



Transport for NSW

# Hill Road upgrade at Sydney Olympic Park and Lidcombe

Appendix J –

Landscape character and visual impact assessment report



# Hill Road Upgrade

## Urban Design, Landscape Character and Visual Impact Assessment

July 2021

# Hill Road Upgrade

## Urban Design, Landscape Character and Visual Impact Assessment Report

Revision 06 | July 2021

Prepared for

**Transport for NSW**

By

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# Table of Contents

1.0	Introduction	1
1.1	The Proposal	2
1.2	Purpose & Scope of this report	2
1.3	Project relationship with the Carter Street Precinct (CSP)	3
1.4	Impact Assessment methodology	3
1.5	Report structure	4
2.0	Existing Analysis	6
	Context Analysis	8
2.1	Introduction	8
2.2	Regional context	8
2.3	Local context	10
2.4	Existing project context	14
3.0	Proposal Analysis	21
	Opportunities and Constraints	22
3.1	Proposed surroundings	22
	3.1.1 Carter Street Precinct (CSP)	22
	3.1.2 Proposed Connectivity	24
	3.1.3 Proposed Access and Circulation	26
3.2	Opportunities and Constraints	28
3.3	Placemaking Opportunities	30
4.0	Urban Design Strategy	33
4.1	Introduction	34
4.2	Urban design vision	34
4.3	Project specific urban design principles	34
5.0	Concept Design	37
5.1	Process, outcomes & future steps	38
5.2	Urban design concept	41
5.3	Concept character B - Parramatta Road	42
5.4	Concept character C - M4 Hill Road Off-ramp	44
5.5	Concept character E - Carter Street & Hill Road Corner	46
5.6	Concept character F- John Ian Wing Parade intersection	48
6.0	Landscape Character Impact Assessment	51
6.1	Landscape character	52
6.2	Landscape character impact assessment summary	62
7.0	Visual Impact Assessment	65
7.1	Introduction	66
7.2	Sensitivity, magnitude & impact	66
7.3	Key viewpoints	68
7.4	Visual impact assessment table	70
7.5	Visual impact assessment summary	76
8.0	Mitigation Strategy	79
8.1	Existing mitigation commitments and conditions of approval	80
9.0	References	82

# List of Figures

Figure 2-1	Regional context	8	Figure 6-1	Landscape Character Zones	53
Figure 2-2	Projected resident growth and connectivity of the local context	11	Figure 6-2	Character images - landscape character zone 1	54
Figure 2-3	Local development context	13	Figure 6-3	Character images - landscape character zone 2	56
Figure 2-4	Surrounding land use	15	Figure 6-4	Character images - landscape character zone 3	58
Figure 2-5	Building heights	17	Figure 6-5	Character images - landscape character zone 4	60
Figure 2-6	Remnant community	18	Figure 7-1	Key viewpoints	68
Figure 2-7	Vegetation Character	19			
Figure 3-1	Carter Street Precinct - Indicative structure plan (DCP 2016)	23			
Figure 3-2	Connectivity	25			
Figure 3-3	Pedestrian, cycle and vehicular access and circulation	27			
Figure 3-4	Opportunities & constraints	29			
Figure 3-5	Urban street amenity	31			
Figure 5-1	Urban design concept plan	41			
Figure 5-2	Viewport B location plan	42			
Figure 5-3	Existing condition	43			
Figure 5-4	Visualisation B	43			
Figure 5-5	Viewport C location plan	44			
Figure 5-6	Existing condition	45			
Figure 5-7	Visualisation C	45			
Figure 5-8	Viewport E location plan	46			
Figure 5-9	Existing condition	47			
Figure 5-10	Viewport F location plan	48			
Figure 5-11	Existing condition	49			
Figure 5-12	Visualisation F	49			

# List of Tables

Table 6-1	Landscape character impact assessment matrix	62
Table 6-2	Landscape character impact magnitude ratings	62
Table 6-3	Landscape character impact assessment	63
Table 7-1	Visual impact assessment matrix	67
Table 7-2	Visual impact assessment; viewpoints	70
Table 7-3	Visual impact assessment summary	76
Table 8-1	Summary of relevant urban design and landscape mitigation measures	80
Table 8-2	Summary of relevant urban design and landscape conditions of approval	83

# Executive Summary

Transport for NSW proposes to upgrade Hill Road between Parramatta Road and John Ian Wing Parade (The Proposal). The Proposal is located in Lidcombe, near Sydney Olympic Park, and is within the Cumberland local government area (LGA), Parramatta LGA and the Greater Parramatta Priority Growth Area. Under the Carter Street Master Plan, the industrial area adjacent to Hill Road was identified for redevelopment as a residential area known as the Carter Street Precinct (CSP). The Master Plan was finalised on 18 December 2020 and was enacted through an amendment of the Auburn Local Environmental Plan 2010. The Proposal has been developed to support the objectives of the CSP.

This report forms a technical working paper prepared to assess impacts associated with the Hill Road Upgrade Project.

Key features of the proposed project include:

- upgrading Hill Road to include road widening to accommodate additional turn lanes and a new shared user path (SUP)
- modifying Parramatta Road and Hill Road intersection to provide a new left turn lane onto northbound of Hill Road and widened footpaths
- widening Bombay Street to include additional through and turn lanes
- converting the Hill Road and Carter Street intersection to a left-in, left-out intersection
- upgrading the Hill Road and John Ian Wing Parade intersection with additional through and turn lanes as well as a widening the footpath
- widening and signalling the M4 Motorway eastbound off-ramp
- adjusting the kerb return on the northwest corner of the Birnie Avenue and Parramatta Road intersection



An aerial, black and white photograph of a large sports complex. The central focus is a large, circular stadium with a distinctive, grid-like roof structure. Surrounding the stadium are numerous other buildings, including smaller arenas, administrative offices, and parking lots. The complex is interspersed with green spaces and trees. In the upper portion of the image, a winding river or canal flows through the landscape. The overall scene depicts a well-developed, multi-faceted sports and entertainment hub.

1.0

# Introduction

# 1.0 Introduction

## 1.1 The Proposal

Transport for NSW proposes to upgrade Hill Road between Parramatta Road and John Ian Wing Parade (The Proposal). The Proposal is located in Lidcombe, near Sydney Olympic Park, and is within the Cumberland local government area (LGA), Parramatta LGA and the Greater Parramatta Priority Growth Area. Under the Carter Street Master Plan, the industrial area adjacent to Hill Road was identified for redevelopment as a residential area known as the Carter Street Precinct (CSP). The Master Plan was finalised on 18 December 2020 and was enacted through an amendment of the Auburn Local Environmental Plan 2010. The Proposal has been developed to support the objectives of the CSP.

The Proposal would include the following key elements:

- upgrading Hill Road to include road widening to accommodate additional turn lanes
- modifying Parramatta Road and Hill Road intersection to provide a new left turn lane and a widened footpath onto Hill Road (northbound)
- construction of a new shared user paths (SUP) along the western side of Hill Road between Parramatta Road and Carter Street and on the eastern side of Hill Road between Carter Street and Green Spine Road
- widening Bombay Street to include additional through and turn lanes
- converting the Hill Road and Carter Street intersection to a left-in, left-out intersection
- upgrading the Hill Road and John Ian Wing Parade intersection with additional through and turn lanes as well as a widening the footpath
- widening and signalling the M4 Motorway eastbound off-ramp
- adjusting the kerb return on the northwest corner of the Birnie Avenue and Parramatta Road intersection.

The key objectives of The Proposal include:

- Support development growth in the Carter Street Urban Priority Precinct
- Improve traffic efficiency and accessibility to the Carter Street Urban Priority Precinct and Sydney Olympic Park
- Enable future transport network flexibility
- Improve road safety and access for all road users
- Minimise traffic disruptions on the surrounding road network during construction
- Improve active transport connections and access to public transport

## 1.2 Purpose & scope of this report

This urban design, landscape character and visual impact assessment report has been prepared for Transport for NSW by CONTEXT as part of the report submitted to DPIE and to assist with developing an integrated urban design and engineering outcome for The Proposal.

Context has worked in collaboration with the infrastructure development team and Centre for Urban Design as well as specialist consultants at WSP. CONTEXT has sought inputs and background material from CM+ where required.

The purpose of this report is to inform the design of the scope of works by analysing the study area, formulating a series of design principles specific to the proposed works, illustrating the urban design concept, documenting the potential landscape character and visual impacts, and preparing a strategy to address appropriate mitigation measures and conditions of consent covering the approved project.

## 1.3 Project relationship with the Carter Street Precinct

The report also acknowledges the rezoning proposal and subsequent Development Control Plan (DCP) for the CSP, which lies adjacent to Hill Road on the northern side of the M4 Motorway. Although the site is currently industrial, the anticipated development would transform the site into a vibrant community, accommodating residential development alongside commercial and retail growth.

### 1.3.1 Potential impact on the Carter Street Precinct

The proposed project would connect to the existing high density industrial area and in the future with the CSP, acting as a gateway not only to the precinct itself, but to the greater Sydney Olympic Park Peninsula including Sydney Olympic Park, Wentworth Point and Newington and would connect these areas and Hill Road directly with the M4 Motorway.

This would reduce pressure on the local road system for the significant growth areas of CSP, Wentworth Point and Sydney Olympic Park where the populations are expected to increase substantially.

The CSP Development Control Plan (DCP) has prescribed business/commercial zoning for the land adjacent the M4 Motorway corridor which would provide a buffer for future residents from both the M4 Motorway and The Proposal.

Analysis of The Proposal study area and the anticipated landscape character/visual impacts can only be based on its current land use and not the proposed mixed use redevelopment of the CSP. However, the report has considered future land uses where relevant.

## 1.4 Impact assessment methodology

This report has been an iterative process in which urban design opportunities and constraints were integrated with the development of the proposed project in collaboration with the project team. The process involved:

- Site visits and photographic record of the study area, its landscape character and visual qualities
- Desktop review of relevant planning policies and procedures relating to the study area and its immediate and regional context
- Analysis of the study area and surrounding landscape including the built and natural qualities of the area
- Analysis of the study area's landscape character
- Development of urban design vision
- Development of the urban design concepts
- Assessment of the potential landscape character impacts of the preferred option for the proposed scope of works
- Assessment of the potential visual impacts of the preferred option for the proposed scope of works
- Provision of mitigation measures relevant to the project needs.

It should be noted that the report also acknowledges future land uses and the increase in residential populations, where there would be limited impact on future populations and it would be anticipated to be completed prior to people taking up residence.

Visual impacts also change over time as plantings mature, where visual impacts are typically greatest in the early phases of a project and diminish over time.

This process has occurred in collaboration with the aim of achieving an integrated urban design and engineering outcome that achieves the goals set out by Transport for NSW.

Landscape character and visual impact assessments of the study area have been undertaken in accordance with relevant guidelines, including TfNSW Environmental Guideline for Landscape Character and Visual Impact Assessment, TfNSW Beyond the Pavement and RMS Landscape Design Guideline. Methods used are derived from these guidelines and include site and proposal analysis, along with a review of the site's visual sensitivity and The Proposal's magnitude to determine the visual impact assessment.

## 1.5 Report structure

This report is structured as follows:

**Section 01 Introduction** - presents the background to the project, purpose, and scope of this report and the relevant urban design policies and guidelines, together with a description of the proposed scope of works.

**Section 02 Existing analysis** - analyses the proposed project scope of works and its context, particularly in relation to the Sydney Olympic Park Peninsula and the development of the CSP. This section also analyses the corridor's existing connectivity and defines landscape character zones (LCZs).

**Section 03 Proposal Analysis** - provides a contextual overview of The Proposal and its interface with other key developments, planning and accessibility strategies. This section also provides a review of potential site constraints and urban design opportunities such as place making.

**Section 04 Urban design strategy** - presents the urban design vision for the proposed scope of works, Transport for NSW's (TfNSW) urban design objectives and principles, and the specific urban design principles adopted for the project as informed by the landscape analysis.

**Section 05 Concept design** - presents the urban design concept plan, along with 3D-visualisations selected elements and the landscape treatment measures.

**Section 06 Landscape character Assessment** - assesses the potential impact that the proposed scope of works would have on the landscape character of each zone. It reflects how sensitive the landscape components in each zone would be to the scale (magnitude) of the changes introduced under the proposed development.

**Section 07 Visual Impact Assessment** - assesses the potential visual impact of introducing the proposed scope of works into the landscape of the local area. It does this by considering how the scale of the proposed scope of works would affect people's views. As it's impractical to assess the impact from every receiver in the study area, representative viewpoints have been used.

**Section 08 Mitigation** - presents where the mitigation measures relating to the project need supplementing or modifying to support development of The Proposal.



Homebush Bay  
Industrial Estate  
35 Carter Street

fastway



# 2.0

# Existing Analysis

WELCOME TO  
SYDNEY OLYMPIC  
PARK



# Context analysis

## 2.1 Introduction

The proposed upgrade at Hill Road is an enabling work for future residential densification in the area, such as the CSP, Sydney Olympic Park Peninsula and Wentworth Point, as a result of these upgrade works from the M4 motorway to Hill Road.

## 2.2 Regional Context

The proposed upgrade project is in the suburb of Lidcombe and next to the Sydney Olympic Park.

Hill Road is located halfway between the key north-south links of Silverwater Road and Homebush Bay Drive. Both Homebush Bay Drive and Silverwater Road provide connections across the Parramatta River.

The proposed upgrade project footprint is centrally located in the Sydney Metropolitan region close to areas of varying land use including residential suburbs of Strathfield, Newington, Wentworth Point, Rhodes and Sydney Olympic Park Peninsula and enterprise/light industrial in Auburn, Flemington and the area adjacent to Silverwater Road between the M4 Motorway and the Parramatta River.

The proposed upgrade project supports future traffic demand, and provides motorists travelling westward with improved access to Sydney Olympic Park Peninsula. It is adjacent to current development initiatives including the CSP and Parramatta Road Corridor Urban Transformation initiative.

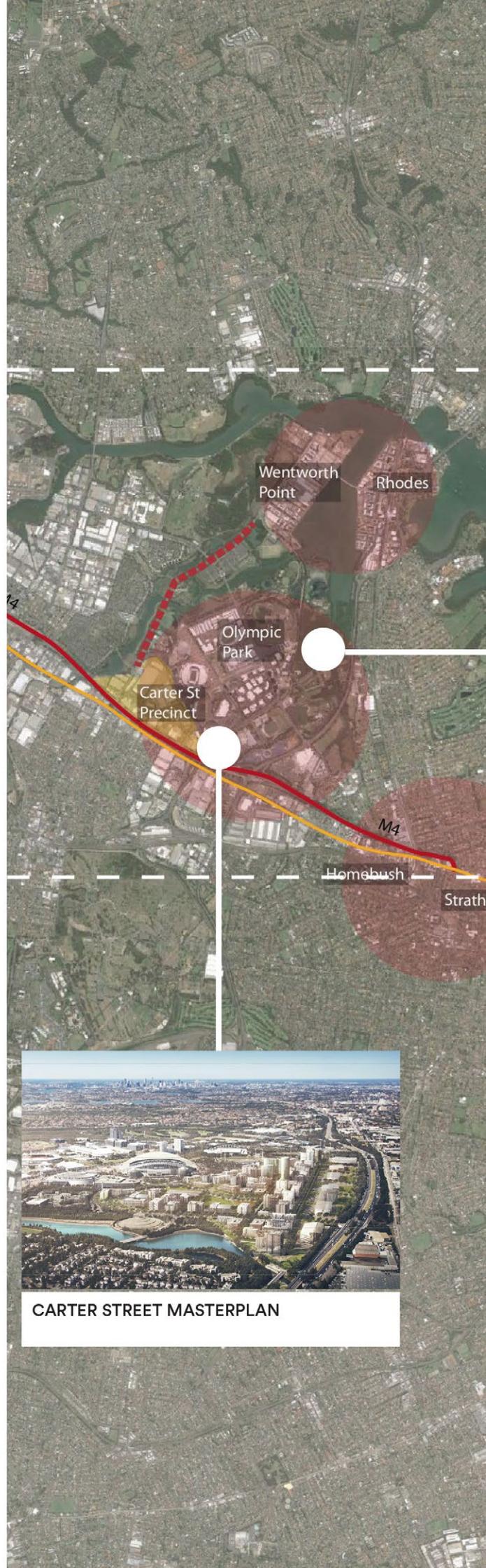
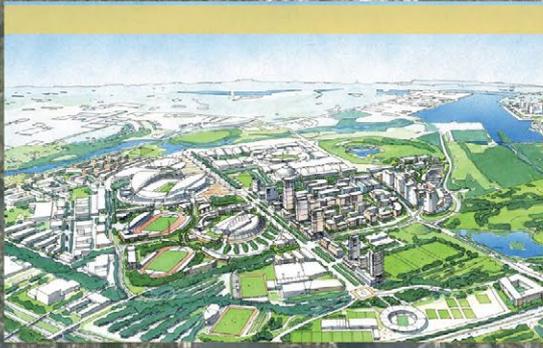


Figure 2-1. Regional context



OLYMPIC PARK INCL HASLAM'S CRK

Burwood  
field

CBD

Parramatta Rd

Parramatta Rd



NEW PARRAMATTA ROAD CORRIDOR

LEGEND

-  Proposed M4 Hill Rd Off Ramp
-  M4 Motorway
-  Arterials
-  Major Development

## 2.3 Local Context

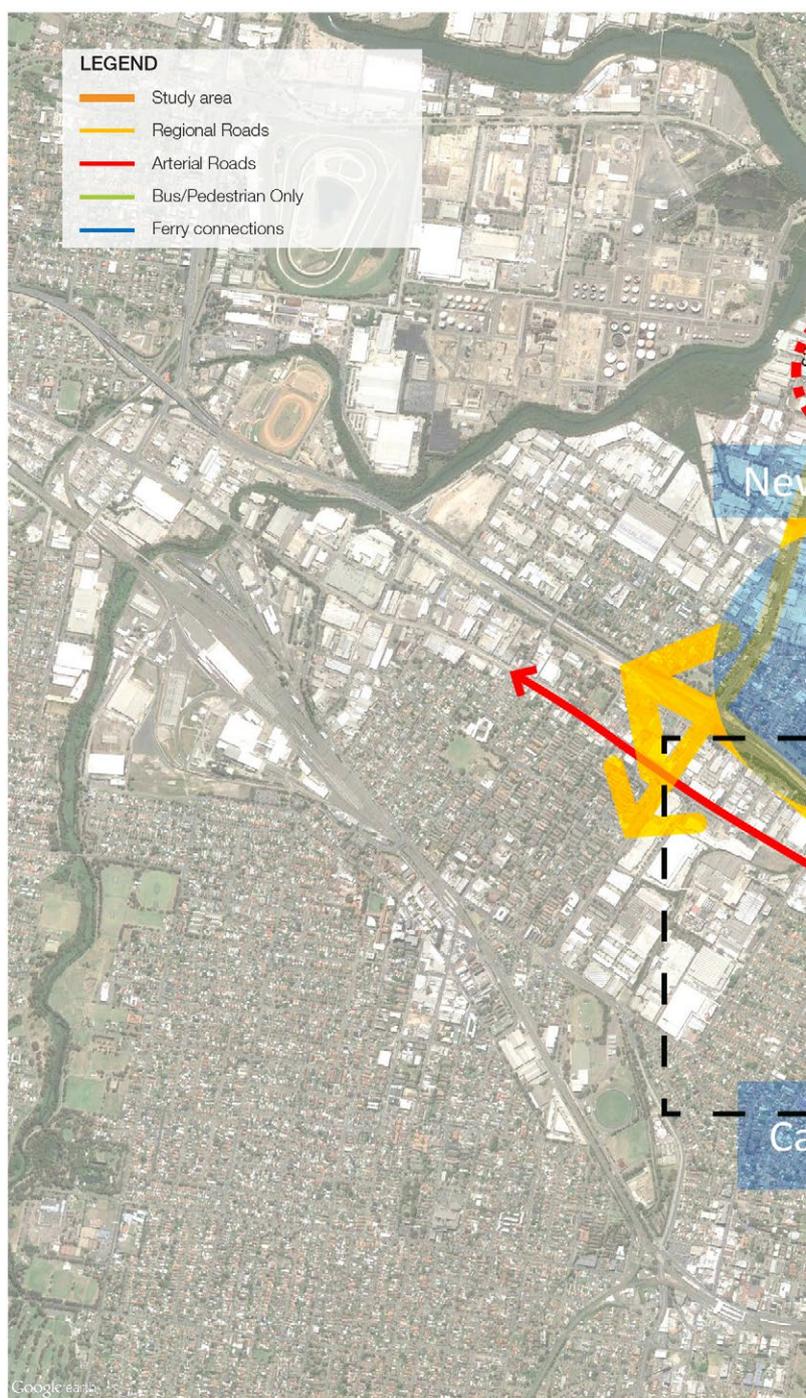
The planned strategic growth areas of Sydney Olympic Park Peninsula and the CSP form an urban hub centrally located within the inner Sydney metropolitan region. The Sydney Olympic Park facilities, including ANZ Stadium, Acer Arena, the Swimming Centre and the Sydney Showground, comprise one of the largest event precincts in Australia and continue to draw large crowds into the area on a regular basis. Within the area, a significant amount of public open space and reserves provide opportunities for passive and active recreation.

Waterways in the area include Haslams Creek and its tributary, and Powells Creek, both of which drain to the Parramatta River. These define the catchment area for Hill Road.

The Proposal is located on the southern boundary of the site identified by the NSW Government as the Greater Parramatta to Olympic Peninsula Urban Renewal area. The plan for the renewal area will look at opportunities for new community facilities, public spaces and housing growth. The ongoing development of the local context has the potential to add up to 50,000 extra dwellings to the Sydney Olympic Park Peninsula by 2036.

The Proposal would benefit the Peninsula, currently occupied by light industrial and commercial infrastructure, but undergoing rapid change to a predominantly high density residential area.

The Proposals' footprint is partially located in the CSP and would provide the key gateway entry into Precinct while also providing direct access to the western and northern sections of the wider Sydney Olympic Park Peninsula.



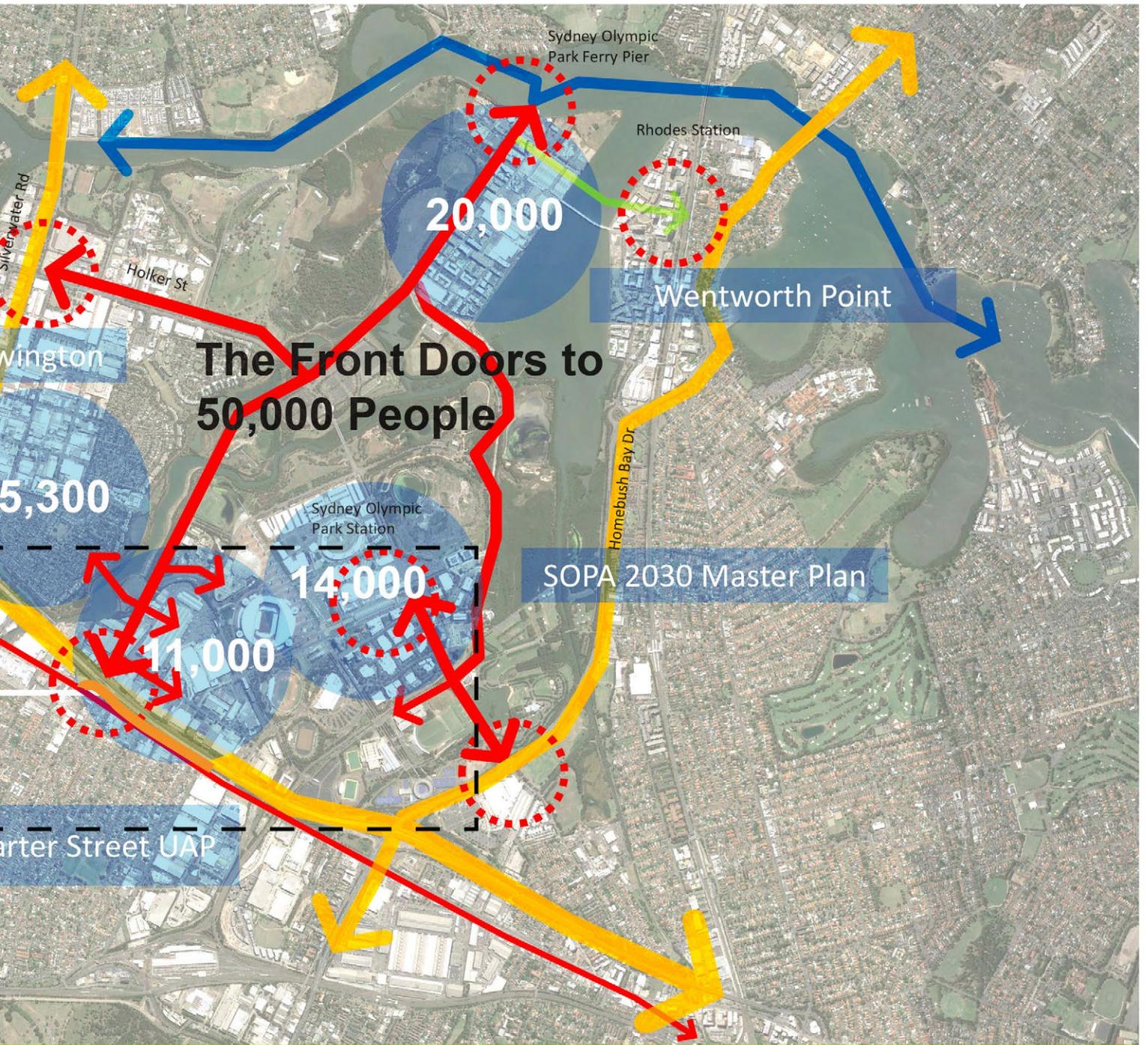


Figure 2-2. Projected resident growth and connectivity of the local context

### 2.3.1 Sydney Olympic Park Peninsula

Sydney Olympic Park's role within the growth plan for the Peninsula is to provide new residential development, office space and to enable infrastructure to support growth and urban renewal. The Master Plan 2030 (land of which is outlined in red, see Figure 2-3) is a vision for the sustainable development of Sydney Olympic Park Peninsula, and to ensure it becomes an active and vibrant urban centre. Detailed planning provisions have been implemented for the town centre, which encompass nine specific development areas including residential, sports and education, stadia, and showground precincts.

The Master Plan 2030 provides for a projected daily population of 31,500 workers, 15,000 visitors, 5000 students and 14,000 residents (as demonstrated in Figure 2-2) to ensure an active precinct around the clock. Access to and from Sydney Olympic Park Peninsula would need to improve to enable the projected increase of commercial and residential users while ensuring the hosting of large events can continue to be facilitated.



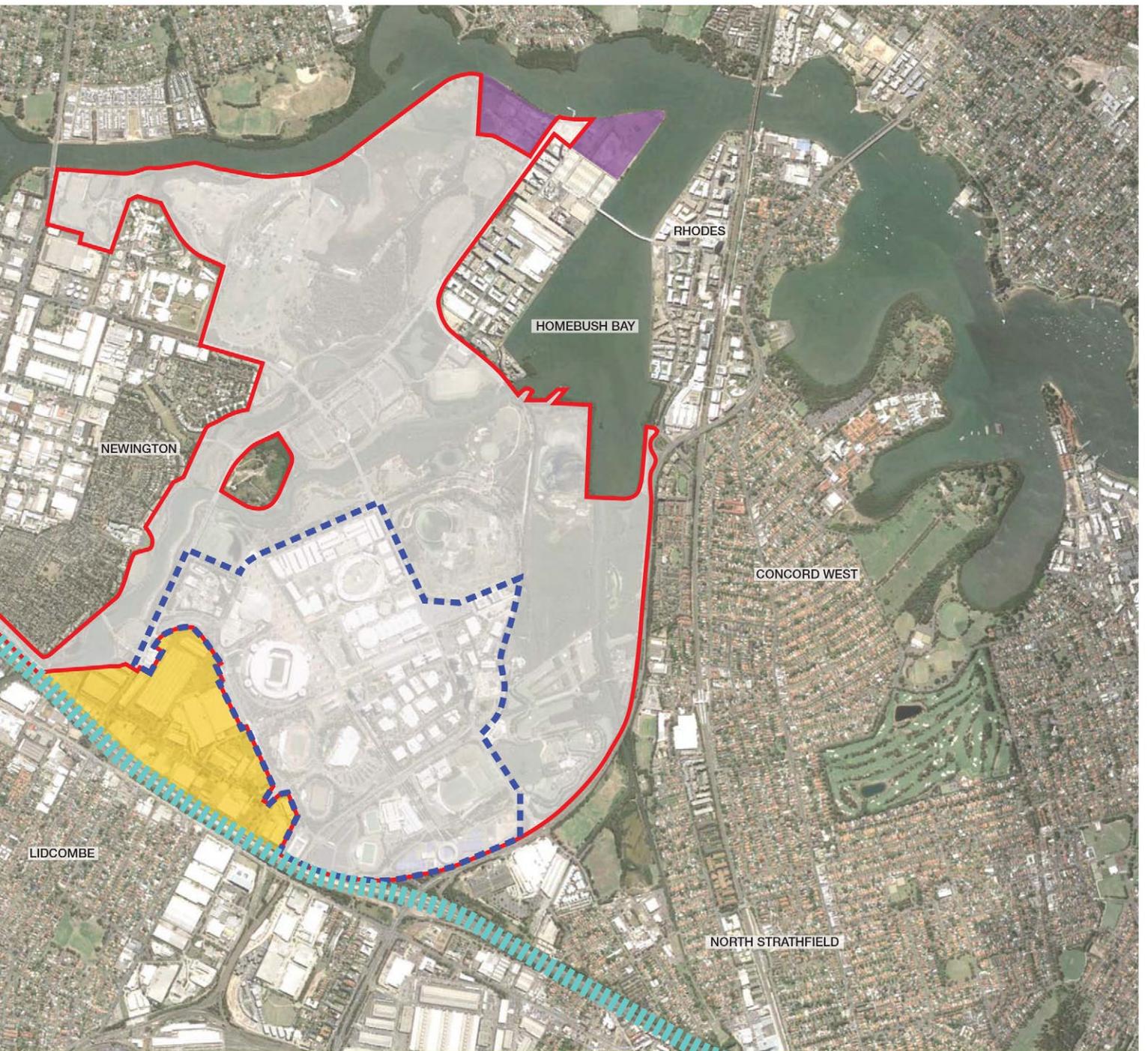


Figure 2-3. Local development context

## 2.4 Existing Project Context

### 2.4.1 Land Use (LEP and SEPP [Major Development] 2005)

Current land use adjacent to The Proposal primarily consists of industrial/commercial uses with recreational amenity areas to the north.

#### SP2 Infrastructure

The M4 Motorway corridor is zoned as major road infrastructure (SP2). The SP2 land zoning is reserved for special uses. It generally includes infrastructure and its clearance zones. An area within the CSP has been designated as a school site and is also zoned SP2.

#### B6 Enterprise Corridor

The land use zone along the M4 Motorway frontage to the north and south is zoned for business and commercial use (B6, Enterprise Corridor). It is not identified as a sensitive area.

The first section of The Proposal footprint along Hill Road falls within this land use zone. Currently, this land is still mainly used for commercial development.

Anticipated uses in this area include business and commercial and activities with some supporting amenity retail. This land use zone provides a buffer between the M4 Motorway and the future high density residential zoning (R4) of the CSP.

#### R4 High Density Residential

Hill Road from Carter Street to about 80- metres south of the John Ian Wing Parade Intersection is zoned for high density residential development (R4). It is anticipated that up to 11,000 people will live in the CSP.

#### B2 Local Centre

The CSP also includes zoning provisions for a local centre (B2). This will provide civic and retail amenity for the precinct.

#### R2 Low Density Residential

An area zoned as low density residential (R2) is located south of the M4 Motorway and covers the existing housing in Lidcombe. This consists of single family homes generally one to two storeys in height.

#### B4 Mixed Use

Sydney Olympic Park Peninsula is zoned as SEPP (Major Development) (B4). This includes the Olympic facilities, businesses, and Royal Agricultural Showgrounds.

#### RE1 Public Recreation

There are several areas east and west of The Proposal footprint that are zoned for future recreational purposes (RE1) in the CSP.



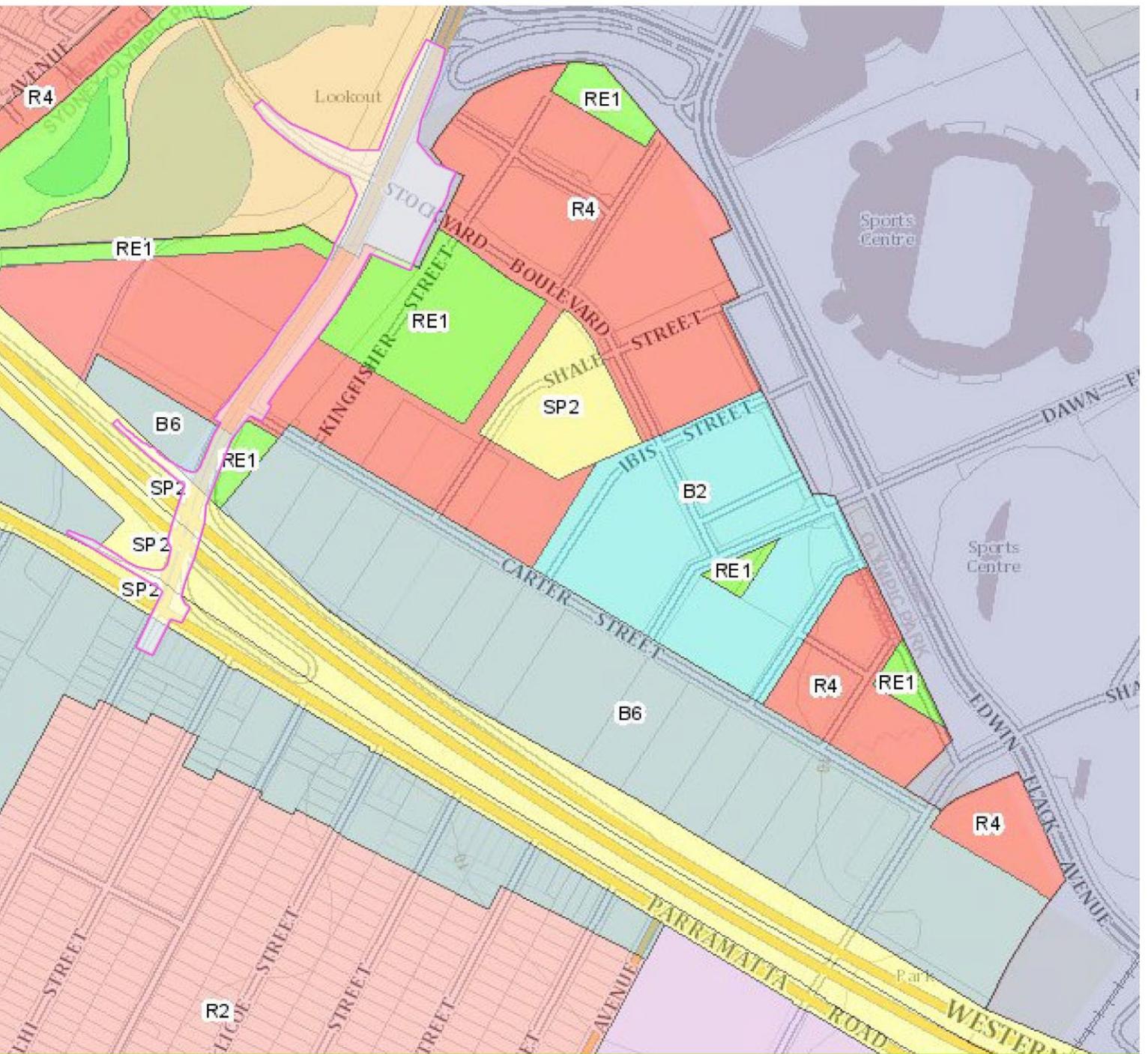


Figure 2-4. Surrounding land use

## 2.4.2 Building Heights

Building height limits are associated with each zone. They range from nine metres in the existing low density residential zone (B2) to the south of the M4 Motorway up to 72 metres for future buildings within the local centre (B2) of the CSP. The zoning controls allow any high density residential buildings next to Hill Road (R4) to be up to 42 metres.

It should be noted that there may be a difference between some of the controls in the finalised master plan and the SEPP and LEP; such as the building heights permissible along Hill Road and other key areas. Both should be read in conjunction and the prevailing document at the time referred to.

### Maximum Building Height (m)

J	9	V1	35
K	10	V2	36
M	12	V3	38
N1	14	W	42
N2	14.9	X1	45
O1	15	X2	48
O2	16	Y	53
O3	16.9	Z	55
P1	17	AA1	60
P2	18	AA2	66
Q1	19	AA3	67
Q2	20	AA4	72
R	22.9	AA5	78
S	24	AB1	81
T1	25	AB2	84
T2	26	AB3	85
T3	28	AB4	88
T4	29.9	AB5	90
U1	32	AB6	96
U2	33	AC1	115
		AC2	116

 Refer to Clause 4.3(2A)(a)

 Refer to Clause 4.3(2A)(b)

### Incentive Maximum Building Height (m)

(Refer to Clause 7.5)

	90
	103
	109
	144





Figure 2-5. Building Heights

### 2.4.3 Existing Vegetation Character

The Proposal footprint sits within a highly modified environment where the natural vegetation has been largely cleared to such an extent that only a small remnant exists within the study area to the south of the M4 Motorway, east and west of Hill Road (see Figure 2-7 adjacent). The proposal would impact a minor corner of the remnant vegetation when constructing the left turn lane and widening the footpath onto Hill Road northbound.

This removed vegetation comprises shale gravel transition forest and mainly includes mature stands of Woolly butt (*Eucalyptus longifolia*) and White Feather Honey Myrtle (*Melaluca decora*). This area forms an important threatened ecological community and locally listed heritage item under the LEP. Refer to Appendix K: technical working paper 6: statement of heritage impact.

Other vegetation that now exists along the M4 Motorway corridor is a mix of planted exotic and non-indigenous species along the verges of the road. The understory is characterised by exotic weed species.

The Narawang Wetlands are located to the north of The Proposal footprint. They provide an aquatic habitat that is supported by Haslams Creek. The wetlands provide shelter, feeding and breeding grounds for native fauna including the endangered Green and Golden Bell Frog and birds such as Latham's Snipe and the Forest Kingfisher. Comprising a series of habitat ponds and grassy sedgeland vegetation, the reconstruction of the wetland took place before the Sydney 2000 Olympic Games to reinstate the former wetlands once existing on the floodplain of Haslams Creek. Native grasses, sedges and rushes alongside emergent macrophytes have established along the edges of the Wetlands (Water Systems at Narawang Wetland, 2012).

The adjacent Newington Nature Reserve is a 13-hectare woodland comprising remnant forest including Turpentine-Ironbark Forest and Swamp-oak Floodplain Forest.



Figure 2-6. Remnant community



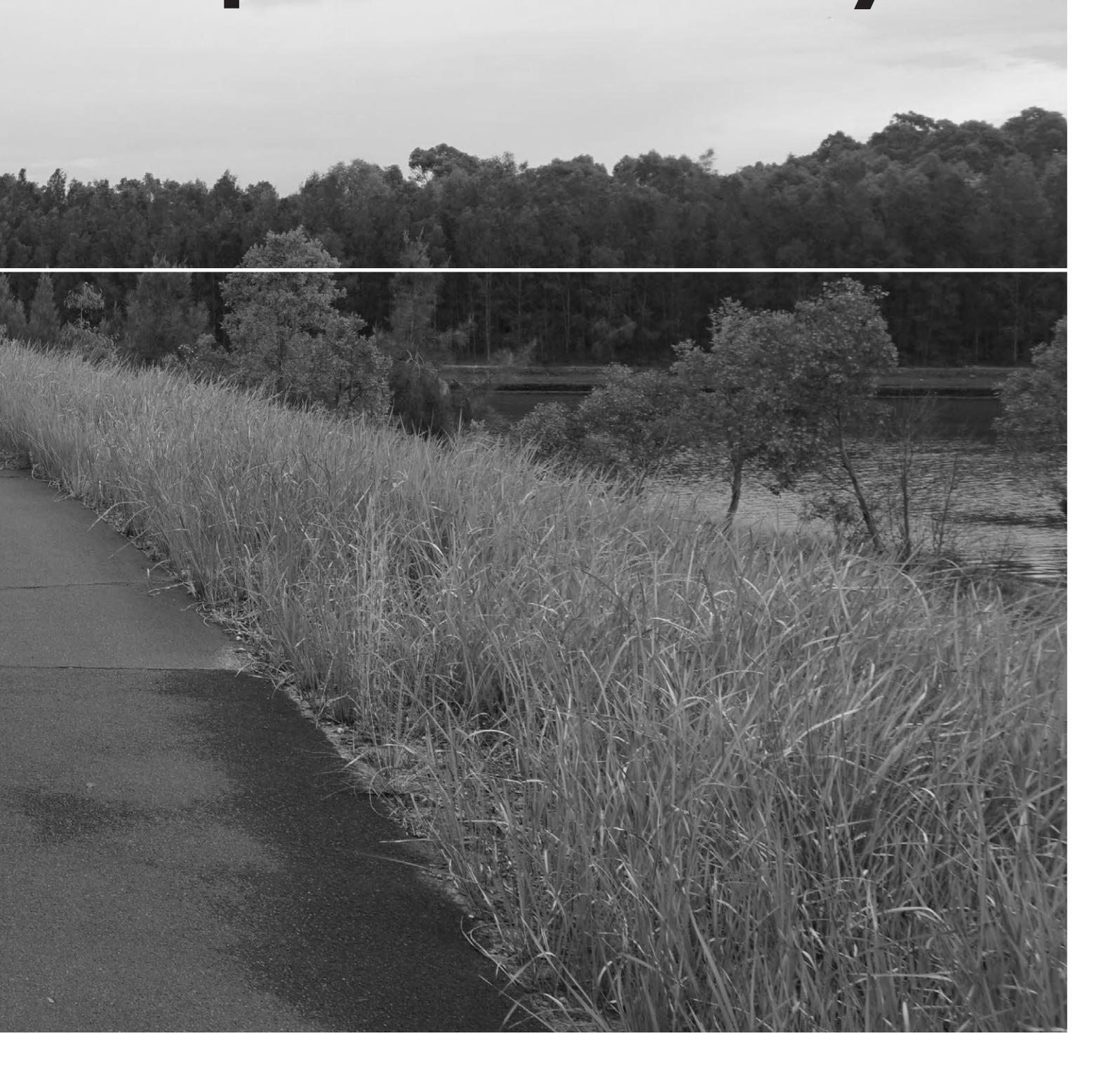
Figure 2-7. Vegetation character





3.0

# Proposal Analysis



The lower portion of the image shows a landscape with a paved path on the left, tall grasses in the middle ground, and a body of water in the background. The sky is overcast.

# Opportunities and Constraints

## 3.1 Proposed Surroundings

### 3.1.1 Carter Street Precinct

NSW Department of Planning, Industry and Environment produced a Priority Precinct Finalisation Report in support of the rezoning proposal for approximately 52 hectares of land known as the CSP in Lidcombe. See Figure 3-1.

The area was endorsed as a priority precinct by the NSW Government as part of the 2012-13 budget. The precinct falls within the Greater Parramatta to Olympic Peninsula Urban Renewal area and is a component of the Governments' overall vision to accommodate new community facilities, vibrant public spaces and housing. The precinct is adjacent to major sports, recreational and entertainment facilities and connects to Sydney Olympic Park and parklands. The site also optimises the significant government infrastructure investment in the transport network: Olympic Park Train Station, M4 Motorway and Parramatta Road.

The Precinct would provide 5,500 new homes to the Olympic Park Peninsula alongside a business and technology park, light industry and corporate offices, educational facilities and a new village centre of shops and services.



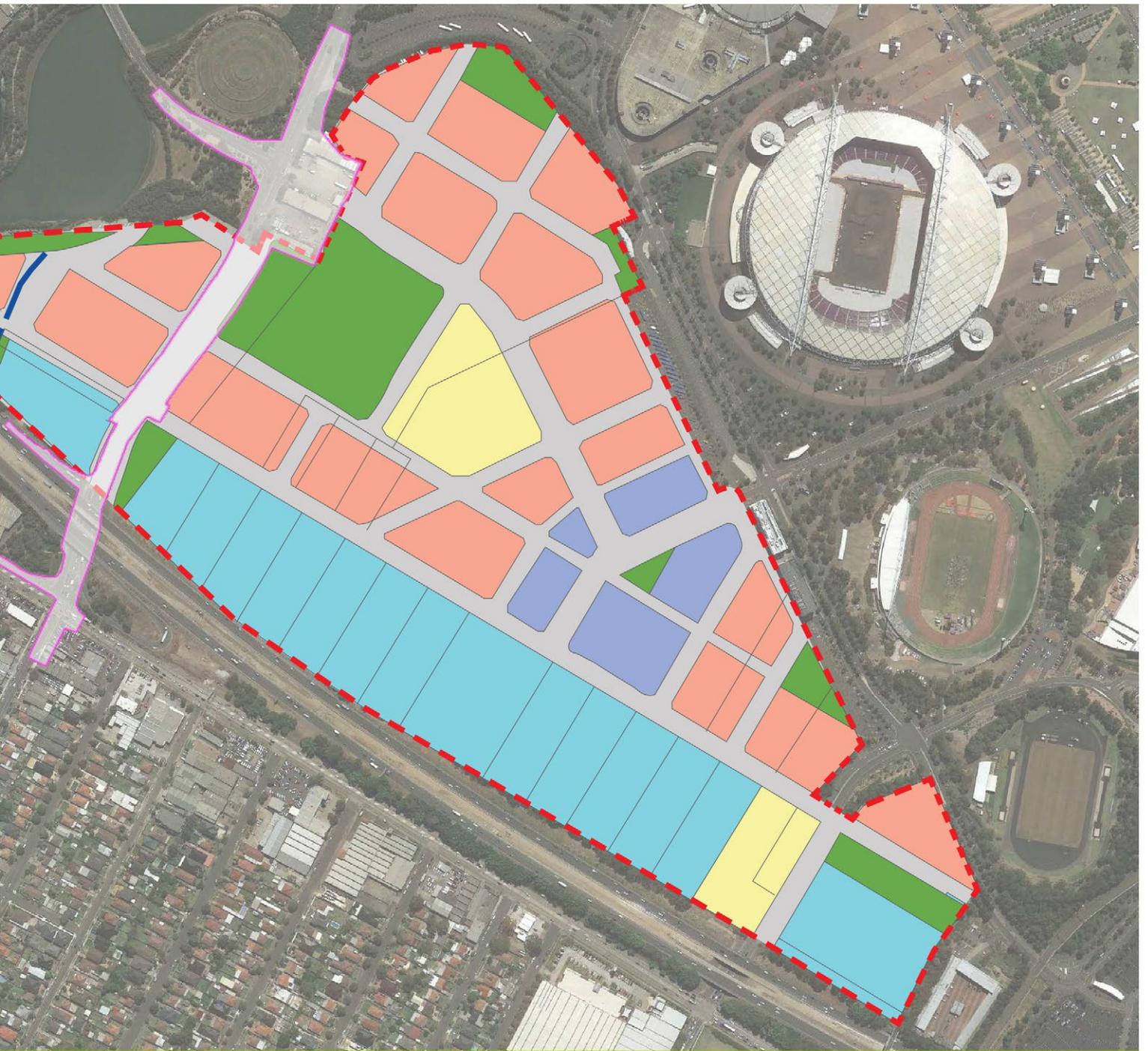


Figure 3-1. Carter Street Precinct - Indicative Structure Plan (Finalisation Report 2020)

### 3.1.2 Proposed Connectivity

#### Motorised Vehicles

Local connectivity from Hill Road is currently provided to and from Carter Street and John Ian Wing Parade. Private driveways currently provide access to properties on the western side of Hill Road. Future connectivity would include additional streets east and west of Hill Road.

Vehicular access would be enhanced by upgrading Hill Road by widening 700 metres of Hill Road between M4 Motorway and Old Hill Link Road to include two northbound lanes from Parramatta Road to the John Ian Wing Parade intersection, two northbound right-turn lanes at the John Ian Wing Parade intersection on to Green Spine Road, and three southbound lanes between the John Ian Wing Parade intersection and the eastbound M4 Motorway on-ramp.

Further improvements are being made by upgrading the eastbound M4 Motorway off-ramp by signalling and widening to two lanes, and Bombay Street would include an additional northbound lane including a dedicated right turn, left turn and through lanes at Parramatta Road intersection and converting the Carter Street intersection from a T-intersection catering for all movements to a left-in, left-out intersection, installing a median and maintaining the existing two through lanes northbound on Hill Road.



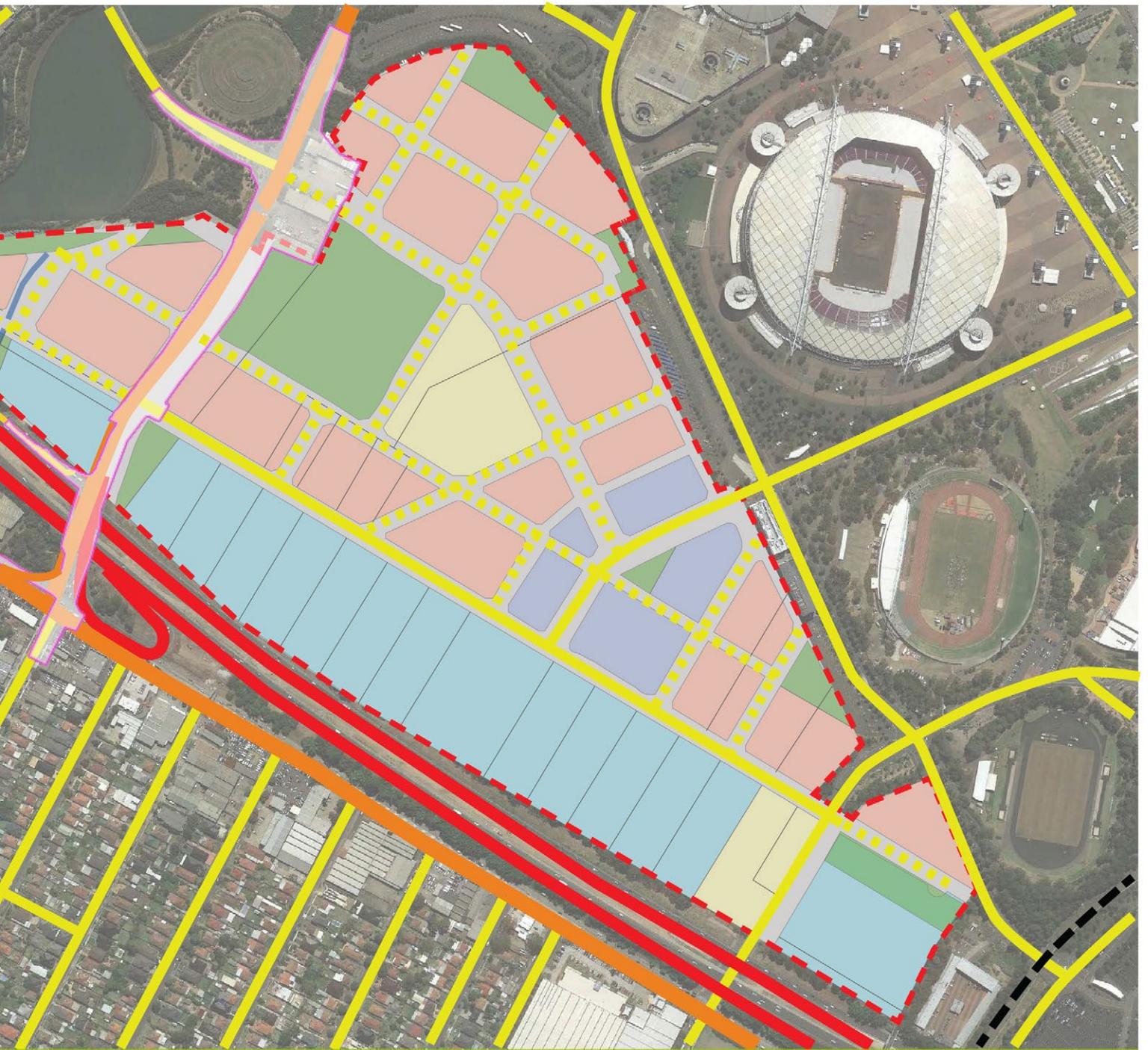


Figure 3-2. Connectivity

### 3.1.3 Proposed Access & Circulation

#### Active Transport

The DCP identifies John Ian Wing Parade intersection with Hill Road as being a major active transport gateway. Its purpose would be to connect Newington with the entertainment, recreational and sports precinct of the Sydney Olympic Park and the regional cycle network. Currently a path of varying width, shared by pedestrians and cyclists, is located along the western side of Hill Road. No formal path has been provided along the eastern side.

Pedestrian movement would be enhanced by constructing a new four-metre-wide shared user path (SUP) on the western side of Hill Road between Parramatta Road and Carter Street and on the eastern side of Hill Road between Carter Street and Green Spine Road. The SUP would be connected via a new signalised pedestrian crossing on Hill Road north of the M4 Motorway eastbound off-ramp.



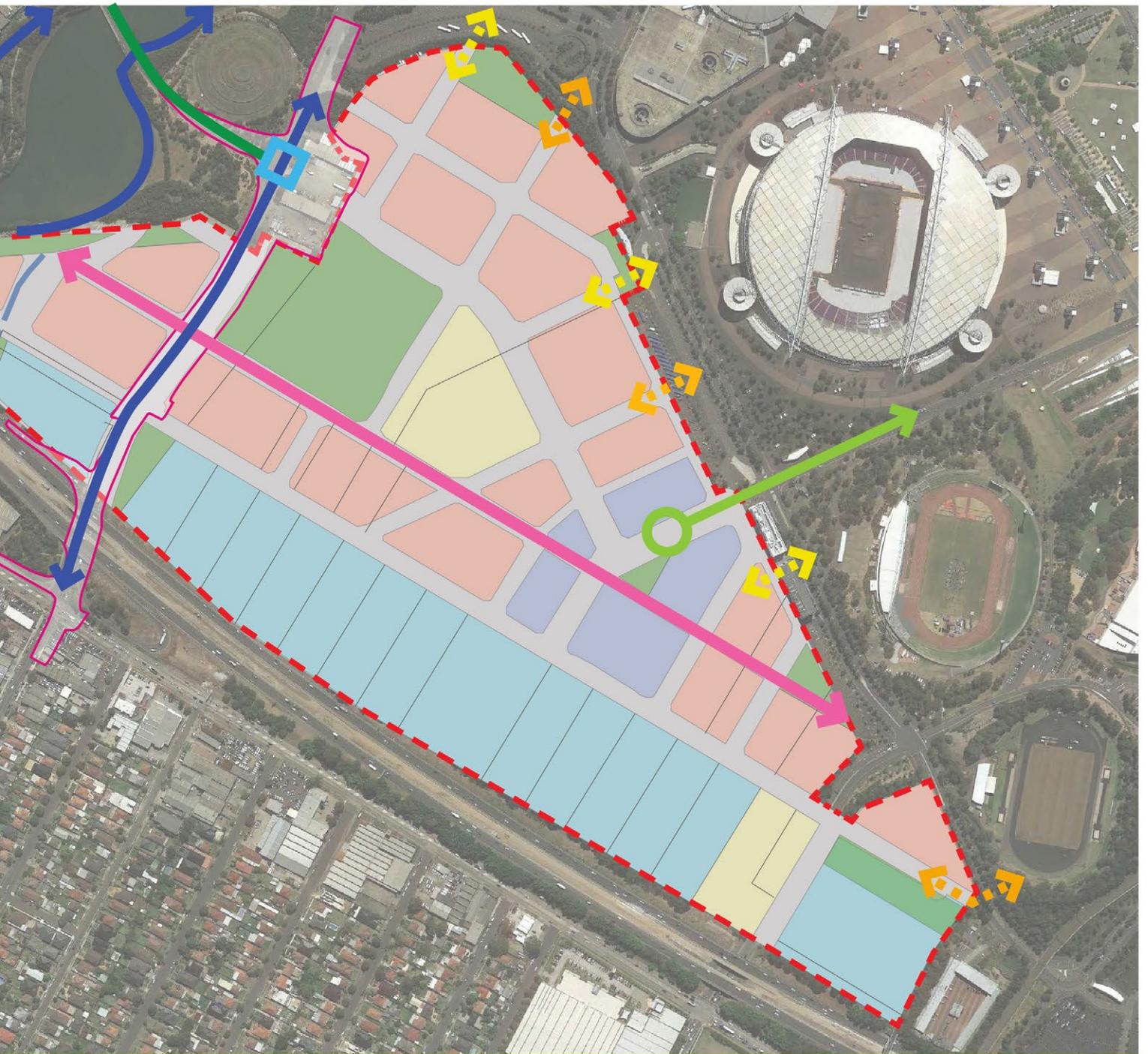


Figure 3-3. Pedestrian, cycle and vehicular access and circulation

## 3.2 Opportunities & constraints

Figure 3-4 illustrates the potential opportunities and constraints of The Proposal that have informed the development of the urban design concept. These include:

### Opportunities:

- Opportunity to reinforce active transport links within the proposed footprint.
- Opportunity to provide landscape setbacks consistent with the CSP DCP.
- Landscape reinstatement opportunities and make good opportunities along Hill Road proposed works, and at the Parramatta Road intersection, where space permits.

### Constraints:

- Visual impacts on adjacent planned and existing residential areas to be considered.
- Fitting alongside the existing M4 motorway without impacting the use of adjacent commercial buildings.
- Removal of existing vegetation would be required due to SUP works along Hill Road and the existing off ramp.



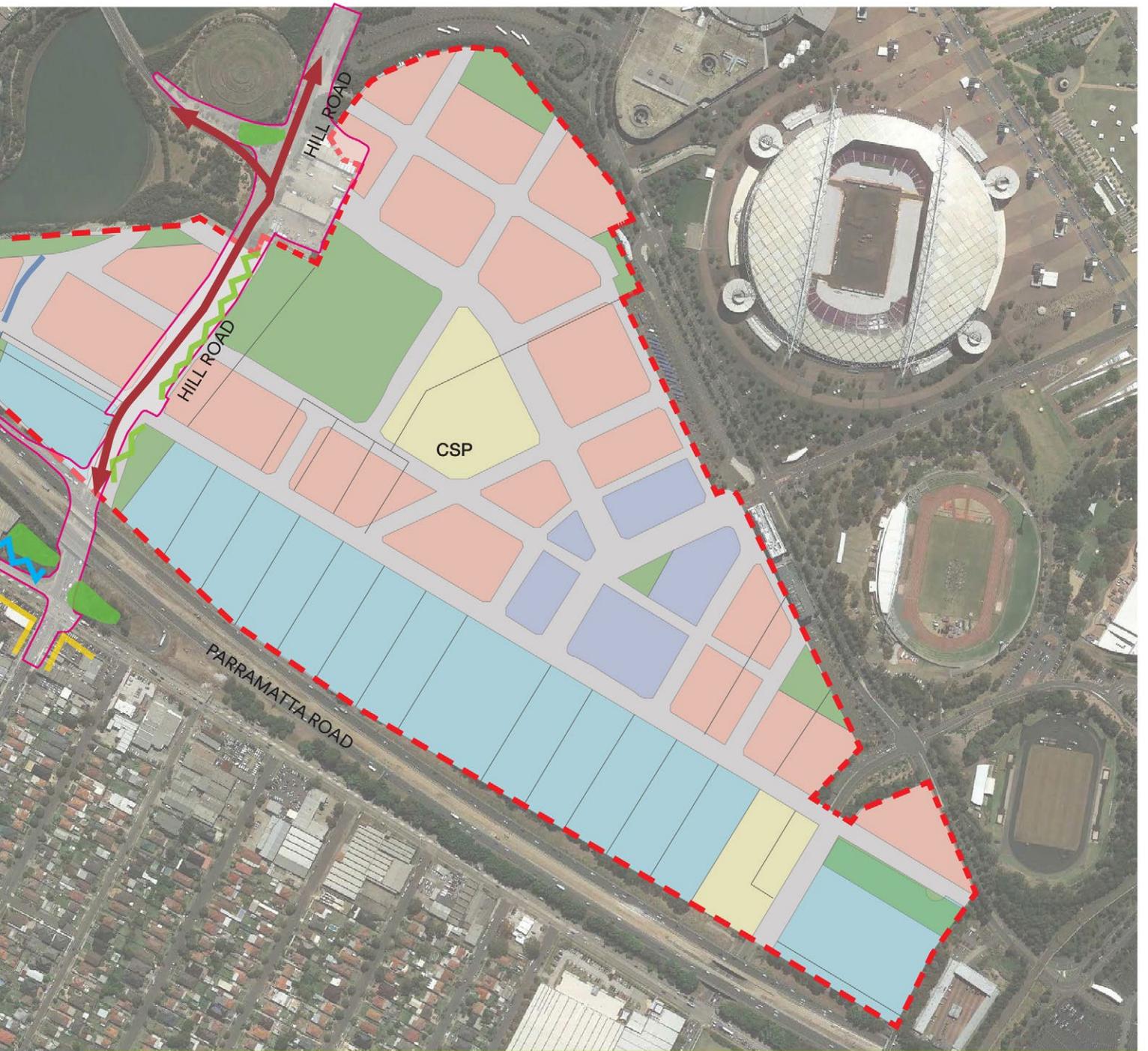


Figure 3-4. Opportunities & Constraints



### 3.3 Placemaking Opportunities

Several locations near The Proposal contribute to the placemaking potential of the area. These include:

#### Parramatta Road

The street character of the Parramatta Road / Hill Road intersection would be improved by minimising damage to existing vegetation. Where construction damage does occur, ensuring the revegetation of these intersections would help to maintain the existing character.

#### Public Recreation RE1 parcel at M4 Motorway and Hill Road underpass

The open space has the potential to enhance the existing vegetation community.

#### Carter Street

The Proposal recognises the adjacent CSP as an integral change to the future character of Hill Road. The CSP signifies a change to include recreational open space and the development of a high density residential precinct. The Proposal's design integrates with the CSP proposed open space, and ensures accessibility and views are not precluded.

#### Hill Road

The Proposal provides the opportunity to reinforce the existing Hill Road street tree avenue planting within the project boundary. The corridor continues to the Sydney Olympic Park Ferry Wharf on the Parramatta River and it provides views of the parklands along the way. Present views should be protected and framed with planting where possible, and further developed in the future detailed design phase.



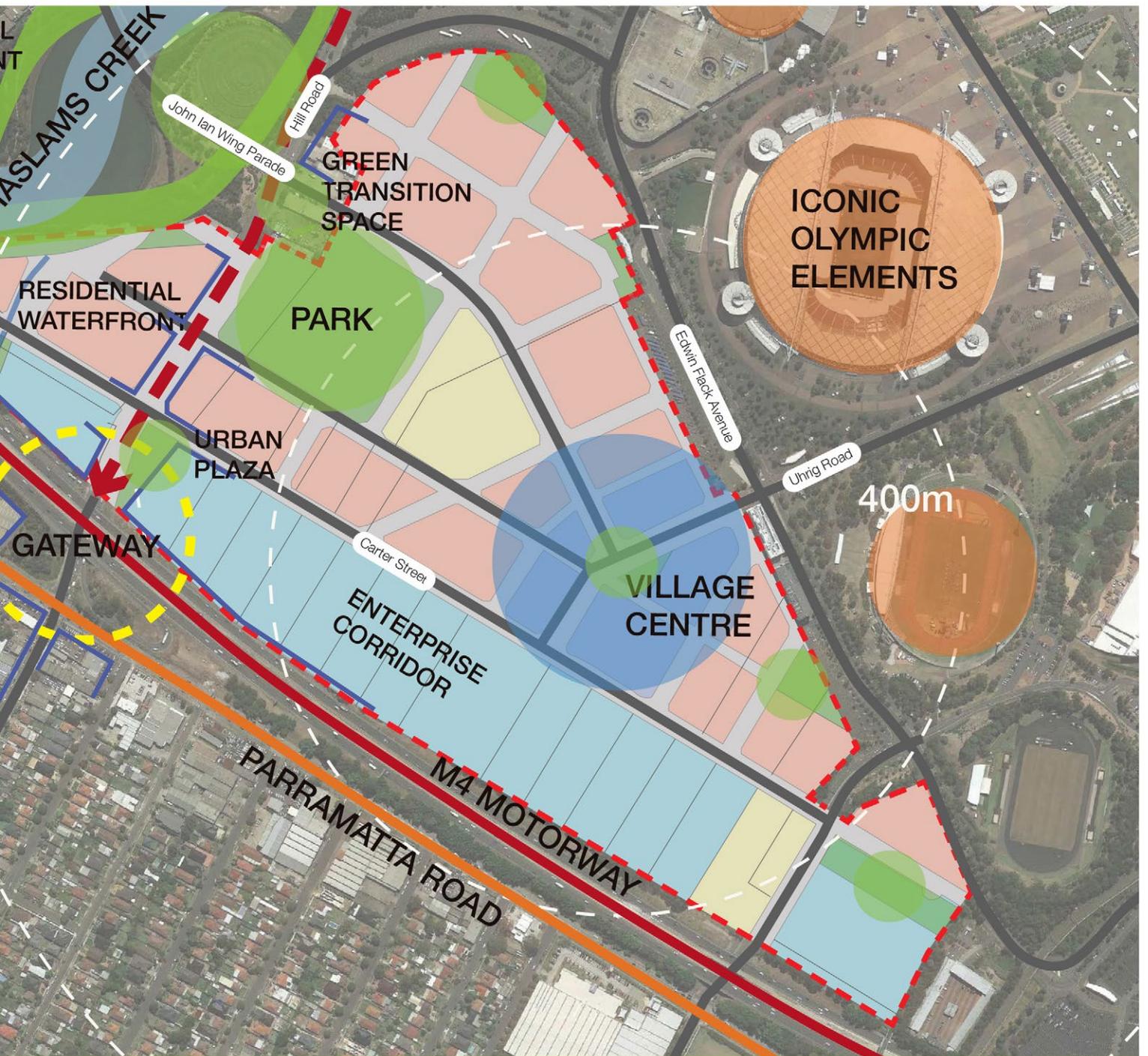


Figure 3-5. Urban Street Amenity





4.0

**Urban Design  
Strategy**

# 4.0 Urban Design Strategy

## 4.1 Introduction

The Proposals urban design was developed to consider the guidelines in:

- Crime prevention and the assessment of development applications (DUAC, 2001)
- Crime Prevention through Environmental Design (CPTED, Queensland Government, 2007)
- Beyond the Pavement (TfNSW, 2020)
- Disability (Access to Premises – Buildings) Standards 2010
- Technical Guideline for Urban Green Cover in NSW (NSW Government, 2012)
- Healthy Urban Development Checklist (NSW Health, 2009)

## 4.2 Urban design vision

The urban design vision for The Proposal is to provide a simple elegant design for this gateway location to the CSP and Sydney Olympic Park Peninsula, while improving connectivity in the form of smooth, efficient and safe egress from the M4 Motorway. The vision recognises that this piece of infrastructure is part of the dynamic transformation of this part of Sydney that also includes the Green Grid, and the upgrade of Parramatta Road.

## 4.3 Project-specific urban design principles

In addition to the objectives, the following specific principles respond to predominant issues of visual amenity, place-making and impact upon future development of the surrounding environment because of current planning strategies.

### 4.3.1 Key design principles

- Provide a design that contributes to the character of the area and the experience of the road user.
- Reinforce the physical and visual relationship between the eastern and western sides of Hill Road.
- Provide a vegetated buffer between the M4 Motorway and the associated roads where applicable in the project footprint.
- Provide a cohesive and legible pedestrian and cycle network

### 4.3.2 Visual design principles of The Proposal

The design should incorporate:

- A continuous flowing design that provides a simple elegant upgrade within the urban landscape
- A design that minimises visual clutter when viewed from the surrounds
- Use of light coloured materials that do not add to visual clutter.
- Development of smooth transition areas so that the new works are seamlessly integrated into the existing visual environment.
- Undergrounding of overhead utilities to reduce visual clutter

### **4.3.3 Design objectives relevant to the Carter Street Precinct Vision**

The Proposal supports the vision of the CSP, by:

- Providing vehicular connection from the M4 Motorway and pedestrian/cycle shared connections to and from Parramatta Road and the broader Sydney Olympic Park.
- Contributing to the network of publicly accessible open spaces by activating linkages across Hill Road.

### **4.3.4 Design objectives relevant to the New Parramatta Road Urban Renewal Strategy**

The proposal supports the aims and objectives of the New Parramatta Road Urban Renewal Strategy. The vision for increased development density within the suburb of Auburn would be supported through the provision of key cycleway connections from Parramatta Road, underneath the existing M4 Motorway and onto the broader Sydney Olympic Park area.





# 5.0

# Concept Design



## 5.1 Process, outcomes & future steps

The Proposal design process acknowledges the future change in the character of Hill Road within the extent of footprint through the implementation of the CSP and the recent widening of the M4 Motorway.

A key consideration was The Proposal's impact on people living and working in the area in the future.

### Key features of the concept design include:

#### Major design feature 1 – Upgrading Hill Road

- Hill Road would be widened (700 metres) to include three lanes on the northbound carriageway, three southbound lanes and new shared user path (SUP). Widening of Hill Road would also accommodate additional turn lanes into John Ian Wing Parade.
- The SUP is proposed to enhance pedestrian and cyclist connectivity through the Sydney Olympic Park Precinct. SUP provisions are to be made on the northwest corner of the Parramatta Road / Hill Road intersection, and the eastern side of Hill Road between Carter Street and Old Hill Link.

#### Major design feature 2 – Modifying Parramatta Road and Hill Road intersection

- Upgrade works of Parramatta Road would be to provide a left turn only lane with channelised left turn type onto the northbound side of Hill Road. This access would connect eastbound side traffic from Parramatta Road to the northbound side of the Hill Road.
- In addition, the upgrade would include improving and widening the 3.5 metre footpath on Parramatta Road and Hill Road (northbound).

#### Major design feature 3 – Widening Bombay Street

- Space between kerbs of Bombay Street are to be better utilised. A revision of linemarking would allow for an additional northbound lane including a dedicated right turn, left turn and through lanes at the Parramatta Road intersection.

#### Major design feature 4 – Converting the Carter Street intersection

- The existing T-intersection at Carter Street would be converted to a left-in, left-out intersection. Right turn movements by motorists at this intersection would be prevented. In addition, the intersection would include installation of a median and maintaining the existing two through lanes northbound on Hill Road.

#### Major design feature 5 – Upgrading the intersection at John Ian Wing Parade

- The upgraded intersection is to accommodate access to the new CSP with an additional leg on the eastern side of Hill Road to a four-way intersection.
- The new leg to the eastern side of the Hill Road is named as Green Spine Road. The revised John Ian Wing Parade intersection would allow for duel lane turning access into Green Spine Road from the northbound side of Hill Road. This would be in addition to the two existing northbound lanes and three existing southbound lanes.
- The eastbound side of this intersection would include a new three-metre wide footpath and connect with the existing footpath and SUP to Green Spine Road.

#### Major design feature 6 – Kerb adjustment on Birnie Avenue and Parramatta Road intersection

- Due to the changes of permitted movements at Carter Street, B-Doubles may access Carter Street via Birnie Avenue. In order to accommodate this B-Double left turn movement, a kerb adjustment is required on the northwest corner of the Birnie Avenue and Parramatta Road intersection. The existing footpath at this location would be reinstated once the construction of the kerb widening is completed.
- The signalised pedestrian crossing arrangements on Birnie Avenue near to this intersection would be relocated further north from its current position to maintain safety and street lighting arrangements.





Figure 5-1. Urban Design Concept



Figure 5-2. Urban Design Concept

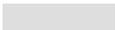
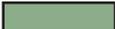
## 5.2 Urban Design Concept

The urban design concept (see Figure 5-1 and 5-2) responds to the vision and the specific objectives and principles for The Proposal identified and illustrated in Chapter 4 Urban Design Strategy.

The Urban Design landscape strategy recommends the;

- Provision of vegetated medians where space permits and within road safety and detailed design requirements
- Provision of vegetation either side of the Shared User Path to stabilise potential batters, and provide visual buffering between proposed works and existing / future neighbouring facilities.

### LEGEND

-  Proposed Concrete Median
-  Proposed Tree Canopy
-  Existing Path
-  Proposed Shared Path
-  Vegetated Median / Low Planting
-  Reinstated Vegetation
-  Temporary Vegetation
-  Open Space Vegetation
-  Proposed Tree Canopy
-  Indicative Future Tree Canopy

Specific landscape interventions include:

- 1 Reinstated impacted vegetation along roadside to match adjacent Haslam's Marker & existing vegetation
- 2 Provide canopy vegetation alongside proposed Shared User Path where space permits and within road safety and future detailed design requirements
- 3 Provide new temporary vegetation solution within acquired land to match adjacent Haslam's Marker and existing vegetation
- 4 Integrate vegetation along side of Shared User Path into the CSP open space (indicative only, to be confirmed with relevant stakeholders during future detailed design)
- 5 Provide canopy vegetation alongside proposed Shared User Path to tie in to adjacent CSP parkland, where space permits and within of road safety and detailed design requirements
- 6 Reinstated lost vegetation alongside foot path near the M4 off ramp, with species to suit existing vegetation communities
- 7 Reinstated lost vegetation alongside Shared User Path near Parramatta Road, with species to suit existing vegetation communities
- 8 Reinstated lost vegetation along roadside near Birnie Avenue, with species to suit existing vegetation communities



## 5.3 Concept Character B | Parramatta Road

### Key Moves

- 1 Create a shared use path on the western side of Hill Road allowing connectivity between Parramatta Road and the Sydney Olympic Park Peninsula.
- 2 Reinstatement of vegetation lost to The Proposal at the north-western corner of the Parramatta Road and Hill Road. Revegetation with preference to use species selected from the extant Shale Gravel Transition Forest vegetation community, or other hardy Australian natives is recommended.
- 3 Reinstatement of any vegetation lost to The Proposal adjacent to the footpath along the M4 off-ramp.

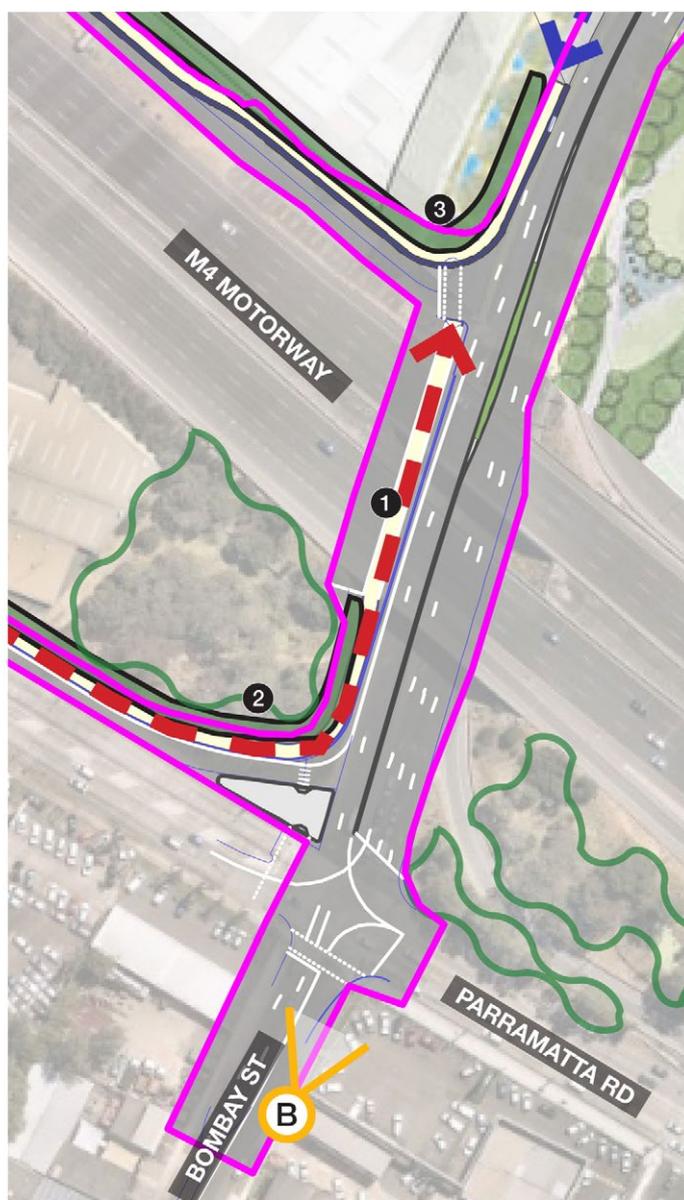


Figure 5-2. Viewpoint B location plan



Figure 5-3. Existing condition



Figure 5-4. Visualisation B: CONCEPT INDICATIVE ONLY

## 5.4 Concept Character C | M4 Hill Road Off-ramp

### Key Moves

- 1 Reinststate any vegetation lost to The Proposal adjacent to footpath along M4 off ramp
- 2 Provide a safe crossing connection for pedestrians/cyclist movement north/south
- 3 Tie the proposed foot path design into existing along the western side of Hill Road

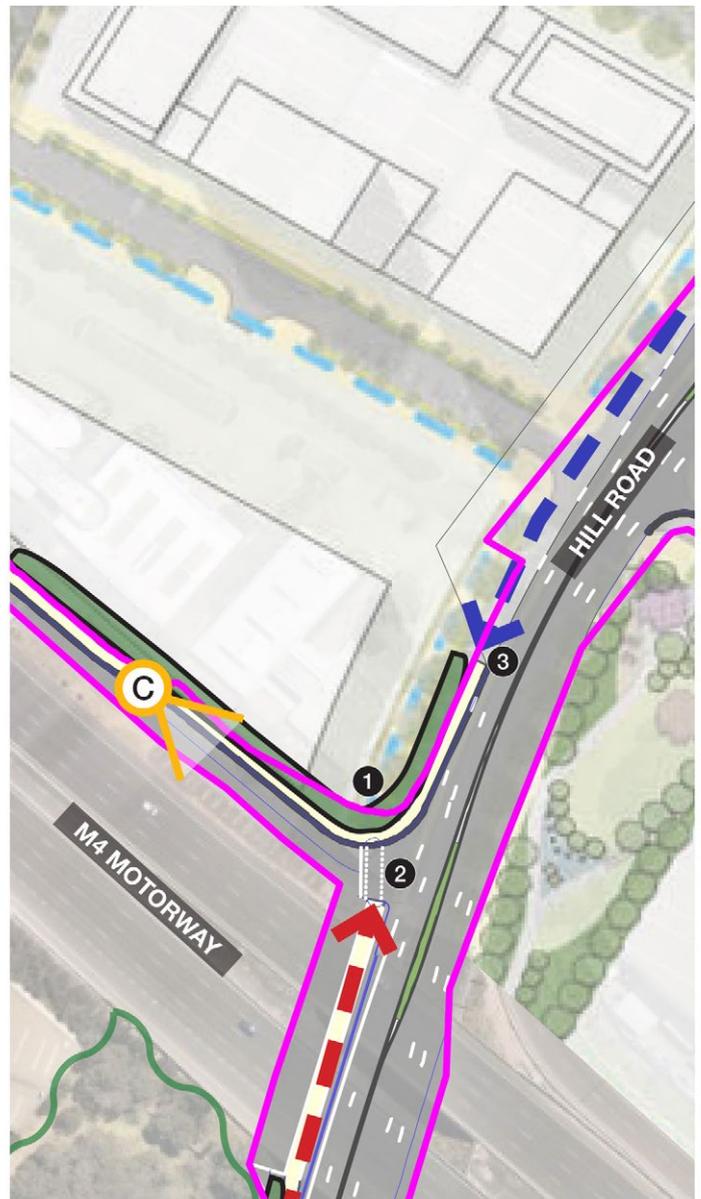


Figure 5-5. Viewpoint C location plan



Figure 5-6. Existing condition



Figure 5-7. Visualisation C: CONCEPT INDICATIVE ONLY

## 5.5 Concept Character E | Carter Street & Hill Road Corner

### Key Moves

- 1 Provide avenue planting comprising tall, spreading canopy trees on the east side of Hill Road.
- 2 Use planted verge between the eastern shared path and road reserve to act as a green amenity buffer between cars and vehicles, and to prevent “jaywalking”.
- 3 Provide a shared pathway to the east of Hill Road to enable movement connections between the future CSP to the broader Sydney Olympic Park Peninsula.
- 4 Provide low lying vegetation along road medians where space allows, and within road safety and future detailed design requirements.



Figure 5-8. Proposed Masterplan Concept - Indicative Only



Figure 5-9. Existing condition

## 5.6 Concept Character F | John Ian Wing Parade intersection

### Key Moves

- 1 Provide vegetation in character with the surrounding landscape at the intersection which transitions between the commercial development of Hill Road and the parkland amenity of the Sydney Olympic Park Peninsula.
- 2 Provide low lying vegetation along road medians where space allows, and within road safety and detailed design requirements.
- 3 Provide a shared pathway to the east of Hill Road and pedestrian crossings at the intersection to enable movement connections between the future CSP to the broader Sydney Olympic Park area.
- 4 Use planted verge between the eastern shared path and road reserve to act as a green amenity buffer between cars and vehicles, and to prevent “jaywalking”.
- 5 Provide avenue planting comprising tall, spreading canopy trees on the east side of Hill Road ensuring views to the future parkland is unimpeded.
- 6 Integrate vegetation along side of Shared User Path into the CSP open space (indicative only, to be confirmed with relevant stakeholders during detailed design)



Figure 5-10. Viewpoint F location plan



Figure 5-11. Existing condition



Figure 5-12. Visualisation F: CONCEPT INDICATIVE ONLY



**6.0**

**Landscape**

**Character Impact**

**Assessment**



# 6.0 Landscape Character Impact

## 6.1 Landscape Character

Landscape character is the combined quality of the built, natural and cultural aspects that make up an area and provide its unique sense of place. Landscape in this context is taken to include all qualities and characteristics of a tract of land – landform, vegetation, built form, infrastructure and so on.

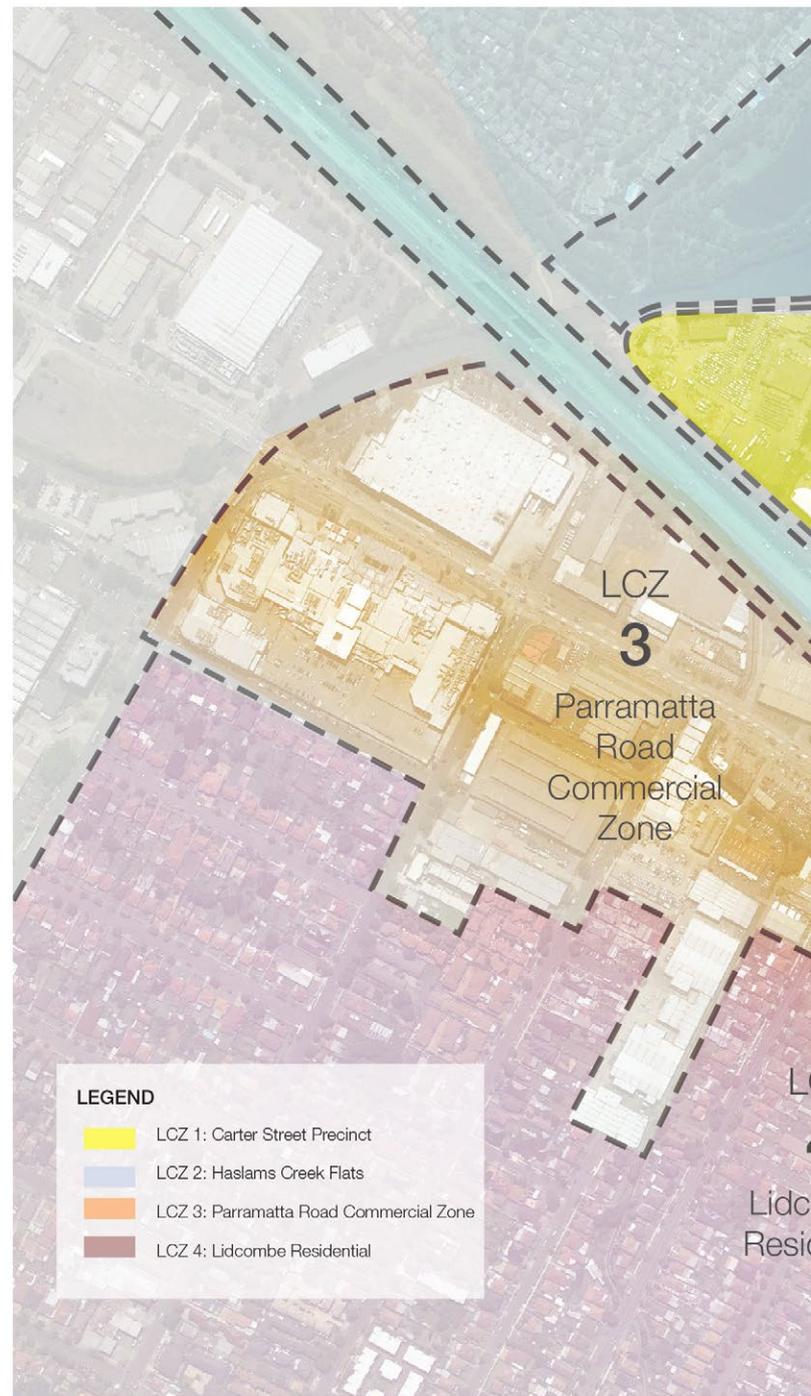
An analysis of the existing landscape of The Proposal and adjacent land was carried out to provide an assessment baseline

The analysis involved identifying series of LCZs that are mapped in Figure 6.1 and described and illustrated in the following pages. The LCZs are areas that display similar properties in terms of their combination of landform, vegetation and land uses – distinct from areas immediately adjacent.

The five defined LCZ are:

- Carter Street Precinct
- Haslams Creek Flats
- M4 Motorway Corridor (not applicable to the project scope and not included in this assessment)
- Parramatta Road Commercial Precinct
- The residents of north Lidcombe

The applied rating is specific to The Proposal's impact relative to each of the five zones set within the context of the assessment guidelines. The impact on LCZ1 considers its current land use and form and the potential future land use and character under the CSP.



# ct Assessment

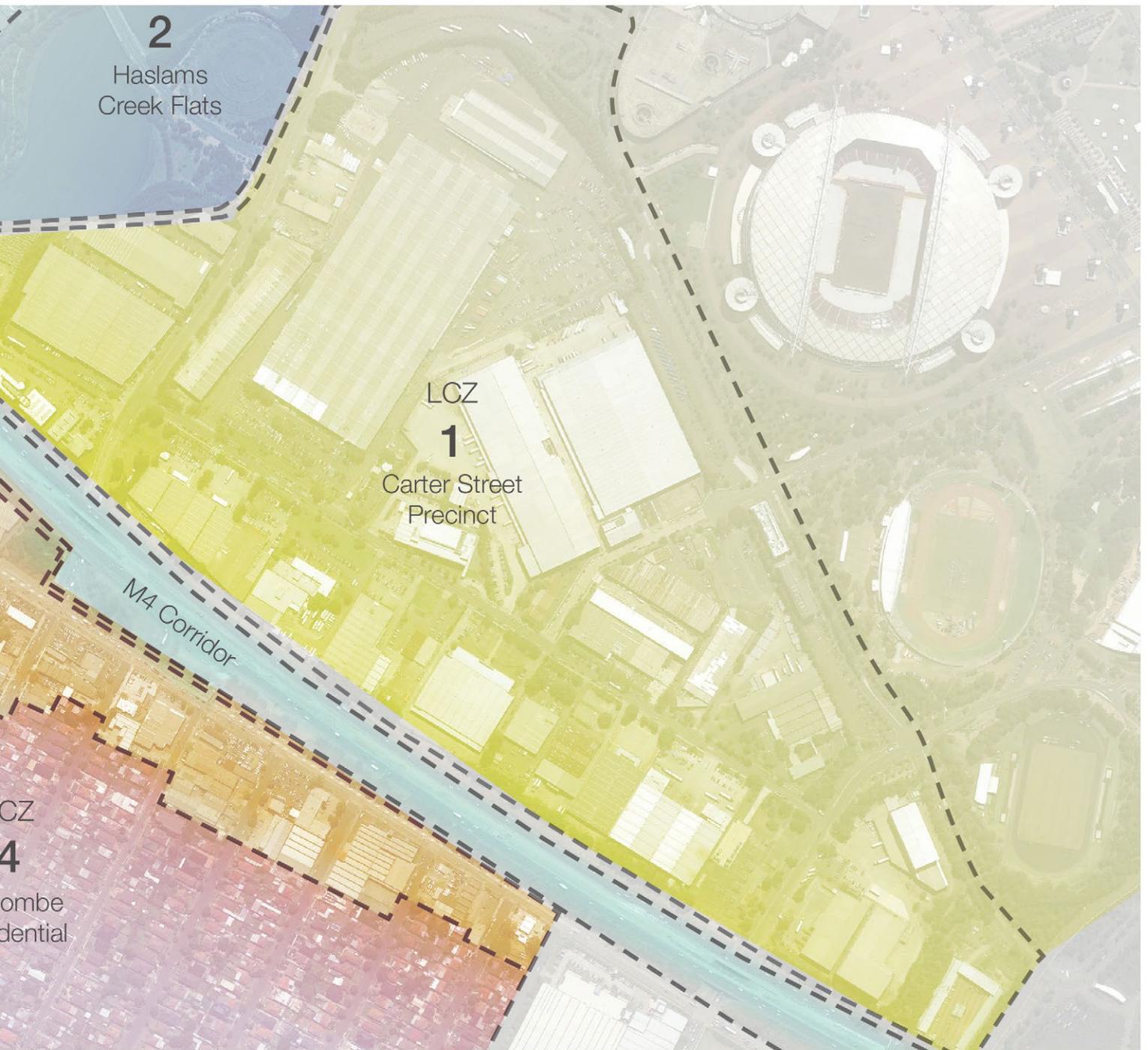


Figure 6-1. Landscape Character Zones



### 6.1.1 Landscape Character Zone 1 – Carter Street Precinct

<b>Topography</b>	Lowland – Flat.
<b>Hydrology</b>	Parramatta River Catchment.
<b>Geological qualities</b>	Reclaimed sediment, constructed soil imported as capping material.
<b>Ecological / natural characteristics</b>	None - highly modified. Scattered mixed planting along the verges of the M4 Motorway and in street corridors.
<b>Parks and open space</b>	Open space currently comprised only of the streetscape corridor. However the proposed CSP would incorporate a network of publicly accessible open spaces.
<b>Cultural and recreational characteristics</b>	Recreation facilities are limited to the footpath that runs along the streets of the precinct. Intimidating pedestrian/cyclist experience along Hill Road.
<b>Built form</b>	Large commercial / industrial buildings.
<b>Spatial qualities</b>	Urban environment.
<b>Infrastructure</b>	Arterial road network.
<b>Economic or industrial features</b>	NSW Rural Fire Service Headquarters, DHL Express, Fastway Couriers, Victor Badminton Centre, various sportswear stores.
<b>Landscape Character Sensitivity</b>	<p>LOW</p> <p>The CSP in its current condition is commercial and utilitarian in nature. It is a highly modified landscape dominated by large commercial buildings with minimal planting, therefore its sensitivity to further change is low and the overall character for this zone would largely be unchanged by further development.</p>

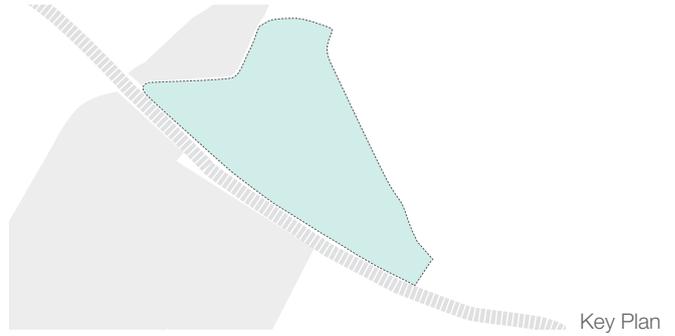


Figure 6-2. Character images – landscape character zone 1



### 6.1.2 Landscape Character Zone 2 – Haslams Creek Flats

<b>Topography</b>	High point from south Newington, north sloping towards Parramatta River.
<b>Hydrology</b>	Narawang Wetland comprises three large stormwater collection ponds. Excess overflow is expelled into Haslams Creek & the Parramatta River via Nuwi Wetland.
<b>Geological qualities</b>	Organic-rich sands and muds underlying the wetlands. Waste containment mounds.
<b>Ecological / natural characteristics</b>	Narawang Wetland - an artificial constructed freshwater system. Haslams Creek is the main waterbody.
<b>Parks and open space</b>	Narawang Wetland & Woodland offers cycle & walking tracks throughout the open space network.
<b>Cultural and recreational characteristics</b>	High recreational value - Narawang boardwalk offers walking routes through the wetland system.
<b>Built form</b>	No built form. Landform mounding only.
<b>Spatial qualities</b>	Expansive open space with native bush vegetation, low-lying wetland flats & water bodies.
<b>Infrastructure</b>	Stormwater collection ponds.
<b>Economic or industrial features</b>	No economic or industrial features.
<b>Landscape Character Sensitivity</b>	HIGH The ecological importance of the wetland system and recreational value of the adjacent woodlands results in a high natural character.

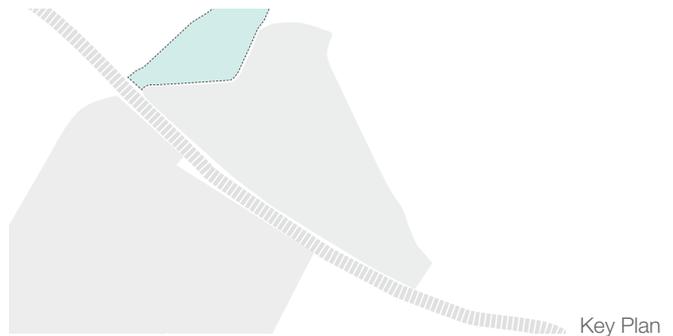


Figure 6-3. Character images – landscape character zone 2



### 6.1.3 Landscape Character Zone 3 – Parramatta Road Commercial Zone

<b>Topography</b>	Lowland - Flat.
<b>Hydrology</b>	Parramatta River Catchment.
<b>Geological qualities</b>	Reclaimed sediment, constructed soil imported as capping material.
<b>Ecological / natural characteristics</b>	Pocket of remnant Shale Gravel Transition Forest vegetation on the southern side of the M4 Hill Road intersection. Scattered mixed planting along the verges of the M4 Motorway.
<b>Parks and open space</b>	Open space currently comprised only of the streetscape corridor along Parramatta Road.
<b>Cultural and recreational characteristics</b>	Recreation facilities are limited to the footpath that runs along Parramatta Road - intimidating pedestrian/cyclist experience.
<b>Built form</b>	Mostly commercial buildings.
<b>Spatial qualities</b>	Urban environment.
<b>Infrastructure</b>	Arterial road network.
<b>Economic or industrial features</b>	Various car sale yards.
<b>Landscape Character Sensitivity</b>	<p>LOW</p> <p>The Proposal footprint would be visible from this zone and the overall character of Parramatta Road commercial zone would be minutely affected with the removal of buildings. The sensitivity is not moderate due to the existing character associated with the area.</p>

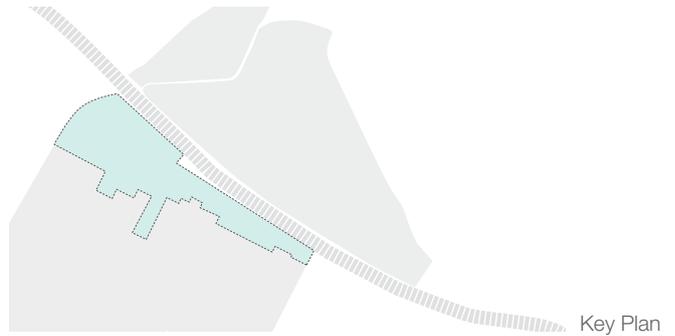


Figure 6-4. Character images - landscape character zone 4

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### 6.1.4 Landscape Character Zone 4 – Lidcombe Residential Zone

<b>Topography</b>	Lowland – Flat.
<b>Hydrology</b>	Parramatta River Catchment.
<b>Geological qualities</b>	n/a
<b>Ecological / natural characteristics</b>	None – highly modified. Scattered mixed planting along the verges of the M4 Motorway and residential street tree planting.
<b>Parks and open space</b>	Open space comprises the residential streetscape corridors.
<b>Cultural and recreational characteristics</b>	Recreation facilities are limited to the footpath that runs along the various residential street network - moderate pedestrian/cyclist experience due to lower traffic levels.
<b>Built form</b>	Residential dwellings.
<b>Spatial qualities</b>	Suburban street environment.
<b>Infrastructure</b>	n/a
<b>Economic or industrial features</b>	None.
<b>Landscape Character Sensitivity</b>	HIGH The sensitivity of the residential area is high due to the low scale neighbourhood character.

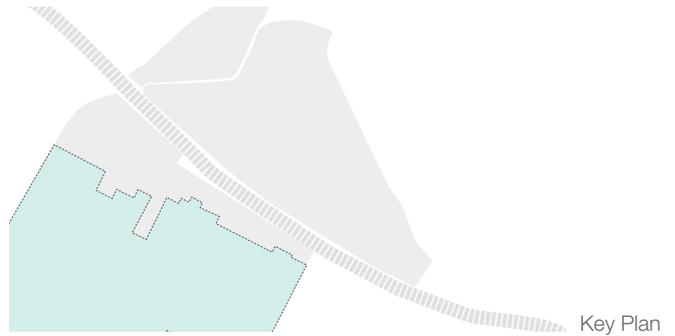


Figure 6-5. Character images - landscape character zone 5



## 6.2 Landscape Character Impact Assessment Summary

The potential impact of The Proposal on the existing landscape character of the surrounding zones and the local area is therefore measured by the area's sensitivity to the changes introduced under The Proposal, considering factors such as setting, mass, scale, form, composition, distinction, and uniqueness.

Table 5-1 illustrates how the level of sensitivity and magnitude are combined to achieve an overall landscape character impact rating in accordance with the **Environmental Impact Assessment Practice Note - Guideline for Landscape Character and Visual Impact Assessment EIA-N04**.

		MAGNITUDE			
		High	Moderate	Low	Negligible
SENSITIVITY	High	High	Moderate – High	Moderate	Negligible
	Moderate	Moderate – High	Moderate	Moderate – Low	Negligible
	Low	Moderate	Moderate – Low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

Table 6-1. Landscape character impact assessment matrix (TfNSW, 2020)

MAGNITUDE RATING	
<b>HIGH</b>	The proposed works would be the dominant feature in the landscape and would significantly affect and change its current character
<b>MODERATE</b>	The proposed works would form a readily visible new feature in the landscape that changes its current character
<b>LOW</b>	The proposed works would constitute a minor feature in the landscape with minor changes to the landscape's current character
<b>NEGLIGIBLE</b>	Only a small part of the proposed works would be discernible or at such a distance that changes to the landscape's current character are scarcely appreciated
<b>NONE</b>	No part of the proposed works is discernible with no change to the landscape's current character

Table 6-2. Landscape character impact magnitude ratings

LANDSCAPE CHARACTER ZONE		SENSITIVITY	MAGNITUDE	LANDSCAPE CHARACTER IMPACT
<b>LCZ 1</b>	CARTER STREET PRECINCT (current land use)	<b>Low</b> <ul style="list-style-type: none"> <li>The current condition of this LCZ is commercial and utilitarian in nature. It is a highly modified landscape dominated by large commercial buildings with minimal planting, therefore, its sensitivity to further change is low and the overall character for this zone would largely be unchanged by further development.</li> </ul>	<b>Low</b> <ul style="list-style-type: none"> <li>The Proposal would have a low effect on the Hill Road corridor with a limited impact on the existing character.</li> </ul>	<b>Moderate</b> <ul style="list-style-type: none"> <li>Accent planting at the new Hill Road intersection would enhance the perception of a 'gateway' to the CSP.</li> <li>Street tree planting would reinforce the Hill Road boulevard, strengthening the sense of entry into the Sydney Olympic Park Peninsula.</li> </ul>
<b>LCZ 1</b>	CARTER STREET PRECINCT (Future land use)	<b>High</b> <ul style="list-style-type: none"> <li>Due to the future land use being high density residential, the character of the zone is sensitive to the imposition of road widening and upgrades.</li> </ul>	<b>High</b> <ul style="list-style-type: none"> <li>Regarding the proposed CSP, The Proposal would affect the quality of proposed open spaces and residential uses.</li> </ul>	<b>High</b> <ul style="list-style-type: none"> <li>While the landscape character impact of The Proposal is high, it should be noted that it is likely to be in place, and mitigation measures implemented, prior to the full development of the CSP.</li> </ul>
<b>LCZ 2</b>	HASLAM'S CREEK FLATS	<b>High</b> <ul style="list-style-type: none"> <li>The ecological importance of the wetland system and recreational value of the adjacent woodlands results in a high natural character.</li> </ul>	<b>Negligible</b> <ul style="list-style-type: none"> <li>The proposed works have no presence within this zone.</li> </ul>	<b>Negligible</b> <ul style="list-style-type: none"> <li>The proposed works have no presence within this zone.</li> </ul>
<b>LCZ 3</b>	PARRAMATTA ROAD COMMERCIAL PRECINCT	<b>Low</b> <ul style="list-style-type: none"> <li>The Proposal footprint would be moderately visible from this zone and the overall character of Parramatta Road commercial zone would be minutely affected. The sensitivity is low due to the existing road corridor character and ability to absorb change.</li> </ul>	<b>Moderate</b> <ul style="list-style-type: none"> <li>The widened road and turning lane would become a more dominant feature in the landscape at the Hill Road intersection and its junctioning with Parramatta road. It would influence the core commercial characteristics of the zone due to its proximity.</li> </ul>	<b>Moderate</b> <ul style="list-style-type: none"> <li>Reinstated low grasses and sedge vegetation along the verge of the M4 corridor &amp; off ramp to mitigate the impact in the long-term once the amenity planting establishes and matures.</li> </ul>
<b>LCZ 4</b>	LIDCOMBE RESIDENTIAL	<b>High</b> <ul style="list-style-type: none"> <li>The sensitivity of the residential area is high due to the low scale neighbourhood character.</li> </ul>	<b>Negligible</b> <ul style="list-style-type: none"> <li>Due to the distance of the majority of residence from the Proposal footprint and the off ramp design the magnitude is negligible.</li> </ul>	<b>Negligible</b> <ul style="list-style-type: none"> <li>Distance from the project site would result in negligible changes to the landscape's current character in the long term once the amenity planting establishes.</li> </ul>

Table 6.3. Landscape character impact assessment





**7.0**

**Visual**

**Impact**

**Assessment**

# 7.0 Visual Impact Assessment

## 7.1 Introduction

The visual impact assessment has considered the sensitivity of people's views from the changes introduced from building The Proposal.

## 7.2 Sensitivity, magnitude & impact

### 7.2.1 Visual Sensitivity

Sensitivity is dependent on:

- Distance between viewer and The Proposal
- The category of viewer/receiver (resident, worker, shopper, open space user).
- The elements of The Proposal that are visible.
- Importance of the view, for example, identified in tourist guides, static or moving viewpoint, do people deliberately seek the view.

Generally, viewers with the highest levels of sensitivity typically include:

- Residents who would have existing attractive views affected by The Proposal.
- Users of public open space where their attention is focused on visual landscape values, such as scenic lookout points or natural landscape areas with attractive views
- Communities in which The Proposal would result in changes to the landscape views that they value.

Viewers with the lowest visual sensitivity are most likely to be:

- Those engaged in work where their attention is focused on their work.
- People engaged in active recreation activities such as team sports.

## 7.2.2 Magnitude

The magnitude of a proposal refers to the scale, form and character of the proposal. In the case of visual impact assessment it also incorporates how far the proposal is from the viewer.

The categories of magnitude are defined as:

- High: total loss of key elements/features/characteristics of the existing landscape and/or introduction of elements considered to be totally uncharacteristic of the existing landscape character
- Moderate: partial loss of/or alteration to one or more key elements/ features/characteristics of the existing landscape and/or introduction of elements that may be prominent but not considered to be substantially uncharacteristic of the existing landscape
- Low – minor loss of/or alterations to one or more key elements/features/characteristics of the existing landscape and/or introduction of elements that are consistent with the existing landscape
- Negligible – very minor alteration to one or more key element/features/characteristics and/or introduction of elements that are consistent with the existing landscape (i.e. approximating the ‘no change’ situation).

## 7.2.3 Visual Impact Assessment

The various levels of visual impact are predicted through the combination of sensitivity and magnitude in accordance with the matrix in Table 7-1.

The visual impact significance levels are defined as:

- High: The Proposal would form a significant and immediately apparent part of the existing view that would affect and change its overall character in either a positive or negative way
- Moderate: The Proposal may form a visible and recognisable new element within the overall scene and may be readily noticed by a viewer
- Low: The Proposal would constitute only a minor change to the existing view and might be missed by the casual observer; awareness of The Proposal would not have a marked effect on the overall quality of the view and the visual sensitivity is relatively low
- Negligible: only a very small part of The Proposal would be discernible and/or it would be located at such a distance that it would be scarcely visible.

		MAGNITUDE			
		High	Moderate	Low	Negligible
SENSITIVITY	High	High	Moderate – High	Moderate	Negligible
	Moderate	Moderate – High	Moderate	Moderate – Low	Negligible
	Low	Moderate	Moderate – Low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible
		Negligible	Negligible	Negligible	Negligible

Table 7-1. Visual impact assessment matrix (TfNSW, 2020)

### 7.3 Key viewpoints

Figure 7.1 illustrates the selected viewpoint in key areas in the vicinity of The Proposal.

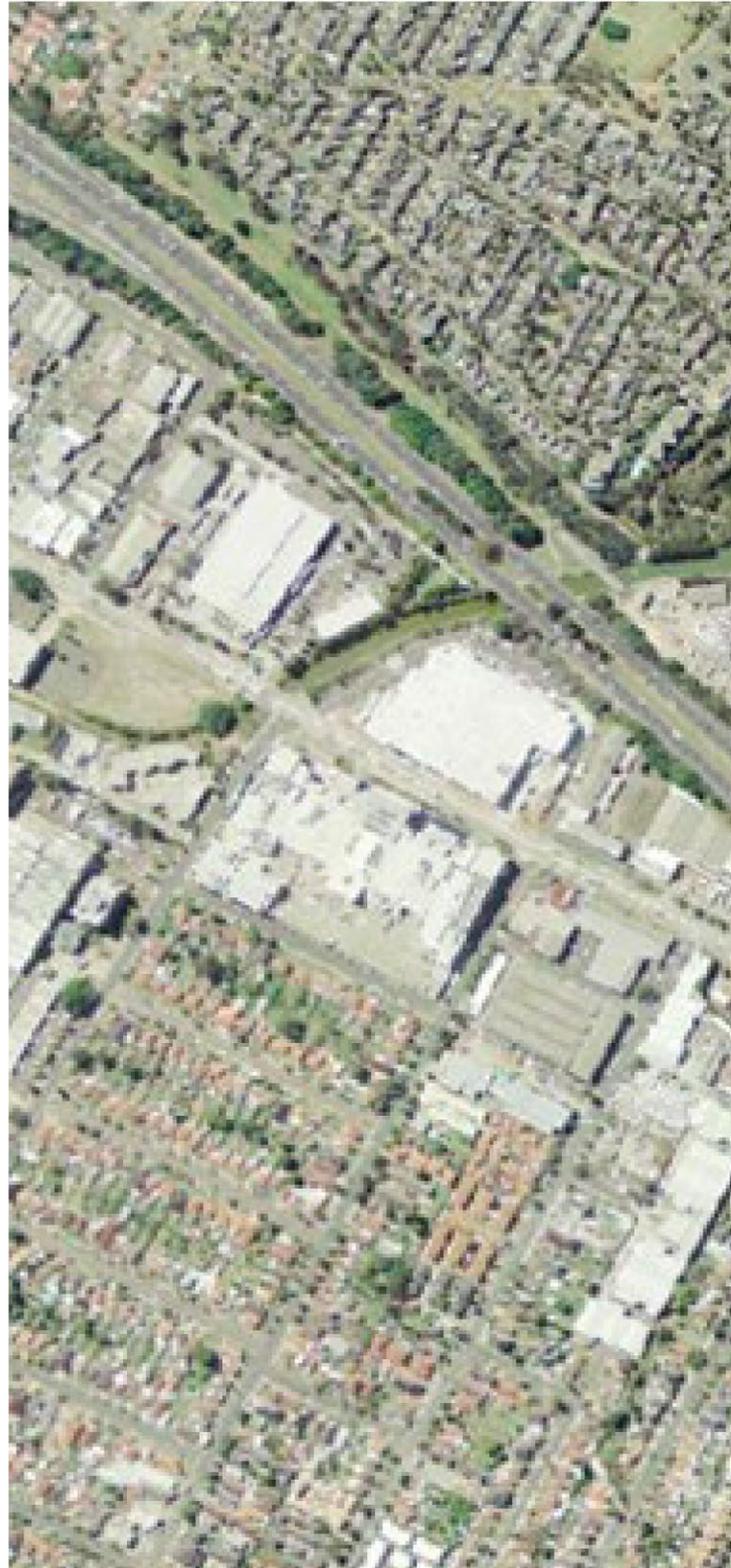


Figure 7.1. Key viewpoints





1km

## 7.4 Visual impact assessment table

VIEWPOINT		SENSITIVITY	MAGNITUDE	VISUAL IMPACT
VP 1	Haslams Creek Flats Mound	<p><b>Low</b></p> <p>Although the ecological and recreational value is of high sensitivity, the proximity of the water bodies / wetland system from The Proposal is of significant distance away that the views would be low.</p>	<p><b>Low</b></p> <p>Views of The Proposal would only be visible from the top of the constructed mound.</p>	<b>Low</b>
VP 2	Hill Road southbound	<p><b>Moderate</b></p> <p>Motorists on Hill Road would have low sensitivity to change in the road environment. Pedestrians using the footpath would have moderate sensitivity to the changes in pedestrian connectivity and the surroundings.</p>	<p><b>Moderate</b></p> <p>The Proposal would change the intersection and would have a moderate impact on motorists and pedestrians heading south along Hill Road.</p>	<b>Moderate</b>
VP 3	Hill Road southbound	<p><b>Low</b></p> <p>Employees within the commercial properties along Hill Road would have low sensitivity to The Proposal as they are pre-occupied with employment activities.</p> <p><b>High</b></p> <p>Pedestrians and cyclists using the footpath would have a high sensitivity to the shared path would affect their movements.</p>	<p><b>Low</b></p> <p>The changes would have a minimal impact on motorists due to the nature of the surrounding landscape.</p> <p><b>High</b></p> <p>Pedestrians and cyclists would be highly affected due to the change in path alignments and overall landscape feel.</p>	<b>Moderate</b>

### LEGEND

 Indicative area impacted by The Proposal

Table 7-2. Visual Impact Assessment; Viewpoints

ANZ Stadium

M4 Motorway



Existing screening vegetation

Viewpoint 1 – Haslams Creek Flats Mounded Lookout

Road widening, Tree avenue, SUP & Verge planting

Median vegetation

Vegetation reinstated



Viewpoint 2 – Hill Road southbound

Road widening, Tree avenue, SUP & Verge planting

Median vegetation



Viewpoint 3 – Hill Road southbound

## 7.4 Visual impact assessment cont'd

VIEWPOINT		SENSITIVITY	MAGNITUDE	VISUAL IMPACT
VP 4	Hill Road Northbound	<b>Moderate</b> Employees within the commercial properties along Hill Road would have low sensitivity to The Proposal as they are pre-occupied with employment activities. Northbound motorists would also have moderate sensitivity. Pedestrians using the footpath would have high sensitivity to the changes in pedestrian connectivity as a result of the off ramp.	<b>Negligible</b> The Proposal would no longer be visible to motorists and pedestrians heading north along Hill Road.	<b>Low</b>
VP 5	Hill Road / Ian Wing Parade Northbound	<b>High</b> Motorists on Hill Road would have low sensitivity to change in the road environment. Pedestrians using the footpath would have high sensitivity to the changes in pedestrian connectivity.	<b>Moderate</b> The Proposal would change the intersection and would have a moderate impact on motorists and pedestrians heading north along Hill Road.	<b>Moderate</b>
VP 6	Hill Road / Ian Wing Eastbound	<b>High</b> Motorists on Hill Road would have low sensitivity to change in the road environment. Pedestrians using the footpath would have high sensitivity to the changes in pedestrian connectivity.	<b>Moderate</b> The Proposal would change the intersection and would have a moderate impact on motorists and pedestrians heading east along Hill Road.	<b>Moderate</b>

### LEGEND

 Indicative area impacted by The Proposal

Table 7-2. Visual Impact Assessment; Viewpoints continued

Road widening, Tree avenue, SUP & Verge planting



Viewpoint 4 - Hill Road northbound

Road widening, Tree avenue, SUP & Verge planting      Median vegetation



Viewpoint 5 - Hill Road / Wing Parade Intersection

Road Widening, Reinstated vegetation

Reinstated vegetation (if damaged)



Viewpoint 6 - John Ian Wing Parade

## 7.4 Visual impact assessment cont'd

VIEWPOINT		SENSITIVITY	MAGNITUDE	VISUAL IMPACT
VP 7	M4 Hill Road exit	<b>Low</b> Motorists on the Hill Road off ramp would have low sensitivity to change in the M4 road environment due to their distance and short period of exposure.	<b>Low</b> The off-ramp would be visible in the peripheral of motorists. Loss of vegetation would be a noticeable change to existing the landscape character.	<b>Low</b>
VP 8	Bombay Street / Parramatta Rd Intersection	<b>Low</b> Motorists on Parramatta Road would have low sensitivity to change in the M4 Motorway environment. Customers would also have low sensitivity as they are pre-occupied with car purchasing activities.	<b>High</b> The Proposal would be visible in the foreground to motorists and customers to the car sale yards on either corner of Bombay Street. Existing tall sedge species to be removed and reinstated.	<b>Moderate</b>
VP 9	Parramatta Rd eastbound	<b>Low</b> Motorists on Paramatta Road would have low sensitivity to change in the M4 Motorway environment.	<b>High</b> The Proposal would be visible in the foreground of motorists and visitors to the car sale yards on either corner of Bombay Street. Existing tall sedge species providing a visual buffer may be removed.	<b>Moderate</b>
VP 10	Birnie Avenue / Parramatta Rd Intersection	<b>Low</b> Motorists on Paramatta Road would have low sensitivity to change in the M4 Motorway environment.	<b>Low</b> The revised pedestrian crossing would have a minimal impact on motorists, requiring only minor vegetation reinstatement.	<b>Low</b>

### LEGEND

 Indicative area impacted by The Proposal

Table 7-2. Visual Impact Assessment; Viewpoints continued

Road Widening, Footpath, Reinstated vegetation Hill Road



Viewpoint 7 - M4 exit to Hill Road

Road Widening, Traffic Island, Reinstated vegetation M4 Motorway overpass



Viewpoint 8 - Bombay Street / Parramatta Road Intersection

Road Widening, Traffic Island, Reinstated vegetation



Viewpoint 9 - Parramatta Road eastbound

Kerb adjustment, Reinstated vegetation



Viewpoint 10 - Birnie Avenue / Parramatta Road Intersection

## 7.5 Visual impact assessment summary

Out of the 10 selected viewpoints, the range of visual impact ratings summarised in Table 7.9 were determined as follows:

- Six viewpoints would have moderate visual impact
- Four viewpoints would have low visual impact

A rating of high occurs in an area where proximity to the works is greatest, in particular along Parramatta Road when the perpendicular streets are oriented directly to the proposed works.

Beyond these situations, the majority of impact ratings involve moderate and low. This generally reflects the low visibility of the proposed scope of works and the users which are indifferent to the proposed changes due to engagement in other activities. It also indicates that the character of The Proposal would be consistent with the existing road environment.

VIEWPOINT		SENSITIVITY	MAGNITUDE	VISUAL IMPACT
VP 1	Haslams Creek Flats Mound	Low	Low	Low
VP 2	Hill Road southbound	Moderate	Moderate	Moderate
VP 3	Hill Road southbound	Low (Employees) High (Pedestrians)	Low High (Pedestrians)	Moderate
VP 4	Hill Road northbound	Moderate	Negligible	Low
VP 5	Hill Road / Wing Parade Intersection	High	Moderate	Moderate
VP 6	John Ian Wing Parade	High	Moderate	Moderate
VP 7	M4 Hill Rd exit	Low	Low	Low
VP 8	Bombay Street / Parramatta Road Intersection	Low	High	Moderate
VP 9	Parramatta Road eastbound	Low	High	Moderate
VP 10	Birnie Avenue / Parramatta Road Intersection	Low	Low	Low

Table 7-3. Visual impact assessment summary







8.0

**Mitigation  
Strategy**

# 8.0 Mitigation Strategy

This Chapter outlines the impact mitigation measures for The Proposal

## 8.1 Existing mitigation commitments and conditions of approval

### 8.1.1 Approved project mitigation

In Chapter 8 of the submissions report prepared in support of the approved project, the final committed mitigation measures were set out. Table 8-1 summarises the measures that are relevant to mitigate the impacts identified in this assessment.

IMPACT	ENVIRONMENTAL MITIGATION MEASURE	RESPONSIBILITY	TIMING
Construction impacts on pedestrians and cyclists	Access to existing shared paths would be maintained subject to the need for temporary diversions.	Contractor	Construction
Visual impacts	A detailed landscape plan will be prepared for the project. The landscape plan will build on the finding of the Urban Design, Landscape Character and Visual Working Paper and will include detailed set out, species and planting guides.	Contractor	Detailed Design
Visual impacts	Where practicable, the height of retaining walls will be minimised allowing introduction of a batter and construction of reinforced soil wall to allow reinstatement of planting along verges.	Contractor	Detailed Design
Construction visual impacts	The visual impact of construction site compounds on adjacent residential areas will be minimised through the careful planning and positioning of temporary offices, other plant and material laydown areas, and specific management of lighting and potential for light spill within the identified construction site compounds.	Contractor	Construction
Construction visual impacts	Vegetation, mature or otherwise, currently located between construction site compounds and adjacent residential areas will be retained where practicable to screen views.	Contractor	Construction
Community access and amenity	A Community Consultation Framework would be prepared, particularly in relation to: <ul style="list-style-type: none"> <li>• Traffic management (including property access, pedestrian and cyclists access).</li> <li>• Landscaping and urban design.</li> <li>• Construction activities including work outside standard construction hours.</li> <li>• Noise and vibration mitigation and management.</li> </ul>	Contractor	Construction
Managing impacts on soil and water in general	A Soil and Water Management Plan will be prepared for the project in accordance with: <ul style="list-style-type: none"> <li>• Managing Urban Stormwater–Soils and Construction, Volume 1</li> <li>• Managing Urban Stormwater, 4th edition ('the Blue Book').</li> <li>• Managing Urban Stormwater–Soils and Construction, Volume 2D Main Road Construction.</li> </ul>	Contractor	Pre-construction
Erosion from disturbed areas	Measures will be implemented during operation to minimise the risk of erosion and sedimentation. These measures may include: <ul style="list-style-type: none"> <li>• Undertake post-construction monitoring to ensure successful establishment of landscaping and vegetation cover.</li> <li>• Undertake remedial planting in locations where vegetation cover has not established or has only partially established.</li> </ul>	Contractor	Operation

Table 8-1. Summary of relevant urban design and landscape mitigation measures

IMPACT	ENVIRONMENTAL MITIGATION MEASURE	RESPONSIBILITY	TIMING
Operational water quality impacts	A Detailed design would consider practicable measures to optimise pollution mitigation. This would include vegetated swales with rock check dams and spill management basins where space permits.	Contractor	Pre-construction
Disturbance of ASS	An ASS Management Plan will be prepared in accordance with the <b>Acid Sulfate Soils Manual and Guidelines for the Management of Acid Sulfate Materials: Acid Sulfate Soils, Acid Sulfate Rock and Monosulfidic Black Ooze.</b>	Contractor	Pre-construction
Disturbance of contaminated or potentially contaminated land	A Contaminated Land Management Plan will be prepared in accordance with relevant EPA guidelines.	Contractor	Pre-construction
Disturbance of contaminated or potentially contaminated land	Excavated material that is not suitable for on-site reuse or recycling will be transported to a site that may legally accept that material for reuse or disposal. Soils leaving the site will be waste classified so that correct resource recovery and or off-site disposal occur.	Contractor	Construction
Fauna injury and mortality	Project environmental management plans will include procedures for preclearance surveys that are consistent with the <b>Roads and Maritime Biodiversity Guidelines (RTA 2011)</b> . Pre-clearing surveys will be undertaken by an experienced ecologist to identify any nesting/roosting animals present in the project area. This will include inspections of affected existing structures for microbats that may be present in cracks, fissures, scuppers, lifting holes or similar.	Contractor	Construction
Fauna injury and mortality	If microbats are found during pre-clearing surveys, an appropriately qualified ecologist will be engaged and provide advice on work methods and timing to minimise impacts on the bats. If exclusions are required, these will be done in accordance with a Bat Management Plan prepared by an appropriately qualified ecologist.	Contractor	Construction
Loss of native vegetation	Exclusion zones will be established to avoid damage to native vegetation and fauna habitats identified for retention and prevent the distribution of weeds. The location of exclusion fencing to be installed will be identified by project environmental management plans and the function and importance of the exclusion zones will be communicated to construction personnel.	Contractor	Construction
Loss of native vegetation	A detailed landscape plan will be prepared for the project. The landscape plan will build on the finding of the Urban Design, Landscape Character and Visual Working Paper and will include detailed set out, species and planting guides including for those areas disturbed construction. Where areas of habitat are to be re-established, this will occur consistent with <b>Guide 3 Re-establishment of Native Vegetation of the Roads and Maritime Biodiversity Guidelines (RTA 2011)</b> .	Contractor	Construction
Proliferation of weeds	A weed management plan consistent with the Roads and Maritime Biodiversity Guidelines (RTA 2011) will be developed as part of the construction environmental management plan. The weed management plan will include descriptions and mapping of major weed infestations and appropriate management actions to be undertaken in relation to each infestation.	Contractor	Construction

Table 8-1. Summary of relevant urban design and landscape mitigation measures continued

# 9.0 References

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