing and separate from development that has occurred within Barangaroo South and development that will occur within Central Barangaroo, as defined by the

Barangaroo Concept Plan (as modified). Whilst there are some conditions in the Barangaroo Concept Plan relating to Hickson Road, it is largely not relevant to the Activity as discussed further under **Section 4.4** of this REF. The Hickson Road South upgrade therefore is able to be a separate project to the broader development of Barangaroo South or Central Barangaroo, which will generally be in accordance with the Concept Plan and/or under a separate State significant development process.

Hickson Road South provides a north-south link across the precinct, with the works replacing the current infrastructure. The Activity is considered a separate project as its finalisation establishes functional independence for the road connection. This is because Hickson Road serves existing traffic and local community movements, including access for 30 and 38 Hickson Road, and is designed to not only serve new development within Central Barangaroo. The requirements for broader transport and enabling infrastructure must be delivered more broadly across the precinct. This is shown in the Barangaroo Concept Plan (MP06_0162) which does not define any staging requirements for the delivery of Hickson Road. As such, the Activity will operate as a single connector, providing independent utility for Hickson Road. The impacts of the Hickson Road South works are standalone, with the environmental impacts being able to be appropriately mitigated and managed on-site.

Accordingly, the works can be assessed separately as its own project and as an Activity under Part 5 of the EP&A Act.

4.3 Commonwealth Environmental Protection and Conservation ACT 1999

The provisions of the *Environment Protection and Biodiversity Conservation Act 1999* require an action to be referred to the Commonwealth government should any of the prescribed triggers be met. Two relevant triggers are whether the Activity has or is likely to have any significant impact on Commonwealth Land or Marine Areas. Actions that have the potential to impact on the environment of Commonwealth Land or Marine Areas include erosion and sediment run-off from site establishment works, harmful stormwater run-off and ill-management of any hazardous materials or chemicals. These potential impacts are assessed in the REF, specifically in **Section 6.2** and **Section 6.13**.

Specific mitigation measures have been recommended to manage the potential impacts identified. These mitigation measures will significantly reduce potential impacts to the natural environment arising from the Activity. Therefore, the proposed Activity is not likely to have any significant impact on Commonwealth Land or Marine Areas.

A checklist of the prescribed triggers is provided in **Table 4** below. The Activity does not meet any of the prescribed triggers, therefore no referral to the Commonwealth government is necessary.

Table 4 *Matters of National Environmental Significance Consideration*

Factor	Impact Assessment
Any significant impact on a declared World Heritage Property?	No impact
Any significant impact on a National Heritage place?	No impact
Any significant impact on a declared Ramsar wetland?	No impact
Any significant impact on Commonwealth listed threatened species or endangered community?	No impact
Does any part of the proposal involve nuclear actions?	No impact
Any significant impact on Commonwealth marine areas?	No impact
Any significant impact on Commonwealth land?	No impact

4.4 Barangaroo Concept Plan (MP06_0162)

Concept Plan Approval (MP06_0162) for the redevelopment of East Darling Harbour (now known as Barangaroo) was granted in February 2007. The approved Concept Plan, not including withdrawn applications, has been modified 10 times (with one withdrawn application), with the most recent modification (MP06_0162-Mod-9) in 2025.

The Barangaroo Concept Plan (as modified) identifies maximum GFA and height controls for each Development Block within Barangaroo, as well as a range of conditions and requirements for future applications and development. There are a number of conditions of consent from the Barangaroo Concept Plan that relate to Hickson Road, however, none of

these are considered relevant as the proposed REF does not seek to amend any components relating to these conditions. Condition C3C of the Barangaroo Concept Plan (as modified) requires consultation to be undertaken with TfNSW regarding any proposed traffic signals at the Hickson Road / Shelley Street and Barton Street / Hickson Road intersections. Discussions with TfNSW (prior to this Activity) have indicated that no additional traffic signals would be supported on Hickson Road at either Barton Street or Shelley Street. The proposed Activity does not seek to amend any existing or propose any new traffic signals, and therefore, it is considered that this condition is not relevant to this Activity.

Condition C8(4) relates to the provision of the Barton Street intersection with Hickson Road. No changes to this intersection, beyond tying into the upgrade works are proposed, and is not considered relevant to this Activity.

Finally, Condition C14 of the Barangaroo Concept Plan (as modified) requires consultation with Council and TfNSW in relation to the design of any intersections on Hickson Road. Both TfNSW and Council have been engaged through this REF process and their feedback incorporated into the final design, as discussed at **Section 5.0**. It is considered that the Activity has been undertaken in a manner that is not inconsistent with this condition.

It is noted that further engagement with the City of Sydney Council will be undertaken during the section 138 approval process in the Roads Act 1992 approval process, of which Council is the nominated determining authority, as well as under section 2.109(1) of *State Environmental Planning Policy (Transport and Infrastructure) 2021*.

4.5 State Environmental Planning Policies

The State Environmental Planning Policies (SEPPs) which apply to the site of the Activity and are relevant to the assessment of the proposal are identified and considered below.

4.5.1 State Environmental Planning Policy (Transport and Infrastructure) 2021

The roadworks component of the Activity can be carried out as ‘Development permitted without consent’ under Section 2.109(1) of the T&I SEPP. For completeness, Section 2.109(1) of the T&I SEPP has been replicated below, which states:

2.109 Development permitted without consent – general

(1) Development for the purpose of a road or road infrastructure facilities may be carried out by or on behalf of a public authority without consent on any land. However, such development may be carried out without consent on land reserved under the National Parks and Wildlife Act 1974 only if the development—

(a) is authorised by or under the National Parks and Wildlife Act 1974, or

(b) is, or is the subject of, an existing interest within the meaning of section 39 of that Act, or

(c) is on land to which that Act applies over which an easement has been granted and is not contrary to the terms or nature of the easement.

Accordingly, under Section 2.109(1) of the T&I SEPP, the proposed Activity can be carried out as ‘development permitted without consent’ by INSW, as it will:

- Be carried out by INSW, which is a public authority, coordinating the delivery of Barangaroo; and
- Comprise development for the purposes of road infrastructure facilities due to the Hickson Road South upgrades involving alterations and additions to the existing Hickson Road.

In addition to the above, the stormwater components of the Activity can be carried out as ‘Development permitted without consent’ under Section 2.137 of the T&I SEPP, as this section specifically states:

“Development for the purposes of stormwater management systems may be carried out by or on behalf of a public authority without development consent.”

Utilities works are also proposed to be undertaken, which are permitted to be undertaken as development permitted without consent by a public authority (i.e. INSW) under the following sections of the T&I SEPP:

- Electricity works: Section 2.44(1) of the T&I SEPP.
- Gas utility works: Section 2.75 of the T&I SEPP.
- Telecommunication utility works: Section 2.141 of the T&I SEPP.

4.5.1.1 Consultation Requirements

Under the T&I SEPP, Activity to which Section 2.109(1) applies requires the following notification criteria:

(2) Before development to which this section applies is carried out on land, the public authority concerned must—

(a) give written notice of the intention to carry out the development to the council for the area in which the land is located (unless the public authority is that council) and to the occupiers of adjoining land, and

(b) take into consideration any response to the notice that is received within 21 days after giving the notice.

Furthermore, Chapter 2 Division 1 of the T&I SEPP also outlines the level of consultation required with Council, other public authorities and adjoining properties based on the level of impact arising from the activities. As discussed in **Section 5.0** formal consultation under the T&I SEPP is required to be undertaken for the REF.

4.5.1.2 Consistency with the Aims of the T&I SEPP

The proposed Activity is consistent with the aims described within Section 2.1 of the T&I SEPP, in that it:

- Allows for the efficient refurbishment and upgrade of Hickson Road South utilising the development permissible without consent pathway.

- Has considered the environmental impacts of the development and all necessary matters for consideration as outlined in the T&I SEPP.
- Has taken into consideration the consultation outcomes and has capitalised on opportunities for road infrastructure to demonstrate good urban design outcomes.

4.5.2 State Environmental Planning Policy (Precincts – Eastern Harbour City) 2021

The Barangaroo site is listed as a State Significant Precinct under Appendix 5, Part 2.2 of *State Environmental Planning Policy (Precincts – Eastern Harbour City) 2021* (Eastern Harbour City SEPP). The entirety of the REF site is within the Barangaroo site as defined in the Eastern Harbour City SEPP.

The REF site is zoned 'B4 - Mixed Use', with a section of the site which includes stormwater drainage works located in 'RE1 - Public Recreation'. Within the B4 Mixed Use zone and RE1 Public Recreation zone, roads are permissible. The proposed Activity will continue the existing use of Hickson Road as a key north-south connector road within the Barangaroo Precinct and this area of Central Sydney more broadly.

The proposed activity also seeks to undertake appropriate gas utility upgrades within the Stage 3 and 4 components of the Hickson Road Upgrade. Section 15 of Appendix 5 within the Eastern Harbour City SEPP enables public utility undertakings to be completed throughout the Barangaroo site without development consent.

4.5.3 State Environmental Planning Policy (Resilience and Hazards) 2021

Chapter 4 of *State Environmental Planning Policy (Resilience and Hazards) 2021* (Resilience and Hazards SEPP) regulates the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment.

Section 4.6 of the Resilience and Hazards SEPP stipulates that a consent authority must not consent to the carrying out of development unless:

- It has considered whether the land is contaminated, and if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable after remediation) for the purpose of which the development is proposed to be carried out.
- If the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

A Preliminary Site Investigation (PSI) has been prepared by ERM and is provided in **Appendix Q**. A Preliminary Site Investigation confirming the unlikely nature for contamination to be present on the subject site based on the significant amount of previously completed remediation works has been prepared by ERM. This is discussed further at **Section 6.4**.

4.5.4 State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 6 of the *State Environmental Planning Policy (Biodiversity and Conservation) 2021* (Biodiversity and Conservation SEPP) applies to land within certain regulated water catchment areas. The site is mapped as part of the "Sydney Harbour Catchment" area, and therefore development is subject to the Biodiversity SEPP's requirements for water quality, foreshore protection, and ecological considerations. These controls relate to water quality and quantity (Section 6.6), aquatic ecology (Section 6.7), flooding (Section 6.8), and recreation and public access (Section 6.9) and the Sydney Harbour Catchment (Section 6.28). To this regard, the Activity will include sufficient landscaping and stormwater infrastructure (refer **Section 3.2.9**) and mitigation measures (refer **Section 7.0**) to ensure there will be no substantial impact to the catchment.

4.5.5 State Environmental Planning Policy (Industry and Employment) 2021

Although not technically applicable to Part 5 Activities, thorough regard has been given to the relevant SEPPs for completeness, including *State Environmental Planning Policy (Industry and Employment) 2021* (IE SEPP). This is particularly in relation to the provision of wayfinding signage (detailed within the Wayfinding Strategy prepared by THERE Studio at **Appendix T**) which will facilitate the legibility of the upgraded spaces provided by the proposed Activity. Ultimately, the provision of this wayfinding signage is consistent with the objectives and assessment criteria for signage contained within Section 3.1 and Schedule 5 of the IE SEPP.

Particularly, it is consistent with the objectives contained within section 3.1 of the IE SEPP in that:

- it is commensurate with the desired amenity and visual character of the area, as it is consistent with the display of wayfinding signage using the City of Sydney palette throughout other sections of Barangaroo;
- it will effectively communicate key site areas and public transport nodes present throughout the Barangaroo area; and
- it will be of high-quality design and finish through the use of materials that are consistent with the City of Sydney signage palette, which seamlessly integrate with the surrounding public domain.

The proposed wayfinding signage is also consistent with the assessment criteria contained within Schedule 5 of the IE SEPP, as detailed within **Appendix X**.

4.6 Other State Environmental Planning Policies

Table 5 below identifies the remaining SEPPs applicable to the site and provides comments on their relevance for consideration.

Table 5 Other SEPPs and their Relevancy

SEPP Name	Comment
<i>SEPP (Exempt and Complying Development Codes) 2008</i>	This SEPP applies to works under exempt and complying development pathways. The proposed Activity does not rely on the exempt or complying development pathway.
<i>SEPP (Housing) 2021</i>	This SEPP applies to residential development only. Not applicable for this Activity.
<i>SEPP (Planning Systems) 2021</i>	<p>This SEPP identifies state or regionally significant development, or critical state significant infrastructure; and relates to Aboriginal land, and concurrences and consents. The proposed Activity under this REF includes works permitted without consent under the T&I SEPP and are not subject to this SEPP. Therefore, an assessment against this SEPP is not relevant. The Activity is also not declared to be State Significant Infrastructure under Section 2.6, Section 2.13, Schedule 2 Schedule 3.</p> <p>Section 2.6</p> <p>The proposed Activity is classified as 'development permitted without consent' and assessed under Part 5, Division 5.1, of the EP&A Act. Section 2.6 of the Planning Systems SEPP refers to 'development with consent' under Part 4 of the EP&A Act. Because the activity is not considered 'development with consent' for the purposes of Part 4, it cannot be declared as State significant development for the purposes of clause 2.6, as per subsection (1)(a).</p> <p>Schedule 2</p> <p>The proposed Activity is not a form of 'development' under part 4 of the EP&A Act, therefore, clause 3 of Schedule 2 does not apply.</p> <p>Section 2.13</p> <p>The proposed Activity is not considered as 'State Significant Infrastructure' under section 2.13 of the Planning Systems SEPP. This is due to the activity not being identified in schedule 3 of the Planning Systems SEPP.</p> <p>Schedule 3</p> <p>The proposed Activity is not identified within any of the general State significant infrastructure thresholds within Schedule 3.</p>
<i>SEPP (Precincts—Central River City) 2021</i>	This SEPP applies to the Central River Precinct. The site is not within the Central River City and therefore an assessment against this SEPP is not relevant.
<i>SEPP (Precincts—Western Parkland City) 2021</i>	This SEPP relates to the Western Parkland City. The site is not within the Western Parkland City and therefore an assessment against this SEPP is not relevant
<i>SEPP (Primary Production) 2021</i>	This SEPP relates to primary production and agricultural lands. The REF works are not subject to this SEPP and an assessment against this SEPP is not relevant.

SEPP (Resources and Energy) 2021

This SEPP relates to development for the purposes of mining, petroleum and extractive industries. The REF works are not subject to this SEPP and an assessment against this SEPP is not relevant.

SEPP (Sustainable Buildings) 2022

This SEPP applies to both residential development and non-residential development, the erection of a new building or an alteration, enlargement or extension to an existing development. The proposed Activity does not include those works and therefore an assessment against the SEPP is not relevant.

4.6.1 Sydney Local Environmental Plan 2012

The subject site is not located on land governed by the *Sydney Local Environmental Plan 2012*, therefore no further assessment against this environmental planning instrument is required.

4.6.2 Sydney Development Control Plan 2012

The subject site is not located on land governed by the *Sydney Development Control Plan 2012*, therefore no further assessment against this planning instrument is required.

4.6.3 City of Sydney Signage and Advertising DCP 2005

Barangaroo is subject to the City of Sydney Signage and Advertising DCP 2005. The wayfinding signage with the proposed Activity would not result in outcomes inconsistent with this DCP. Of note, Section 2.11 provides for signage in public domain areas. The proposed wayfinding signage would be consistent with the provision of Section 2.11 by being appropriately located, not obscure sightlines nor result in visual impact. It would also not result in safety issues to pedestrians through appropriate positioning.

Areas of Hickson Road South, adjacent to Central, would also be within the Millers Point Signage Precinct area under Section 6.4 of the DCP. The wayfinding signage with the proposed Activity would not result in an outcome incompatible with this signage area.

4.7 Other NSW Legislation

4.7.1 Heritage Act 1977

The proposed Activity has the potential to undercover archaeological relics, albeit this is more limited in areas where extensive modification has been undertaken for the previous construction of Hickson Road. Elements of the proposed works involving moderate excavation, especially the installation of tree pits and new stormwater lines, are expected to impact locally significant archaeological relics. To manage the impact on the archaeological resource, a program of archaeological testing and monitoring via an excavation permit granted under Section 60 and Section 140 of the *Heritage Act 1977* will be undertaken. All potential relics within the REF site would be of local significance.

An assessment of the impact of the Activity on heritage and archaeology is included at **Section 6.6** of this REF and in the Heritage Impact Statement prepared by TKD Architects (Refer **Appendix R**) and Historical Archaeological Assessment & Impact Statement prepared by Casey and Lowe and Heritage Now (Refer **Appendix L**).

4.7.2 Contaminated Land Management Act 1997

In May 2009, the Department of Environment, Climate Change and Water (DECCW) (now the NSW EPA) declared land within the Hickson Road reservation and part of the Barangaroo site (part of the adjacent Blocks 4A, 4B and 5) to be a "remediation site" under the *Contaminated Land Management Act, 1997* (Declaration No. 21122) (known as the 'Declaration Area').

In August 2016, approval was received for SSD 6617, which involved the remediation of contaminated land within part of the EPA Declaration Area that related to land within Hickson Road. The remaining parts of the EPA Declaration Area (being Block 5 and parts of Hickson Road) have been the subject of other SSD approvals. Remediation of Block 4 received development consent under SSD 5897 (approved November 2014). Remediation of Block 5 received development consent under SSD 6533 (approved December 2015).

The site of the proposed Activity is covered by a number of Remediation Action Plans (RAPs) approved under the above project approvals/development consents. The approved remediation works and the actions set out in these RAPs have largely been completed on the site, and the EPA has ended the declaration of significantly contaminated land on both Blocks 4 and 5.

A Preliminary Site Investigation confirming the unlikely nature for contamination to be present on the subject site based on the significant amount of previously completed remediation works has been prepared by ERM and is provided at **Appendix Q**.

4.7.3 Roads Act 1993

The *Roads Act 1993* (Roads Act) grants a roads authority the power to undertake a range of works and sets out the obligations for that Authority when undertaking those works. INSW is the landowner of the site of the Activity, however the City of Sydney Council is the primary roads authority once the road upgrades are complete. Therefore, the City of Sydney Council would provide road works approval under Section 138 of the Roads Act. It is noted that this will be subject to further consultation with Council after the final Review of Environmental Factors document is lodged.

4.7.4 Water Management Act 2000

There are no watercourses which traverse the REF site and the Activity is not located within 40 metres of a watercourse, therefore it is not classified 'waterfront land'. As such, a Controlled Activity Approval is not required to be obtained under section 91 of the *Water Management Act 2000*.

Despite the REF Site not being classified as waterfront land, it is additionally noted that INSW is a public authority, by which it receives an exemption. Clause 41 of the Water Management Regulation provides that public authorities are exempt from all requirements under the Water Management Act 2000 for controlled activities that they carry out in, on or under waterfront land. Therefore, the Water Management Act 2000 does not apply to the REF site.

4.7.5 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) is the primary legislation in New South Wales for the protection and management of Aboriginal cultural heritage. Under Part 6 of the Act, all Aboriginal objects and declared Aboriginal places are legally protected. It is an offence to harm, destroy, or remove Aboriginal objects or to damage declared Aboriginal places without appropriate authorisation.

Appropriate due diligence has been undertaken with regard to the potential impact to Aboriginal objects and heritage. This is discussed further at **Section 6.6**.

4.7.6 Biodiversity Conservation Act 2016

The Biodiversity Conservation Act 2016 (BC Act) plays a critical role in the NSW planning system by embedding biodiversity considerations into land-use decisions. It operates alongside the *Environmental Planning and Assessment Act 1979* to ensure developments assess and mitigate ecological impacts.

The proposed Activity's urban location and focus on renewing an existing road means that there is expected to be very little impact on biodiversity values. The proposed Activity will instead improve urban ecologies through the provision of 108 new trees across the road upgrade. This will help to improve the canopy cover and diversity of ecology in this location.

4.8 Strategic Context

Below details the proposed Hickson Road upgrades relevance to strategic documents which influence the subject site's land use.

4.8.1 Greater Sydney Region Plan

The Greater Sydney Region Plan – A Metropolis of Three Cities (Region Plan) prepared by the then Greater Sydney Commission (GSC) is the overarching strategic plan to manage change and growth in the Greater Sydney Region. It sets a

40-year vision where most residents live within 30-minutes of their jobs, education and health facilities, services, and great places. The proposal to upgrade Hickson Road is consistent with the following key objectives of the strategic plan:

- **Objective 4: Infrastructure use is optimised.** The proposed Hickson road upgrade addresses this objective by renewing existing road infrastructure, building on existing connections provided by Hickson Road, including to improve the road and pedestrian infrastructure to reflect the separate renewal process being undertaken at Barangaroo South and Central Barangaroo.
- **Objective 7: Communities that are healthy, resilient, and socially connected.** The proposed Hickson road upgrade encourages active transportation, widening pedestrian walkways and allowing space for bicycles to pass through without disrupting traffic. Therefore, the proposal is promoting a healthy and active lifestyle for future users.
- **Objective 33: A low carbon city contributes to net zero emissions by 2050 and mitigates climate change.** The Hickson road upgrade encourages a target of net zero emissions by 2050 through enabling communities to sustainably travel through walking and cycling, providing a safe space to traverse through the Barangaroo precinct while utilising active transport modes.

4.8.2 Eastern City District Plan

The Eastern City District Plan follows the Greater Sydney Region Plan and sets a 20-year vision for the district. The District Plan comprises 'Planning Priorities' that are linked to the Region Plan. Under this Plan, the site is strategically located in the centre of the Harbour CBD and the Eastern Economic Corridor. Overall, the proposed Hickson Road upgrade will support the following priorities of the Eastern City District plan.

- **Planning Priority E3 – Providing services and social infrastructure to meet people's changing needs:** the Hickson Road South upgrade supports the provision of better transport infrastructure, supporting people's access to this area of Central Sydney.
- **Planning Priority E4 – Fostering healthy, creative, culturally rich, and socially connected communities:** the Hickson Road South upgrade fosters healthy and connected communities, by improving transport access including with active transport modes.
- **Planning Priority E10 – Delivering an integrated land use and transport planning outcome contributing to a 30-minute city.** The Hickson Road South upgrade supports pedestrian connectivity to and from the Barangaroo Metro, as well to other nearby public transport nodes, supporting land use and transport planning integrated outcomes as planned for Barangaroo.

4.8.3 City of Sydney Local Strategic Planning Statement

The City of Sydney Local Strategic Planning Statement (LSPS) reinforces the link between state governments strategic plans (Greater Sydney Region Plan and Eastern City District Plan) and the City's community strategic plan. The LSPS sets out a 20-year vision for land use planning in the city, and the planning priorities and actions needed to achieve this vision. The proposed Hickson Road upgrade is consistent with the following priorities of the City of Sydney LSPS.

- **Planning Priority I1: Movement for walkable neighbourhoods and a connected city:** The Hickson Road South works aim to help better connect commuters of the Barangaroo precinct. The proposal will improve connectivity and accessibility to create a walkable precinct.
- **Planning Priority I3: Supporting community wellbeing with social infrastructure:** The Hickson Road South upgrade is directly delivering local infrastructure. The Upgrade is facilitating the provision of more high-quality, landscaped open space. The design of the road upgrade will foster an attractive, connected and safe space for the local community and public and active transport user.
- **Planning Priority L2: Creating great places:** The Hickson Road South upgrade will create better access to the Barangaroo precinct while protecting and complementing heritage items. The design of the road upgrade will be an improvement of what is currently there for the Stage 3 and Stage 4 areas of Hickson Road.

4.8.4 Sustainable Sydney 2050

The Sustainable Sydney 2030-2050 is a long-term strategic plan prepared by the City of Sydney that seeks to create a city that is green, global, and connected, with integrated transport systems that prioritise walking, cycling, and public transport over private car use. The policy emphasises reducing greenhouse gas emissions, improving air quality, and fostering active transport networks to enhance health and sustainability. Key directions include:

- **Integrated Transport:** Promote cycling and walking as primary modes of transport and reduce car dependency.
- **Environmental Leadership:** Lower emissions and urban footprint through sustainable infrastructure.
- **Vibrant Public Spaces:** Design streets that are safe, attractive, and encourage social interaction.

The proposed upgrade to Hickson Road South directly aligns with this vision, by significantly improving the public domain, increasing canopy cover and creating a more walkable link between Central Sydney, Barangaroo and Walsh Bay.

4.8.5 The Draft Sydney Plan 2025

The Draft *Sydney Plan 2025* (**Draft Sydney Plan**) seeks to drive the sustainable development of the greater Sydney region which addresses growing population density with adequate infrastructure. This is driven by a series of 12 priorities which seek to deliver upon Sydney's projected population growth by prioritizing productivity, resilience, housing diversity and urban greening. The proposed activity will align with the priorities of the Draft Sydney Plan by:

- Improving pedestrian access to existing high-density residential and commercial buildings via footpath widening.
- Providing transport capacity needed to accommodate forecast population and jobs growth.
- Enhancing integration with existing infrastructure (public transport, pedestrian networks, cycle corridors).

It is noted that this strategic document is currently in draft and subject to finalisation.

5.0 Consultation

Section 5.5 of the EP&A Act states that the determining authority is ‘to examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment’ as a result of the Activity. In considering the requirements of this section, consultation has been undertaken by INSW with the community and relevant government agencies and stakeholders.

Early engagement completed prior to the REF

Extensive consultation with community and stakeholders occurred in developing the concept design, which included the alignment already delivery by Sydney Metro (Hickson Road north). The engagement that has been undertaken involved the City of Sydney (Council), the residents of 30 and 38 Hickson Road, Transport for NSW, NSW State Emergency Services. It is noted that ongoing engagement will occur with these parties during exhibition of this REF.

Further consultation has occurred recently ahead of preparing the REF.

Table 6 Consultation summary

Stakeholder	Key Issues Raised	Engagement Period	Next engagement
City of Sydney	<ul style="list-style-type: none"> City of Sydney provided detailed commentary on: <ul style="list-style-type: none"> Road alignment and traffic comments. Trees and public domain comments Flooding comments These elements have been incorporated into the design. 	Q4 2024 to Q4 2025	CoS will be engaged during exhibition of the REF through the T&I SEPP requirements, as well as through any future Section 138 requirements as the future road authority.
30 Hickson Road	<ul style="list-style-type: none"> The residents of 30 Hickson Road requested clarification is made on distance of the road in front of the 30 Hickson Road development. 	May 2025 September 2025	30 and 38 Hickson Road will be engaged ongoing through the exhibition period, and will have an opportunity to provide further comment.
38 Hickson Road	<ul style="list-style-type: none"> The residents of 38 Hickson Road enquired on the following: <ul style="list-style-type: none"> Confirmed that flooding information was understood with no questions on technical information provided. Questions on provision of the bicycle lane, fencing, and dangers due to drivers pulling into driveway and reversing back into the cycle zone. Raised concerns of people parking in driveway in front of the 38 Hickson Road site. Potential for water seepage from the existing exposed sandstone wall across the footpath to the south of the 38 Hickson Road entrance. 	May 2025 September 2025	
Transport for NSW	<ul style="list-style-type: none"> Advised that the bus stop pairs situated between Waterman’s Quay and Barton Street were not required due to this already being provided opposite the Barangaroo metro station. 	May 2024	Transport for NSW are not required to be engaged with any further.
NSW State Emergency Service	<ul style="list-style-type: none"> Provided detailed commentary regarding flooding, which have been incorporated into the design. 	May 2024	SES will be engaged during exhibition of the REF through the T&I SEPP requirements.

REF public display

In accordance with section 171(4) of the EP&A Regulation, the REF is required to be published on the Determining Authority's website or the NSW Planning Portal if the Activity has an estimated development cost of more than \$5 million. INSW will publish this REF on the Barangaroo website prior to the Activity commencing.

This Draft REF will be exhibited with the following objectives:

- a) Informing the local community and other stakeholders by providing clear, factual and timely information about planned construction and operational work and its associated environmental and social impacts
- b) Providing a mechanism for prompt issues resolution
- c) Providing adequate opportunities for community members and other stakeholders to provide feedback
- d) Ensuring coordinated communications with other relevant agencies and stakeholders including TfNSW, City of Sydney and utility services.

Through this process the community and stakeholders will be invited to make submissions, raise issues, seek clarification or ask questions about any aspect of the proposal. The public exhibition will be supported by a range of other consultation activities to ensure stakeholders are informed about the REF.

T&I SEPP Consultation

Under the T&I SEPP, the REF must satisfy certain consultation requirements. This is shown in **Table 7**.

Table 7 T&I SEPP Consultation Summary

Clause	Stakeholder	Consultation trigger
2.10	Council – City of Sydney	As the development involves excavation that is not minor or inconsequential of the surface of, or a footpath adjacent to, a road for which a council is the roads authority under the <i>Roads Act 1993</i> (if the public authority that is carrying out the development, or on whose behalf it is being carried out, is not responsible for the maintenance of the road or footpath).
2.12	Council – City of Sydney	As the Activity will not change flood patterns other than to a minor extent, the following must be undertaken: <ol style="list-style-type: none">a) give written notice of the intention to carry out the development (together with a scope of works) to the council for the area in which the land is located, andb) take into consideration any response to the notice that is received from the council within 21 days after the notice is given.
2.13	NSW SES	As the Activity is on flood liable land, the following must be undertaken: <ol style="list-style-type: none">a) given written notice of the intention to carry out the development (together with a scope of works) to the State Emergency Service, andb) taken into consideration any response to the notice that is received from the State Emergency Service within 21 days after the notice is given.

Source: Infrastructure NSW

INSW will be undertaking these consultation activities with the City of Sydney and NSW State Emergency Services (SES) in the first half of 2026 to satisfy the above consultation requirements outlined in the T&I SEPP.

Ongoing consultation

Community and stakeholder updates will be provided as the project progresses. The Mitigation Measures in this REF will include specific notifications for impactful works. Works notification would be delivered to local residents and provided online via the Barangaroo website.

6.0 Environmental Impact Assessment

The following Section outlines the potential impacts of the Activity on the environment and how these potential impacts will be mitigated.

6.1 Environmental Planning and Assessment Regulation

Table 8 below provides a summary checklist of matters to be considered under Section 171(2) of the EP&A Regulation, required by the Guidelines for Division 5.1 Assessments (December 2025), provided by the Department of Planning, Housing and Infrastructure.

Table 8 Summary checklist of matters to be considered

Factor	Impact
<p>(a) the environmental impact on a community, <i>Construction phase:</i> As demonstrated in the following sections of this REF, it is unlikely that there will be any adverse environmental impacts on the community during the construction phase such as noise, dust or vibration that cannot be addressed as part of the mitigation measures that will be put in place.</p> <p><i>Operational phase:</i> Positive impacts are expected as a result of the works, given they will ensure an improved public domain outcome is delivered, which will ensure the efficient flow of pedestrians, active transport and vehicle traffic in the locality and support both the Barangaroo South and Central Barangaroo precincts. The proposed upgrade largely improves flood outcomes in more common rain events. It is noted that there are some contained negative flooding impacts as a result of the proposed Activity, though these only occur in the rarest rain events. This impact is appropriately mitigated, as discussed in this REF, and the positive outcomes of the final Hickson Road South upgrade outweigh this flood risk.</p>	<p>Short term: Minor (during the Activity construction process)</p> <p>Long term: Positive</p>
<p>(b) the transformation of the locality, <i>Construction phase:</i> The works form part of the infrastructure development of Barangaroo and therefore form part of the positive transformation of the western edge of Central Sydney. The Activity itself is a component of the progressive Hickson Road upgrade over time and will not result in any substantial transformation, rather contributing to its collective revitalisation.</p> <p><i>Operational phase:</i> As per the construction phase.</p>	<p>Nil</p>
<p>(c) the environmental impact on the ecosystems of the locality, <i>Construction phase:</i> No trees are proposed to be removed as part of the proposed Activity, nor are any environmental impacts on the ecosystems of the locality expected as part of the proposed Activity works. Further, it is important to note that Barangaroo has been a construction site for a long time, wherein the proposed Activity will have no environmental impact over and above the previously completed work and the work currently ongoing in Barangaroo.</p> <p><i>Operational phase:</i> There will be no environmental impact on ecosystems during the operational phase of Hickson Road South. Rather, the proposed Activity will involve expanding existing vegetation and planting to support the site's ecological value.</p>	<p>Short term: Nil</p> <p>Long term: Positive</p>
<p>(d) reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality, <i>Construction phase:</i> The REF site operates as a two-lane public road. Adjoining the REF site are some areas of hoarding/fencing, including the Central Barangaroo site, and also the One Sydney Harbour development. The refurbishment of the road to cater for improve public domain elements,</p>	<p>Short term: Nil</p>

Factor	Impact
<p>such as associated pedestrian zones responsive to level changes, separated cycle lanes and more formalised pedestrian crossing elements, will not result in a reduction to the aesthetic, recreational, scientific or other environmental quality or value of the locality.</p> <p><i>Operational phase:</i> Upon the completion of works, the Hickson Road South area will present a significantly improved public domain outcome, catering for greater pedestrian and active transport outcomes along Hickson Road. The provision of a continuous tree canopy and landscaping elements will further improve the environmental quality of the Hickson Road streetscape, contributing to a higher quality aesthetic.</p>	<p>Long term: Positive</p>
<p>(e) the effects on any locality, place or building that has aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance, or other special value for present or future generations,</p> <p><i>Construction phase:</i> It is not anticipated that the proposed Activity works will have any impact on the factors identified above. There is the potential for archaeological finds to be identified during excavation works, but the protection of these items or artefacts will be mitigated effectively. This is discussed further in Section 6.6.</p> <p><i>Operational phase:</i> The operation of the Hickson Road South will not have any negative effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations. The proposed Activity will not impact on:</p> <ul style="list-style-type: none"> - the broader setting and not impact on the visual curtilage of the former MSB Stores Complex and Grafton Bond Store items, both of which are in close proximity to the REF site - any other heritage items, and - the Millers Point/Dawes Point Village Conservation Area which is adjacent to the REF site. 	<p>Short term: Minor</p> <p>Long term: Nil</p>
<p>(f) the impact on the habitat of protected animals, within the meaning of the Biodiversity Conservation Act 2016,</p> <p><i>Construction phase:</i> The REF site is not located in a habitat area of protected animals and will therefore not impact on the habitat of any protected animals.</p> <p><i>Operational phase:</i> As per construction phase.</p>	<p>Nil</p>
<p>(g) the endangering of a species of animal, plant or other form of life, whether living on land, in water or in the air,</p> <p><i>Construction phase:</i> The Activity is not likely to endanger any species of animal, plant or other living thing.</p> <p><i>Operational phase:</i> As per construction phase.</p>	<p>Nil</p>
<p>(h) long-term effects on the environment,</p> <p><i>Construction phase:</i> The Activity includes mitigation measures that will ensure temporary construction impacts are minimised and managed so there are no long-term effects on the environment.</p> <p><i>Operational phase:</i> Over the long term there are no expected long-term effects on the environment.</p>	<p>Nil</p>
<p>(i) degradation of the quality of the environment,</p> <p><i>Construction phase:</i> Any minor and temporary impacts on the environment will be managed with mitigation measures to reduce impacts on noise, air and water quality. This is discussed in greater detail in the following sections of this REF.</p>	<p>Short term: Minor</p>

Factor	Impact
<p><i>Operational phase:</i> There is no degradation of the quality of the environment directly expected from the operation of Hickson Road South. Rather, the proposed upgrade activities will improve the quality of the environment, particularly providing for additional landscaping elements that will contribute to a continuous tree canopy along Hickson Road.</p>	Long term: Positive
<p>(j) risk to the safety of the environment, <i>Construction phase:</i> The Activity is not likely to result in a risk to the safety of the environment.</p> <p><i>Operational phase:</i> The Activity will support pedestrian and active transport movements with the introduction of established pedestrian footpaths, zebra crossing and separated bike lane. This will ensure a safe environment is maintained following the introduction of the upgraded Hickson Road South.</p>	Short term: Nil Long term: Positive
<p>(k) reduction in the range of beneficial uses of the environment, <i>Construction phase:</i> The Activity may limit the usage of areas of Hickson Road South for a temporary period during its construction.</p> <p><i>Operational phase:</i> The Activity will not impact pedestrian and active transport movements given the introduction of pedestrian footpaths, zebra crossing and a separated bike lane, in turn permitting improved pedestrian circulation across the precinct.</p>	Short term: Minor Long term: Positive
<p>(l) pollution of the environment, <i>Construction phase:</i> Minor air, noise and water quality impacts from construction works may be generated. Mitigation and management measures are proposed to minimise pollution to the environment.</p> <p><i>Operational phase:</i> There will be no direct environmental impacts in terms of air quality, noise and water quality.</p>	Short term: Minimal Long term: Nil
<p>(m) environmental problems associated with the disposal of waste, <i>Construction phase:</i> The CTEMP (refer to Appendix H) estimates that the Activity would generate approximately 2,000m³ of spoil from bulk excavation and 3,000m³ from detailed excavation. It is intended that any waste generated during construction would be re-used onsite or recycled or disposed at a suitably licenced facility. Furthermore, waste collection would be appropriately managed through staged construction and the use of known quantities and materials. No hazardous or dangerous goods would be stored on site.</p> <p><i>Operational phase:</i> N/A</p>	Short term: Minimal Long term: Nil
<p>(n) increased demands on natural or other resources that are, or are likely to become, in short supply, <i>Construction phase:</i> No significant or substantial increased demands will be made on resources which are or likely to become in short supply.</p> <p><i>Operational phase:</i> N/A</p>	Nil
<p>(o) the cumulative environmental effect with other existing or likely future activities, <i>Construction phase:</i> The environmental impacts during construction have been assessed in the context of the Barangaroo precinct and the Activity includes mitigation measures to reduce the temporary impacts on air, water and noise so that those impacts will not be significant.</p>	Short term: Minimal

Factor	Impact
<p><i>Operational phase:</i> 'The development of Hickson Road will result in a net positive impact from a flooding perspective across the site and surrounds, given the improvements being made to flood activity in this area. It is noted that the cumulative impacts from development across Central Barangaroo will need to be appropriately considered as part of future approvals.</p>	Long term: Nil
<p>(p) the impact on coastal processes and coastal hazards, including those under projected climate change conditions, The Activity will not impact on any coastal process or hazards.</p>	Nil
<p>(q) applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1, The proposed Activity is generally consistent with the strategic planning framework as detailed within Section 4.8 of this report. Namely, the proposed Activity will provide improved traffic and pedestrian flow to better accommodate the increasing needs of the local community.</p>	Positive
<p>(r) other relevant environmental factors. N/A</p>	Nil

6.2 Flooding

A Flood Impact Assessment prepared by Rhelm (**Appendix J**) has been prepared to assist with the detailed design of the proposed Hickson Road South Activity. The purpose of the assessment is to define flood behaviour and risk in the vicinity of the Activity, and to quantify any changes to flood characteristics associated with the proposed road upgrades. The assessment utilised a TUFLOW hydraulic model, adapted from the 2022 Preliminary Reference Design flood modelling by GRC Hydro, to evaluate existing flood behaviour and the impact of proposed road and drainage upgrades. The 2022 Preliminary Reference Design flood modelling undertaken by GRC Hydro was originally prepared to support early upgrades and design done for the Hickson Road South upgrade and remains relevant.

It is noted that the flood modelling provided within the Flood Impact Assessment prepared by Rhelm (**Appendix J**) accounts for future development works at Central Barangaroo, which will incorporate stormwater infrastructure that will connect into the existing infrastructure in Barangaroo, as well as the infrastructure proposed as part of this REF. It is expected that future development works at Central Barangaroo will continue to contribute to the stormwater infrastructure available in this location, meaning the flooding outcomes of this area will continue to evolve.

Existing Flood Behaviour

Rhelm reviewed the flood behaviour in the 20% (one in five year event), 5% (one in 20 year event), 1% (one in 100 year event), 0.5% (one in 200 year event) and 0.2% (one in 500 year event) annual exceedance probability event (AEP), as well as the probable maximum flood (PMF) event for the existing arrangement of the site. The findings identified that the most affected areas are the road reserve itself, as well as commercial/residential buildings at 30 and 38 Hickson Road. Therefore, this flood assessment largely focuses on the flood impacts to the road reserve, as well as these adjoining buildings at 30 and 38 Hickson Road.

The existing flood results show that flooding is largely contained within the existing road reserve for more frequent events such as the 20% AEP, however in the 5% AEP event, flows exceed the capacity of existing drainage infrastructure and inundate the ground floor of 30 Hickson Road.

In the 1% AEP event, results of the existing scenario model show flood waters ponding up to a depth of 0.4m along the kerb and gutter fronting 30 Hickson Road. This corresponds with a flood level of 2.67m AHD, which exceeds the building ground floor level of 2.53m AHD for 30 Hickson Road, resulting in overfloor flooding. Similarly, overfloor flooding also occurs at 38 Hickson Road during the 1% AEP.

In the PMF event, inundation across the study area is widespread, with floodwaters exceeding the ground floor levels of 30 and 38 Hickson Road by 0.38m and 0.46m respectively. This would also result in inundation to the basement carparking within both of these buildings, posing a risk to life for building occupants within the basement.

The flood levels for the existing scenario of the site, in comparison to the floor levels of 30 and 38 Hickson Road is summarised by Rhelm, shown at **Figure 19**. Therefore, the current site arrangement is considered to be highly flood affected, with 30 and 38 Hickson Road impacted during the 5% AEP events onwards. In general, this flood affectation is due to the location of the site and 30 and 38 Hickson Road, being low lying and very close to Sydney Harbour.

Location	Event	Existing Scenario Flood Level (m AHD)
30 Hickson Rd (FFL=2.53m AHD)	20% AEP	2.35
	5% AEP	2.59
	1% AEP	2.67
	0.5% AEP	2.69
	0.2% AEP	2.71
	PMF	2.91
	20% AEP	.*
38 Hickson Rd (FFL=2.57m AHD)	5% AEP	2.50
	1% AEP	2.58
	0.5% AEP	2.60
	0.2% AEP	2.65
	PMF	3.03

Figure 19 Current flooding scenarios for 30 and 38 Hickson Road

Source: Rhelm

Proposed Flooding Impacts

As part of the proposed activities considered in this REF, the design of the road has considered the implications of flooding and the incorporation of new stormwater infrastructure to alleviate some of the current flooding implications on the site.

As a result of the works proposed, the flooding impacts to 30 and 38 Hickson Road are significantly improved, with these buildings no longer flooded at all during the 20%, 5% and 1% AEP event, and with flooding levels reduced during the 0.5% and 0.2% AEP events. This is a significant improvement on the current scenario, particularly during more regular flooding events, in which these buildings are regularly inundated.

However, during the extreme and infrequent PMF event, there are flood level increases at 30 and 38 Hickson Road. Under both the present day and future sea level rise scenarios, impacts at these locations are in the order of 0.5 – 0.6m due to the landform raising within the Hickson Road South corridor. The summary of the proposed flooding impacts as a result of the Activity is provided in **Figure 20**, including both a future scenario under both a non-sea level rise scenario, as well as a sea level rise scenario. Despite this increase in flooding in the rarer events, GRC Hydro estimate that the reduction in flooding overall represents a 95% reduction in the estimated cost of damages from \$140,000 to \$7,000 per annum, mainly related to the significant reduction in inundation from more common rain events.

In addition to the resultant impacts to 30 and 38 Hickson Road, there are some other minor impacts to the carparking entrances/exits along Watermans Quay for Barangaroo South, however Rhelm conclude that the increases to flooding would only occur during the PMF, and was very minor in nature that it would not cause any risk to life. If necessary, speed bumps could be placed in areas as low height levees to mitigate the impact.

Location	Event	Existing Scenario Flood Level (m AHD)	Post-Development Scenario Flood Level (m AHD)	Difference (m)	Location	Event	Existing Scenario Flood Level (m AHD)	Post-Development Scenario Flood Level (m AHD)	Difference (m)
30 Hickson Rd (FFL=2.53m AHD)	20% AEP	2.35	-*	No longer flooded	30 Hickson Rd (FFL=2.53m AHD)	20% AEP	2.54	-*	No longer flooded
	5% AEP	2.59	-*	No longer flooded		5% AEP	2.63	-*	No longer flooded
	1% AEP	2.67	-*	No longer flooded		1% AEP	2.69	2.68	-0.01
	0.5% AEP	2.69	2.58	-0.11		0.5% AEP	2.72	2.76	+0.04
	0.2% AEP	2.71	2.67	-0.04		0.2% AEP	2.75	2.85	+0.10
	PMF	2.91	3.50	+0.59		PMF	3.02	3.53	+0.51
38 Hickson Rd (FFL=2.57m AHD)	20% AEP	-*	-*	No longer flooded	38 Hickson Rd (FFL=2.57m AHD)	20% AEP	2.54	-*	No longer flooded
	5% AEP	2.50	-*	No longer flooded		5% AEP	2.58	-*	No longer flooded
	1% AEP	2.58	-*	No longer flooded		1% AEP	2.67	2.63	-0.05
	0.5% AEP	2.60	-*	No longer flooded		0.5% AEP	2.73	2.74	+0.01
	0.2% AEP	2.65	2.56	-0.09		0.2% AEP	2.76	2.84	+0.08
	PMF	3.03	3.50	+0.47		PMF	3.08	3.54	+0.46

No Sea Level Rise

0.9m Sea Level Rise

Figure 20 Post Development Flood Level Impacts, including sea level rise considerations

Source: Rhelm

Discussion

As outlined above, the proposed design of the refurbished Hickson Road will result in vastly improved flooding outcomes in more regularly occurring flood events for much of the surrounding site. However, the key flooding risk resulting from the proposed Activity relate to the increase in flood depths at 30 and 38 Hickson Road in the PMF scenario. This risk, if left unmitigated, does increase the hazard category under the current condition from flood hazard category H2 (unsafe for small vehicles) to hazard category H3 (unsafe for vehicles, children and the elderly). It is again reiterated that this risk only exists in the very rare event of the PMF.

A maximum flood hazard classification of H3 during the PMF is expected due to slow moving flows with depths of up to 1.2m, but more typically less than 1m. This results in an increase in risk during very low probability events for:

- The Hickson Road public domain, noting that there is good egress to low hazard and flood free areas in the surrounding properties and Barangaroo precinct;
- The ground floor levels at 30 and 38 Hickson Road, noting that both buildings have internal egress to higher levels which are flood free, as well alternative access to Jenkins Street;
- The basements of 30 and 38 Hickson Road, which results in hazardous conditions with risk to life potential during extreme flood events.

The PMF inundation is expected not be prolonged, around 2-3 hours, which is consistent with the current and within the Shelter in Place 12 hour isolation threshold.

In order to mitigate the risk of these rare and extreme events, Rhelm and GRC Hydro propose the following mitigation measures:

- Improvement of existing flood emergency response and evacuation plans where they exist, or development of new ones where they do not exist. These evacuation plans should be prepared for 30 and 38 Hickson Road in accordance with the recommendations provided by GRC Hydro at **Appendix J**. It is expected that the development of flood emergency response and evacuation plans would adequately manage flood risk for events up to the PMF for all people at 30 Hickson Road, and for vulnerable populations at 38 Hickson Road. With implementation of these plans, the consequence level for flooding of existing buildings is expected to be reduced for these demographics.
- Introduce flood barriers for the basement entrances of 30 and 38 Hickson Road, where the owners of 30 and 38 Hickson Road consent to their installation. The installation of the flood barriers would reduce the risk of flooding in these basements.

If the above mitigation measures are incorporated, GRC Hydro conclude that the risk rating of the proposed Activity from a flooding perspective is reduced from a risk score of 36, back to 27.5. This final risk rating score of the mitigated scenario also represents a reduction in the risk rating when compared to the existing scenario (which has a risk rating of 30). A comparison of the flood risks associated with the Activity, following mitigation is shown in **Figure 21**.

RISK	PRE-DEVELOPMENT	PRD Scenario	Managed PRD	
30 & 38 Hickson Road				
Property damages	Extreme Risk	Medium Risk	Medium Risk	
30 Hickson Road – ground floor				
Risk for adults	Low Risk	Very Low Risk	Very Low Risk	
Risk for vulnerable communities	Low Risk	Medium Risk [#]	Low Risk	
38 Hickson Road – ground floor				
Risk for adults	Low Risk	Very Low Risk	Very Low Risk	
Risk for children and the elderly	Low Risk	Medium Risk [#]	Low Risk	
Risk for people with limited mobility	Low Risk	High Risk [#]	High Risk ^{**}	
30 Hickson Road – basement flood risk				
Risk for adults	Low Risk	Medium Risk [#]	Very * Low Risk	Low Risk ^{**}
Risk for vulnerable communities	Low Risk	Medium Risk [#]	Very * Low Risk	Low Risk ^{**}
38 Hickson Road – basement flood risk				
Risk for adults	Low Risk	Very Low Risk	Very * Low Risk	Very ** Low Risk
Risk for children and the elderly	Low Risk	Medium Risk [#]	Very * Low Risk	Low Risk ^{**}
Risk for people with limited mobility	Low Risk	High Risk [#]	Very * Low Risk	Medium Risk ^{**#}
Public domain risk				
Risk for adults	Very Low Risk	Very Low Risk	Very Low Risk	
Risk for vulnerable communities	Very Low Risk	Medium Risk [#]	Medium Risk [#]	
Risk to vehicles	Medium Risk	Medium Risk [#]	Medium Risk [#]	
Risk Rating Score	30	36	27.5	

Note: Where two possible outcomes are noted for the same risk, the average of the two outcomes was used to define the 'Risk Rating Score'. This places a 50/50 weighting on barrier failure which is a highly conservative assumption as the likelihood of a flood barrier failing is very low.

* Risk assuming flood barriers for the basement do not fail during an event.

** Risk assuming flood barriers fail during an event.

[#]This risk classification is associated with extreme flood events which have a very low probability of occurrence of rarer than 1 in 2,000 AEP. Flood risk during more frequent flows is very low. See Section 1.1 for probability terminology used in this report.

Figure 21 Comparison of flood risks, including with the incorporation of mitigation measures

Source: GRC Hydro

Conclusion on flooding

Based on the above discussion, it is concluded that the risk associated with the flooding as a result of the proposed Activity is reduced or removed entirely in more common rain events, however in more extreme, rare events such as the PMF, the flood risk increases, particularly for 30 and 38 Hickson Road. Despite this, the incorporation of mitigation measures will address many of the risks associated with the proposed Activity, and reduce the risk to an acceptable level. In addition to the mitigation measures, these rain events are very rare and have a low probability of occurring.

It is noted that the installation of flood barriers is reliant on consent from the owners of 30 and 38 Hickson Road, as they will be managing and maintaining these flood barriers in the future. The owners of these properties are aware of the risk in the instance that they choose not to have these flood barriers installed. Other measures, such as emergency evacuation management plans, remain relevant and will contribute to reducing the risk in these circumstances.

Despite this, the incorporation of mitigation measures will address the majority of the risks to an acceptable level associated with the proposed Activity. In addition to the mitigation measures, these rain events are very rare and have a low probability of occurring. Ongoing engagement with 30 and 38 Hickson Road will continue throughout the development of Barangaroo, including on the Hickson Road South work.

6.3 Landscape Character and Visual Impact

A Landscape Design Report prepared by Hassell Architects (**Appendix O**) informs the intended character and provides justification for the design choices made as part of the proposed Activity.

The intended character for Hickson Road South is derived from previous masterplan studies and reference design prepared by Hassell Architects for the full length of Hickson Road and connections to the broader Barangaroo precinct. The intended character is informed by three key design principles:

- **Free movement of people:** The character of the roadway will be influenced by the prioritisation of pedestrian movement and the slowing of traffic. The design of the space will focus on the free movement of people along building frontages, with a cycleway serving as an alternate port of movement.
- **Active and energetic life:** The roadway will prioritise comfort and amenity, including shade and places to sit. The intention of the design choice is to encourage the street as a place for people to stop, not just pass through.
- **A cohesive suite of elements connected by a continuous canopy of green:** This character choice will be achieved through the provision of high-quality surfaces, plantings, lighting for people, active and open frontages, street furniture, artworks and cultural markers, integrated kerbs, and pedestrian crossings.

The proposed landscape design for Hickson Road South would seamlessly integrate with the full extent of the Hickson Road, and Barangaroo more broadly. With this seamless integration, there will be no adverse visual impact from the proposed Activity. Furthermore, given the current state of relative disrepair due to long term construction works, the proposed Activity will substantially improve the visual impact of Hickson Road by repairing the existing road and providing new tree planting.

6.4 Contamination

The Preliminary Site Investigation (PSI) prepared by ERM (**Appendix Q**) reviews and assesses information regarding potential contamination which may be encountered during the delivery of the Hickson Road South upgrade. The report provides guidance as to whether the site area has been sufficiently remediated to enable the consent authority to comply with the requirements of Section 4.6 of *State Environmental Planning Policy (Resilience and Hazards) 2021*. The documentation reviewed by ERM is as follows:

- Hickson Road Remediation – Additional Investigation, Environmental Site Assessment Report - ERM
- Barangaroo Hickson Road Declaration Area Remediation Summary Report – EPA Remediation Site 21122 – ERM
- Site Audit Report, Hickson Road VEMP Remediation, Barangaroo – Ramboll
- Hickson Road Upgrade Works Stage 3 – Barangaroo, Geotechnical Desk Study- Tetra Tech Coffey

Through review of both previous ERM studies, as well as the Site Audit Report prepared by Ramboll, the PSI found that it is possible that residual contamination may be encountered during construction due to the site area previously being remediated. The residual contamination that may be encountered comprises impacted fall material placed within the site, and buried west material derived from inappropriate handling and demolition of the former Millers Point Gasworks structures.

The PSI details that it is unlikely that contamination would be encountered during the Hickson Road South upgrade works program that could preclude the ongoing use of the area as an active public road at the completion of upgrade works.

The PSI concludes that the extent and nature of potential contamination impacts are low to moderate, and will not have significant adverse effects on the locality, community and the environment. The PSI outlines that impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the locality, community and the environment. These mitigation measures are detailed at **Section 7.0**.

Contamination and Environmental Management Plan

In connection with the PSI, ERM have prepared a Contamination and Environmental Management Plan (CEMP) which outlines proposed mitigation and management measures to manage potential risks associated with residual contaminated land which may be encountered during intrusive works proposed as part of the Activity. This has been provided at **Appendix W**. The CEMP is prepared independently of the CTEMP, yet functions as a sub-plan for mitigation measures applicable to the CTEMP

Furthermore, the key mitigation measures associated with the PSI and the subsequent CEMP have been incorporated at **Section 7.0**.

6.5 Air Quality

Enspire Solutions have prepared an Air Quality Letter of Opinion, provided at **Appendix E**. Enspire have identified that the key air emission risks associated with the proposed Hickson Road works relate to:

- Odour generation associated with exposure and handling of residual soil and any groundwater contamination.
- Dust generation associated with the construction process, including pavement removal and construction, earthworks and associated material handling processes.

With regard to odour emissions, excavation works are proposed in areas that have either been remediated or were identified as not requiring remediation. Therefore, contamination is highly unlikely to occur, and as a result, odour emissions are considered unlikely. However, should odour result from any unexpected finds, it is considered that it would be short-lived and manageable through routine odour control measures such as odour suppressants, minimisation of stockpiling of materials and backfilling where needed.

Regarding dust resulting from construction works, the proposed road construction works are consistent with those routinely undertaken as part of urban road and pavement construction. Therefore, potential air quality impacts from these operations are well understood and can be managed through conventional practices.

Therefore, Enspire conclude that there is a low risk of any air quality impacts resulting from the works. Any potential impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the locality, community and the environment. These mitigation measures have been included at **Section 7.0**.

6.6 Heritage and Archaeology

6.6.1 Heritage

A Heritage Impact Statement (HIS) prepared by TKD Architects (**Appendix R**) details and assesses the proposed Activity and its potential impact on surrounding heritage items. The report lists the following items as of heritage significance in relation to Hickson Road:

- **Grafton Bond Store and Sandstone Wall (I1813)**: Grafton Bond has historic significance as a remnant of what was claimed to have been the largest bond store complex in Australia. The sandstone wall is significant for its association with the growth of wharf facilities and expansion of the western side of the city, and for its contribution to Hickson Road and vicinity.
- **Lane off Gas Lane including sandstone walls and wrought iron streetlight (I890)**: The Lane is of historic significance as it contains remnants of a past streetscape.
- **Trees and Sandstone Retaining Walls (Adjacent Napoleon Street) (I1952)**: The trees have aesthetic and cultural significant as they enhance the streetscape quality of Sussex Street.
- **MSB Stores Complex (I880)**: The site is of historical significance as it was Sydney's first gas manufacturing plant, standing as a testament for early development and subsequent growth of the organisation. The building has strong associations with the Australian Gas Light Company AGL, Sydney Harbour Trust and Maritime Services Board.
- **Palisade fence and High Steps High Street, Millers Point (I882)**: The High Street sandstone wall and palisade fence are of historical significance for their association with the Sydney Harbour Trust's redevelopment early in the 20th century.
- **Millers Point/Dawes Point Village Conservation Area (O1682)**: The Millers Point & Dawes Point Village Precinct is of State significance for its ability to demonstrate, in its physical forms, historical layering, documentary and archaeological records and social composition, the development of colonial and post-colonial settlement in Sydney and New South Wales.

These heritage items are shown in **Figure 22**.

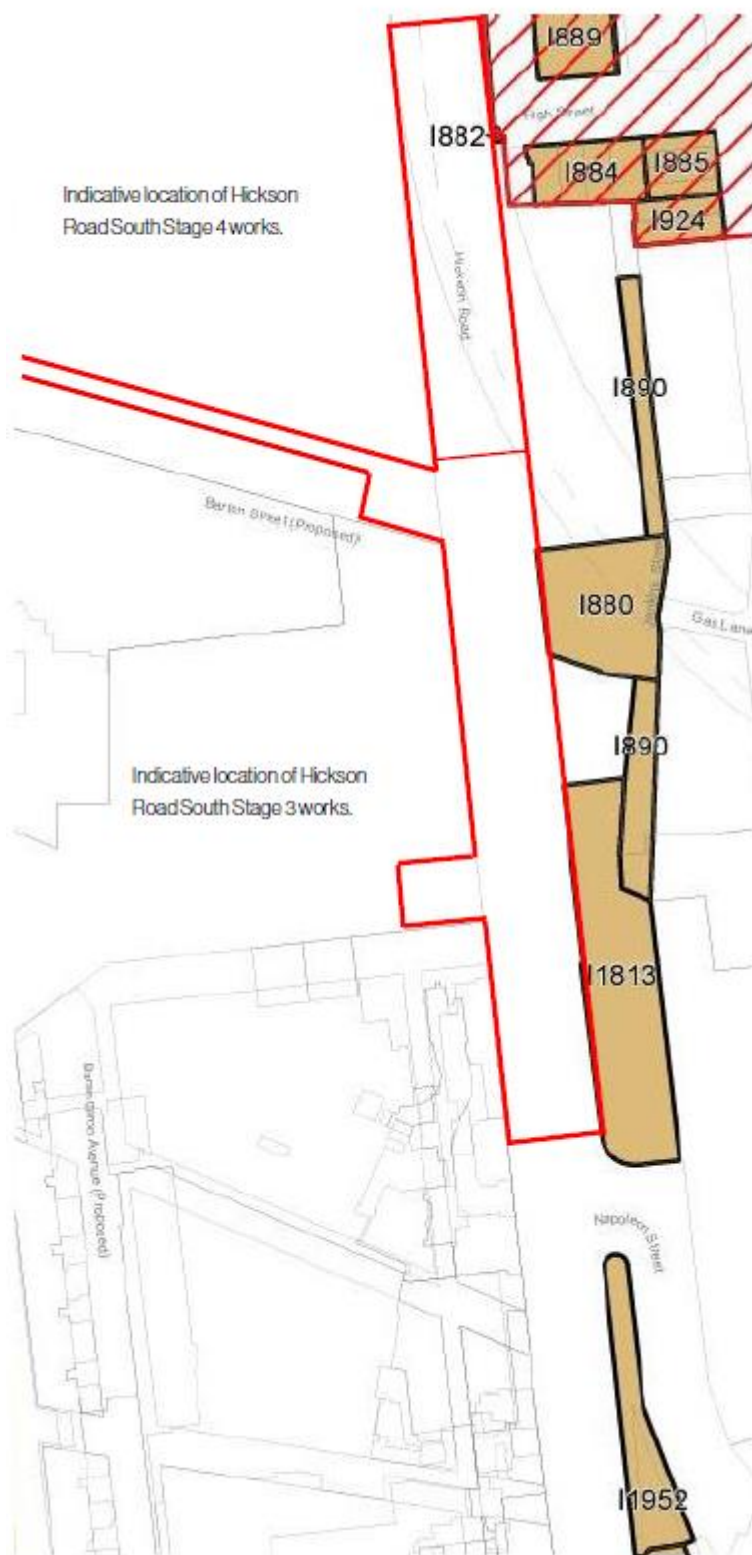


Figure 22 Heritage items in proximity to the Hickson Road South site

Source: TKD Architects

The HIS outlines that there are no physical impacts on identified heritage items and conservation areas in the vicinity of the proposed development. Moreover, the existing curtilage around heritage items and conservation areas is unaffected, allowing ongoing appreciation of heritage significance and interpretations of the places and individual items.

The proposed development will have a minor visual impact to and from the majority of heritage items in the vicinity of the site because of the location and plantings of the REF site relative to the heritage items. It is expected that the setting of the items will be enhanced by the Activity, given the overall improvement proposed, including the associated landscaping. The proposed upgrade to Hickson Road South will not affect their visual integrity and heritage significance.

Therefore, it is concluded that the impact of the proposed Hickson Road South will be minimal, and no further mitigation measures are required with regard to heritage in response to the Activity.

6.6.2 Archaeology

A Historical Archaeological Assessment and Impact Statement has been prepared by Casey & Lowe (2024), with updates made by Heritage Now (2025) and is available in **Appendix L**. This report has been prepared to provide an analysis of historical archaeological issues relating to the proposed Activity.

The assessed archaeological potential of the REF is as follows (shown in **Figure 23**):

- **High potential** for substantial footings and isolated artefact deposits associated with the demolished Grafton Bond Stores in the southern part of the site (southern portion of Hickson Road South).
- **Moderate potential** for remains within the southeast corner of the former Gasworks site. Although remediation of this area was deemed unnecessary, 20th and 21st-century impacts related to the establishment of the current Hickson Road and the installation of modern services have considerably reduced the potential for structural remains and occupation deposits to survive within this area.
- **Low-Moderate potential** for remains associated with 19th-century occupation to survive in the northern part of the REF site (northern portion of Hickson Road South). Any archaeology in this area would likely be limited to reclamation fills and associated structural features.

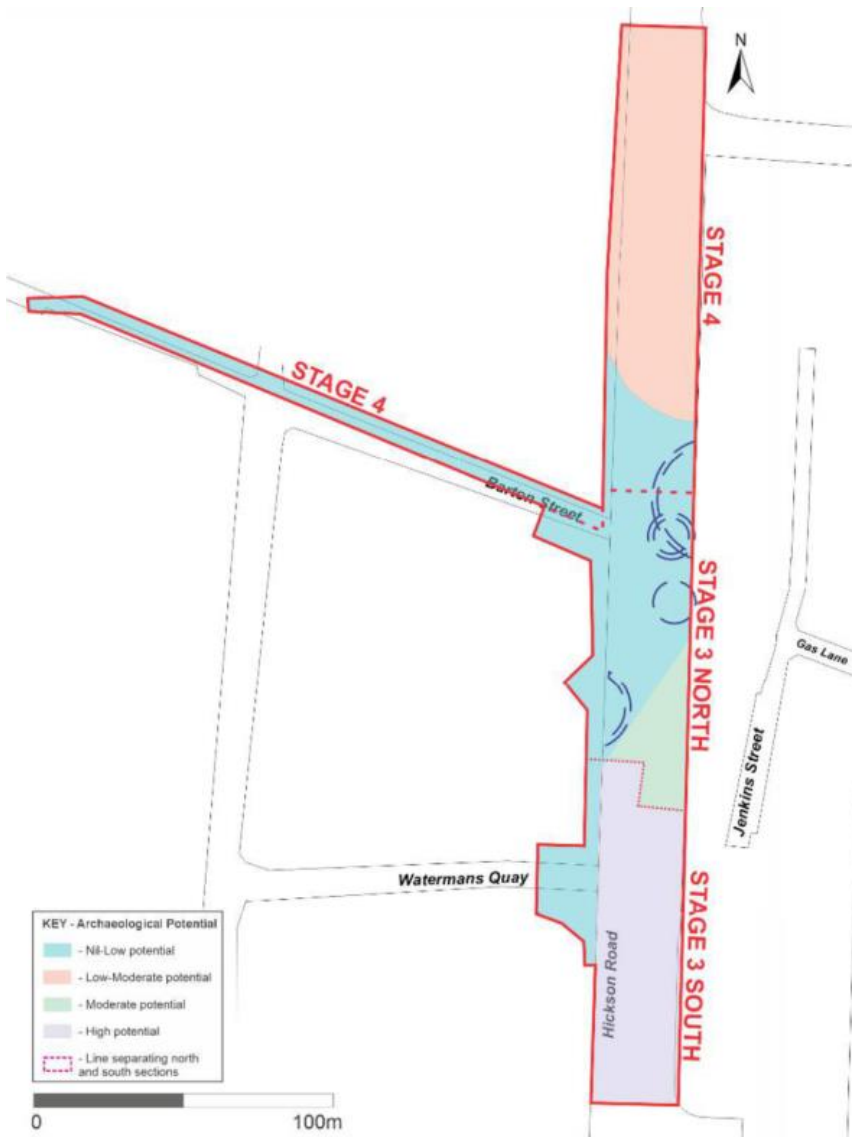


Figure 23 Potential for archaeological heritage deposits

Source: Casey and Lowe, Heritage Now

Whilst there are some areas of high archaeological potential, Heritage Now note that most of the proposed road works, including regrading and resurfacing, landscaping, and the installation of new services are expected to be relatively shallow, except for proposed tree pits, as well as new stormwater and potable water services. These two proposed elements are present throughout various portions of the REF site and the depth of impacts are generally anticipated to be between 1.2m and 3.5m. It is also noted that any Aboriginal archaeology or evidence of Aboriginal occupation is considered unlikely to have survived within the REF site due to extensive modifications and quarrying of the natural landscape throughout the 19th and early 20th century.

Based on the potential issues outlined above, and an assessment of the nature and extent of the impacts of the proposed Activity, the report determines that the extent and nature of potential impacts to the historical archaeological resource within the REF site are low-moderate, with appropriate mitigation measures able to be incorporated to reduce the risk of the proposed Activity on archaeological resource.

The report outlines that potential impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the locality, community and environment. The recommendations from the report are detailed as mitigation measures in **Section 7.0**.

6.7 Access

An Access Report has been prepared by Group DLA (**Appendix D**) to document the accessibility provisions and requirements of the proposed Activity and the compliance strategy to ensure that the design is capable of meeting relevant standards with respect to access for people with a disability to the public domain. Group DLA have undertaken a review of the documentation accompanying this application.

The Access Report has reviewed the following items of the design:

- Entrances to adjoining buildings.
- Paths of travel and circulation requirements.
- Kerb ramps and pedestrian crossings.
- Accessible car parking and drop-off.
- Tactile indicators and accessible floor surface requirements.
- Furniture and signage.

Following this review, Group DLA has concluded that Hickson Road South is capable of compliance with the relevant accessibility requirements. Further development and refinement of detailed design requirements will be included within future construction documentation and assessed prior to the Design Approval/ Certification stage.

The report concludes that based on the identification of potential issues, and an assessment of the nature and extent of the impacts of the proposed development, the extent and nature of potential impacts are low, and will not have significant adverse effects on the locality, community and the environment. Therefore, potential impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the locality, community and environment.

6.8 Noise and Vibration

A Construction Noise and Vibration Assessment prepared by RWDI (**Appendix G**) details the proposed Activity's acoustic impact on the site surrounds. The report summarises the assessment findings, including the potential for construction noise impacts from the proposal, and makes the below recommendations.

Construction Noise

The assessment identifies sensitive receivers that could be impacted by the noise generated by the Activity. These receivers included a mix of nearby commercial, residential and mixed-use buildings, along with hotels and active receivers located further afield. Receivers at a greater setback from the works are likely to be less affected and have not been included in the assessment. An aerial view of the site and receiver groups considered by the acoustic assessment is shown in **Figure 24** below.

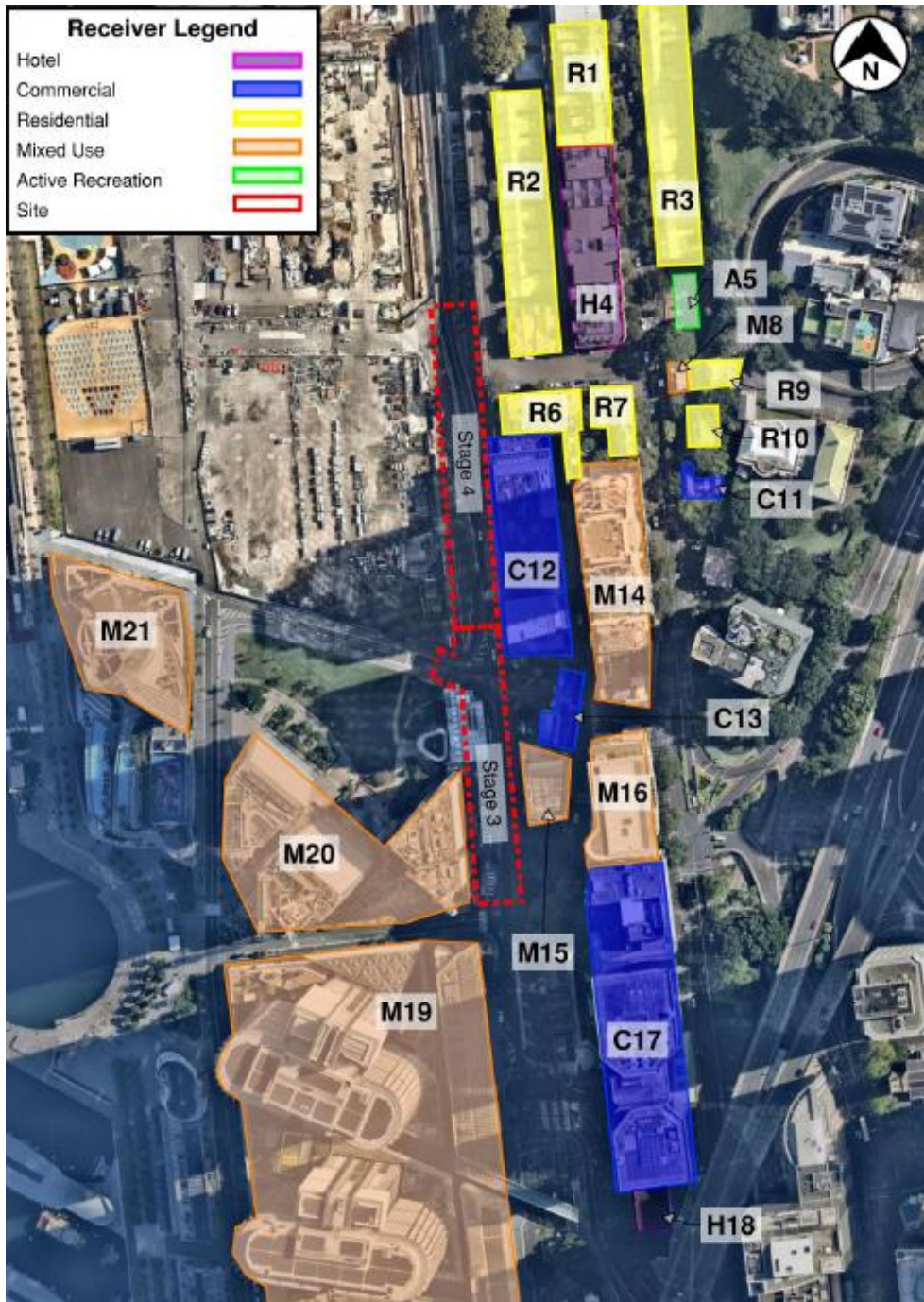


Figure 24 Sensitive Receivers Aerial Map

Source: RWDI

The assessment of construction noise impacts indicates that noise levels from worst case construction activities are predicted to exceed noise management levels at the nearest sensitive receivers to the works areas. However, the noise levels predicted in the report are conservative, with noise sources modelled to operate simultaneously and constantly over any construction period. Indeed, noise impacts are expected to be lower than predicted, as levels fluctuate in intensity and proximity to sensitive receivers. Works would be progressive and expected to occur intermittently, so the indicated noise levels and associated exceedances would not occur continuously over the duration of the proposal.

As a result of the predicted exceedance of construction noise levels, noise management and mitigation measures shall be applied, as discussed in **Section 7.0**.

During construction, heavy vehicles may impact receivers along the proposed transport routes, being Barton Street, Hickson Road and Watermans Quay. Given existing traffic volumes on roads in the precinct, any increase in levels due to construction is expected to be marginal. Any impacts, subject to the implementation of the CTEMP, will be minimal.

Construction Vibration

Assessment against the standards show an exceedance in what would be considered tolerable in the human comfort criteria with regard to vibration, however, this discomfort would mostly be experienced from close by receivers less than 5 metres from the REF site. Therefore, in order to mitigate this risk, pre-construction vibration trials are to be undertaken on the site to confirm that the use of vibratory rollers and hydraulic hammers can comply with the maximum vibration levels at the closest structures. The trial monitor will likely confirm that compliance can be achieved by limiting either:

- The size of the roller/hydraulic hammer;
- The rollers vibratory settings;
- Periods of continuous operation; or
- Any combination of the above

Where less vibration intensive equipment cannot be used, construction works should not proceed unless attenuated vibration measurements are undertaken at commencement, to ensure vibration levels comply with the maximum vibration levels set out in this report.

Where a risk cosmetic damage is identified, property inspections must be undertaken and vibration monitoring should be conducted, to warn plant operators when vibration levels are approaching the cosmetic damage objective. As such, this may be required at the following properties:

- R2 - 2-80 High Street, Millers Point;
- R6 - 3-9 High Street, Millers Point;
- C12 - 30 Hickson Road;
- M15 - 38 Hickson Road, Millers Point;
- M20 - One Sydney Harbour Towers; and
- M19 - International Towers, 100-300 Barangaroo Avenue, Barangaroo.

Smaller hydraulic hammers and vibratory rollers should be used for works in region of 2 Jenkins Street and 8 Jenkins Street along Hickson Road.

In practice, it is usually found that vibration impacts can be largely controlled by virtue of the progressing works, that is, the vibratory rollers and hammers would not remain in static locations for prolonged periods of time and would typically move around the works areas. This limits the vibration dose received by individual receivers

Conclusion

RWDI conclude that the extent and nature of potential impacts are considered to be moderate to sensitive receivers in the vicinity of the construction footprint, and will have short term impacts on the locality, community and the environment. However, the potential impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the surrounding community. These recommendations are outlined in **Section 7.0** of the report and is to be incorporated into the Noise and Vibration Sub-Plan for the Activity as part of the final Construction Traffic Environmental Management Plan. With the implementation of these mitigation measures, the noise and vibration impacts resulting from the proposed Activity will be appropriately minimised.

6.9 Transport and Accessibility

A Transport Impact Assessment prepared by JMT consulting (**Appendix S**) details the environmental factors relating to the Activity at Hickson Road South. The assessment included the following items:

- Traffic volumes
- Traffic circulation movements
- Pedestrian movements
- Public transport arrangements
- Hickson Road design, including measures to maintain good levels of pedestrian safety and connectivity.

The report concludes that the road design will adequately accommodate existing and future traffic flows on Hickson Road and complement the previously upgraded section of Hickson Road South of Napoleon Street, and north adjoining the Barangaroo Metro Station. Traffic modelling prepared by JMT indicates that the proposed intersection configurations at Watermans Quay and temporary Barton Street will be suitable and result in acceptable operational performance during peak hours. The report outlines that the works will not impact the operation of the Hickson Road / Napoleon Street signalised intersections from a traffic movement perspective, nor will any new signalised intersections be introduced on Hickson Road South.

The report notes that the proposed Activity will provide for significant enhancements to the transport environment, including:

- A widened footpath on the western side of Hickson Road South supported by an improved public domain to support access to bus stops and the Barangaroo metro station
- An enhanced pedestrian crossing points of Hickson Road and Watermans Quay
- An extension of the existing separated cycleway on Hickson Road from Napoleon Street to connect with the existing cycleway north of Barton Street
- An improved drop off and pick up opportunities for visitors travelling by taxi and ride-share to the Barangaroo precinct

The report concludes that the impacts of the proposed Activity can be appropriately mitigated through the provision of suitable road design (as documented in the civil engineering drawings prepared by Enspire at **(Appendix A and B)**) and via the development of a Construction Traffic Environmental Management Plan for the construction phase of the Activity.

The proposed Hickson Road upgrade works are therefore considered to provide for a significantly improved transport environment serving the Barangaroo precinct.

Moreover, the extent and nature of potential impacts are low (with the provision of mitigation measures outlined in **Section 7.0**) and will not have significant adverse effects on the locality, community and the environment.

6.10 Geotechnical Implications

A Geotechnical Factual Report and Preliminary Waste Classification Assessment has been prepared by Tetra Tech Coffey to provide geotechnical information and waste classification to support the Activity and new pavement design for Hickson Road.

Episodes of remediation works have mitigated risks posed by infrastructure associated with the former Miller's Point Gasworks which was mostly located east of Hickson Road, but also encroached onto and beyond the Hickson Road corridor. Additionally, civil works for the Barangaroo redevelopment has included installation of new services, removal of old services and adjustments to the landscape to aid construction. As a result, the ground conditions forming the pavement subgrade for the Hickson Road South are expected to be variable along and across the road corridor, which may impact on construction procedures for the road upgrade.

The Geotechnical Factual Report and Preliminary Waste Classification Assessment outlines that most risks can be managed by appropriate personal protective equipment, disciplined hygiene practises, and routine site monitoring equipment suitable for relatively low risk contamination sites.

6.11 Crime Prevention Through Environmental Design (CPTED)

A Crime Prevention Through Environmental Design (CPTED) Report (**Appendix I**) has been prepared by ACAD services to provide practical advice to the design and construction teams that will enhance the safety and security for regular users of the space whilst deterring criminal and anti-social behaviours. Safety in design has been assessed against the four CPTED principles, which are outlined below:

- **Surveillance:** The attractiveness of crime targets can be reduced by providing opportunities for effective surveillance, both natural and technical – significant deterrence.
- **Territorial Definition:** Community ownership of public space sends positive signals. People often feel comfortable in, and are more likely to visit, places which feel owned and cared for. Well used places also reduce opportunities for crime and increase risk to criminals.

- **Access control:** Physical and symbolic barriers can be used to attract, channel, or restrict the movement of people. They minimise opportunities for crime and increase the effort required to commit crime.
- **Space management:** Popular public space is often attractive, well maintained and well used. Linked to the principle of territorial reinforcement, space management ensures that space is appropriately utilised and well cared for.

The report outlines that any potential impacts from a CPTED perspective have been generally mitigated through the design of the proposed Activity.

The CPTED report therefore concludes that the extent and nature of potential crime are expected to be low for the proposed Activity, and it would not have significant adverse effects on the locality, community and the environment.

6.12 Arboricultural Impacts

An Arboricultural Impact Assessment (AIA) prepared by ELKE (**Appendix F**) has assessed the existing 16 street trees on the REF site and the proposal of new trees as part of the Hickson Road South design.

The proposed Activity includes the retention of all existing trees on site (16) and proposes the planting of a total of 108 new trees. ELKE have visually assessed each existing tree and assessed their status against relevant Australian provisions and standards.

The AIA makes several tree protection recommendations, which are outlined in **Figure 25** below. The AIA concludes that provided the recommendations outlined in **Figure 25** are carried out satisfactorily, the impacts to all retained trees will be limited and therefore the overall impact to existing trees is assessed as being acceptable for the proposed Activity. Mitigation measures associated with tree protection are provided at **Section 7.0**.

Recommendation	Location (if applicable)	Timing and notes
Prior to works commencing		○ ELKE (project consulting arborist) to review the certification plans prior to work commencing to ensure no new services, trenching, pits, earthworks (cut/fill), encroaching kerbs or pram ramps, or other impacts to the tree root zones are proposed. (prior to CC).
Tree Protection Plan (TPP) and Tree Protection Specification (TPS)		○ A project arborist (AQF Level 5 in Arboriculture) is to be appointed for the duration of the works. ○ The TPP and TPS is to be put together with a suitable documentation and checklist for the Site Foreman, project arborist and project team.
Tree Protection Zone (TPZ) Fencing protection + TPZ signage on fencing And induction meeting with Foreman	Locations shown on the Arborist Plans (generally, Tree /trunk protection and signage is required around 15 existing trees	○ Establish tree protection fencing and signage and sign off by project consulting arborist - prior to any works occurring on site. ○ Inductions with builder to be at the same time as above. Works is defined in chapter 6.28.
Works within SRZ or TPZ of trees (e.g. installation of footings, kerb works, removal of bitumen pavement or other)	For all trees to be retained. Mostly for trees T11 – T14 and for new pavement and pram ramp and kerb works around trees T10-T16.	○ Hand tools only within the SRZ per project arborist supervision and direction. ○ Avoid tree roots (regardless of size) within the SRZ and avoid tree roots 30mm diameter in the TPZ. ○ Some on-site modifications to design may be needed e.g. footing location may need to shift slightly or extent of flexible pavement system or services locations (under project arborist direction, sighting, sign off – will also require project team coordination). ○ Arborist certification letter also will be required to document any deviation.
Tree pruning	Proposed for T8. Requires City of Sydney approval. All pruning must meet the Australian Standard 4373-2007 - Pruning of amenity trees by AQF Level 3 in- field practical arborist and signed off by the project arborist (AQF Level 5).	○ To occur either at the project set up phase or during the construction works prior to canopy damage occurring. Refer Chapter 8 below.
End of works sign off / inspection	Prior to removal of trunk/tree fencing and signage an inspection by the project consulting arborist is critical. This is also a tree condition report (nearing end of project).	○ At/nearing end of works and prior to removal of the TPZ fencing and signage.

Figure 25 Tree Impact Assessment Recommendations

Source: ELKE Landscape Architect Consulting

6.13 Construction Management

A preliminary Construction Traffic Environmental Management Plan (CTEMP) has been prepared by Lendlease to assess environmental issues which are associated with the construction phase of Hickson Road South (refer to **Appendix H**). The preliminary CTEMP is a conceptual management tool that assists in informing suitable high standards of environmental protection during the construction phases and would provide guidance for environmental controls to be implemented before and during delivery.

The preliminary CTEMP outlines high level site management guidelines for:

- Site Management;
- Environmental Management;
- Implementation; and
- Auditing, Monitoring and Review procedures.

The Activity shall be carried out in accordance with a final CTEMP, to be prepared by the selected delivery contractor and in context with the preliminary CTEMP, together with the mitigation measures set out in **Section 7.0** of this REF.

6.14 Ecologically Sustainable Development

The EP&A Regulation lists four principles of ecologically sustainable development to be considered in assessing a project. They are:

- the precautionary principle;
- intergenerational equity;
- conservation of biological diversity and ecological integrity; and
- improved valuation and pricing of environmental resources.

An analysis of these principles is set out in the following pages.

6.14.1 Precautionary Principle

The precautionary principle is utilised when uncertainty exists about potential environmental impacts. It provides that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. The precautionary principle requires careful evaluation of potential environmental impacts in order to avoid, wherever practicable, serious or irreversible damage to the environment.

This REF has not identified any serious threat of irreversible damage to the environment and therefore the precautionary principle is not relevant to the proposal.

Furthermore, no safeguards or mitigation measures have been postponed as a result of lack of scientific certainty. Where in doubt, appropriate measures have been proposed to mitigate the potential for impacts whether or not they are likely to occur.

6.14.2 Intergenerational equity

Intergenerational equity is concerned with ensuring that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations. The Activity has been designed to benefit both existing and future generations by:

- Minimising any potential heritage impacts for future generations by avoiding impacts to listed heritage items in or in the vicinity of the REF site, and improving the public domain thereby allowing greater appreciation of other heritage items in the vicinity of the REF site; and
- Implementing safeguards and management measures to protect environmental values.

The Activity has integrated short and long-term social, financial and environmental considerations so that any foreseeable impacts are not left to be addressed by future generations.

6.14.3 Improved Valuation, Pricing and Incentive Mechanisms

The principles of improved valuation and pricing of environmental resources requires consideration of all environmental resources that may be affected by a proposal, including air, water, land and living things. Mitigation measures for avoiding, reusing, recycling and managing waste during construction and operation will be implemented to ensure resources are used responsibly.

6.15 Socio-Economic Impacts

The proposed Hickson Road South will have a number of positive social and economic impacts, including:

- Supporting pedestrians and cyclists to efficiently traverse the precinct.
- Improving traffic circulation, flow, and distribution across Barangaroo.
- Supporting the integration of land use and transport, especially for housing and employment, by improving pedestrian movement to and from Barangaroo Metro Station and to other public transport nodes through the enhanced pedestrian and active transport pathways;
- Providing for an attractive setting to the western edge of Barangaroo, encouraging movement and activity to this area of Central Sydney.

The construction works will not generate negative social and economic impacts from loss of visual and streetscape amenity as the REF site does not contain any valuable views. Upon completion of Hickson Road South, access for vehicles, pedestrian and cyclists will be enhanced, resulting in a social and economic benefit compared to the existing situation.

It is not anticipated that any long-term impacts will result from the proposed Activity works as assessed within this REF, particularly due to the short construction period anticipated and the positive outcome generated by the Activity.

6.16 Cumulative Environmental Impact

Cumulative environmental impacts are required to be considered under the EP&A Regulation for the Activity.

This is considered within **Section 6.1** of this REF, within **Table 8**, which identified impacts related to the construction phase of the Activity, and of short term minimal environmental impact, including with the application of appropriate mitigation measures.

The contractor responsible for the Hickson Road South works would be required to liaise with these stakeholders to identify measures that can minimise cumulative traffic impacts, where this occurs.

Ongoing review of cumulative construction vehicle traffic generation, coordination of heavy vehicle routes used by this project, in conjunction with safer pedestrian movements would be undertaken between the appointed contractor, INSW and TfNSW, to minimise these impacts on the road network

6.17 Public Interest

The proposed Activity is considered to be in the public interest as the existing road is not suitable to support Barangaroo, including into the long term. As such, it is considered that the overall public benefits significantly outweigh any temporary impacts.

7.0 Mitigation Measures

This REF applies to the proposed road improvement and refurbishment works, and stormwater/drainage works for Hickson Road South. The proposed Activity is consistent with the provisions of the T&I SEPP for development permitted without consent. The following mitigation measures are provided to ensure that the proposed Activity is delivered and operates appropriately.

1. Obligation to prevent impacts to the environment

In addition to meeting the mitigation measures in this determination, all reasonable and feasible measures should be implemented to prevent impacts to the environment that may result from the Activity.

2. Development in Accordance with Plans and Documentation

The proposal must have consideration and be generally in accordance with the Review of Environmental Factors dated [insert date of finalised REF] and prepared by Colliers Urban Planning on behalf of Infrastructure NSW and generally in accordance with the following plans/documentation as modified below and by any of the under-mentioned measures:

Table 9 List of Documents Informing this REF Application

Document Date/ Rev.No	Report / Plan	Prepared By
	Review of Environmental Factors	Colliers Urban Planning
10/11/2025 (REV 7)	Civil Drawings Stage 3	Enspire
10/11/2025 (REV 6)	Civil Drawings Stage 4	Enspire
14/11/2025 (REV 4)	Civil Design Report	Enspire
31/10/2025 (REV C)	Access Report	Group DLA
12/11/2025	Air Quality Report	Environmental Resources Management
29/10/2025 (REV E)	Arborist Impact Statement	Elkeh
7/11/2025 (REV C)	Construction Noise and Vibration Impact Assessment	RDWI
November 2025 (REV 1)	Preliminary Construction Traffic Environmental Management Plan	Lendlease
11/10/2025 (REV 00)	Streetlighting Upgrade (Drawings No. 1458-E)	DEP
12/12/25 (REV 00)	Stage 4 Streetlighting Upgrade (Drawings No. 240208-E)	DEP
6/11/2025 (REV V1.3)	Crime Prevention Through Environmental Design (CPTED) Report	ACAD Services
November 2025 (REV 3)	Flood Report	RHELM
11/11/2025 (REV 5)	Geotechnical Report	Tetra Tech Coffey
3/11/2025 (REV 6)	Historical Archaeological Report	Heritage Now
13/11/2025 (REV E)	Hickson Road Upgrade – Stage 3 Landscape Plans	Hassell
13/11/2025 (REV E)	Hickson Road Upgrade – Stage 4 Landscape Plans	Hassell
10/11/2025 (REV D)	Landscape Design Report	Hassell

03/10/2025 (REV E)	Landscape Architectural Specification	Hassell
12/11/2025 (REV V3)	Preliminary Site Investigation	Environmental Resources Management
10/11/2025 (REV 3)	Statement of Heritage Impact	TKD Architects
29/10/2025 (REV B)	Transport Impact Assessment	JMT Consulting
October 2025	Wayfinding Signage Report	THERE Studio
11/11/2025 (Rev T4)	Streetlighting Compliance Plans	Lighting, Art & Science
June 2023 (REV G)	Utilities Plans	RPS

To ensure minimal adverse impact, the Activity proposed under this REF will generally be carried out in accordance with the mitigation measures identified below:

3. Certificates

1. Any relevant Certificate under Section 6.28 of the Environmental Planning and Assessment Act 1979 is to be obtained as required prior to any work commencing.

4. National Construction Code of Australia

1. All building work is to be undertaken in accordance with the National Construction Code of Australia and referenced Australian Standards, including the requirements of AS 1428.1:2021 Design for access and mobility, Part 1: General requirements for access – New building work.
2. Accessibility of the design as it progresses is required to continue to be reviewed to ensure ongoing accessibility compliance, to be reviewed and confirmed by an accessibility consultant prior to the issue of a Crown Certificate.

5. Approvals

1. These mitigation measures do not remove any obligation to obtain all other licences, permits and approvals from all relevant authorities as required under any other legislation for the Project. The terms and conditions of such licences, permits, approvals and permissions must be complied with at all times. A copy of all approvals is to be kept on site.

6. Demolition

1. Demolition work must be undertaken in accordance with the provisions of Australian Standard AS 2601-2001 The Demolition of Structures. The Demolition Work Plan must comply with the safety requirements of this standard.

7. Compliance with Mitigation Measures

1. All relevant personnel, including contractors (and their subcontractors), are to be aware of these Mitigation Measures, and the requirement to undertake the Activity within these Measures.

8. Community Notification and Consultation

1. Prior to the commencement of work, a consultation approach shall be prepared that:
 - Identifies the relevant people that may be consulted during the construction phases of the activity. At the minimum this should include the City of Sydney, INSW and community (including adjoining affected landowners, businesses and any other directly impacted by the Activity).
 - Determines the suitable methods of consultation with relevant stakeholders, including the receipt of feedback; and
 - Provides the approach access to project information.

9. Flooding

1. Prior to completion of the Activity, consideration for how appropriate flood mitigation measures, including those outlined in the Rhelm report dated 17 November 2025, should be provided to INSW, City of Sydney, NSW SES and affected neighbours.

10. Construction Management

1. A final Construction, Traffic, Environmental Management Plan (CTEMP) is to be prepared by the appointed contractor.
2. The CTEMP is to include the preparation of the following sub-plans:

- Noise and Vibration Sub-Plan
 - Air & Odour Management Sub-Plan
 - Water and Stormwater Management Sub-Plan
 - Spoil & Waste Management Sub-Plan
 - Contamination Management Sub-Plan
 - Emergency Response Management Sub-Plan
 - Construction Soil and Water Management Sub-Plan
 - Environmental, Health and Safety Management Plan
3. The CTEMP must include details for an unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure.
 4. The CTEMP and sub-plans are to be provided to INSW prior to commencement of works.
 5. All road works and related activities should have consideration for the Construction Noise and Vibration Impact Management Plan prepared by RWDI, dated 7 November 2025.
 6. Noise and vibration shall be managed via the preparation and approval of the Noise & Vibration Management Sub-Plan. The Sub-Plan shall also provide specific abatement guidance for the cumulative construction noise condition, which is the most likely process to exceed noise guideline levels.
 7. The air quality throughout the construction phase shall be monitored and managed as per the approved Air Quality and Odour Management Sub-Plan.
 8. Construction phase air quality impacts shall be minimised or avoided by incorporation of appropriate air quality control measures as directed by the most recent air quality impact assessment.
 9. The installation and application of air quality controls during the construction phase shall be in accordance with the Air Quality & Odour Management Sub-Plan, and specifically, the following principles:
 - All equipment used and all facilities erected on site are to be designed and operated to control the excessive emission of smoke, dust, fumes and any other air impurity into the atmosphere;
 - Spray earthworks, roads and other surfaces as necessary with water to reduce dust generation;
 - A water cart would be employed, as required, to dampen work areas and exposed soils to prevent the emission of excessive dust from the site;
 - Trucks transporting material from the site would be covered after loading to prevent windblown dust emissions and spillages;
 - All access roads would be surfaced in appropriately selected materials;
 - Subcontractors would maintain all construction equipment to reduce exhaust emissions.
 10. The majority of erosion and sediment controls shall be implemented as part of an Erosion and Sediment Control Plan to be prepared prior to construction. Prior to any road works or earthworks commencing on site, all erosion and sediment control measures shall be implemented. These measures would generally include erosion and sediment controls as deemed necessary:
 - Installation of additional sediment fencing, or jersey kerbs with bitumen to provide seals;
 - Pumping captured stormwater to the existing site water treatment plant, if required;
 - Installation of silt arrestors to collect site runoff and retain suspended particles; and
 - Placement of sediment controls around and along any catch drains.
 11. Stormwater shall be managed as per the Water and Stormwater Management Sub-Plan.
 12. Waste reduction shall occur through materials procurement, handling, storage and use. Waste generated during construction shall be reused onsite, or recycled or disposed at a suitably licenced facility.
 13. Waste collection shall be appropriately managed through the staged nature of construction and the use of known quantities of materials. The majority of recyclable material that could be recovered during construction is likely to be off cuts and discards of concrete reinforcement (steel) and excess concrete. Waste shall be managed as per the Spoil & Waste Management Sub-Plan.
 14. No hazardous materials or dangerous goods shall be stored on site. As part of construction activities, traffic management and controls shall be implemented both within and surrounding the development site.

15. Refuelling performed on site shall be for the construction equipment, such as excavators, mobile cranes and other plant / equipment operating on site.
16. Traffic management and control measures shall be implemented within the site to clearly identify any proposed haul road location(s). The placement of jersey kerbs and fencing would provide a safe environment for construction vehicles and pedestrians. Associated signage shall supplement physical structures within the site.
17. Adequate directional and warning signage shall be installed surrounding the development site to clearly inform motorists, cyclist and pedestrians of the approaching changes within Hickson Road, Napoleon Street, Watermans Quay and Barton Street. Associated Signage shall also inform delivery drivers of the proposed entry and exit gate locations.
18. All proposed traffic management and controls shall be documented in the detailed design stage by accredited Roads and Maritime Services (RMS) traffic control designers and where required, the approval obtained by the necessary statutory approval organisations. This includes for any traffic controls for temporary road lane closure/s. Road occupancy certificates shall be obtained prior to any works commencing where appropriate.
19. Existing services within the development area consist of electrical, communications, gas and stormwater drainage conduits. Associated drainage, sewer and communication services shall be diverted from within the construction area with temporary connections made, as required.
20. The potential for negative environmental and amenity impacts during construction, although over a relatively short duration, shall also be managed through environmental monitoring during construction, ongoing monitoring of environmental performance and provision of project information such as operating hours and traffic circulation routes.
21. An Environmental, Health and Safety Management Plan shall be developed for the project to identify key responsibilities and areas of risk.
22. Where deemed necessary, additional management sub plans may be implemented to further assess hazards and risk and to provide the framework to manage the mitigation of risk.
23. The Construction Manager or a nominated person shall be responsible for implementing and maintaining the management sub plan(s) and their requirements.

11. Arboricultural

1. Project consulting arborist shall review the certification plans prior to work commencing to ensure no new services, trenching, pits, earthworks (cut/fill), encroaching kerbs or pram ramps, or other impacts to the tree root zones are proposed.
2. A project arborist (AQF Level 5 in Arboriculture) shall be appointed for the duration of the works. The TPP and TPS shall be put together with a suitable documentation and checklist for the Site Foreman, project arborist and project team.
3. Tree/trunk protection and signage shall be erected around existing trees to be retained (having consideration for those identified in the Arboricultural Report prepared by ELKE, dated 29 October 2025). Tree protection fencing and signage and sign off shall be approved by the project consulting arborist prior to any works occurring on site. Induction with the builder shall be at the same time as the above.
4. Hand tools only shall be used with the Structural Root Zone (SRZ) for all trees to be retained. Tree roots shall be avoided within the SRZ and avoided within 30mm diameter in the Tree Protection Zone (TPZ).
5. All pruning shall meet the Australian Standard 4373-2007- Pruning of amenity trees by AQF Level 3 in-field practical arborist and signed off by the project arborist (AQF Level 5) at the project set up phase or during construction works prior to canopy damage occurring.
6. Prior to removal of trunk/tree fencing and signage, an inspection by the project consulting arborist shall be conducted.

12. Noise and Vibration

1. Construction is to be undertaken in accordance with the following hours:
 - Monday to Friday: 7:00am-6:00pm
 - Saturday: 7:00am-5:00pm

- Sunday and Public Holidays: No works
- 2. Scheduling - noisy work such as jack hammering shall be performed during less sensitive time periods.
- 3. Equipment Restrictions – low noise plant and equipment shall be selected, and shall be installed with quality mufflers.
- 4. Substitute Methods – smaller/lower capacity plant shall be used where practicable.
- 5. Limit Equipment on site - only necessary equipment shall be on site.
- 6. Limit Activity Duration – noisy activities shall be concentrated at one location, where possible, and moved to another as quickly as possible.
- 7. Site Access - Vehicle movements outside construction hours, including loading and unloading operations, shall be minimised and avoided where possible.
- 8. Equipment Maintenance – equipment shall be well maintained and fitted with adequately maintained silencers.
- 9. Reduced Equipment Power – only necessary size and power shall be used.
- 10. Quieter Work Practices – worksite induction training shall be implemented, educating staff on noise sensitive issues and the need to make as little noise as possible.
- 11. Reversing Alarms – alternatives shall be considered, such as manually adjustable or ambient noise sensitive types (“smart” reversing alarms).
- 12. Noise Barriers – installation of temporary construction noise barriers shall be considered. Equipment shall be located to take advantage of the noise barriers provided by existing site features and structures, such as storage sheds.
- 13. Enclosures – noise-control kits for noisy mobile equipment and shrouds around stationary plant shall be installed, as necessary.
- 14. Increased Distance – noise plant shall be located as far away from noise-sensitive receptors as possible.
- 15. Temporary relocation – In extreme cases, temporary relocation is recommended, as per Section C.1.9 of Transport for NSW’s Construction Noise and Vibration Guidelines.
- 16. Consultation – Community consultation, information, participation and complaint responses are essential aspects of all construction noise management programs. They typically involve:
 - A community information program before construction and/or high-risk activities are commenced. This usually involves a leaflet distribution and direct discussions and negotiations with affected residents, explaining the type, time and duration of expected noise emissions.
 - Residents must be notified at least five working days before works commence.
 - The involvement of affected residents in the development of acceptable noise management strategies.
 - A nominated community liaison officer with a contact telephone number.
 - A complaints hotline.
 - Timely responses to complaints, providing information on planned actions and progress towards the resolution of concerns.
- 17. Additional site-specific noise mitigation measures may be required and should have consideration for those measures outlined in Section 6.1.2 of the Noise and Vibration Report prepared by RWDI, dated 7 November 2025.
- 18. Additional construction vibration mitigation measures may be required and should have consideration for those measures outlined in Section 6.2 of the Noise and Vibration Report prepared by RWDI, dated 23 February 2026.

13. Utilities

1. Detailed services investigation survey shall be undertaken as part of the 100% design to confirm vertical and horizontal alignments of existing services to allow clash detection with proposed services.
2. Engagement with relevant utility authorities is to occur as required throughout construction of the development for the purposes

14. Erosion and Sediment Control

1. As part of the works, the erosion and sedimentation control shall be constructed in accordance with Council requirements and the NSW Department of Housing Manual, “Managing Urban Stormwater Soil & Construction” 2004 (Blue Book) prior to any earthworks commencing on site.

15. Contamination

1. An appropriately qualified environmental consultant shall be engaged to assist with the preparation of the CEMP and during CEMP induction and implementation to ensure contamination management is provided appropriately within a Contamination Management Sub-Plan.
2. An unexpected finds procedure for contamination shall be developed and outlined in the Contamination Management Sub-Plan, including clear processes for identification, actions, communication processes and responsible parties for the management of unexpected finds of contamination during the proposed works.
3. Safe Work Method Statements (SWMS) shall be developed which identify the hazards and risks associated with the work in relation to potential residual contamination and describe to workers how following control measures will mitigate those risks.
4. Personal protective equipment (PPE) shall be used during the works which are appropriate for the planned activities. This may include nitrile gloves, chemical-resistant coveralls (e.g. Tyvek or similar), chemical-resistant boots and respiratory protection.
5. Measures shall be implemented to avoid/minimise contact by workers with soils/rock below the water table (approximately 2 metres below ground level (m bgl)).
6. Consideration shall be given to the establishment of exclusion zones (and associated decontamination zones) in the event that residual contamination is identified during construction.
7. Development and implementation of an air monitoring program for the work which is appropriate to manage potential risks associated with residual SPGWT and contaminated dust shall be undertaken.
8. For excavations greater than 1m bgl, the staging of works shall minimize/avoid stockpiling, and physical controls to minimise the transmission of odours from excavations. Such controls may include covering, enclosure, or localized air extraction within the face of the excavation.
9. Development of a Spoil and Waste Management Sub-Plan specific to the planned work shall be prepared in consultation with an appropriately qualified environmental consultant. This plan shall include the following items as a minimum:
 - Excavated soils which are excess to Lendlease's construction requirements within the Hickson Road upgrade and refurbishment works area should be classified in accordance with the Waste Classification Guidelines (NSW EPA, 2014) and disposed off-site as waste at suitably licensed landfills or classified for off-site reuse in accordance with the relevant Resource Recovery Orders published by the NSW EPA.
 - All waste should be transported by licensed waste contractors to appropriately licensed waste facilities; and
 - A waste and materials tracking log should be maintained and will include information on disposal of excavated materials to appropriately licensed waste facilities.
10. With regard to contamination, appropriate personal are to be engaged to undertake any contamination or geotechnical works, with the use of protective equipment, disciplined hygiene practises, and routine site monitoring equipment suitable for relatively low risk contamination sites.

16. Air Quality

1. Works shall be staged to limit the extent and duration for which potential odour sources are present. Such measures may include work methods that permit progressive excavation and backfilling of excavations and limiting/avoiding stockpiling of excavated materials.
2. There shall be provision for implementation of contingency measures in the event that contamination is encountered at levels that may produce adverse odour impacts. Such contingency measures may include enclosure of works, e.g. in the case of unexpected finds that exhibit high odour potential.
3. An Air Quality and Odour Management Sub Plan is to be prepared, as part of the overall Construction Traffic Environmental Management Plan.

17. Waste Management

1. Waste reduction shall occur through materials procurement, handling, storage and use. Waste generated during construction shall be reused onsite, or recycled or disposed at a suitably licenced facility.
2. Waste collection shall be appropriately managed through the staged nature of construction and the use of known quantities of materials. The majority of recyclable material that could be recovered during construction is likely to be off cuts and discards of concrete reinforcement (steel) and excess concrete. Waste shall be managed as per the *Spoil & Waste Management Sub-Plan*.
3. No hazardous materials or dangerous goods shall be stored on site.

18. Heritage and Archaeology

1. Prior to the commencement of works, applications for both S60 and S140 excavation permit under Heritage Act, 1977 shall be made to Heritage Council of NSW. Both applications shall be supported by Archaeological Research Design which be provided to Heritage NSW.
2. Archaeological test excavation and monitoring shall be undertaken by a qualified archaeologist to record any potential relics. The archaeological testing and monitoring program shall be undertaken in accordance with both the S60 and S140 Conditions of Consent and the ARD.
3. If any in situ artefact deposits are found, they shall be collected for cataloguing and reporting.
4. An excavation report presenting the results of the archaeological program shall be conditioned to be prepared at the end of the monitoring program. A copy of the final report shall be supplied to Heritage NSW.
5. Artefacts collected and retained from the site shall be catalogued and analysed by appropriate specialists and the results included in the final report.
6. A repository, storage in perpetuity, for the artefacts recovered from the site, shall be provided by the proponents.

19. Traffic and Transport

1. All construction vehicles shall approach the site via the broader arterial road network and minimise the use of local streets.
2. Traffic controllers shall be in place at the site access and egress points to manage conflicts with pedestrians using the footpath.
3. Temporary fencing and hoardings shall be installed along the site frontage to manage pedestrian movements and ensure the safety of pedestrians walking adjacent to the construction site.
4. No queueing of vehicles shall take place on roads outside of Hickson Road.
5. Vehicles shall enter and exit the site in a forward direction under traffic control.
6. Pedestrian movements across construction access driveways shall be managed and controlled by site personnel where required.
7. Pedestrian warning signs and construction safety signs/devices shall be utilised in the vicinity of the site and will be provided in accordance with WorkCover requirements.
8. Construction activity shall be carried out in accordance with the approved hours of work.
9. Materials shall be delivered during standard construction hours.
10. Construction traffic movements to/from the site shall be minimised in peak traffic periods, where feasible, to reduce the impact on the wider road network.
11. Obtain a Section 138 Certificate as required from City of Sydney Council as the future road authority, as necessary.

8.0 Conclusion

This Review of Environmental Factors (REF) has been prepared for INSW and fulfils the obligation under Division 5.1 of the EP&A Act to examine and take into account to the fullest possible extent of all matters affecting, or likely to affect, the environment by reason of the Activity (being the upgrade and refurbishment of Hickson Road South).

The proposed Activity comprises the design and construction of Hickson Road South, including the upgrade of Hickson Road from the northern side of the Napoleon Street intersection connecting to the existing road upgrade north of the High Street Steps, along with utility and drainage upgrades running adjacent to Barton Street, and intersection upgrades.

This REF has been prepared in accordance with the relevant provisions of the EP&A Act, the EP&A Regulation, the T&I SEPP and other relevant SEPPs, the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) and the Guidelines for Division 5.1 Assessments, prepared by the Department of Planning, Housing and Infrastructure (2025).

This REF provides a true and fair review of the Activity in relation to its likely impact on the environment. It addresses all the factors listed in section 171 of the EP&A Regulation and the EPBC Act.

On the basis of the information presented in this REF, it is concluded that by adopting the recommended mitigation measures (see **Section 7.0**) it is unlikely there would be any significant environmental impacts associated with the Activity. Consequently, an Environmental Impact Statement (EIS) is not required.'



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