



planning consultants

Review of Environmental Factors

Construction of Pedestrian and Cyclist Pathways

Reid Park, Rydalmere



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Abbreviations

AS	Australian Standard
BC Act	<i>Biodiversity Conservation Act 2016</i>
BCA	Building Code of Australia
Council	City of Parramatta
DFP	DFP Planning Pty Limited
DPHI	NSW Department of Planning, Housing and Infrastructure
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2021</i>
EPI	Environmental Planning Instrument
LEP	Local Environmental Plan
LGA	Local Government Area
REF	Review of Environmental Factors
SEPP	State Environmental Planning Policy
TfNSW	Transport for NSW
WM Act	<i>Water Management Act 2000</i>

1 Introduction

1.1 Commission

DFP has been commissioned by the City of Parramatta (Council) to prepare a Review of Environmental Factors (REF) for the proposed upgrade works to Reid Park, Rydalmere, located on the northern side of the Parramatta foreshore.

This REF report assesses the potential environmental impacts which could arise from the 'proposed works' which include:

- Widening an existing concrete shared path to create separate pedestrian and cyclist paths;
- Landscaping and tree removal; and
- Civil works, including the construction of sandstone block retaining walls and upgrades to stormwater infrastructure.

This REF also details any relevant environmental management measures that should be implemented during the carrying out of the works.

This REF has been prepared in accordance with the relevant provisions of the *Environmental Planning and Assessment Act 1979* (EP&A Act), the *Environmental Planning and Assessment Regulation 2021* (the Regulation) and *State Environmental Planning Policy (Transport and Infrastructure) 2021* (SEPP TI) and concludes that, by adopting the mitigation measures identified in this assessment, it is unlikely that there would be significant environmental impacts associated with the proposed works.

1.2 Background

The proposed works within Reid Park forms part of the Eastern Parramatta River and CBD Precinct Cycleway upgrades, which include George Kendall Riverside Park, Halvorsen Park, Baludarri Wetlands and Rangihou Reserve.

This project has been awarded NSW State government funding as part of the Western Sydney Infrastructure Grants Program, in association with Council.

In total, the project will deliver 2.8km worth of separated walking and cycling paths to increase the capacity, safety and accessibility of the cycling and pedestrian network along the Parramatta River foreshore. The project is planned for completion in 2027.

This REF pertains exclusively to the proposed works within Reid Park. Separate REF's being prepared for the four (4) additional locations along the foreshore.

1.3 Certification

This REF provides a true and fair review of the Proposed works in relation to its potential effects on the environment. It addresses to the fullest extent possible, all matters affecting or likely to affect the environment as a result of the Proposed works. The information contained in this REF is neither false nor misleading. This REF has been prepared in accordance with the relevant requirements of the EP&A Act, EP&A Regulation, and the NSW Code of Practice for Part 5 Activities.

Name of the person(s) who prepared the REF:	Thomas West
Position and Qualifications of the person(s) who prepared the REF:	Senior Project Planner M.Planning Macquarie University

Signature:



Date: 25 September 2025

Name of the person(s) who reviewed the REF:	Henry Burnett
Position and Qualifications of the person(s) who prepared the REF:	Director B Planning Macquarie University

1 Introduction

Signature:



Date: 25 September 2025

I have examined this REF and the Certification and accept the REF on behalf of the City of Parramatta

Name of the Authorised Person: Troy Holbrook

Position of the Authorised Person: Senior Open Space & Natural Area Planner

Signature:



Date: 29 September 2025

I accept this REF on behalf of the City of Parramatta, as the determining authority and determine that the Proposed works can proceed subject to the mitigation measures being implemented

Name of Delegated Officer: Ian Hasselman

Designation: Acting Group Manager Parks and Open Space

Signature:



Date: 30 September 2025

1.4 Material Relied Upon

This REF has been prepared by DFP based on the information listed below.

- Appendix 1:** *Survey Plan, prepared by City of Parramatta, dated October 2024;*
- Appendix 2:** *Landscape Plans prepared by Capital Projects, dated 2 April 2024;*
- Appendix 3:** *Civil Plans prepared by City of Parramatta, dated 3 December 2024;*
- Appendix 4:** *Arborist Report prepared by Hugh The Arborist, dated 8 September 2025;*
- Appendix 5:** *Flora and Fauna Assessment Report prepared by East Coast Ecology, dated 17 September 2025;*
- Appendix 6:** *Flood Impact Assessment Report prepared by City of Parramatta Council, dated 23 June 2025;*
- Appendix 7:** *Remediation Action Plan prepared by Progressive Risk Management, dated 2 July 2025;*
- Appendix 8:** *Geotechnical Report prepared by Douglas Partners, dated 28 January 2025;*
- Appendix 9:** *Preliminary Construction Management Plan prepared by City of Parramatta Council;*
- Appendix 10:** *Heritage Impact Statement prepared by DFP Planning, dated 28 January 2025;*
- Appendix 11:** *Acid Sulfate Soils Assessment prepared by Progressive Risk Management, dated 1 July 2025;*
- Appendix 12:** *AHIMS Search, dated 4 October 2024;*
- Appendix 13:** *Community Engagement Report prepared by City of Parramatta, dated February 2025; and*
- Appendix 14:** *Mitigation Measures*

1 Introduction

1.5 Site Context and Surrounds

1.5.1 The Site

The site is located approximately 2.5km to the east of the Parramatta CBD and is within the City of Parramatta Local Government Area (LGA).

The site subject to the proposed works is Reid Park, Rydalmere and is located within the following property addresses:

- Lot 18 in DP 253646;
- Lot 19 in DP 253646;
- Lot 22 in DP 253646; and
- Lot 48 in DP 260535;

A Survey of the site is included at **Appendix 1** of this REF.

Figure 1 is an extract from Council's Community and Crown Land Plan of Management, which shows the land categorisation of the site. As shown on the map below, the land shaded in blue (being the subject land to which this REF relates to) is identified for use as a 'park', with adjacent land being categorised as 'watercourse'.



Figure 1 Land Categorisation Map. Source: City of Parramatta Council

The site of the proposed works is irregularly shaped. The site adjoins industrial development to the north and is accessible via a pedestrian footpath that links to Pike Street. The southern side of Reid Park adjoins Parramatta River.

Figure 2 below is a locality plan showing the site outlined in red.



Figure 2 Site Location. Source: Six Maps

1 Introduction

Figure 3 is an aerial photograph of the site and its surrounds.

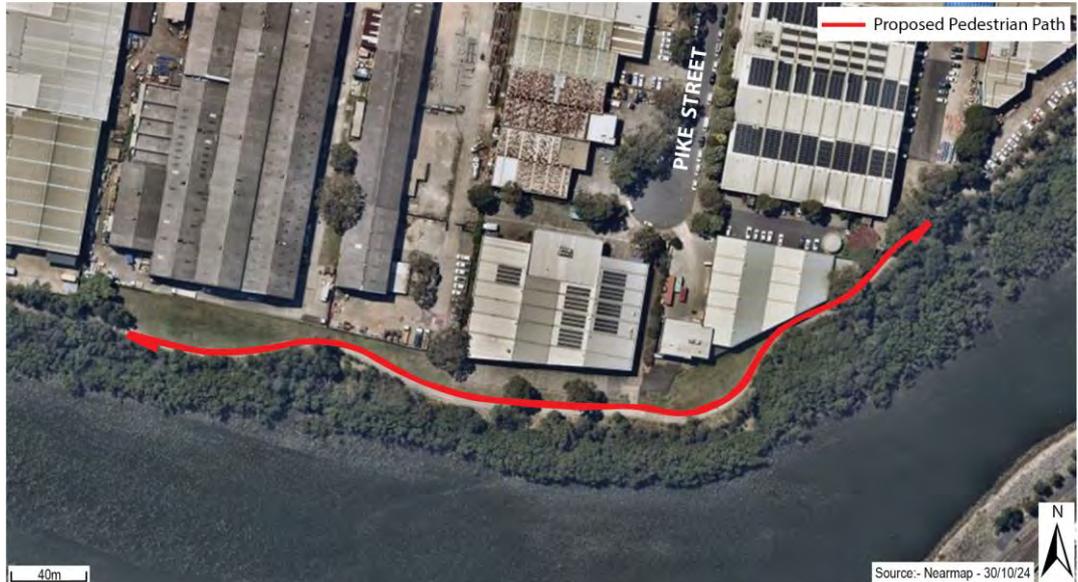


Figure 3 Aerial photograph. Source: Nearmap

1.5.2 Physical Description

Reid Park consists of a shared path that runs from east to west, as well as turfed areas and existing trees and low-lying shrubs. Reid Park is located between the Ponds and Subiaco Creek boardwalk (to the west) and Eric Primrose Reserve (to the east).

Figure 4 to Figure 9 are site photographs.



Figure 4 Photograph of existing pedestrian footpath which links to Pike Street

1 Introduction



Figure 5 Photograph of existing shared path, looking east



Figure 6 Photograph of existing shared path, looking west

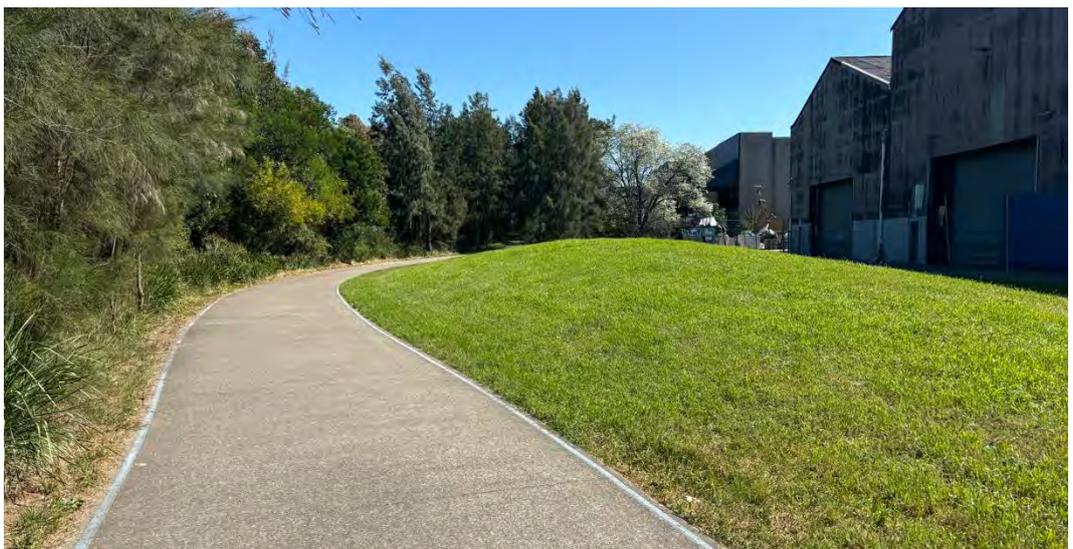


Figure 7 Photograph of existing shared path, looking west

1 Introduction



Figure 8 Photograph of landscaping within Reid Park



Figure 9 Photograph of existing industrial building adjacent to existing shared path

1.5.3 Vegetation

There are a variety of trees, shrubs and ground covers across the full extent of the Reid Park site. Trees located within the vicinity of the proposed works have been assessed in the Arboricultural Impact Assessment (AIA) report prepared by Hugh The Arborist (see **Appendix 4**).

The AIA has identified 65 trees within the vicinity of the proposed activity. Five of those trees are proposed to be removed, due to being within the footprint of the proposed footpath and as a result a major encroachment which cannot be satisfactorily reduced or mitigated to enable the retention of those trees.

Forty-six (46) trees are proposed to be retained with no encroachment and as a result, will not be impacted by the proposed works.

Two trees are subject to a minor encroachment that will not significantly affect the viability of the trees and therefore do not require tree sensitive construction methods.

The remaining 12 trees are subject to major encroachment, however, the impacts can be minimised by tree sensitive construction methods.

Five (5) trees are subject to removal as part of this REF, these are detailed in **Section 2** below.

1 Introduction

1.5.4 Surrounding Development

To the north of the site is Pike Street. Also located to the north of the site are a mix of industrial buildings (**Figure 10**).



Figure 10 Photograph of the industrial buildings located to the north of the shared path

To the east of the site is Rydalmere Wharf (**Figure 11**). Also located to the east of the site is the Thackeray Street Bridge, which was constructed in 1936 as a means of carrying water supply over the Parramatta River (**Figure 12**).



Figure 11 Photograph of Rydalmere Wharf.

1 Introduction



Figure 12 Photograph of Thackeray Street Bridge

To the south of the site is established vegetation, wetlands and Parramatta River.

To the west of the site is Ponds and Subiaco Creek boardwalk. Further to the west (approximately 2.5km) is the Parramatta Central Business District (CBD).

2 Description of Proposed Works

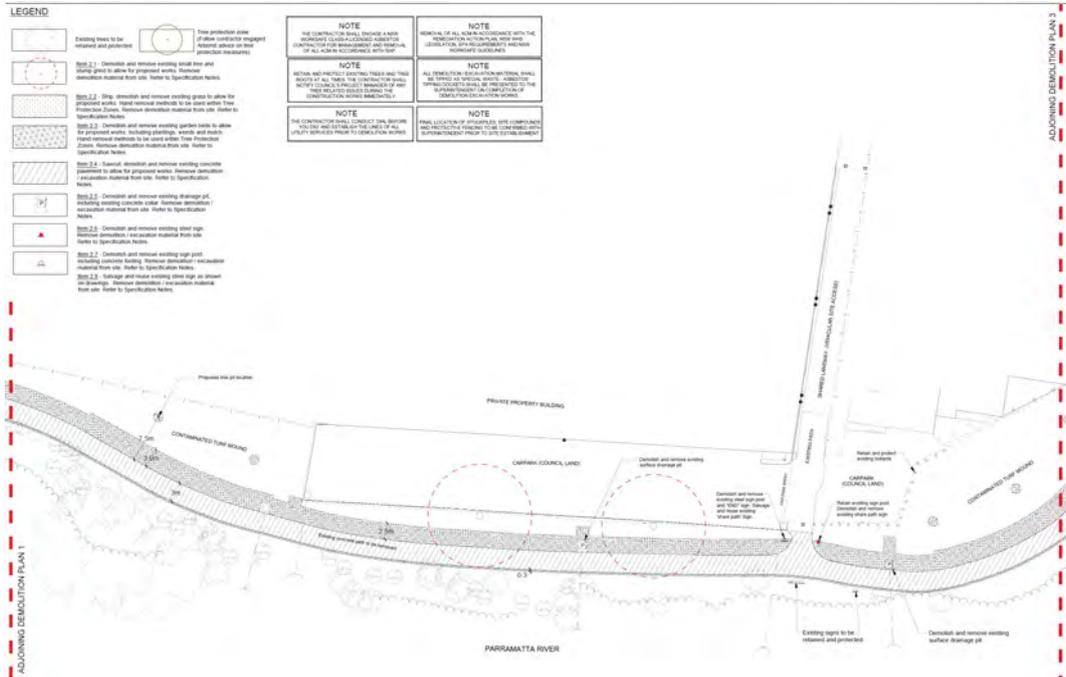


Figure 14 Demolition Plan 02. Source: City of Parramatta Council

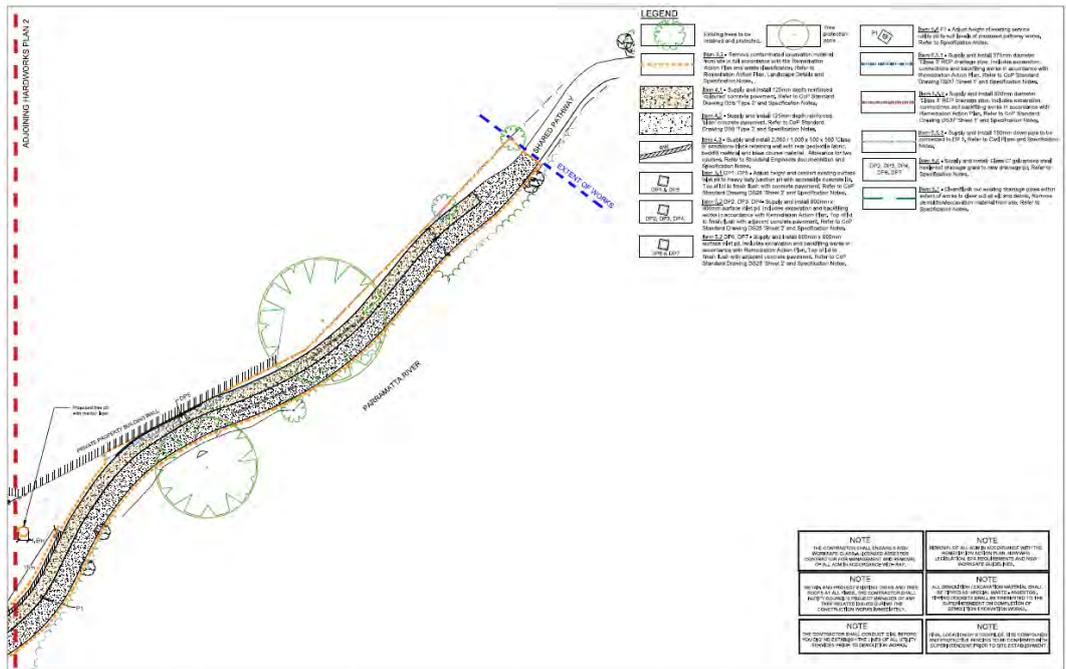


Figure 15 Hardworks Plan 03. Source: City of Parramatta Council

2.3 Proposed Landscaping & Tree Removal

The proposed works includes the planting of nine trees on the northern side of the shared path, including native planting towards the eastern side of the park. The proposed soil depth of 550mm is adequate to support the health of a 200L tree establishment and long-term growth. The Acid Sulfate Soils Assessment Report undertaken by Progressive Risk Management identifies that a ASSMP is unlikely to be required. This is on the basis that the proposed trees are located in mounds raised 1-2m above the cycleway.

Five Forest Red Gums and four Cabbage Gums are proposed to be planted with a pot size of 200L.

2 Description of Proposed Works

Five trees are proposed to be removed to facilitate the proposed works. As set out in the AIA, these are set out in **Table 1**.

Tree Number	Species	Height	Health	Landscape Value
Tree 179	Prickly Leaved Paperbark	3m	Good	Low
Tree 180	Eucalyptus Spp.	2m	Fair	Low
Tree 181	African Olive	6m	Fair	Low
Tree 192	Spotted Gum	15m	Good	High
Tree 195	Spotted Gum	13m	Good	High

2.4 Civil Works

2.4.1 Retaining Walls

A sandstone block retaining wall is proposed towards the northern side of part of the extended shared path. Across the northern side of the path, there are three sections where retaining walls are proposed.

These retaining walls will consist of 500mm x 500mm sandstone blocks that will be installed to a depth of approximately 200mm below natural ground level. Minimal earthworks are proposed to construct the new concrete shared paths, which will be 125mm in depth.

2.4.2 Stormwater Infrastructure

Upgrades to the existing stormwater network is proposed as part of this activity. This includes the installation of new stormwater pits, and pipe connections to ensure effective capture and conveyance of stormwater runoff.

3 Statutory Framework

This section describes the statutory framework under which the Proposed works has been assessed.

3.1 Relevant Legislation

3.1.1 Environmental Planning and Assessment Act, 1979

The provisions of SEPP TI allow the proposed works to be carried out as development without consent under Part 5 of the *Environmental Planning & Assessment Act 1979* (EP&A Act).

This REF also considers the requirements of Section 5.5 of the EP&A Act and Section 170 and Section 171 of the EP&A Regulation.

3.1.2 Other Relevant Acts

Table 2 below provides an assessment against the relevant provisions of other applicable Acts under NSW legislation:

Table 2 Assessment against other relevant Acts		
Legislation	Assessment	Compliance
National Parks & Wildlife Act 1974 (NPW Act)	<p>The NPW Act, amongst other things, aims to conserve nature, objects, places or features of cultural value within the landscape.</p> <p>An AHIMS Search was conducted on 3 October 2024 (refer to Appendix 10). No Aboriginal sites or places have been declared in or near the location of the activity at Reid Park</p> <p>The proposed activity relates to the extension of a shared path and associated minor works and is sited in a portion of the park that has already been subject to disturbance.</p> <p>Notwithstanding, considering archaeological potential, a Mitigation Measure has been included that relates to unexpected finds. If encountered during construction, all works should cease and consultation with a heritage professional or State government agency be conducted to determine the subsequent course of action.</p>	Yes
Disability Discrimination Act 1992 (DDA)	<p>The widened shared path will provide accessibility and inclusion for all people.</p> <p>The proposed works have been designed to allow compliant access for all users.</p> <p>A Mitigation Measure has also been included for the proposed works to be compliant with the relevant accessibility legislation.</p>	Yes
Local Government Act 1993 (LG Act)	<p>The site is classified as 'Community Land' under the LG Act and is categorised as a 'Park'.</p> <p>Chapter 6 of the LG Act regulates community land, which is required to be managed in accordance with a Plan of Management applying to the land.</p> <p>In this regard, the Community and Crown Land Plan of Management adopted on 4 December 2023 applies to Reid Park, which was prepared in consultation with the community.</p> <p>The POM specifies that development of Community Land is to be consistent with the objectives of the plan and the provisions of any relevant environmental planning instrument (EPI's), including the EP&A Act. Those core objectives are:</p> <p><i>(a) to encourage, promote and facilitate recreational, cultural, social and educational pastimes and activities, and</i> <i>(b) to provide for passive recreational activities or pastimes and for the casual playing of games, and</i></p>	Yes

3 Statutory Framework

Table 2 Assessment against other relevant Acts

	<p><i>(c) to improve the land in such a way as to promote and facilitate its use to achieve the other core objectives for its management.</i></p> <p>This REF has considered the relevant EPI's and the EP&A Act, noting that the works are proposed to be undertaken in accordance with Part 5 of the EP&A Act</p>	
Fisheries Management Act 1994 (FM Act)	<p>The objects of the FM Act are to develop and share the fishery resources of the State for the benefit of present and future generations.</p> <p>Reid Park adjoins Parramatta River to the south. However, the location of the proposed works is entirely contained within Reid Park. Additionally, the proposed works do not feature any alterations to key fish habitat and marine vegetation through pruning or removal.</p> <p>Notwithstanding, erosion and sediment control measures during the construction works will be important to prevent sediment-laden water from entering into the nearby natural waterways.</p> <p>The Preliminary Construction Management Plan (PCMP) (Appendix 8) sets out requirements for management of erosion and sediment control, which includes the preparation of a plan that is to be established by the Principal Contractor and approved by Council prior to the commencement of works.</p> <p>Subject to the implementation of appropriate erosion and sediment control measures, it is considered that the proposed works are consistent with the objects of the FM Act.</p>	Yes
Water Management Act 2000 (WM Act)	<p>The objectives of the WM Act are to provide for sustainable and integrated management of the water sources of the State for the benefit of both present and future generations.</p> <p>Section 91 of the WM Act relates to a controlled activity approval on waterfront land. Waterfront land is defined in the WM Act as being text for emphasis:</p> <p><i>(a) the bed of any river, together with any land lying between the bed of the river and a line drawn parallel to, and the prescribed distance inland of, the highest bank of the river, or (a1) the bed of any lake, together with any land lying between the bed of the lake and a line drawn parallel to, and the prescribed distance inland of, the shore of the lake, or (a2) the bed of any estuary, together with any land lying between the bed of the estuary and a line drawn parallel to, and the prescribed distance inland of, the mean high-water mark of the estuary, or</i></p> <p><i>(b) if the regulations so provide, the bed of the coastal waters of the State, and any land lying between the shoreline of the coastal waters and a line drawn parallel to, and the prescribed distance inland of, the mean high-water mark of the coastal waters,</i></p> <p><i>where the prescribed distance is 40 metres or (if the regulations prescribe a lesser distance, either generally or in relation to a particular location or class of locations) that lesser distance. Land that falls into 2 or more of the categories referred to in paragraphs (a), (a1) and (a2) may be waterfront land by virtue of any of the paragraphs relevant to that land.</i></p> <p>Whilst a portion of the proposed works is close to being within 40m of Parramatta River, Clause 41 of the <i>Water Management (General) Regulation 2018</i> in any event provides that public authorities are exempt from Section 91E(1) of the WM Act.</p> <p>Consequently, Council does not require a controlled activity approval in this instance.</p>	Yes

3 Statutory Framework

Table 2 Assessment against other relevant Acts

<p>Biodiversity Conservation Act 2016 (BC Act)</p>	<p>The requirements for biodiversity assessment under the EP&A Act are provided in Part 7 of the BC Act.</p> <p>The test under Part 7 that needs to be established is whether an activity is likely to significantly affect threatened species, ecological communities or their habitats.</p> <p>In this regard, a Flora and Fauna Assessment Report (FFAR) has been prepared by East Coast Ecology (Appendix 5) which has considered whether the proposed works are likely to affect threatened species.</p> <p>Having regard to Section 1.3.3 of the FFAR, the proposed works will not result in a significant impact on any threatened entities and as a result, a Biodiversity Development Assessment Report (BDAR) or Species Impact Statement (SIS) are not required.</p>	<p>Yes</p>
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3.1.3 Environmental Planning and Assessment Regulation 2021

This REF has been prepared in accordance with the Guidelines for Division 5.1 Assessments prepared by the Department of Planning and Environment dated June 2022, in accordance with Section 170 of the Regulation.

Table 3 includes an assessment against factors for consideration under Section 171 of the Regulation.

Table 3 Environmental Factors to be considered under s171 of the EP&A Regulation

Factor	Assessment
<p>(1) When considering the likely impact of an activity on the environment, the determining authority must take into account the environmental factors specified in the environmental factors guidelines that apply to the activity.</p>	<p>This REF has been prepared in accordance with the Guidelines for Division 5.1 Assessments. There are no activity specific guidelines.</p>
<p>(2) If there are no environmental factors guidelines in force, the determining authority must take into account the following environmental factors—</p> <p>(a) the environmental impact on the community,</p>	<p>The environmental impact on the community has been considered in the assessment at Section 5 of this REF.</p>
<p>(b) the transformation of the locality,</p>	<p>The proposed works relates to the widening of an existing shared path, construction of retaining walls and landscaping.</p> <p>All of these works will improve the functionality of the park, however, will not significantly transform the locality.</p>
<p>(c) the environmental impact on the ecosystems of the locality,</p>	<p>The impact of the proposed works on existing vegetation is assessed in this REF as being minimal. The proposed works also involves the planting of additional trees to offset removals.</p>
<p>(d) reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality,</p>	<p>The proposed works will improve the operation of the existing share path facilities within Reid Park.</p> <p>The associated environmental impacts of the development have been assessed in this REF as being minimal.</p>
<p>(e) the effects on any locality, place or building that has—</p> <p>(i) aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance, or</p>	<p>An AHIMS Search (Appendix 13) was undertaken on 3 October 2024 which identified no known Aboriginal Sites or Places within a 200m radius of the site.</p>

3 Statutory Framework

Table 3 Environmental Factors to be considered under s171 of the EP&A Regulation

Factor	Assessment
(ii) other special value for present or future generations,	<p>Consequently, there are no known indigenous or cultural heritage items, objects or relics within the site and the proposed works are within the footprint of existing disturbed parts of the site.</p> <p>The site borders a heritage item (I011- Wetlands) under the Parramatta LEP. The impacts of the proposed development on this heritage item have been addressed in the Statement of Heritage Impact (SoHI) prepared by DFP Planning dated 28 January 2025. As addressed in the SoHI, the proposed works will have a minor visual impact and cause no physical impacts to the natural significance of the remnant mangroves and Saltmarsh.</p> <p>Notwithstanding, if during the construction works, Aboriginal objects are relics are uncovered, a Mitigation Measure has been included to cease works immediately and contact the relevant authority.</p>
(f) the impact on the habitat of protected animals, within the meaning of the <i>Biodiversity Conservation Act 2016</i> ,	<p>The proposed works will result in the removal of five trees. In accordance with the Arborist Report, these trees are all of low landscape significance.</p> <p>Notwithstanding, a Flora and Fauna Assessment Report (FFAR) has been prepared to consider the impacts of the proposed tree removal. Based on the conclusions of the FFAR, the trees subject to removal will not impact on the habitat of protected animals, within the meaning of the <i>Biodiversity Conservation Act 2016</i>.</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>The proposed works will result in the removal of five isolated trees and is unlikely to result in any adverse impacts on any species of animal plant or other wildlife, having regard to the FFAR.</p>
(h) long-term effects on the environment, (i) degradation of the quality of the environment, (j) risk to the safety of the environment,	<p>This REF has determined that the proposal's short-term construction impacts are minimal and can be effectively mitigated.</p>
(k) reduction in the range of beneficial uses of the environment,	<p>The proposed upgrades to the public reserve are anticipated to improve the use of the environment.</p>
(l) pollution of the environment, (m) environmental problems associated with the disposal of waste,	<p>As detailed within this REF, short term construction waste can be appropriately managed and there will be no long-term waste associated with the proposed works.</p>
(n) increased demands on natural or other resources that are, or are likely to become, in short supply,	<p>The proposed development is minor in nature and is not likely to result in a substantial increase in demands on natural or other resources that are likely to become in short supply.</p>
(o) the cumulative environmental effect with other existing or likely future activities,	<p>The proposed works involve upgrades to existing infrastructure. Given the minor nature of the proposed works, there are not foreseen to be any significant adverse cumulative impacts arising from the development that will affect future activities.</p>
(p) the impact on coastal processes and coastal hazards, including those under projected climate change conditions,	<p>Having regard to the Flood Impact Assessment Report, the proposed activity will not generate any additional adverse impacts on coastal processes and coastal hazards.</p>
(q) applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1,	<p>The proposed works is considered to be consistent with relevant strategic documents as it will improve a high- quality recreational resource to service the existing and future population of the City of Parramatta.</p>

3 Statutory Framework

Table 3 Environmental Factors to be considered under s171 of the EP&A Regulation

Factor	Assessment
	Applicable strategic plans and statements which are relevant to the proposed works include the Greater Sydney Region Plan, Central City District Plan, and Parramatta Local Strategic Planning Statement.
(r) other relevant environmental factors.	All relevant factors have been considered within this REF.

3.1.4 Environment Protection and Biodiversity Act 1999 (Commonwealth)

Under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), a referral is required to the Australian Government for proposed actions that have the potential to significantly impact on matters of National Environmental Significance (NES) or the environment of Commonwealth land.

An assessment of the proposed works impact on matters of National Environmental Significance is included in **Table 4** below.

Table 4 EPBC Act 1999 Checklist

Factor	Impact
Any significant impact on a declared World Heritage Property?	No
Any significant impact on a National Heritage place?	No
Any significant impact on a declared RAMSAR wetland?	No
Any significant impact on Commonwealth listed threatened species or endangered community?	No
Any significant impact on Commonwealth listed migratory species?	No
Does any part of the proposed works involve nuclear actions?	No
Any significant impact on Commonwealth marine areas?	No
Any significant impact on the Great Barrier Reef Marine Park?	No
Any significant impact on Commonwealth land?	No
Any significant impact on a declared World Heritage Property?	No

3.1.5 State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP TI)

Chapter 2 of SEPP TI provides planning provisions for the establishment of infrastructure. Relevant to the proposed works are Section 2.10-2.17 and Section 2.73.

Section 2.10 – Section 2.17 – Consultation

Section 2.10 – Section 2.15 relate to consultation requirements for development with impacts to Council related infrastructure or services, local heritage, flood liable land and within a coastal zone.

Notwithstanding, Section 2.17 provides for exceptions to consultation. Subclause (c) provides that consultation in accordance with Section 2.10 – 2.15 is not required to be given to Council or a public authority that is carrying out the development. In this instance, Council is carrying out the proposed development.

Section 2.16 of SEPP TI relates to consideration of planning for bush fire protection. It is noted that the site is not mapped as bush fire prone land. Notwithstanding, this section only applies to development for the purpose of health services facilities, correctional centres, and residential accommodation.

Section 2.73 – Parks and other Public Reserves

3 Statutory Framework

Section 2.73(3) of SEPP TI sets out the following development that may be carried out by or on behalf of a public authority (including Council) as development without consent on a public reserve as follows (**bold** emphasis added):

- (3) *Any of the following development may be carried out by or on behalf of a public authority without consent on land owned or controlled by the public authority—*
 - (a) *development for any of the following purposes—*
 - (i) **roads, pedestrian pathways, cycleways, single storey car parks, ticketing facilities, viewing platforms and pedestrian bridges,**
 - (ii) *recreation areas and recreation facilities (outdoor), but not including grandstands,*
 - (iii) *visitor information centres, information boards and other information facilities,*
 - (iv) *lighting, if light spill and artificial sky glow is minimised in accordance with the Lighting for Roads and Public Spaces Standard,*
 - (v) **landscaping, including landscape structures or features (such as art work) and irrigation systems,**
 - (vi) *amenities for people using the reserve, including toilets and change rooms,*
 - (vii) *food preparation and related facilities for people using the reserve,*
 - (viii) *maintenance depots,*
 - (ix) *portable lifeguard towers,*
 - (b) *environmental management works,*
 - (c) *demolition of buildings (other than any building that is, or is part of, a State or local heritage item or is within a heritage conservation area).*

The proposed works involve the widening of an existing shared path (pedestrian path and cycleway), the construction of retaining walls and landscaping within Reid Park.

Accordingly, the proposed works can be undertaken as development without consent pursuant to Section 2.73(3) of SEPP TI.

3.1.6 State Environmental Planning Policy (Resilience and Hazards) 2021

Chapter 2 Coastal Management

Coastal Wetlands

Chapter 2 of *State Environmental Planning Policy (Resilience and Hazards) 2021* (SEPP RH) relates to coastal management.

Section 2.8 requires development on land in proximity to coastal wetlands or littoral rainforest to consider the impacts on the biophysical, hydrological or ecological integrity of the adjacent coastal wetland or littoral rainforest, or the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland or littoral rainforest.

Land to the south of the proposed works is mapped coastal wetland and the location of the works is mapped within a proximity area to coastal wetlands.

A Flora and Fauna Assessment Report (FFAR) has been prepared by East Coast Ecology which has considered the minor nature of the proposed works and its location within a highly modified landscape. The FFAR has provided that no changes to the quantity and quality of surface and groundwater flows that connect into the adjoining coastal wetlands is expected. The biophysical, hydrological and ecological integrity of the adjoining coastal wetlands will also not be affected by the proposed activity.

In this regard, the development has satisfied the considerations under Section 2.8.

Coastal Environment Area & Coastal Use Area

3 Statutory Framework

Section 2.10 of SEPP RH relates to development on land within the coastal environment area and Section 2.11 relates to development on land within a coastal use area, with which the site is mapped as both.

The FFAR has considered the provisions set out in Section 2.10 and Section 2.11 and provided that further degradation of the coastal environmental values and natural coastal processes is unlikely, due to the highly modified landscape with which the site is located.

Therefore, subject to the implementation of the mitigation measures set out in **Appendix 14**, no further impacts to the coastal environment area is likely as a result of this activity.

Chapter 4 Remediation of Land

Chapter 4 of SEPP RH relates to remediation of land. The object of this chapter is to *promote 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 requires a consent authority to consider whether the land is contaminated and if it is contaminated, that it would be suitable in its contaminated state or whether remediation is required.

A Detailed Site Investigation (DSI) was prepared by Douglas Partners, which concluded that there was the presence of asbestos within four (4) borehole locations. The finding of asbestos correlates with the sites history, as the eastern portion of the site was formerly part of a James Hardie site. The DSI recommended the preparation of a RAP which was subsequently prepared by Progressive Risk Management (PRM) on 2 July 2025. Subject to the implementation of the RAP, PRM has concluded that the site will be suitable for the ongoing open space use of the site and that the contamination risks can be managed to ensure no risk to human health or the environment.

Furthermore, PRM have provided that the remediation works are considered to be Category 2 Remediation and therefore does not require consent.

A Mitigation Measure has been included that relates to the implementation of the RAP and management of any unexpected finds.

3.1.7 State Environmental Planning Policy (Biodiversity and Conservation) 2021

Section 171A of the EP&A Regulation requires the determining authority to take into account certain sections of *State Environmental Planning Policy (Biodiversity and Conservation) 2021* (SEPP BC) as the site is within the Sydney Harbour Catchment, a regulated catchment under SEPP BC.

Water Quality and Quantity

Section 6.6 of SEPP BC sets out water quality and quantity provisions. Having regard to the Civil Plans prepared by Council, the proposed activity will result in negligible impacts to the water quality and quantity, due to the additional hardstand that is generated by the path upgrades.

Aquatic Ecology

Section 6.7 of SEPP BC sets out aquatic ecology provisions. The Flora and Fauna Assessment Report (FFAR) that accompanies this REF does not identify any aquatic ecology within the activity area which is within a highly modified environment of Reid Park.

Notwithstanding, the proposed activity will be undertaken in a nature that minimises impacts on the natural water body and associated coastal wetlands including sediment and erosion control during construction.

Flooding

Section 6.8 of SEPP BC sets out provisions to consider the impacts on periodic flooding that benefits wetlands and other riverine ecosystems. A Flood Impact Assessment Report (FIAR)

3 Statutory Framework

was prepared by Council, dated 23 June 2025 (**Appendix 6**), which confirms that the location of the proposed activity is impacted by flooding.

Notwithstanding, the FIAR indicates that the flood characteristics of the land remain largely unchanged from the development, with no negative impacts identified within private property boundaries. Upgrades to stormwater drainage infrastructure is proposed to improve surface runoff capture, reduce potential surface ponding, enhance the drainage system's capacity and in turn, improve the safety for pedestrians and cyclists.

In this regard, the activity is considered to have negligible impact on flood behaviour and therefore negligible impact on the recession of waters into natural waterbodies. Erosion and sediment control during construction and hardstand surfaces will minimise the likelihood of pollutants entering the natural waterbody.

Recreation and public access

Section 6.9 of SEPP BC sets out recreation and public access provisions. The proposed activity is for the purpose of enhancing recreation and public access and is accordingly consistent with these provisions.

Development in Foreshores and Waterways Area

Section 6.28(1) of SEPP BC sets out general provisions for development in the Foreshores and Waterways Area. The proposed activity promotes recreation within the foreshore while not resulting in any adverse impacts on its natural setting.

3.1.8 Parramatta Local Environmental Plan 2023

Permissibility

The site is zoned RE1 Public Recreation (the RE1 Zone).

The proposed works involves the extension of an existing shared path and the associated construction of retaining walls and landscaping.

Pursuant to the LEP, the works in the RE1 zone are defined as being an 'Environmental Facility' which is permissible with development consent.

An extract of the zoning map for the site is provided at **Figure 16** below.

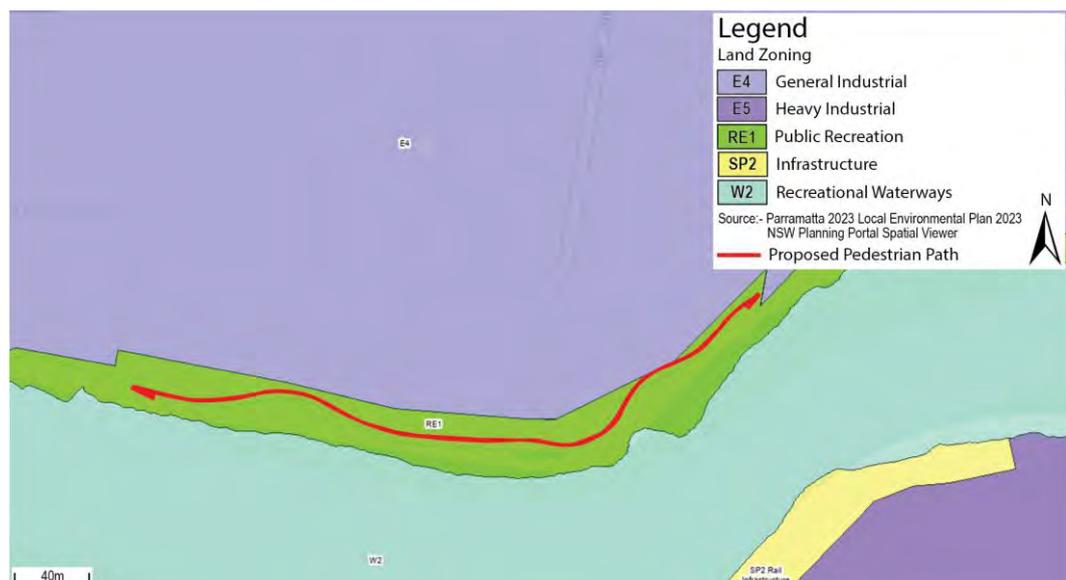


Figure 16 Land zoning map. Source: ePlanning Spatial Viewer

Zone Objectives

The objectives of the RE1 zone are provided below.

- To enable land to be used for public open space or recreational purposes.

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- To provide a range of recreational settings and activities and compatible land uses.
- To protect and enhance the natural environment for recreational purposes.
- To conserve, enhance and promote the natural and cultural heritage value of parks and open space in the zone.
- To create opportunities to use riverfront land for public recreation.

Having regard to the objectives of the RE1 zone, the proposed works relate to an existing area of public open space that provides for a range of recreational activities. This includes cycling, and walking / running along the existing path.

The proposed widening of the shared path will improve the useability of the path by separating cyclists and pedestrians, to minimise potential conflict while in use.

The proposed works also involve the planting of nine (9) trees, all of which are located to the north of the path. These trees will provide shade, a connection to the existing natural environment along the eastern and western sides of the path, as well as screening from the existing industrial development to the north.

Having regard to the Heritage Impact Statement (HIS) that accompanies this development, the proposed works will not adversely impact on the natural and cultural heritage value of the park.

The widened shared path will create more of an opportunity for people to use the riverfront land and in doing so, minimising conflict between cyclists and pedestrians that currently utilise the shared path.

Due to the minor nature of the proposed works, the use of the park for public recreation purposes will not be impacted.

Relevant Planning Controls

An assessment of the proposed works against the relevant provisions of the LEP has been provided in **Table 5** below.

Table 5 Assessment of proposed works against relevant provisions of the LEP		
Provision	Assessment	Consistent
Clause 2.1: Zoning - RE1 Public Recreation	The site is zoned RE1 Public Recreation under the LEP. Development for the purpose of an Environmental Facility is permissible with development consent in the RE1 zone.	Yes
Clause 5.10: Heritage Conservation - Wetlands Significance (I011)	The site is partially mapped as a heritage item, being Wetlands Significance (I011). A Heritage Impact Statement (HIS) has been prepared by DFP Planning, dated 28 January 2025, which assesses the impact of the proposed works on the heritage significance of the site. The HIS has determined the proposed works will have a negligible visual impact on the surrounding area and no physical impact on the natural significance of the remnant mangroves and saltmarsh. In this regard, it is considered that the proposed works are consistent with the objectives of Clause 5.10 of the LEP.	Yes
Clause 5.21: Flood Planning	In accordance with the Section 10.7 (2) & (5) Planning Certificate for the site, dated 10 October 2024, part of the land is within the flood planning area and between the flood planning area and the probable maximum flood and therefore subject to flood related development controls.	Yes

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Table 5 Assessment of proposed works against relevant provisions of the LEP

	<p>A Flood Impact Assessment Report (FIAR) was provided by Council (Appendix 6), in relation to the potential flood impacts as a result of the proposed development. That report has determined that most of the site location is outside of the 20% AEP flood extent from Parramatta River.</p> <p>The FIAR has provided that the project site is subject to a maximum flood level of 3.40m AHD, which will affect the pathway by a flood depth of up to 240mm at the deepest portion, with the remainder of the flood affected area to depth of less than 50mm.</p> <p>The FIAR has provided recommendations that are implemented as part of the Mitigation Measures. These recommendations relate to drainage modifications to improve the performance, capacity and reliability of the stormwater network. Subject to compliance with these recommendations, the FIAR has supported the proposed works.</p> <p>In this regard, it is considered that the proposed works are consistent with the objectives of Clause 5.21 of the LEP.</p> <p>Flooding is discussed further in Section 5.1 of this report.</p>	
<p>Clause 6.1: Acid Sulfate Soils - Class 1, 2 and 5</p>	<p>Part of the site is mapped as Class 1, Class 2 and Class 5 acid sulfate soils.</p> <p>The Class 1 mapped land is towards the south western corner of the site and clear of the location of the proposed works.</p> <p>The works are only located within land that is mapped Class 2 and Class 5.</p> <p>Development consent is only required whereby works are likely to lower the watertable. Due to the minor nature of the proposed works, it is unlikely that the proposed works will lower the water table in this instance. Therefore, development consent is not required in this instance.</p> <p>Notwithstanding, an Acid Sulfate Soils Assessment Report (Appendix 11) has been prepared by Progressive Risk Management, which has recommended that there is no potential acid sulfate soils (PASS) or actual acid sulfate soils (AASS) in the material that is to be disturbed as part of the proposed development.</p>	<p>Yes</p>
<p>Clause 6.6: Foreshore Area</p>	<p>The site is partly located within a foreshore area. The objective of Clause 6.6 of the LEP is to protect the Parramatta River by ensuring development in the area will not impact nature foreshore processes, the significance and amenity of the area and that the development will be compatible with the riverine environment.</p> <p>Based on the minor nature of the proposed works and subject to compliance with the Mitigation Measures, it is considered that the proposed works will be consistent with the objectives of this clause.</p>	<p>Yes</p>

4 Environmental Risk Assessment

This section examines the environmental risks in relation to the proposed works.

4.1 Assessment Method

The methodology applied to the environmental risk assessment for the proposed works is as follows:

- Initial risk assessment for environmental constraints based upon:
 - Review of relevant planning controls and legislation;
 - Review of consultant reports; and
 - Examination of aerial photographs and site photos.
- Identifying potential environmental risks/impacts associated with the proposed works;
- Evaluating identified risks/impacts to determine the potential for occurrence and degree of severity; and
- Identifying and determining suitable environmental management/mitigation procedures and control measures appropriate for planned works.

4.2 Site Constraints

Table 6 identifies site constraints applicable to the site. Where an environmental issue is identified, impact assessment is provided in **Section 5** and mitigation measures and conditions are included in **Appendix 13**.

Table 6 Site Constraints

Constraint	Factor	Yes	No	Action
Contamination	Is the site affected by contamination as identified in Section 10.7 Certificate or 'List of NSW contaminated sites notified to the EPA' and/or potentially affected by contamination?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>The Section 10.7 Planning Certificate for the site, dated 11 October 2024, provides that the land is not significantly contaminated land, is not subject to a management order, is not subject of an approved voluntary management proposed works, is not subject to an ongoing maintenance order and is not subject of a site audit statement.</p> <p>The Section 10.7 Planning Certificate does acknowledge that the site is potentially contaminated and that the land is identified within a report published by the Department of Environment, Climate Change and Water entitled 'James Hardie Asbestos Contamination Legacy' (Report), as being an area formerly used as an asbestos disposal site by James Hardie Industries.</p> <p>In this regard, a Detailed Site Investigation (DSI) has been undertaken by Douglas Partners dated 16 January 2025, which states that there are exposure risks associated with asbestos in soils that can be managed. The recommendations to manage the asbestos is through the preparation of a Remediation Action Plan (RAP). This has been included as part of the Mitigation Measures.</p>
	Does the project involve demolition of buildings or part of a building that may contain Asbestos?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The proposed development does not involve the demolition of buildings or part of buildings that may contain asbestos.
	Does the project require the disturbance of any other hazardous material (e.g. lead paint, lead dust, PCBs, ozone depleting substances)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>A Remediation Action Plan has been prepared by Progressive Risk Management (PRM) (Appendix 7) due to the presence of asbestos within four boreholes that were tested during the Detailed Site investigation (DSI).</p> <p>Subject to compliance with the RAP, it has been concluded by PRM that the site is suitable for use as open space.</p> <p>Therefore, compliance with the RAP is included as a Mitigation Measure, in addition to the management of unexpected finds.</p>
Flooding	Is the site affected by flooding? (i.e. is the land below the 1 in 100-year flood planning level)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Having regard to the Section 10.7 Planning Certificate for the site, the land is between the flood planning area and the probable maximum flood.</p> <p>A Flood Impact Assessment Report (FIAR) has been undertaken by Council (Appendix 6), which has determined that most of the site location is outside of the 20% AEP flood extent from Parramatta River. Notwithstanding, the FIAR has concluded that flood characteristics remain largely unchanged throughout the catchment following the proposed activity.</p> <p>No further action is required.</p>
Coastal Hazards	<p>Is the site identified within the coastal zone in the <i>Coastal Protection Act 1979</i> OR has the site been identified by Council as affected, or potentially affected, by existing and future coastal hazards?</p> <p>This includes coastal storm erosion and recession of land due to sea level rise.</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>The site is mapped within a coastal environment area, a coastal use area and partly coastal wetlands. It is noted that the location of the proposed works is within a proximity area to coastal wetlands.</p> <p>To mitigate impacts towards the coastal zones with which the site is located within proximity to, the implementation of appropriate erosion and sediment control measures is required.</p>

Table 6 Site Constraints

Constraint	Factor	Yes	No	Action
Bushfire Hazard	Is the land nominated as Bushfire Prone Land on the Section 10.7 Certificate or is the site within 100m of unmanaged bushland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Threatened Species	Does the Project involve the clearing of vegetation that would affect any threatened species?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The proposed works involves the removal of five trees towards the north eastern side of the path.
	If YES, answer the following two questions:			
	Has the Section 10.7 Certificate and/or consultation with Council and/or review of the OEH critical habitat register identified a known critical habitat or threatened species, populations or endangered ecological communities and their habitat on or in close proximity to the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Section 10.7 (2) & (5) Certificate for the site and review of the OEH critical habitat register has not identified any critical habitat or threatened species, populations or endangered ecological communities and their habitat on or in close proximity to the site.
	Is the Project Site adjacent to an area of bushland (including a National Park, State Forest, Council Reserve or area of unmanaged bushland) OR a natural watercourse (including a creek, river, estuary, lake or wetland)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The site is located adjacent to Parramatta River and wetland areas. Notwithstanding, a FFAR has been prepared by East Coast Ecology (Appendix 5), which has considered the impacts of the proposed activity on the surrounding land. The conclusions of the FFAR are that the proposed activity will not result in a significant impact on any threatened entities.
Native Vegetation	Does the project involve the clearing of native vegetation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No further action is required.
Aboriginal Cultural Significance	Has the Section 10.7 certificate and/or consultation undertaken with Council identified that the site has, or is likely to have, significance to Aboriginal people, AND / OR will the proposed project impact on an Aboriginal place or known Aboriginal Objects?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The Section 10.7 Planning Certificate for the site has identified the site as being high sensitivity and having the potential to contain items of Aboriginal heritage. An Aboriginal Heritage Information Management System (AHIMS) Search was undertaken on 3 October 2024 (Appendix 12) which did not identify any Aboriginal sites or places within a 200m radius of the subject site. Notwithstanding, a Mitigation Measure has been included that relates to unexpected finds of Aboriginal objects, sites or places during construction works.
	Is the site in an area very highly disturbed /modified (i.e. does it contain large areas of sealed surface, fill or previously excavated areas?)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The area that is subject to the proposed activity is high modified and contains areas of sealed surface relating to the existing shared paths.
	If NO, does the project involve more than 1ha of ground disturbance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No action required.
	Is the project site within 200m of a high-water mark of coastal waters of NSW?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No action required.

Table 6 Site Constraints

Constraint	Factor	Yes	No	Action
	Is the project site within 200m of a wetland, coastal lake or waterway?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The proposed footpath is located in close proximity to an area mapped coastal wetlands. The location of the proposed works is therefore within a proximity area to coastal wetlands. The proposed activity has been designed to avoid impacts to the area of mapped coastal wetlands. Furthermore, no changes to the quantity and quality of surface and groundwater flows that connect to the coastal wetlands is expected. The biophysical, hydrological and ecological integrity of the mapped coastal wetlands will not be adversely affected by the proposed activity.
	Is the project site located on a sand sheet or within a dune area located on a ridge top?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No action required.
	Is the project site within 20m of a cave, rock shelter, or a cave mouth?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No action required.
Acid Sulphate Soils	Is the site less than 6m AHD?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The site is less than 6m AHD.
	Does the site contain acid sulphate soils of Class 1-4?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The location of the proposed works is on land that is partly mapped Class 2 and Class 5 acid sulfate soils. The proposed activity is minor in nature and having regard to Clause 6.1 of the LEP, the activity is not likely to lower the watertable. Furthermore, an Acid Sulfate Soils Assessment has been undertaken by PRM which has concluded that there is no potential acid sulfate soils (PASS) or actual acid sulfate soils (AASS) in the material that is to be disturbed as part of the proposed works. As a result, no Acid Sulfate Soils Management Plan (ASSMP) is required to be prepared. No action required.
	If YES, does the Project involve the excavation of more than 1 tonne of soil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No action required.
Mine Subsidence	Is the land located in a Mine Subsidence District?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No action required.
Land Slip	Does the Section 10.7 Certificate and/or consultation with the relevant council identify the site as being affected by land slip?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No action required.
Heritage	Does the site contain an item of local or state heritage significance or is the site located in the vicinity of a local or state heritage item?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The site is partially mapped as a heritage item, being 'Wetlands' (I1011). It is noted that the location of the proposed works is outside of the mapped areas of heritage significance. Notwithstanding, a Heritage Impact Statement (HIS) has been prepared as part of this REF (Appendix 9). The HIS concludes that the proposed development is not likely to result in any adverse heritage impacts. No further action is required.

5 Environmental Impact Assessment

This section provides an environmental impact assessment for the proposed works at Reid Park. The assessment includes an overview of the proposed works and provides additional information for any specific environmental issues relating to the site which require more detailed consideration.

5.1 Detailed Environmental Assessment

The following environmental aspects are considered to be applicable to the site and the proposed works:

- Flora and Fauna;
- Tree Removal & Protection;
- Stormwater & Flooding;
- Contamination;
- Soil & Water Quality;
- Aboriginal Heritage;
- European Heritage;
- Waste Management;
- Community Amenity;
- Cumulative Impacts; and
- Construction Management.

5.1.1 Flora & Fauna

The proposed works at Reid Park involves the removal of five trees. The proposed path widening has been carefully designed and retain and preserve existing trees and established vegetation where possible.

Notwithstanding, a Flora and Fauna Assessment Report has been prepared by East Coast Ecology, dated 17 September 2025, given the biodiversity values that are present within broader site and vicinity of the park.

As documented within the FFAR, the subject land is classified as exotic / ornamental grasses. However, land to the south of the park (approximately 20m from the proposed works) is mapped as comprising PCT 4091 (Grey Mangrove-River Mangrove Forest), a State Vegetation listed plant community type.

An extract of the mapping which shows the vegetation communities within and surrounding the subject land is provided at **Figure 17** below.

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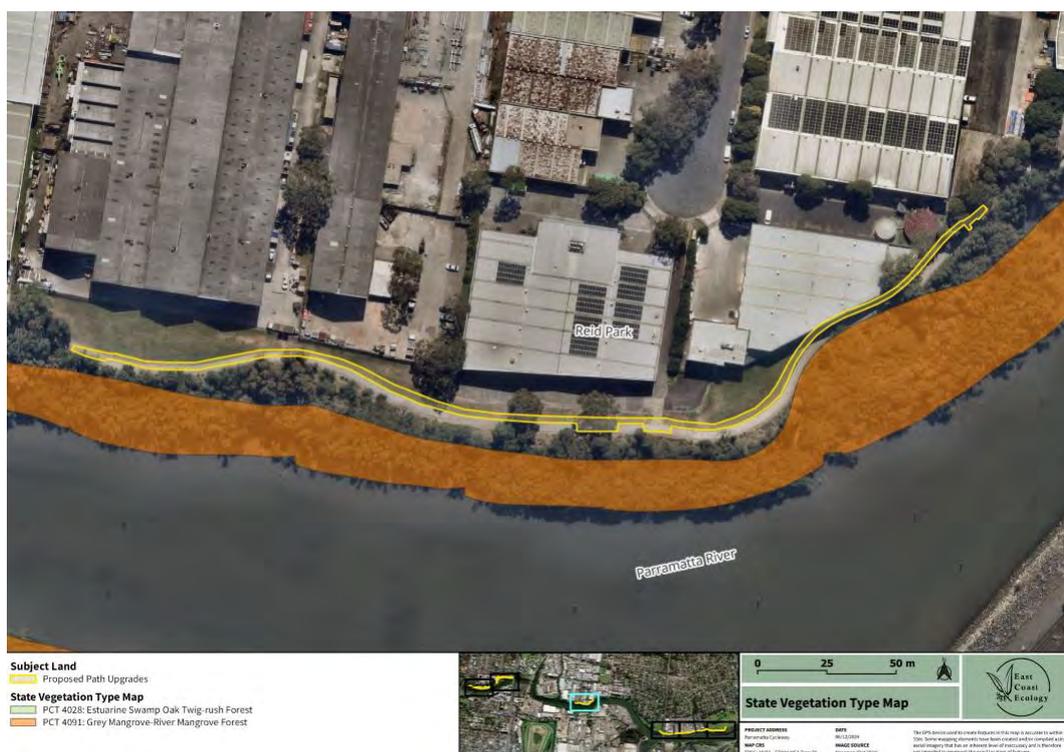


Figure 17 Vegetation Communities within and surrounding the subject land. Source: East Coast Ecology

A review of threatened species within the subject land was also undertaken as part of the FFAR. Based on threatened species records, there have been one record of species within the vicinity of the proposed works, including one record of a *Pteropus Poliocephalus* (Grey-Headed Flying Fox).

An assessment of the likely occurrence of threatened species within the subject land has been conducted as part of the FFAR. In relation to the *Pteropus Poliocephalus*, the species is highly mobile and a canopy-feeding frugivore. The FFAR has considered the likelihood of the species being found within the site and provided that it may be an occasional visitor, however, is not dependent on habitat in the subject land.

On this basis and due to the minor nature of works proposed within Reid Park, it is considered that no further assessment is required when considering the impact of the works on threatened species.

5.1.2 Tree Removal & Protection

The proposed works are located within the vicinity of 65 trees, five of which require removal (refer to **Table 1** of this REF for details) to facilitate the proposed activity. The remaining 60 trees are proposed to be retained.

Forty-six (46) of the trees that are proposed to be retained are subject to no encroachment from the proposed activity and consequently will not be impacted by the proposed activity. This includes a tree within a neighbouring private allotment (tree 186), as seen in **Figure 18**.

Two (2) of the trees that are proposed to be retained are subject to minor encroachment from the proposed activity. Impacts from the proposed activity will not significantly affect the viability of the trees and will not require tree sensitive construction methods.

Twelve (12) of the trees that are proposed to be retained are subject to major encroachment from the proposed activity. Impacts from the proposed activity can be minimised by tree sensitive construction methods.

5 Environmental Impact Assessment

The Site Plan which show the location of the existing trees subject to removal (including the tree crown, tree protection zone (TPZ) and structural root zone (SRZ) of each tree) has been provided at **Figure 19** and **Figure 19** below and as part of the Arborist Report (**Appendix 4**).

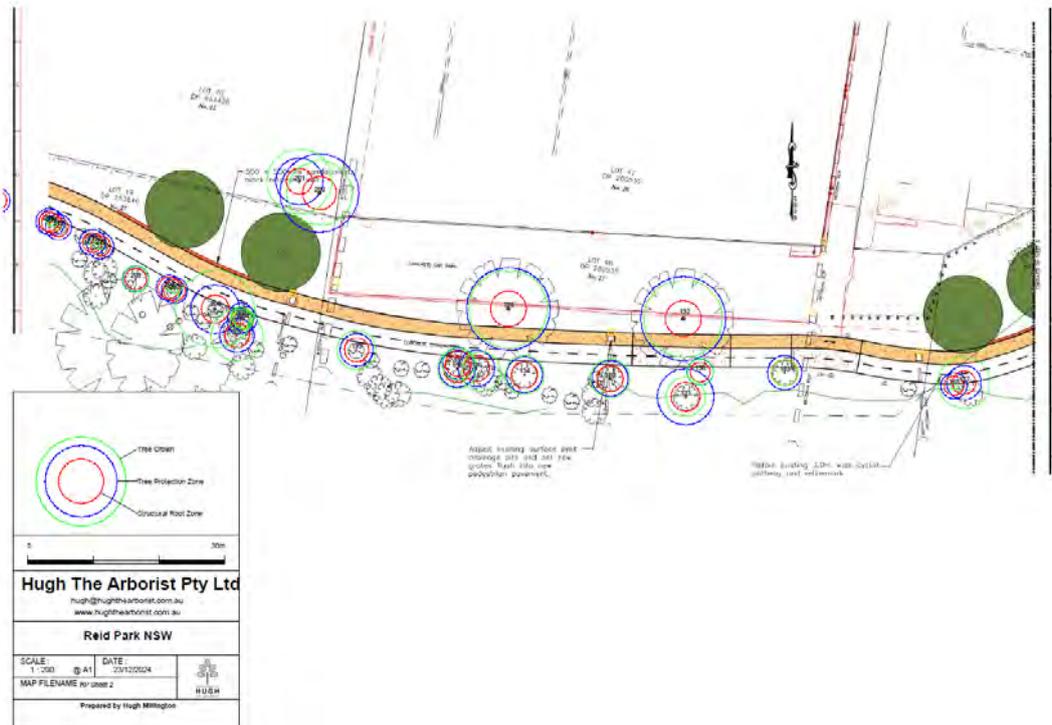


Figure 18 Site Plan (Sheet 2). Source: Hugh the Arborist

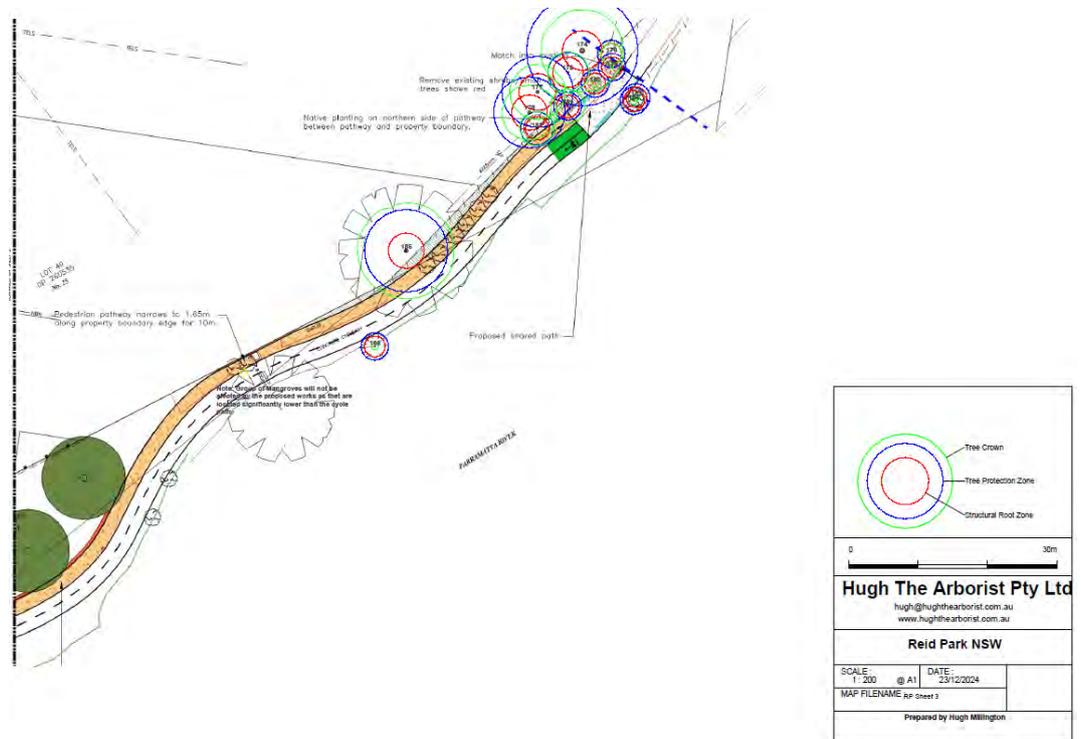


Figure 19 Site Plan (Sheet 3). Source: Hugh The Arborist

5 Environmental Impact Assessment

5.1.3 Stormwater & Flooding

A Drainage Investigation and Floor Impact Assessment Report (FIAR) was undertaken by Council (**Appendix 6**) to analyse the drainage components and flood impact assessment associated with the proposed activity.

Runoff from the upstream catchment is currently collected by the existing drainage network, which is detailed in **Figure 20** below. Investigations into the condition of the drainage network was undertaken, which determined some of the infrastructure was not operating efficiently.

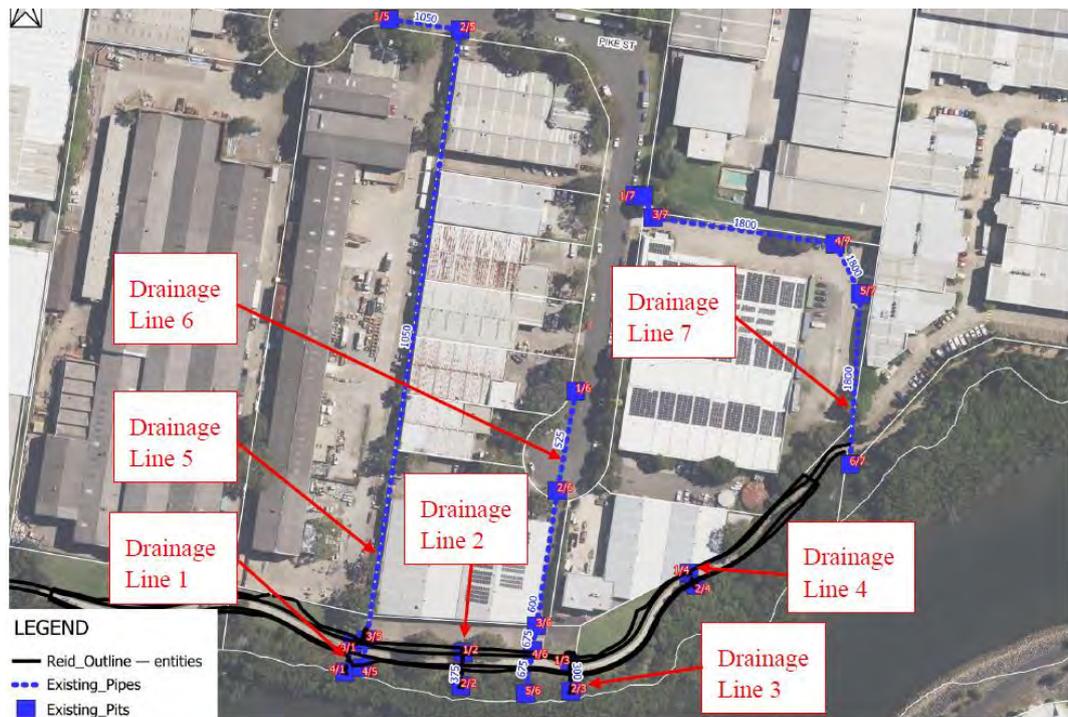


Figure 20 Existing Stormwater Drainage Network

The proposed activity includes the installation of new stormwater pits and pipes to improve the existing drainage system. DRAINS modelling was undertaken which confirmed that these upgrades would significantly enhance the performance, capacity and reliability of the stormwater network, compared to the existing situation.

In relation to flooding impacts, the Drainage Investigation and FIAR has concluded that the proposed upgrades do not adversely impact runoff management across the site. The flood characteristics of the site, remain mostly unchanged throughout the catchment, with no negative impacts identified within the property boundaries, subject to compliance with the recommendations contained within the report.

5.1.4 Contamination

A Detailed Site Investigation (DSI) was prepared by Douglas Partners on 16 January 2025 determined the presence, type and extent of ground contamination to inform a Remediation Action Plan (RAP). The DSI determined that asbestos was recorded in four (4) of the test pit locations across the site (BH302, BH303, BH305 and BH311).

The location of these test pits are provided at **Figure 21** below.

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Figure 21 Test Location Plan. Source: Douglas Partners

Based on the results and findings of the DSI, it was concluded that the asbestos in soils can be managed subject to the preparation of a RAP and the preparation of an Acid Sulfate Soils Management Plan.

Subsequently, a RAP was prepared by Progressive Risk Management (PRM) on 2 July 2025 in accordance with the current regulatory guidelines. The preferred remedial strategy for the asbestos impacted soils is partial excavation and disposal of contaminated material and capping of remaining asbestos impacted fill to be managed under a long-term Environmental Management Plan (EMP).

Subject to compliance with the RAP, PRM has determined that the site will be suitable for the ongoing open space use of the land. A Mitigation Measure has been included which requires compliance with the RAP and management of any unexpected finds.

5.1.5 Soil and Water Quality

Acid Sulfate Soils

The location of the proposed activity is on land that is mapped Class 2 Acid Sulfate Soils, with part of the site being mapped Class 5 Acid Sulfate Soils. As a result, an Acid Sulfate Soils Assessment (ASSA) was conducted by PRM to assess if material proposed to be disturbed as part of the activity contains potential acid sulfate soils (PASS) or actual acid sulfate soils (AASS) and if required, the need for an Acid Sulfate Soils Management Plan (ASSMP).

The ASSA took soil samples in the location of the proposed activity. The results did not indicate the presence of AASS or PASS, with all soils encountered being fill material.

Based on the minimal excavation depths due to the planting of trees within raised mounds of 1-2m above the cycleway, PRM have concluded that an ASSMP is therefore not required due to the maximum excavation depth of 1mbgl. Notwithstanding, if during the construction works, natural soil is encountered, it would need to be treated as PASS and handled under an Unexpected Finds Procedure.

Erosion and Sediment Control

The site is located within close proximity to Parramatta River (located to the south) and as a result, there is the potential for soil to spill into the nearby river, unless appropriate erosion and sediment control measures are implemented.

5 Environmental Impact Assessment

Erosion and sediment control measures are to be established by the Principal Contractor prior to works commencing and must remain in place for the duration of the works. To prevent sediment-laden water from entering into the natural waterway, erosion and sediment control must be managed in accordance with best practice environmental management practices.

5.1.6 Aboriginal Heritage

Having regard to Part 7 of the Parramatta Development Control Plan 2023 (DCP), the location of the proposed activity is within an area of low Aboriginal sensitivity. Notwithstanding, an Aboriginal Heritage Information Management Systems (AHIMS) search was made on 3 October 2024. The results of that AHIMS search were that no Aboriginal sites or places have been recorded within the site or within a 200m radius.

However, in the event of unexpected finds relating to Aboriginal objects, sites or places, a mitigation measure has been included which requires construction works to cease and consultation with a suitably qualified heritage professional and / or the relevant State government agency to determine the subsequent course of action.

5.1.7 European Heritage

The site is mapped as comprising one (1) heritage item, being of 'Wetlands Significance' (I011).

As shown in **Figure 22** below, the location of the footpath that is proposed to be widened is outside of the location of the mapped heritage item.

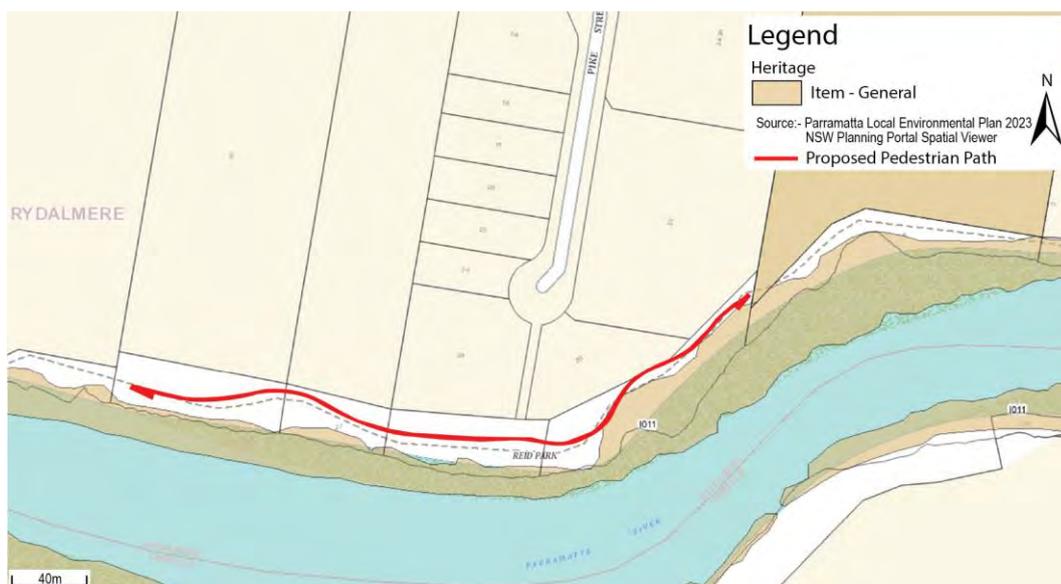


Figure 22 Heritage map. Source: ePlanning Spatial Viewer.

Notwithstanding, as the proposed works are within the immediate vicinity a heritage item, a Heritage Impact Statement (HIS) has been undertaken by DFP Planning and is included as part of this REF.

The HIS has provided a heritage significance assessment and has included the statement of significance for the heritage item that is located within the vicinity of the works. Having regard to the NSW Heritage Inventory, the wetlands to the south east of the works *are of significance for Parramatta area as remnant representative areas of mangroves and salt marshes which once extensively lined the foreshores and tidal water flats of the region.*

Having regard to the minor nature of the proposed works and the separation of the works from the nearest heritage items, the HIS has concluded that the works will have a negligible visual impact and no physical impact on the natural significance of the remnant mangroves and saltmarsh that are located to the south of the site.

5 Environmental Impact Assessment

5.1.8 Waste Management

The Preliminary Construction Management Plan (PCMP) prepared by Council (**Appendix 9**), provides for requirements in relation to the management of waste. In relation to general construction waste such as litter and material waste, these are to be contained on site.

Where skip bins are to be brought on site, they must have hinged lids and be closed at night and during wind affected days. The skip bins must be located within a secure construction compound to prevent unauthorised access or potential for migration of materials into the river in the event of high rainfall. Where possible, waste generated from timber and metalworks should be recycled.

A mitigation measure has been included for a Construction Waste Management Plan (CWMP) to be prepared by the contractor, prior to construction works commencing. The CWMP should specify how waste will be generated, managed and disposed of in accordance with the Waste Classification Guidelines. The CWMP, should specify the following details:

- The nature of waste to be generated;
- The presence of waste on site prior to work commencing;
- The quantity of waste anticipated;
- The potential for waste receptors; and
- The proximity to potential waste receptors.

Prior to construction works commencing, the CWMP will need to be reviewed and approved by Council.

5.1.9 Community Amenity

As set out in **Section 2** of this REF, Reid Park comprises a range of public recreational uses and facilities that are available for community use.

The proposed works will create a separated pedestrian path from the cycleway, which will improve the useability of the shared facilities and in turn minimising potential conflict between users. The proposed works will not impact on the other uses of the park.

Subject to compliance with the mitigation measures, it is considered that the community and amenity impacts in relation to the proposed works are acceptable.

Formal public consultation for the proposed works occurred between 21 October 2024 and 21 November 2024, including engagement with local residents, targeted letter box distributions, City of Parramatta website, social media and newsletters. It is noted that the formal public consultation related to the full extent of upgrades along the northern side of Parramatta River. This includes upgrades to Halvorsen Park, Reid Park, Baludarri Wetlands and Rangihou Reserve.

In total, 156,370 people were reached during the community engagement associated with this activity. During this engagement period, a total of 67 surveys were completed by members of the community, of which 56 were supportive of the proposed works at Reid Park, five (5) were supportive to an extent and six (6) were unsure of the proposed works.

The majority of the submissions that were received are summarised by the following themes:

1. **Cycle and Pedestrian Paths:** The separation of cycle and pedestrian paths was supported by local residents. Further to this, the removal of narrow sections of the existing paths along the foreshore was also supported.

Some comments were also received relating to signage and potential for campaigns to improve the operation between users of the cycle path and pedestrian path.

2. **LED Lighting:** Residents enthusiastically endorsed LED lighting to promote use of the path in the evenings.

5 Environmental Impact Assessment

3. **Planting:** Residents enthusiastically supported the planting of more trees, native shrubs and grasses in sections of the park. Some comments were also provided in relation to the original path (to the south of the proposed activity). These comments were predominantly associated with general upkeep of this area, to prevent it from becoming overgrown and therefore underutilised.

Other general comments received during the public notification period related to the provision of additional bins (including dog poo bins/bags), additional water/drinking fountains, additional bike repair stations, upgrades to existing cycle paths to fix bumps in the surface and additional lighting.

In regard to the first theme, a widened share path is being pursued across the full extent of the proposed Reid Park upgrades to create separated pedestrian and cyclist lanes.

In regard to the second theme lighting is not proposed as part of this REF, however, may be pursued under a separate activity in the future.

In regard to the third theme, the proposed activity will provide for the planting of nine (9) native trees to offset the removal of five (5).

5.1.10 Cumulative Impacts

Given the minor nature of the proposed works, it is unlikely that any significant adverse cumulative impacts would be generated towards users of the foreshore along Reid Park and adjoining site's.

Any cumulative impacts associated with the works are considered to be minor, temporary and acceptable, subject to the implementation of mitigation measures, as provided in **Appendix 14** of the REF.

Some short-term impacts are likely to be generated by the construction works, which will mostly relate to noise and vibration impacts and possible dust exposure. Notwithstanding, the longer-term benefit of the proposed activity is likely to significantly outweigh any short-term impacts.

5.1.11 Construction Management

A Preliminary Construction Management Plan (PCMP) has been prepared by City of Parramatta (**Appendix 9**) which sets out the overarching approach to the construction works, management measures to mitigate or minimise environmental impacts and protocols for communicating with relevant authorities and other stakeholders.

6 Conclusion

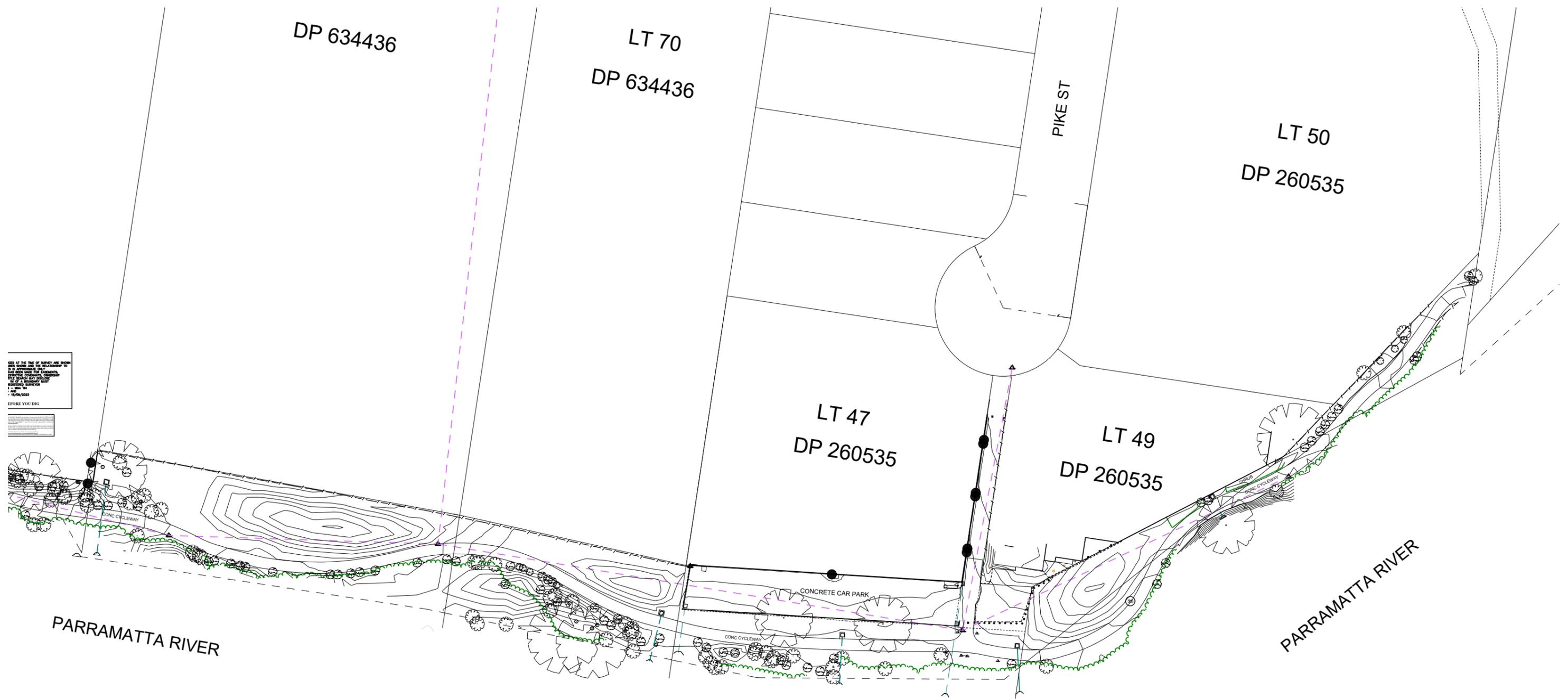
This Review of Environmental Factors has been prepared by DFP for the City of Parramatta Council, the proponent and determining authority for the proposed cycleway widening works to Reid Park.

This REF describes the existing site context and provides details of the proposed works which should be read in conjunction with the relevant design documentation which accompanies the REF.

An assessment of the potential for the proposed works to impact the environment has been undertaken, drawing upon other specialist reports and investigations and together with due diligence, this REF identifies relevant environmental management measures that should be implemented during the carrying out of the works to mitigate or minimise potential impacts to an acceptable level.

This REF concludes that the proposed works can be undertaken as development without consent pursuant to Part 5 of the EP&A Act and pursuant to the provisions of SEPP TI. Notably, an EIS will not be required for the proposed works as per DPE Part 5 Assessment Guidelines.

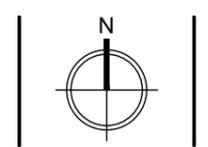
Furthermore, it is assessed that, by adopting the mitigation measures identified in this assessment, it is unlikely that there would be significant environmental impacts associated with the proposed development.



SEE ALL THE INFO OF SURVEY AND DESIGN
 THIS DRAWING IS A PRELIMINARY DESIGN
 AND NOT A CONTRACT DOCUMENT.
 THE DESIGN IS SUBJECT TO APPROVAL
 BY THE LOCAL GOVERNMENT.
 BEFORE YOU DIG

Date: October 2024

Scale: 1:1000 @ A3



REID PARK RYDALMERE
 EXISTING SITE SURVEY



REID PARK

CYCLIST AND PEDESTRIAN PATHWAYS

PIKE STREET, RYDALMERE

Plan No. 18036

LANDSCAPE PLANS

SHEET	DRAWING TITLE
001	COVER SHEET
101	DEMOLITION PLAN 1
102	DEMOLITION PLAN 2
103	DEMOLITION PLAN 3
201	HARDWORKS 1
202	HARDWORKS 2
203	HARDWORKS 3
301	SIGNAGE & LINEMARKING PLAN 1
302	SIGNAGE & LINEMARKING PLAN 2
303	SIGNAGE & LINEMARKING PLAN 3
401	SOFTWARES PLAN 1
402	SOFTWARES PLAN 2
403	SOFTWARES PLAN 3
501	LANDSCAPE DETAILS
601	CoP STANDARD DETAILS

CIVIL PLANS

SHEET	DRAWING TITLE
1	SETOUT PLAN 1
2	SETOUT PLAN 2
3	SETOUT PLAN 3
4	CONTOUR PLAN 1
5	CONTOUR PLAN 2
6	LONGITUDINAL SECTIONS 1
7	LONGITUDINAL SECTIONS 2
8	LONGITUDINAL SECTIONS 3
9	CROSS SECTIONS 1
10	CROSS SECTIONS 2
11	CROSS SECTIONS 3
12	CROSS SECTIONS 4
13	DRAINAGE LINE PLAN 1
14	DRAINAGE LINE PLAN 2
15	DRAINAGE LONGITUDINAL SECTIONS

STRUCTURAL DRAWINGS

SHEET	DRAWING TITLE
ST -001	COVER SHEET AND DRAWING REGISTER
ST -010	KEY PLAN
ST -020	RETAINING WALL DETAILS

GENERAL NOTES

- DO NOT SCALE FROM THE DRAWINGS. LARGER SCALE DETAIL DRAWINGS AND WRITTEN DIMENSIONS TAKE PREFERENCE. DRAWINGS SHOULD BE READ IN CONJUNCTION WITH SCHEDULE OF RATES.
- ANY DISCREPANCIES OR OMISSIONS SHALL BE REFERRED TO COUNCIL'S SUPERINTENDENT FOR A DECISION BEFORE PROCEEDING WITH THE WORKS.
- SURVEY MARKS SHOWN THUS: ▲** SHALL BE RETAINED AT ALL TIMES. WHERE RETENTION IS NOT POSSIBLE THE SUPERINTENDENT MUST BE NOTIFIED AND CONSENT RECEIVED PRIOR TO THEIR REMOVAL.
- PROTECT ALL EXISTING DRAINAGE OUTLETS, SERVICE PITS / UTILITY FEATURES AND EXISTING TREES FROM ALL DEMOLITION AND LANDSCAPE WORKS UNLESS DIRECTED OTHERWISE, BY THE SUPERINTENDENT.
- TRAFFIC AND PEDESTRIAN MANAGEMENT, SEDIMENT AND EROSION CONTROL AND TEMPORARY TREE PROTECTION MEASURES SHALL BE UNDERTAKEN BY THE CONTRACTOR TO THE SATISFACTION OF THE SUPERINTENDENT.
- REMOVE ANY UNWANTED MATTER INCLUDING STONES EXCEEDING 50mm, BUILDING RUBBISH AND WEEDS, ETC.
- THE CONTRACTOR SHALL MAINTAIN SERVICES AND ALL WEATHER ACCESS AT ALL TIMES TO THE ADJOINING PROPERTIES.
- THE CONTRACTOR SHALL NOT ENTER UPON NOR DO ANY WORK WITHIN ADJACENT LANDS WITHOUT PRIOR WRITTEN PERMISSION FROM THE LAND OWNER AND / OR DIRECT INSTRUCTION FROM THE SUPERINTENDENT.
- DAMAGE TO EXISTING PROPERTY SERVICES, FENCES, TREES AND OTHER ELEMENTS TO BE RETAINED SHALL BE RECTIFIED AT THE CONTRACTORS EXPENSE. CONTACT THE SUPERINTENDENT IMMEDIATELY.
- THE LOCATIONS OF SERVICES SHOWN ON THESE DRAWINGS HAVE BEEN PLOTTED FROM DIAGRAMS PROVIDED BY SERVICE AUTHORITIES. THIS INFORMATION HAS BEEN PREPARED SOLELY FOR THE AUTHORITY'S OWN USE AND MAY NOT NECESSARILY BE UPDATED OR ACCURATE.
- COUNCILS CAPITAL PROJECTS SECTION DOES NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS SHOW MORE THAN THE PRESENCE OR ABSENCE OF SERVICES, AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.
- EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE ACCORDING TO THE STANDARD RECOMMENDED BY NSW DEPARTMENT OF HOUSING 'BLUE BOOK', TITLED "MANAGING URBAN STORM WATER - SOILS AND CONSTRUCTION", VOLUME 1, 4th EDITION, JULY, 2006.

DESIGN DOCUMENTATION

DESIGN BY:	JOHN GRAHAM
DRAWN BY:	CHAMY CHEN / DARREN HUYNH
DESIGN CHECKED/APPROVED:	ADAM COOK
APPROVED FOR CONSTRUCTION:	RICHARD JAMES
RELEASE DATE:	JULY 2025



TREE PROTECTION DURING CONSTRUCTION WORKS

EXTREME CARE IS TO BE TAKEN WHEN WORKING WITH THE TPZ OF EXISTING TREES. ALL WORKS AROUND TREE ROOTS ARE TO BE UNDERTAKEN WITH HAND TOOLS TO ENSURE ROOTS ARE NOT DAMAGED. TREE ROOTS EXPOSED DURING CONSTRUCTION WORKS ARE TO BE REPORTED TO COUNCIL'S PROJECT MANAGER SO MITIGATING MEASURES CAN BE IMPLEMENTED.

HAND EXCAVATE AROUND TREE ROOTS AS REQUIRED. DO NOT CUT TREE ROOTS GREATER THAN 50MM DIAMETER. WRITTEN PERMISSION SHALL BE RECEIVED FROM SUPERINTENDENT IF THE ROOT PRUNING (FOR ROOTS GREATER THAN 50MM DIAMETER) IS REQUIRED.

ASBESTOS CONTAMINATION SITE

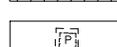
REID PARK HAS BEEN IDENTIFIED WITHIN A REGION RECEIVING MULTIPLE EPA CONTAMINATED LAND NOTICES. THE SITE IS KNOWN TO HAVE HISTORICALLY BEEN SUBJECT TO LAND FILLING AND FILLING ACTIVITIES. A SOIL CONTAMINATION INVESTIGATION HAD BEEN UNDERTAKEN IN JANUARY 2025, BASED ON THE SAMPLING AND ANALYSIS COMPLETED, THAT THE SITE REQUIRES REMEDIATION TO MEET THE ADOPTED CRITERIA TO BE SUITABLE FOR RECREATIONAL PUBLIC OPEN SPACE LAND USE. ASBESTOS CONTAINING MATERIALS (ACM), IN THE FORM OF BONDED ACM AND ASBESTOS FINES/FIBROUS ASBESTOS (AF/FA) (FRIABLE) WAS OBSERVED TO BE PRESENT IN FILL MATERIAL WITHIN INVESTIGATION AREA. REFER TO REMEDIATION ACTION PLAN (RAP) - REID PARK PARRAMATTA FOR FURTHER DETAIL RESULTS AND REQUIRED ACTIONS.

BASED ON THE FINDINGS OF THE ASSESSMENT, IT WAS CONSIDERED THAT THE SITE CAN BE MADE SUITABLE FOR THE PROPOSED LAND USE. THE SITE REQUIRES REMEDIATION TO BE MADE SUITABLE FOR THE PROPOSED DEVELOPMENT. THE REMEDIATION ACTION REPORT DOCUMENT THEREFORE PRESENTS THE SCOPE OF WORKS FOR THE REMEDIATION AND VALIDATION OF THE SITE.

THE CONTRACTOR SHALL ENGAGE A NSW WORKSAFE CLASS A LICENSED ASBESTOS CONTRACTOR FOR THE MANAGEMENT AND REMOVAL OF ALL ACM IN ACCORDANCE WITH THE REMEDIATION ACTION PLAN, NSW WHS LEGISLATION, EPA REQUIREMENTS AND NSW WORKSAFE GUIDELINES. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: SITE SETUP, PREPARATION OF ASBESTOS REMOVAL CONTROL PLAN, NOTIFICATION TO WORKSAFE NSW, PPE, DECONTAMINATION, AIR MONITORING, REPORTING ETC.

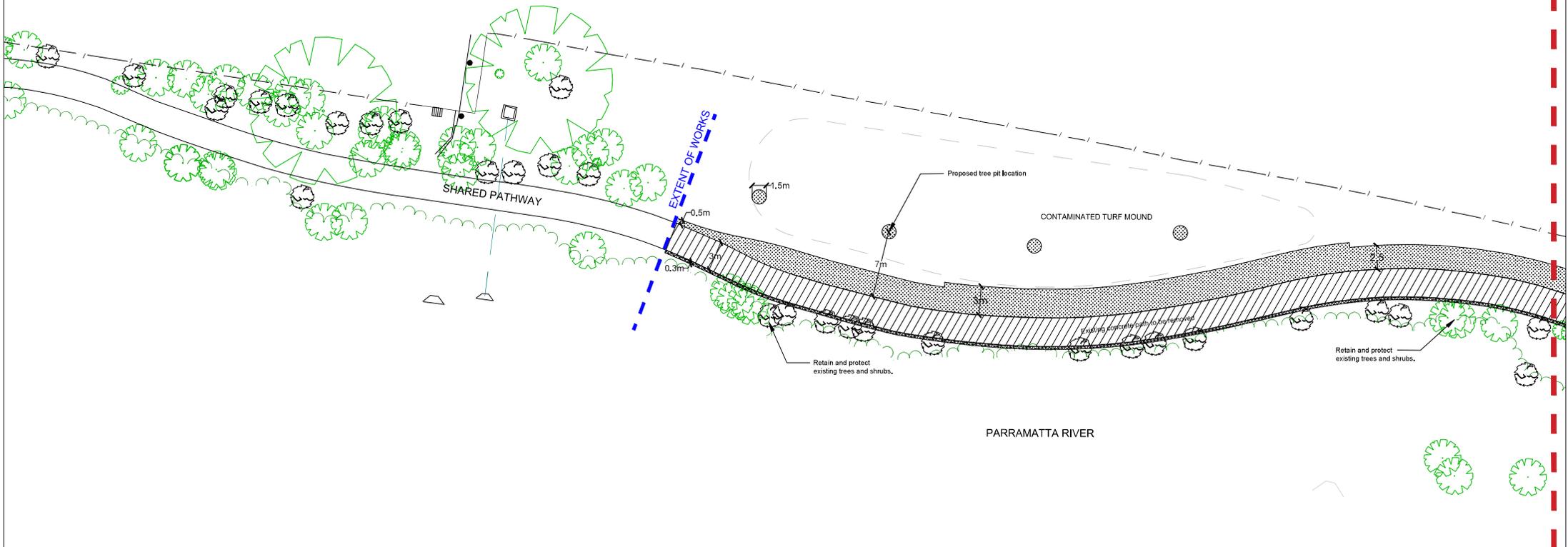
ALL ACTIONS OF WORKS MUST STRICTLY FOLLOW AND IN FULL ACCORDANCE WITH THE REMEDIATION ACTION PLAN.

LEGEND

-  Existing trees to be retained and protected.
-  Tree protection zone (Follow contractor engaged Arborist advice on tree protection measures)
-  Item 2.1 - Demolish and remove existing small tree and stump grind to allow for proposed works. Remove demolition material from site. Refer to Specification Notes.
-  Item 2.2 - Strip, demolish and remove existing grass to allow for proposed works. Hand removal methods to be used within Tree Protection Zones. Remove demolition material from site. Refer to Specification Notes.
-  Item 2.3 - Demolish and remove existing garden beds to allow for proposed works. Including plantings, weeds and mulch. Hand removal methods to be used within Tree Protection Zones. Remove demolition material from site. Refer to Specification Notes.
-  Item 2.4 - Sawcut, demolish and remove existing concrete pavement to allow for proposed works. Remove demolition / excavation material from site. Refer to Specification Notes.
-  Item 2.5 - Demolish and remove existing drainage pit, including existing concrete collar. Remove demolition / excavation material from site. Refer to Specification Notes.
-  Item 2.8 - Demolish and remove existing steel sign. Remove demolition / excavation material from site. Refer to Specification Notes.

<p>NOTE</p> <p>THE CONTRACTOR SHALL ENGAGE A NSW WORKSAFE CLASS-A LICENSED ASBESTOS CONTRACTOR FOR MANAGEMENT AND REMOVAL OF ALL ACM IN ACCORDANCE WITH RAP.</p>	<p>NOTE</p> <p>REMOVAL OF ALL ACM IN ACCORDANCE WITH THE REMEDIATION ACTION PLAN, NSW WHS LEGISLATION, EPA REQUIREMENTS AND NSW WORKSAFE GUIDELINES.</p>
<p>NOTE</p> <p>RETAIN AND PROTECT EXISTING TREES AND TREE ROOTS AT ALL TIMES. THE CONTRACTOR SHALL NOTIFY COUNCIL'S PROJECT MANAGER OF ANY TREE RELATED ISSUES DURING THE CONSTRUCTION WORKS IMMEDIATELY.</p>	<p>NOTE</p> <p>ALL DEMOLITION / EXCAVATION MATERIAL SHALL BE TIPPED AS 'SPECIAL WASTE - ASBESTOS'. TIPPING DOCKETS SHALL BE PRESENTED TO THE SUPERINTENDENT ON COMPLETION OF DEMOLITION EXCAVATION WORKS.</p>
<p>NOTE</p> <p>THE CONTRACTOR SHALL CONDUCT 'DIAL BEFORE YOU DIG' AND ESTABLISH THE LINES OF ALL UTILITY SERVICES PRIOR TO DEMOLITION WORKS.</p>	<p>NOTE</p> <p>FINAL LOCATION OF STOCKPILES, SITE COMPOUNDS AND PROTECTIVE FENCING TO BE CONFIRMED WITH SUPERINTENDENT PRIOR TO SITE ESTABLISHMENT</p>

ADJOINING DEMOLITION PLAN 2




CITY OF PARRAMATTA
 CITY ASSETS & OPERATIONS
 CAPITAL PROJECTS DELIVERY
 316 Victoria Road, Rydalmere NSW 2116

KEY PLAN	NOTES
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<p> SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTORS PRIOR TO COMMENCEMENT OF WORKS.</p>	
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ISSUE	DATE	DESCRIPTION	DRAWN
4	07.2025	FINAL	CC

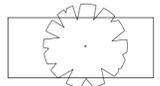
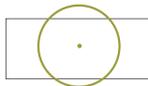
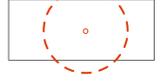
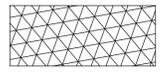
DESIGN APPROVAL	STATUS
CLIENT ACCEPTED	FINAL
APPROVED FOR CONSTRUCTION	SCALE
	1:200

PROJECT	REID PARK CYCLIST AND PEDESTRIAN PATHWAYS
ADDRESS	PIKE STREET, RYDALMERE
CLIENT	INFRASTRUCTURE PLANNING & DESIGN

DRAWING	DEMOLITION PLAN 01
PLAN No	18036
DRAWING No	101
SHEET SIZE	A1
ISSUE/REVISION	1



LEGEND

-  Existing trees to be retained and protected.
-  Tree protection zone (Follow contractor engaged Arborist advice on tree protection measures)
-  Item 2.1 - Demolish and remove existing small tree and stump grind to allow for proposed works. Remove demolition material from site. Refer to Specification Notes.
-  Item 2.2 - Strip, demolish and remove existing grass to allow for proposed works. Hand removal methods to be used within Tree Protection Zones. Remove demolition material from site. Refer to Specification Notes.
-  Item 2.3 - Demolish and remove existing garden beds to allow for proposed works. Including plantings, weeds and mulch. Hand removal methods to be used within Tree Protection Zones. Remove demolition material from site. Refer to Specification Notes.
-  Item 2.4 - Sawcut, demolish and remove existing concrete pavement to allow for proposed works. Remove demolition / excavation material from site. Refer to Specification Notes.
-  Item 2.5 - Demolish and remove existing drainage pit, including existing concrete collar. Remove demolition / excavation material from site. Refer to Specification Notes.
-  Item 2.6 - Demolish and remove existing steel sign. Remove demolition / excavation material from site. Refer to Specification Notes.
-  Item 2.7 - Demolish and remove existing sign post, including concrete footing. Remove demolition / excavation material from site. Refer to Specification Notes.
-  Item 2.8 - Salvage and reuse existing steel sign as shown on drawings. Remove demolition / excavation material from site. Refer to Specification Notes.

<p>NOTE</p> <p>THE CONTRACTOR SHALL ENGAGE A NSW WORKSAFE CLASS-A LICENSED ASBESTOS CONTRACTOR FOR MANAGEMENT AND REMOVAL OF ALL ACM IN ACCORDANCE WITH RAP.</p>	<p>NOTE</p> <p>REMOVAL OF ALL ACM IN ACCORDANCE WITH THE REMEDIATION ACTION PLAN, NSW WHS LEGISLATION, EPA REQUIREMENTS AND NSW WORKSAFE GUIDELINES.</p>
<p>NOTE</p> <p>RETAIN AND PROTECT EXISTING TREES AND TREE ROOTS AT ALL TIMES. THE CONTRACTOR SHALL NOTIFY COUNCIL'S PROJECT MANAGER OF ANY TREE RELATED ISSUES DURING THE CONSTRUCTION WORKS IMMEDIATELY.</p>	<p>NOTE</p> <p>ALL DEMOLITION / EXCAVATION MATERIAL SHALL BE TIPPED AS 'SPECIAL WASTE - ASBESTOS'. TIPPING DOCKETS SHALL BE PRESENTED TO THE SUPERINTENDENT ON COMPLETION OF DEMOLITION EXCAVATION WORKS.</p>
<p>NOTE</p> <p>THE CONTRACTOR SHALL CONDUCT 'DIAL BEFORE YOU DIG' AND ESTABLISH THE LINES OF ALL UTILITY SERVICES PRIOR TO DEMOLITION WORKS.</p>	<p>NOTE</p> <p>FINAL LOCATION OF STOCKPILES, SITE COMPOUNDS AND PROTECTIVE FENCING TO BE CONFIRMED WITH SUPERINTENDENT PRIOR TO SITE ESTABLISHMENT</p>

ADJOINING DEMOLITION PLAN 3



ADJOINING DEMOLITION PLAN 1



CITY OF PARRAMATTA
 CITY ASSETS & OPERATIONS
 CAPITAL PROJECTS DELIVERY
 316 Victoria Road, Rydalmere NSW 2116

KEY PLAN
NOTES

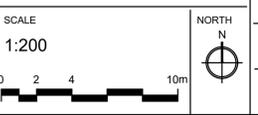
ISSUE	DATE	DESCRIPTION	DRAWN	DESIGN APPROVAL
1	07.2025	FINAL	CC	

SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTORS PRIOR TO COMMENCEMENT OF WORKS

<p>DESIGN APPROVAL</p> <p>SUPERVISOR: LANDSCAPE ARCHITECTURE</p> <p>CLIENT ACCEPTED</p> <p>CLIENT ROLE: CLIENT REPRESENTATIVE</p> <p>APPROVED FOR CONSTRUCTION</p> <p>GROUP MANAGER: CAPITAL PROJECTS DELIVERY</p>
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STATUS: **FINAL**

SCALE: 1:200

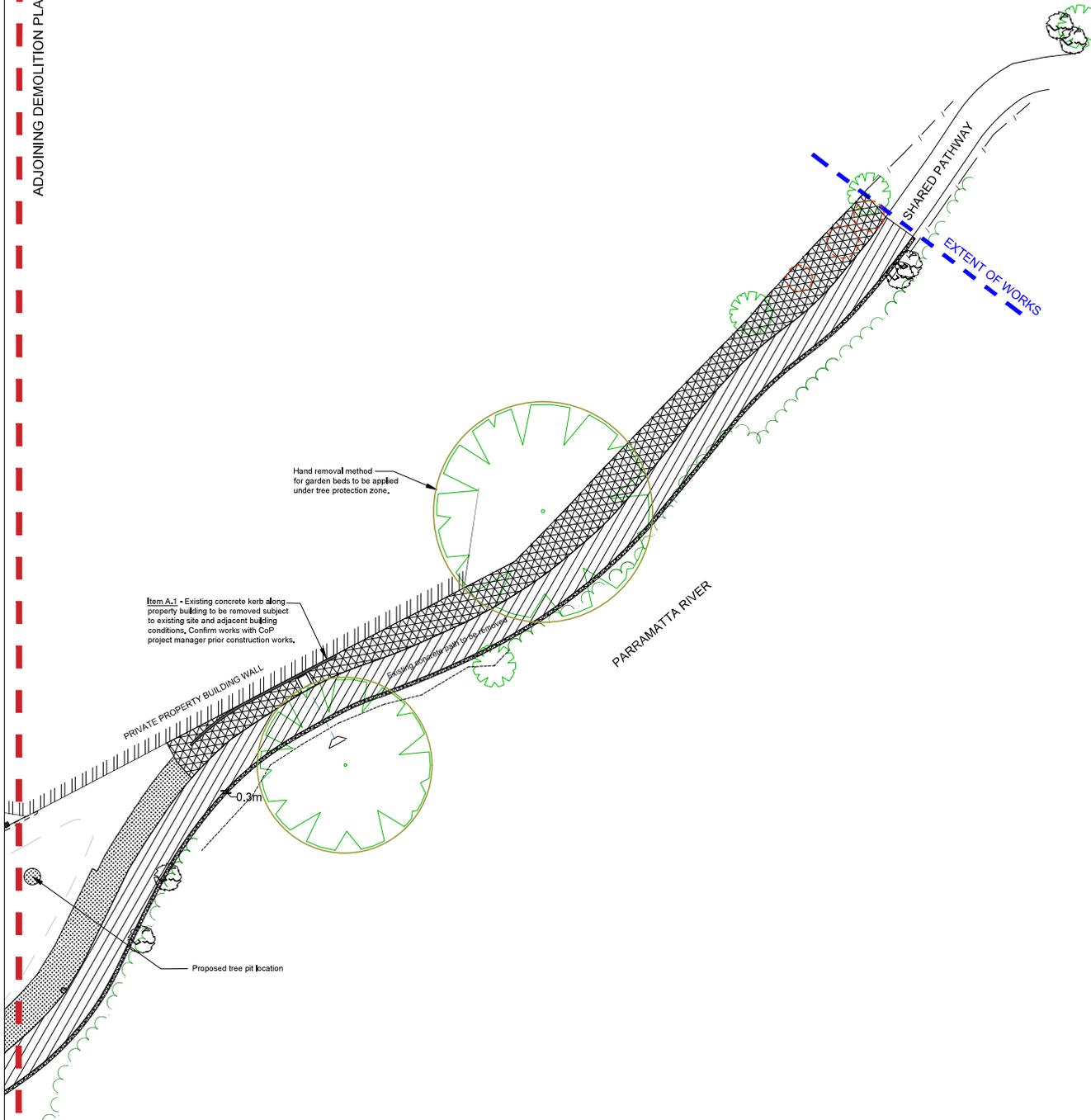


PROJECT: **REID PARK**
 CYCLIST AND PEDESTRIAN PATHWAYS

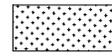
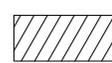
ADDRESS: PIKE STREET, RYDALMERE

CLIENT: INFRASTRUCTURE PLANNING & DESIGN

DRAWING: DEMOLITION PLAN 02	PLAN No: 18036	SHEET SIZE: A1
DRAWING No: 102	ISSUE/REVISION: 1	



LEGEND

-  Existing trees to be retained and protected.
-  Tree protection zone (Follow contractor engaged Arborist advice on tree protection measures)
-  **Item 2.1** - Demolish and remove existing small tree and stump grind to allow for proposed works. Remove demolition material from site. Refer to Specification Notes.
-  **Item 2.2** - Strip, demolish and remove existing grass to allow for proposed works. Hand removal methods to be used within Tree Protection Zones. Remove demolition material from site. Refer to Specification Notes.
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-  **Item 2.4** - Sawcut, demolish and remove existing concrete pavement to allow for proposed works. Remove demolition / excavation material from site. Refer to Specification Notes.
-  **Item 2.5** - Demolish and remove existing drainage pit, including existing concrete collar. Remove demolition / excavation material from site. Refer to Specification Notes.
-  **Item 2.6** - Demolish and remove existing steel sign. Remove demolition / excavation material from site. Refer to Specification Notes.

<p>NOTE</p> <p>THE CONTRACTOR SHALL ENGAGE A NSW WORKSAFE CLASS 4 LICENSED ASBESTOS CONTRACTOR FOR MANAGEMENT AND REMOVAL OF ALL ACM IN ACCORDANCE WITH RAP.</p>	<p>NOTE</p> <p>REMOVAL OF ALL ACM IN ACCORDANCE WITH THE REMEDIATION ACTION PLAN, NSW WHS LEGISLATION, EPA REQUIREMENTS AND NSW WORKSAFE GUIDELINES.</p>
<p>NOTE</p> <p>RETAIN AND PROTECT EXISTING TREES AND TREE ROOTS AT ALL TIMES. THE CONTRACTOR SHALL NOTIFY COUNCIL'S PROJECT MANAGER OF ANY TREE RELATED ISSUES DURING THE CONSTRUCTION WORKS IMMEDIATELY.</p>	<p>NOTE</p> <p>ALL DEMOLITION / EXCAVATION MATERIAL SHALL BE TIPPED AS 'SPECIAL WASTE - ASBESTOS'. TIPPING DOCKETS SHALL BE PRESENTED TO THE SUPERINTENDENT ON COMPLETION OF DEMOLITION EXCAVATION WORKS.</p>
<p>NOTE</p> <p>THE CONTRACTOR SHALL CONDUCT DIAL BEFORE 'YOU DIG' AND ESTABLISH THE LINES OF ALL UTILITY SERVICES PRIOR TO DEMOLITION WORKS.</p>	<p>NOTE</p> <p>FINAL LOCATION OF STOCKPILES, SITE COMPOUNDS AND PROTECTIVE FENCING TO BE CONFIRMED WITH SUPERINTENDENT PRIOR TO SITE ESTABLISHMENT</p>

Item A.1 - Existing concrete kerb along property building to be removed subject to existing site and adjacent building conditions. Confirm works with CoP project manager prior construction works.

Hand removal method for garden beds to be applied under tree protection zone.

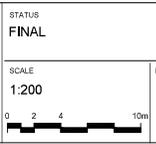


CITY OF PARRAMATTA
 CITY ASSETS & OPERATIONS
 CAPITAL PROJECTS DELIVERY
 316 Victoria Road, Rydalmere NSW 2116

KEY PLAN	NOTES
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ISSUE	DATE	DESCRIPTION	DRAWN	DESIGN APPROVAL
4	07.2025	FINAL	CC	APPROVED FOR CONSTRUCTION

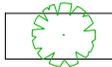
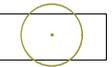
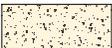
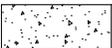
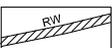
STATUS	FINAL
SCALE	1:200
PROJECT	REID PARK CYCLIST AND PEDESTRIAN PATHWAYS
ADDRESS	PIKE STREET, RYDALMERE
CLIENT	INFRASTRUCTURE PLANNING & DESIGN

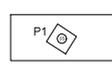
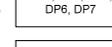


DRAWING	DEMOLITION PLAN 03
PLAN No	18036
DRAWING No	103
SHEET SIZE	A1
ISSUE/REVISION	1

 SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTORS PRIOR TO COMMENCEMENT OF WORKS.

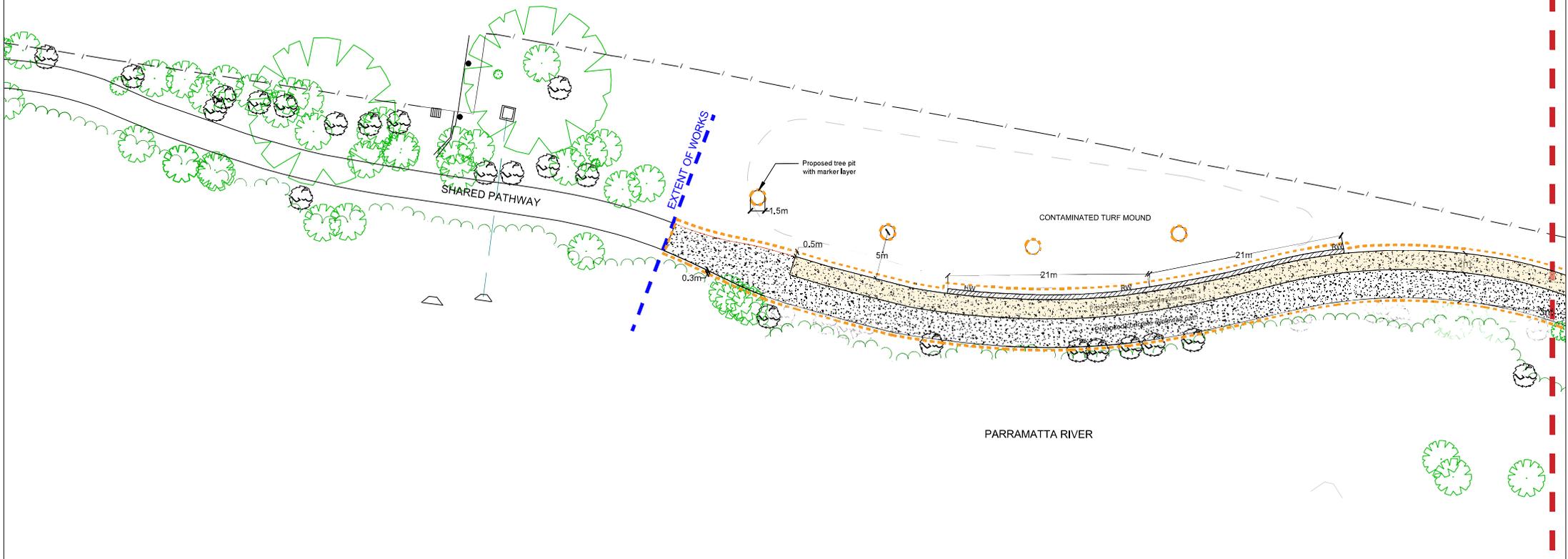
LEGEND

-  Existing trees to be retained and protected.
-  Tree protection zone
-  **Item 3.2** - Remove contaminated excavation material from site in full accordance with the Remediation Action Plan and waste classification, Refer to Remediation Action Plan, Landscape Details and Specification Notes.
-  **Item 4.1** - Supply and install 125mm depth reinforced 'coloured' concrete pavement, Refer to CoP Standard Drawing DS6 'Type 2' and Specification Notes.
-  **Item 4.2** - Supply and install 125mm depth reinforced 'plain' concrete pavement, Refer to CoP Standard Drawing DS6 'Type 2' and Specification Notes.
-  **Item 4.3** - Supply and install 2,000 / 1,000 x 500 x 500 'Class B' sandstone block retaining wall with rear geotextile fabric, backfill material and base course material. Allowance for two courses, Refer to Structural Engineers documentation and Specification Notes.
-  **Item 5.1** DP1, DP5 - Adjust height and convert existing surface inlet pit to heavy duty junction pit with accessible concrete lid, Top of lid to finish flush with concrete pavement, Refer to CoP Standard Drawing DS26 'Sheet 2' and Specification Notes.
-  **Item 5.2** DP2, DP3, DP4 - Supply and install 900mm x 900mm surface inlet pit. Includes excavation and backfilling works in accordance with Remediation Action Plan, Top of lid to finish flush with adjacent concrete pavement, Refer to CoP Standard Drawing DS25 'Sheet 2' and Specification Notes.
-  **Item 5.2** DP6, DP7 - Supply and install 600mm x 600mm surface inlet pit. Includes excavation and backfilling works in accordance with Remediation Action Plan, Top of lid to finish flush with adjacent concrete pavement, Refer to CoP Standard Drawing DS25 'Sheet 2' and Specification Notes.

-  **Item 5.4** P1 - Adjust height of existing service utility pit to suit levels of proposed pathway works, Refer to Specification Notes.
-  **Item 5.5.1** - Supply and install 375mm diameter 'Class 3' RCP drainage pipe. Includes excavation, connections and backfilling works in accordance with Remediation Action Plan, Refer to CoP Standard Drawing DS37 'Sheet 1' and Specification Notes.
-  **Item 5.5.2** - Supply and install 300mm diameter 'Class 3' RCP drainage pipe. Includes excavation, connections and backfilling works in accordance with Remediation Action Plan, Refer to CoP Standard Drawing DS37 'Sheet 1' and Specification Notes.
-  **Item 5.5.3** - Supply and install 150mm down pipe to be connected to DP 5, Refer to Civil Plans and Specification Notes.
-  **Item 5.6** - Supply and install 'Class C' galvanised steel heelproof drainage grate to new drainage pit, Refer to Specification Notes.
-  **Item 5.7** - Clean/flush out existing drainage pipes within extent of works to clear out all silt and debris, Remove demolition/excavation material from site, Refer to Specification Notes.

- NOTE**
THE CONTRACTOR SHALL ENGAGE A NSW WORKSAFE CLASS-A LICENSED ASBESTOS CONTRACTOR FOR MANAGEMENT AND REMOVAL OF ALL ACM IN ACCORDANCE WITH RAP.
- NOTE**
REMOVAL OF ALL ACM IN ACCORDANCE WITH THE REMEDIATION ACTION PLAN, NSW WHS LEGISLATION, EPA REQUIREMENTS AND NSW WORKSAFE GUIDELINES.
- NOTE**
RETAIN AND PROTECT EXISTING TREES AND TREE ROOTS AT ALL TIMES, THE CONTRACTOR SHALL NOTIFY COUNCIL'S PROJECT MANAGER OF ANY TREE RELATED ISSUES DURING THE CONSTRUCTION WORKS IMMEDIATELY.
- NOTE**
ALL DEMOLITION / EXCAVATION MATERIAL SHALL BE TIPPED AS 'SPECIAL WASTE - ASBESTOS'. TIPPING DOCKETS SHALL BE PRESENTED TO THE SUPERINTENDENT ON COMPLETION OF DEMOLITION EXCAVATION WORKS.
- NOTE**
THE CONTRACTOR SHALL CONDUCT 'DIAL BEFORE YOU DIG' AND ESTABLISH THE LINES OF ALL UTILITY SERVICES PRIOR TO DEMOLITION WORKS.
- NOTE**
FINAL LOCATION OF STOCKPILES, SITE COMPOUNDS AND PROTECTIVE FENCING TO BE CONFIRMED WITH SUPERINTENDENT PRIOR TO SITE ESTABLISHMENT

ADJOINING HARDWORKS PLAN 2




CITY OF PARRAMATTA
CITY ASSETS & OPERATIONS
CAPITAL PROJECTS DELIVERY
316 Victoria Road, Rydalmere NSW 2116

KEY PLAN	NOTES
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 SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTORS PRIOR TO COMMENCEMENT OF WORKS.

ISSUE	DATE	DESCRIPTION	DRAWN
4	07.2025	FINAL	CC

DESIGN APPROVAL	STATUS
CLIENT ACCEPTED	FINAL
APPROVED FOR CONSTRUCTION	SCALE
	1:200
	0 2 4 10m
	NORTH

PROJECT	DRAWING
REID PARK	HARDWORKS PLAN 01
CYCLIST AND PEDESTRIAN PATHWAYS	PLAN No
ADDRESS	18036
PIKE STREET, RYDALMERE	SHEET SIZE
CIENT	A1
INFRASTRUCTURE PLANNING & DESIGN	DRAWING No
	201
	ISSUE/REVISION
	1

LEGEND

Existing trees to be retained and protected.

Tree protection zone

Item 3.2 - Remove contaminated excavation material from site in full accordance with the Remediation Action Plan and waste classification, Refer to Remediation Action Plan, Landscape Details and Specification Notes.

Item 4.1 - Supply and install 125mm depth reinforced 'coloured' concrete pavement, Refer to CoP Standard Drawing DS6 'Type 2' and Specification Notes.

Item 4.2 - Supply and install 125mm depth reinforced 'plain' concrete pavement, Refer to CoP Standard Drawing DS6 'Type 2' and Specification Notes.

Item 4.3 - Supply and install 2,000 / 1,000 x 500 x 500 'Class B' sandstone block retaining wall with rear geotextile fabric, backfill material and base course material. Allowance for two courses, Refer to Structural Engineers documentation and Specification Notes.

Item 5.4 P1 - Adjust height of existing service utility pit to suit levels of proposed pathway works. Refer to Specification Notes.

Item 5.5.1 - Supply and install 375mm diameter 'Class 3' RCP drainage pipe. Includes excavation, connections and backfilling works in accordance with Remediation Action Plan, Refer to CoP Standard Drawing DS37 'Sheet 1' and Specification Notes.

Item 5.5.2 - Supply and install 300mm diameter 'Class 3' RCP drainage pipe. Includes excavation, connections and backfilling works in accordance with Remediation Action Plan, Refer to CoP Standard Drawing DS37 'Sheet 1' and Specification Notes.

Item 5.5.3 - Supply and install 150mm down pipe to be connected to DP 5, Refer to Civil Plans and Specification Notes.

Item 5.6 - Supply and install 'Class C' galvanised steel heelproof drainage grate to new drainage pit. Refer to Specification Notes.

Item 5.7 - Clean/flush out existing drainage pipes within extent of works to clear out all silt and debris. Remove demolition/excavation material from site. Refer to Specification Notes.

Item 5.1 DP1, DP5 - Adjust height and convert existing surface inlet pit to heavy duty junction pit with accessible concrete lid. Top of lid to finish flush with concrete pavement. Refer to CoP Standard Drawing DS28 'Sheet 2' and Specification Notes.

Item 5.2 DP2, DP3, DP4 - Supply and install 900mm x 900mm surface inlet pit. Includes excavation and backfilling works in accordance with Remediation Action Plan, Top of lid to finish flush with adjacent concrete pavement, Refer to CoP Standard Drawing DS25 'Sheet 2' and Specification Notes.

Item 5.2 DP6, DP7 - Supply and install 600mm x 600mm surface inlet pit. Includes excavation and backfilling works in accordance with Remediation Action Plan, Top of lid to finish flush with adjacent concrete pavement, Refer to CoP Standard Drawing DS25 'Sheet 2' and Specification Notes.

NOTE
THE CONTRACTOR SHALL ENGAGE A NSW WORKSAFE CLASS-A LICENSED ASBESTOS CONTRACTOR FOR MANAGEMENT AND REMOVAL OF ALL ACM IN ACCORDANCE WITH RAP.

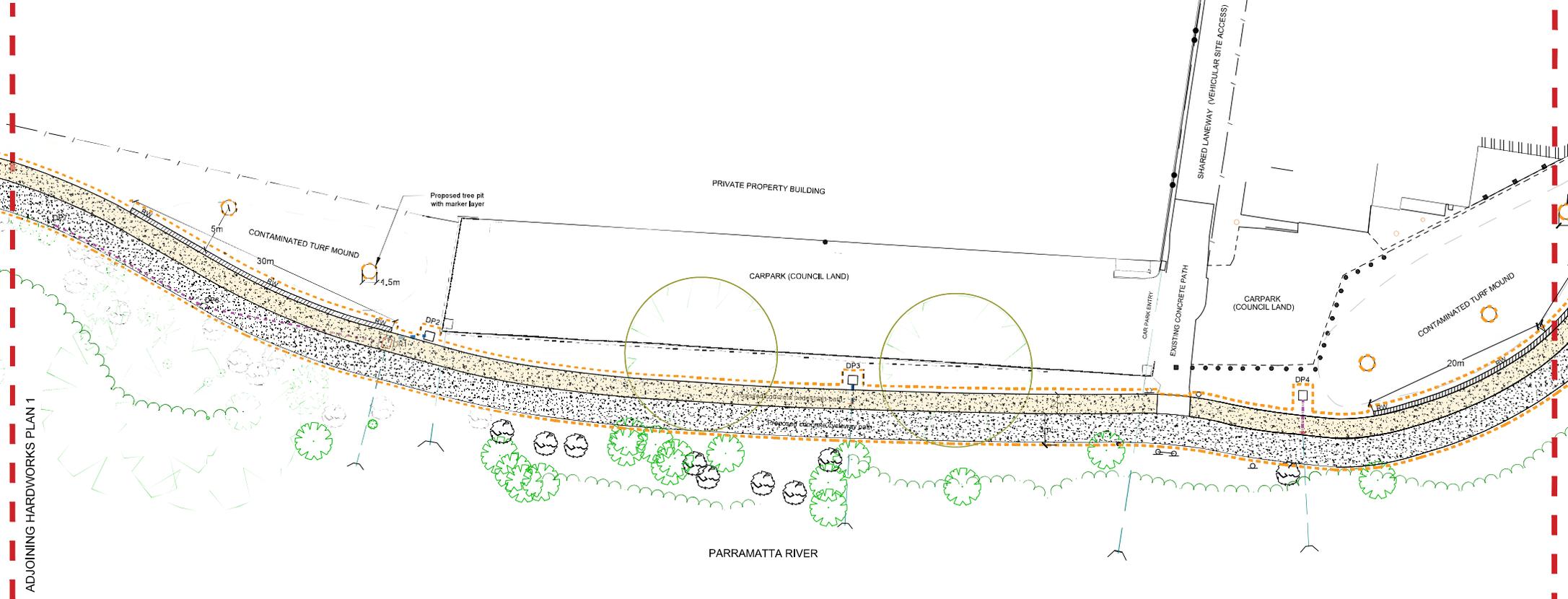
NOTE
REMOVAL OF ALL ACM IN ACCORDANCE WITH THE REMEDIATION ACTION PLAN, NSW WHS LEGISLATION, EPA REQUIREMENTS AND NSW WORKSAFE GUIDELINES.

NOTE
RETAIN AND PROTECT EXISTING TREES AND TREE ROOTS AT ALL TIMES. THE CONTRACTOR SHALL NOTIFY COUNCIL'S PROJECT MANAGER OF ANY TREE RELATED ISSUES DURING THE CONSTRUCTION WORKS IMMEDIATELY.

NOTE
ALL DEMOLITION / EXCAVATION MATERIAL SHALL BE TIPPED AS 'SPECIAL WASTE - ASBESTOS'. TIPPING DOCKETS SHALL BE PRESENTED TO THE SUPERINTENDENT ON COMPLETION OF DEMOLITION EXCAVATION WORKS.

NOTE
THE CONTRACTOR SHALL CONDUCT 'DIAL BEFORE YOU DIG' AND ESTABLISH THE LINES OF ALL UTILITY SERVICES PRIOR TO DEMOLITION WORKS.

NOTE
FINAL LOCATION OF STOCKPILES, SITE COMPOUNDS AND PROTECTIVE FENCING TO BE CONFIRMED WITH SUPERINTENDENT PRIOR TO SITE ESTABLISHMENT



ADJOINING HARDWORKS PLAN 1

ADJOINING HARDWORKS PLAN 2

CITY OF PARRAMATTA
CITY ASSETS & OPERATIONS
CAPITAL PROJECTS DELIVERY
316 Victoria Road, Rydalmere NSW 2116

KEY PLAN	NOTES
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SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTORS PRIOR TO COMMENCEMENT OF WORKS.

ISSUE	DATE	DESCRIPTION	DRAWN	DESIGN APPROVAL
4	07.2025	FINAL	CC	

CLIENT ACCEPTED

APPROVED FOR CONSTRUCTION

STATUS: FINAL

SCALE: 1:200

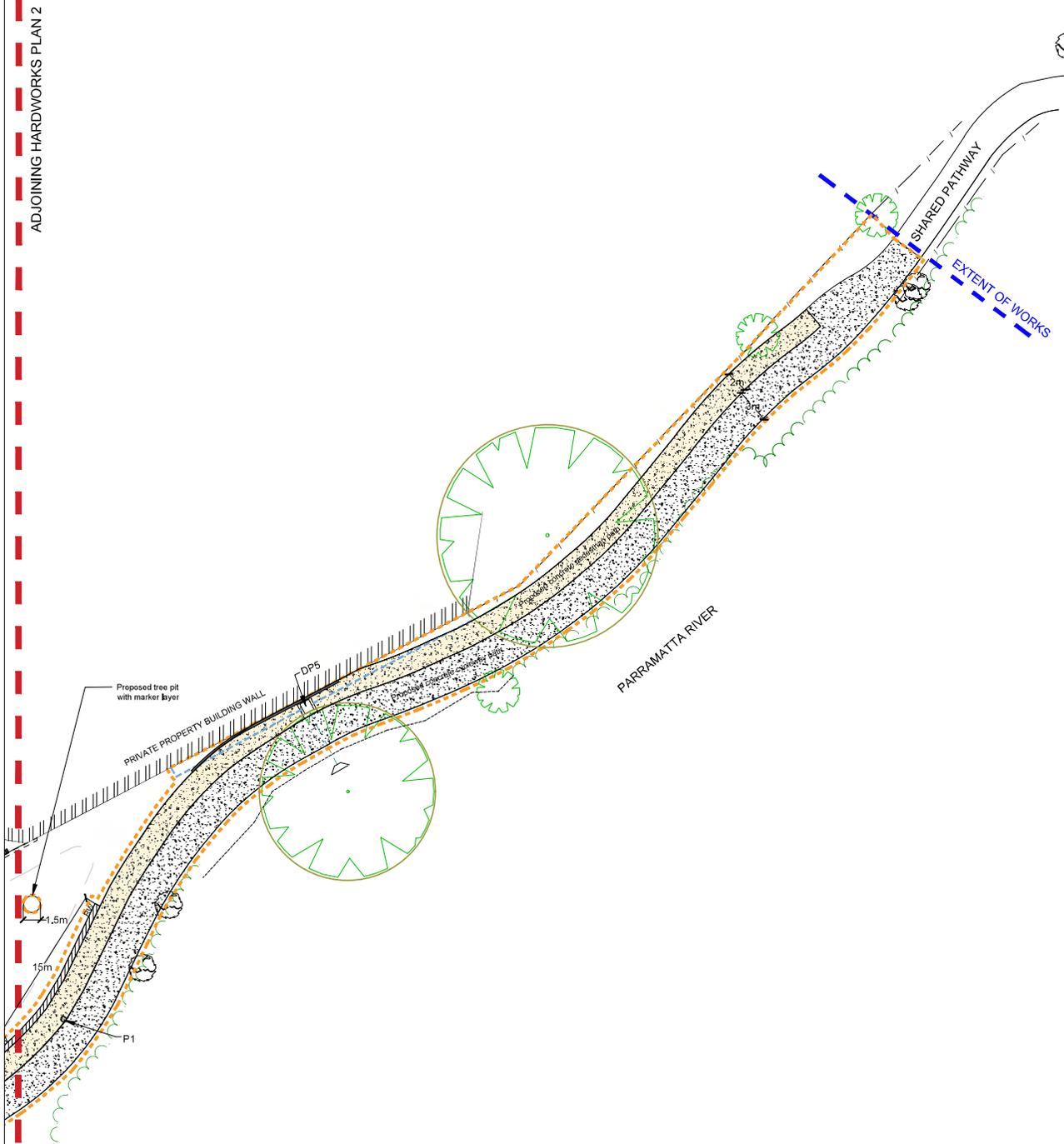
NORTH

PROJECT: REID PARK
CYCLIST AND PEDESTRIAN PATHWAYS

ADDRESS: PIKE STREET, RYDALMERE

CLIENT: INFRASTRUCTURE PLANNING & DESIGN

DRAWING: HARDWORKS PLAN 02	PLAN No: 18036	SHEET SIZE: A1
DRAWING No: 202	ISSUE/REVISION: 1	



LEGEND

- Existing trees to be retained and protected.
- Tree protection zone
- Item 3.2 - Remove contaminated excavation material from site in full accordance with the Remediation Action Plan and waste classification, Refer to Remediation Action Plan, Landscape Details and Specification Notes.
- Item 4.1 - Supply and install 125mm depth reinforced 'coloured' concrete pavement, Refer to CoP Standard Drawing DS6 'Type 2' and Specification Notes.
- Item 4.2 - Supply and install 125mm depth reinforced 'plain' concrete pavement, Refer to CoP Standard Drawing DS6 'Type 2' and Specification Notes.
- Item 4.3 - Supply and install 2,000 / 1,000 x 500 x 500 'Class B' sandstone block retaining wall with rear geotextile fabric, backfill material and base course material. Allowance for two courses, Refer to Structural Engineers documentation and Specification Notes.
- Item 5.1, DP1, DP5 - Adjust height and convert existing surface inlet pit to heavy duty junction pit with accessible concrete lid, Top of lid to finish flush with concrete pavement, Refer to CoP Standard Drawing DS26 'Sheet 2' and Specification Notes.
- Item 5.2 DP2, DP3, DP4 - Supply and install 900mm x 900mm surface inlet pit. Includes excavation and backfilling works in accordance with Remediation Action Plan, Top of lid to finish flush with adjacent concrete pavement, Refer to CoP Standard Drawing DS25 'Sheet 2' and Specification Notes.
- Item 5.2 DP6, DP7 - Supply and install 600mm x 600mm surface inlet pit. Includes excavation and backfilling works in accordance with Remediation Action Plan, Top of lid to finish flush with adjacent concrete pavement, Refer to CoP Standard Drawing DS25 'Sheet 2' and Specification Notes.
- Item 5.4 P1 - Adjust height of existing service utility pit to suit levels of proposed pathway works, Refer to Specification Notes.
- Item 5.5.1 - Supply and install 375mm diameter 'Class 3' RCP drainage pipe. Includes excavation, connections and backfilling works in accordance with Remediation Action Plan, Refer to CoP Standard Drawing DS37 'Sheet 1' and Specification Notes.
- Item 5.5.2 - Supply and install 300mm diameter 'Class 3' RCP drainage pipe. Includes excavation, connections and backfilling works in accordance with Remediation Action Plan, Refer to CoP Standard Drawing DS37 'Sheet 1' and Specification Notes.
- Item 5.5.3 - Supply and install 150mm down pipe to be connected to DP 5, Refer to Civil Plans and Specification Notes.
- Item 5.6 - Supply and install 'Class C' galvanised steel heel/roof drainage grate to new drainage pit, Refer to Specification Notes.
- Item 5.7 - Clean/flush out existing drainage pipes within extent of works to clear out all silt and debris, Remove demolition/excavation material from site, Refer to Specification Notes.

<p>NOTE</p> <p>THE CONTRACTOR SHALL ENGAGE A NSW WORKSAFE CLASS-A LICENSED ASBESTOS CONTRACTOR FOR MANAGEMENT AND REMOVAL OF ALL ACM IN ACCORDANCE WITH RAP.</p>	<p>NOTE</p> <p>REMOVAL OF ALL ACM IN ACCORDANCE WITH THE REMEDIATION ACTION PLAN, NSW WHS LEGISLATION, EPA REQUIREMENTS AND NSW WORKSAFE GUIDELINES.</p>
<p>NOTE</p> <p>RETAIN AND PROTECT EXISTING TREES AND TREE ROOTS AT ALL TIMES. THE CONTRACTOR SHALL NOTIFY COUNCIL'S PROJECT MANAGER OF ANY TREE RELATED ISSUES DURING THE CONSTRUCTION WORKS IMMEDIATELY.</p>	<p>NOTE</p> <p>ALL DEMOLITION / EXCAVATION MATERIAL SHALL BE TIPPED AS 'SPECIAL WASTE - ASBESTOS'. TIPPING DOCKETS SHALL BE PRESENTED TO THE SUPERINTENDENT ON COMPLETION OF DEMOLITION EXCAVATION WORKS.</p>
<p>NOTE</p> <p>THE CONTRACTOR SHALL CONDUCT DIAL BEFORE YOU DIG AND ESTABLISH THE LINES OF ALL UTILITY SERVICES PRIOR TO DEMOLITION WORKS.</p>	<p>NOTE</p> <p>FINAL LOCATION OF STOCKPILES, SITE COMPOUNDS AND PROTECTIVE FENCING TO BE CONFIRMED WITH SUPERINTENDENT PRIOR TO SITE ESTABLISHMENT</p>

KEY PLAN	NOTES	<p>SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTORS PRIOR TO COMMENCEMENT OF WORKS.</p>
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ISSUE	DATE	DESCRIPTION	DRAWN	DESIGN APPROVAL
4	07.2025	FINAL	CC	<p>APPROVED FOR CONSTRUCTION</p>

STATUS	FINAL
SCALE	1:200
NORTH	

PROJECT	REID PARK CYCLIST AND PEDESTRIAN PATHWAYS
ADDRESS	PIKE STREET, RYDALMERE
CLIENT	INFRASTRUCTURE PLANNING & DESIGN

DRAWING	HARDWORKS PLAN 03
PLAN No	18036
DRAWING No	203
SHEET SIZE	A1
ISSUE/REVISION	1

LEGEND



Item 6.1.1 - Supply and install galvanised steel sign post inclusive of concrete footing. Refer to CoP Standard Drawing DS11, Furniture, Signage & Linemarking Plans and Specification Notes.
Item 6.1.2 - Supply and install new steel signs to sign post. Refer to Details, Signage Schedule and Specification Notes.
Item 6.1.3 - Supply and install 450 x 600mm metal 'Flood Warning' sign to sign post providing min.2.2m head clearance. Refer to CoP Standard Drawing DS11, Signage & Linemarking Schedules and Specification Notes.

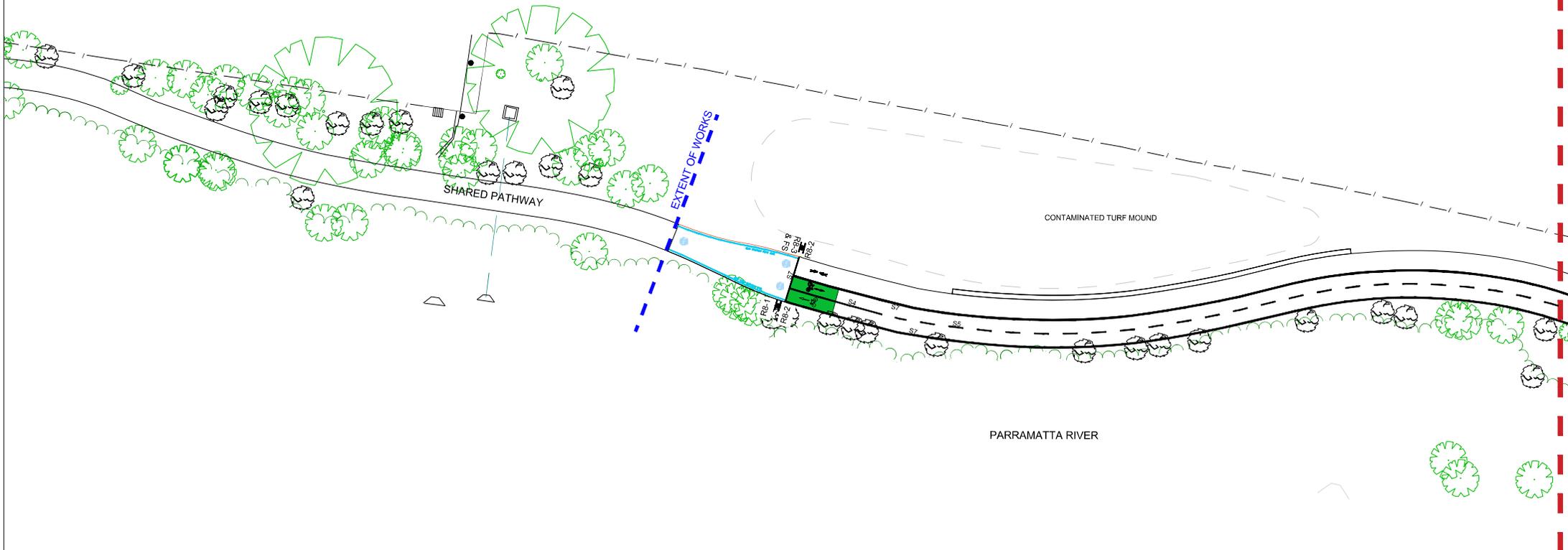
SIGNAGE SCHEDULE:

CODE	TYPE	SIZE	QTY.
R8-1		300 x 400mm	3
R8-2		300 x 400mm	4
R8-3		300 x 400mm	4
FS		450 x 600mm	3

LINEMARKING SCHEDULE:

ITEM	CODE	LINE MARKING TYPE AND DIMENSIONS	REMARKS	QUANTITY
ITEM 6.2	S5		Apply centre line to sections of proposed 3m wide cycleway. Dashed line 80mm wide, 1m long with 3m gap.	328m
ITEM 6.3	S4		Apply centre line to sections of proposed 3m wide cycleway. Continuous line 80mm wide.	20m
ITEM 6.4	S7		Apply edge line associated with green pavement marking paint on sections of proposed 3m wide cycleway. Continuous line 80mm wide.	714m
ITEM 6.5	N/A		Apply Green pavement marking paint for cycleway sections as indicated in the drawing. Colour: G16 Traffic Green.	29m ²
ITEM 6.6	PA-1		Apply Arrow symbol to locations on concrete cycleway as indicated in the drawing.	6
ITEM 6.7	PS-3		Apply Bicycle symbol to locations on concrete cycleway as indicated in the drawing.	6
ITEM 6.8	PS-4		Apply Pedestrian symbol to locations on concrete cycleway as indicated in the drawing.	8
ITEM 6.9	T1L01		Apply edge line to sections of shared path. Continuous line 40mm wide offset 50mm from edge. Colour: 'City of Sydney Blue'.	48m
ITEM 6.10	T1S01		Apply solid coloured Shared Path symbol to locations on concrete cycleway as indicated in the drawing. Colour: 'City of Sydney Blue'.	4
ITEM 6.11	T3S14		Apply solid coloured 'slow' symbol to locations on concrete cycleway. Font: Tonda Signage. Colour: White & Light Blue - Pantone (PMS) #292C.	6

NOTE:
 - All pavement / line markings to be to Australian and RMS standards.
 - Apply white and blue pavement / line marking with waterborne paint to suit the application.
 Use stencils or masking tape to ensure crisp edges.



ADJOINING SIGNAGE & LINEMARKING PLAN 2

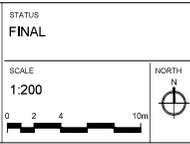
CITY OF PARRAMATTA
 CITY ASSETS & OPERATIONS
 CAPITAL PROJECTS DELIVERY
 316 Victoria Road, Rydalmere NSW 2116

KEY PLAN	NOTES
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ISSUE	DATE	DESCRIPTION	DRAWN
4	07.2025	FINAL	CC

SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTORS PRIOR TO COMMENCEMENT OF WORKS.

DESIGN APPROVAL	STATUS
CLIENT ACCEPTED	FINAL
APPROVED FOR CONSTRUCTION	SCALE
	1:200



PROJECT	REID PARK
ADDRESS	PIKE STREET, RYDALMERE
CLIENT	INFRASTRUCTURE PLANNING & DESIGN

DRAWING	SIGNAGE AND LINEMARKING PLAN 01
PLAN No	18036
DRAWING No	301
SHEET SIZE	A1
ISSUE/REVISION	1

LEGEND



Item 6.1.1 - Supply and install galvanised steel sign post inclusive of concrete footing. Refer to CoP Standard Drawing DS11, Furniture, Signage & Linemarking Plans and Specification Notes.
Item 6.1.2 - Supply and install new steel signs to sign post. Refer to Details, Signage Schedule and Specification Notes.
Item 6.1.3 - Supply and install 450 x 600mm metal 'Flood Warning' sign to sign post providing min.2.2m head clearance. Refer to CoP Standard Drawing DS11, Signage & Linemarking Schedules and Specification Notes.

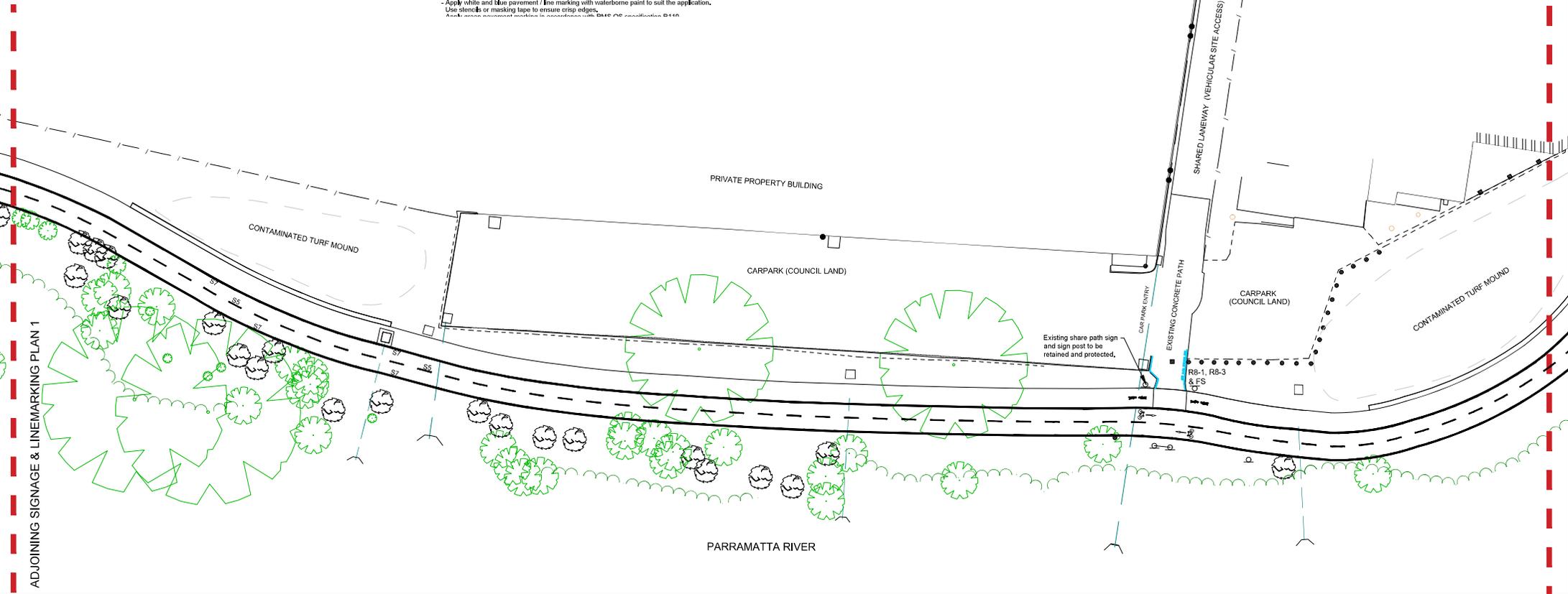
SIGNAGE SCHEDULE:

CODE	TYPE	SIZE	QTY.
R8-1		300 x 400mm	3
R8-2		300 x 400mm	4
R8-3		300 x 400mm	4
FS		450 x 600mm	3

LINEMARKING SCHEDULE:

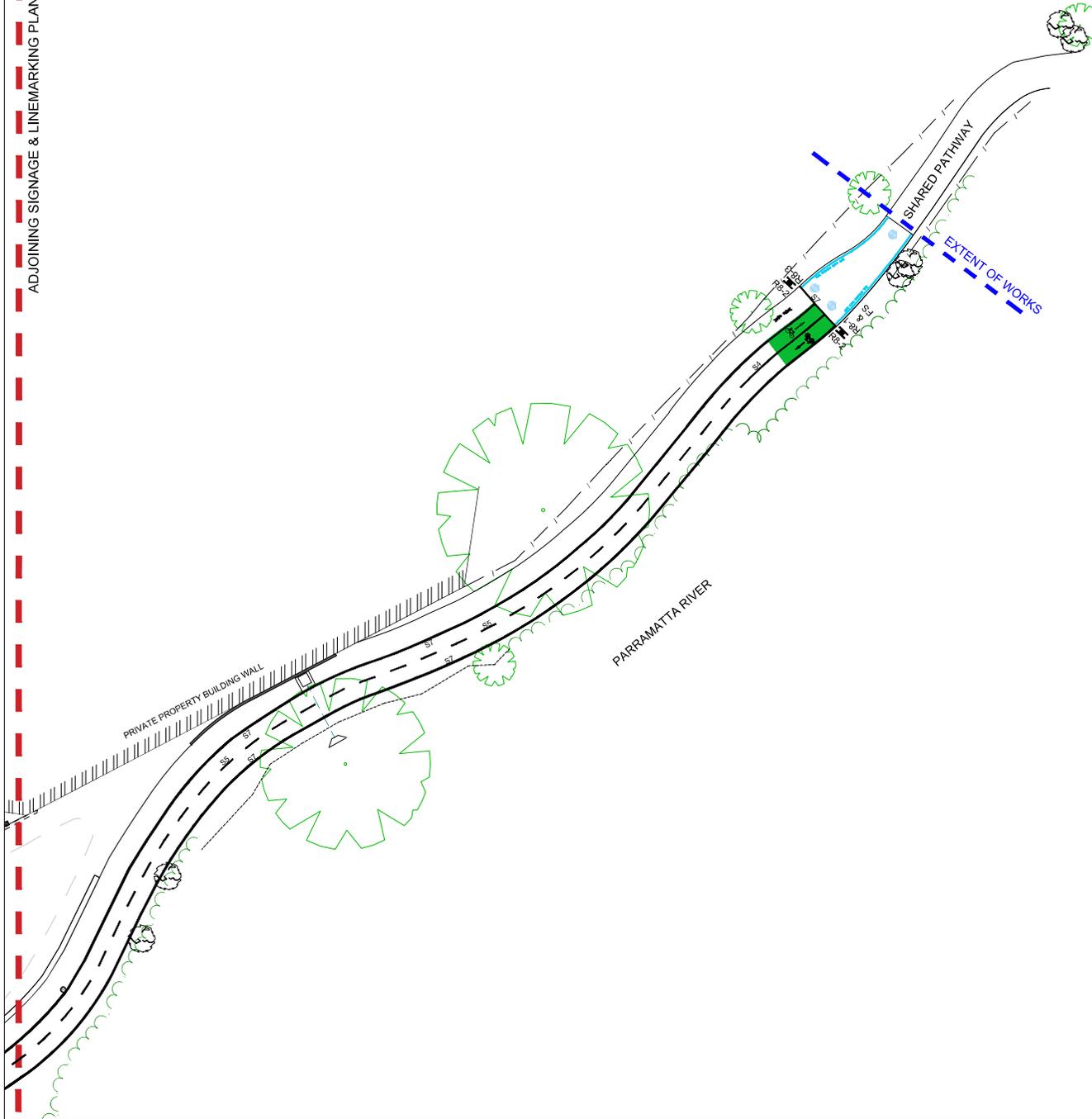
ITEM	CODE	LINE MARKING TYPE AND DIMENSIONS	REMARKS	QUANTITY
ITEM 6.2	S5		Apply centre line to sections of proposed 3m wide cycleway. Dashed line 80mm wide, 1m long with 3m gap.	328m
ITEM 6.3	S4		Apply centre line to sections of proposed 3m wide cycleway. Continuous line 80mm wide.	20m
ITEM 6.4	S7		Apply edge line associated with green pavement marking paint on sections of proposed 3m wide cycleway. Continuous line 80mm wide.	714m
ITEM 6.5	N/A		Apply Green pavement marking paint for cycleway sections as indicated in the drawing. Colour: G16 Traffic Green.	29m ²
ITEM 6.6	PA-1		Apply Arrow symbol to locations on concrete cycleway as indicated in the drawing.	6
ITEM 6.7	PS-3		Apply Bicycle symbol to locations on concrete cycleway as indicated in the drawing.	6
ITEM 6.8	PS-4		Apply Pedestrian symbol to locations on concrete cycleway as indicated in the drawing.	8
ITEM 6.9	T1101		Apply edge line to sections of shared path. Continuous line 40mm wide offset 50mm from edge. Colour: City of Sydney Blue.	48m
ITEM 6.10	T1501		Apply solid coloured Shared Path symbol to locations on concrete cycleway as indicated in the drawing. Colour: City of Sydney Blue.	4
ITEM 6.11	T3514		Apply solid coloured 'Slow' symbol to locations on concrete cycleway. Post: Traffic Signage. Colour: White & Light Blue - Pantone (PMS) 6500C.	6

NOTE:
 - All pavement / line marking to be to Australian and RMS standards
 - Apply white and blue pavement / line marking with waterborne paint to suit the application.
 Use stencils or masking tape to ensure crisp edges.
 All signs to be installed in accordance with RMS specification 5110.



ADJOINING SIGNAGE & LINEMARKING PLAN 3

<p>CITY OF PARRAMATTA CITY ASSETS & OPERATIONS CAPITAL PROJECTS DELIVERY 316 Victoria Road, Rydalmere NSW 2116</p>	KEY PLAN	NOTES	<table border="1"> <thead> <tr> <th>ISSUE</th> <th>DATE</th> <th>DESCRIPTION</th> <th>DRAWN</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>07.2025</td> <td>FINAL</td> <td>CC</td> </tr> </tbody> </table>	ISSUE	DATE	DESCRIPTION	DRAWN	4	07.2025	FINAL	CC	DESIGN APPROVAL CLIENT ACCEPTED APPROVED FOR CONSTRUCTION	STATUS FINAL SCALE 1:200 	PROJECT REID PARK CYCLIST AND PEDESTRIAN PATHWAYS ADDRESS PIKE STREET, RYDALMERE CLIENT INFRASTRUCTURE PLANNING & DESIGN	DRAWING SIGNAGE AND LINEMARKING PLAN 02 PLAN No 18036 SHEET SIZE A1 DRAWING No 302 ISSUE/REVISION 1
	ISSUE	DATE	DESCRIPTION	DRAWN											
4	07.2025	FINAL	CC												



LEGEND



Item 6.1.1 - Supply and install galvanised steel sign post inclusive of concrete footing. Refer to CoP Standard Drawing DS11, Furniture, Signage & Linemarking Plans and Specification Notes.
Item 6.1.2 - Supply and install new steel signs to sign post. Refer to Details, Signage Schedule and Specification Notes.
Item 6.1.3 - Supply and install 450 x 600mm metal 'Flood Warning' sign to sign post providing min.2.2m head clearance. Refer to CoP Standard Drawing DS11, Signage & Linemarking Schedules and Specification Notes.

SIGNAGE SCHEDULE:

CODE	TYPE	SIZE	QTY.
R8-1		300 x 400mm	3
R8-2		300 x 400mm	4
R8-3		300 x 400mm	4
FS		450 x 600mm	3

LINEMARKING SCHEDULE:

ITEM	CODE	LINE MARKING TYPE AND DIMENSIONS	REMARKS	QUANTITY
ITEM 6.2	S5		Apply centre line to sections of proposed 3m wide cycleway. Dashed line 80mm wide, 1m long with 3m gap. Continuous line 80mm wide	328m
ITEM 6.3	S4		Apply centre line to sections of proposed 3m wide cycleway. Continuous line 80mm wide	20m
ITEM 6.4	S7		Apply edge line associated with green pavement marking paint for cycleway sections as indicated in the drawing. Continuous line 80mm wide	714m
ITEM 6.5	N/A		Apply Green pavement marking paint for cycleway sections as indicated in the drawing. Colour: G16 Traffic Green	29m2
ITEM 6.6	PA-1		Apply Arrow symbol to locations on concrete cycleway as indicated in the drawing.	6
ITEM 6.7	PS-3		Apply Bicycle symbol to locations on concrete cycleway as indicated in the drawing.	6
ITEM 6.8	PS-4		Apply Pedestrian symbol to locations on concrete cycleway as indicated in the drawing.	8
ITEM 6.9	T1L01		Apply edge line to sections of shared path. Continuous line 40mm wide offset 50mm from edge. Colour: 'City of Sydney Blue'	48m
ITEM 6.10	T1S01		Apply solid coloured Shared Path symbol to locations on concrete cycleway as indicated in the drawing. Colour: 'City of Sydney Blue'	4
ITEM 6.11	T3S14		Apply solid coloured 'Slow' symbol to locations on concrete cycleway. Font: Tonda Signage. Colour: White & Light Blue - Pantone (PMS) #292C	6

NOTE:
 - All pavement / line markings to be Australian and RMS standards
 - Apply white and blue pavement / line marking with waterborne paint to suit the application. Use stencil or masking tape to ensure crisp edges.
 - Apply green pavement marking in accordance with RMS QS specification R110.
 - Refer to Details and Specification Notes.

LEGEND



Item 7.1 - Supply and install Kikuyu turf. Includes rolling and topdressing turf to ensure turf finishes flush with adjacent surfaces. Refer to Details and Specification Notes.
Item 3.5 - Supply and install required depth clean turf underlay in areas of proposed turfing only. Lightly compact to minimise voids and depressions. Refer to Landscape Details and Specification Notes.
Item 3.6 - Supply, install and compact clean ENM fill material in accordance with Remediation Action Plan. Refer to Specification Notes.



Item 7.2 - Supply and install 200L tree with three timber stakes and hessian ties. Refer to Plant Schedule, Details and Specification Notes.



Item 7.3 - Supply and install min,100mm depth clean leaf litter mulch as shown on drawing. Refer to Details and Specification Notes.

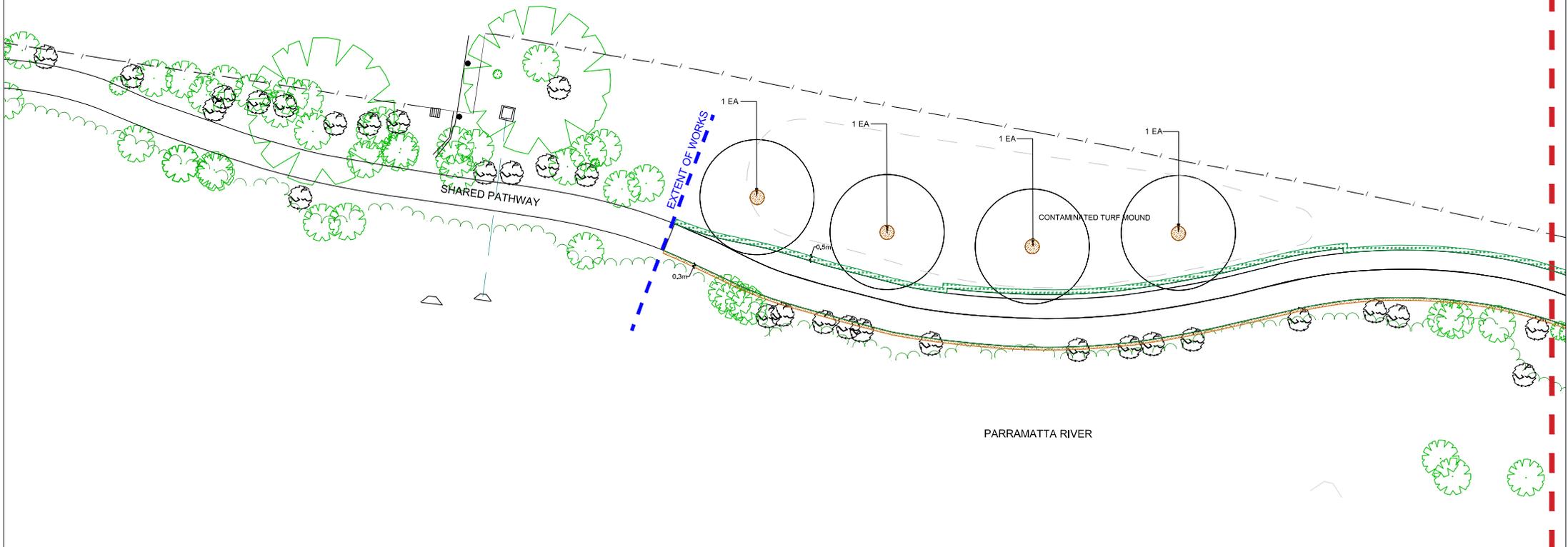
Item 3.8 - Supply, install and compact clean ENM fill material in accordance with Remediation Action Plan. Refer to Specification Notes.



Item 7.4 - Supply and install duragal steel edge. Refer to Details and Specification Notes.

PLANT SCHEDULE

CODE	SCIENTIFIC NAME	COMMON NAME	POT SIZE	SPACING	QTY.
TREES					
ET	Eucalyptus terricornis	Forest Red Gum	200L	As shown	5
EA	Eucalyptus amplifolia	Cabbage Gum	200L	As shown	4



ADJOINING SOFTWARES PLAN 2

CITY OF PARRAMATTA
 CITY ASSETS & OPERATIONS
 CAPITAL PROJECTS DELIVERY
 316 Victoria Road, Rydalmere NSW 2116

KEY PLAN	NOTES
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YOU DIG SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTORS PRIOR TO COMMENCEMENT OF WORKS.

ISSUE	DATE	DESCRIPTION	DRAWN
4	07.2025	FINAL	CC

DESIGN APPROVAL
 CLIENT ACCEPTED
 APPROVED FOR CONSTRUCTION

STATUS: **FINAL**

SCALE: 1:200

PROJECT REID PARK CYCLIST AND PEDESTRIAN PATHWAYS	DRAWING SOFTWARES PLAN 01
ADDRESS PIKE STREET, RYDALMERE	PLAN No 18036
CLIENT INFRASTRUCTURE PLANNING & DESIGN	DRAWING No 401
	SHEET SIZE A1
	ISSUE/REVISION 1

LEGEND



Item 7.1 - Supply and install Kikuyu turf. Includes rolling and topdressing turf to ensure turf finishes flush with adjacent surfaces. Refer to Details and Specification Notes.
 Item 3.5 - Supply and install required depth clean turf underlay in areas of proposed turfing only. Lightly compact to minimise voids and depressions, Refer to Landscape Details and Specification Notes.
 Item 3.6 - Supply, install and compact clean ENM fill material in accordance with Remediation Action Plan. Refer to Specification Notes.



Item 7.2 - Supply and install 200L tree with three timber stakes and hessian ties. Refer to Plant Schedule, Details and Specification Notes.



Item 7.3 - Supply and install min.100mm depth clean native leaf litter much as shown on drawing. Refer to Details and Specification Notes.
 Item 3.6 - Supply, install and compact clean ENM fill material in accordance with Remediation Action Plan. Refer to Specification Notes.



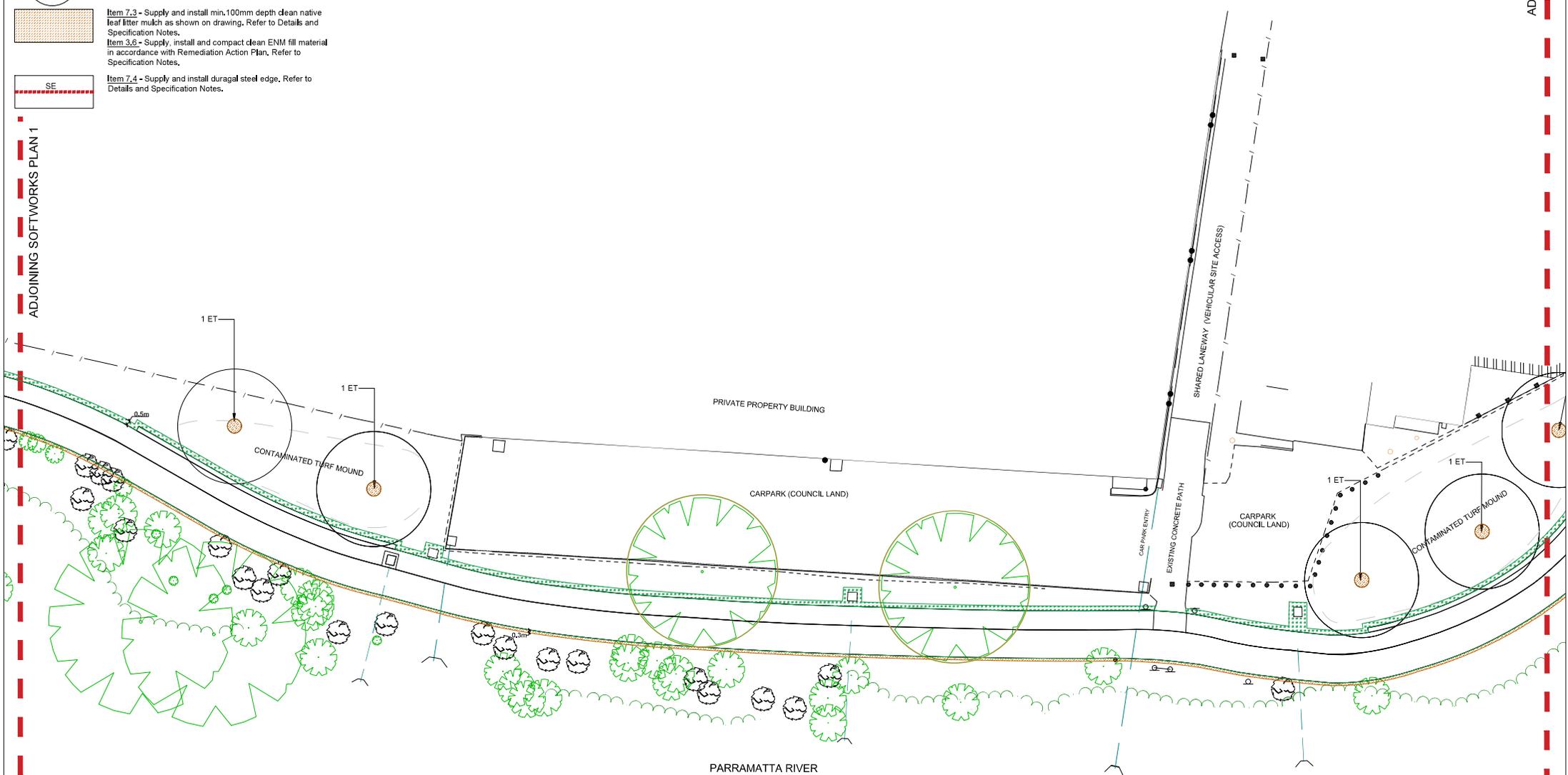
Item 7.4 - Supply and install duragal steel edge. Refer to Details and Specification Notes.

PLANT SCHEDULE

CODE	SCIENTIFIC NAME	COMMON NAME	POT SIZE	SPACING	QTY.
TREES					
ET	Eucalyptus terricornis	Forest Red Gum	200L	As shown	5
EA	Eucalyptus amplifolia	Cabbage Gum	200L	As shown	4

ADJOINING SOFTWARES PLAN 1

ADJOINING SOFTWARES PLAN 3



CITY OF PARRAMATTA
 CITY ASSETS & OPERATIONS
 CAPITAL PROJECTS DELIVERY
 316 Victoria Road, Rydalmere NSW 2116

KEY PLAN	NOTES
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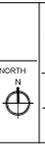
SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTORS PRIOR TO COMMENCEMENT OF WORKS.

ISSUE	DATE	DESCRIPTION	DRAWN
4	07.2025	FINAL	CC

DESIGN APPROVAL
CLIENT ACCEPTED
APPROVED FOR CONSTRUCTION

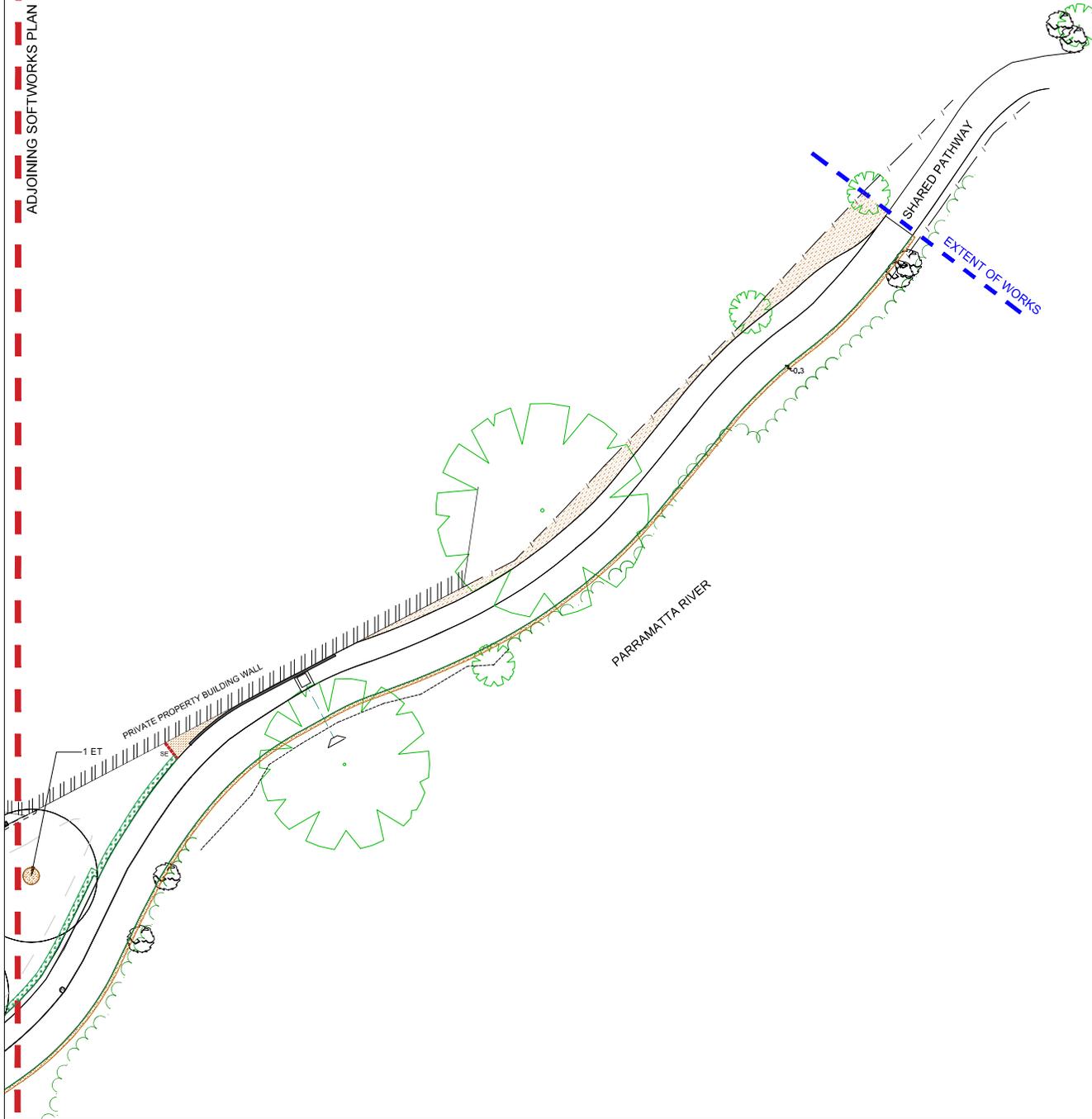
STATUS: **FINAL**

SCALE: **1:200**



PROJECT	REID PARK CYCLIST AND PEDESTRIAN PATHWAYS
ADDRESS	PIKE STREET, RYDALMERE
CLIENT	INFRASTRUCTURE PLANNING & DESIGN

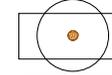
DRAWING	SOFTWARES PLAN 02
PLAN No	18036
DRAWING No	402
SHEET SIZE	A1
ISSUE/REVISION	1



LEGEND



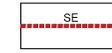
Item 7.1 - Supply and install Kikuyu turf. Includes rolling and topdressing turf to ensure turf finishes flush with adjacent surfaces. Refer to Details and Specification Notes.
Item 3.5 - Supply and install required depth clean turf underlay in areas of proposed turfing only. Lightly compact to minimise voids and depressions. Refer to Landscape Details and Specification Notes.
Item 3.6 - Supply, install and compact clean ENM fill material in accordance with Remediation Action Plan. Refer to Specification Notes.



Item 7.2 - Supply and install 200L tree with three timber stakes and hessian ties. Refer to Plant Schedule, Details and Specification Notes.



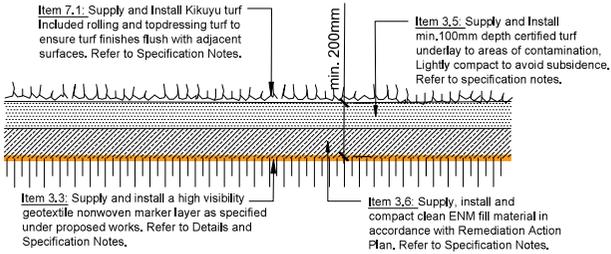
Item 7.3 - Supply and install min.100mm depth clean native leaf litter mulch as shown on drawing. Refer to Details and Specification Notes.
Item 3.6 - Supply, install and compact clean ENM fill material in accordance with Remediation Action Plan. Refer to Specification Notes.



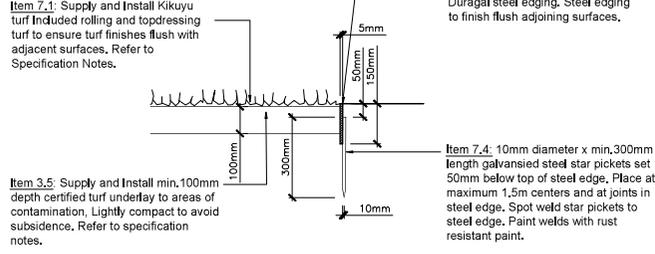
Item 7.4 - Supply and install duragal steel edge. Refer to Details and Specification Notes.

PLANT SCHEDULE

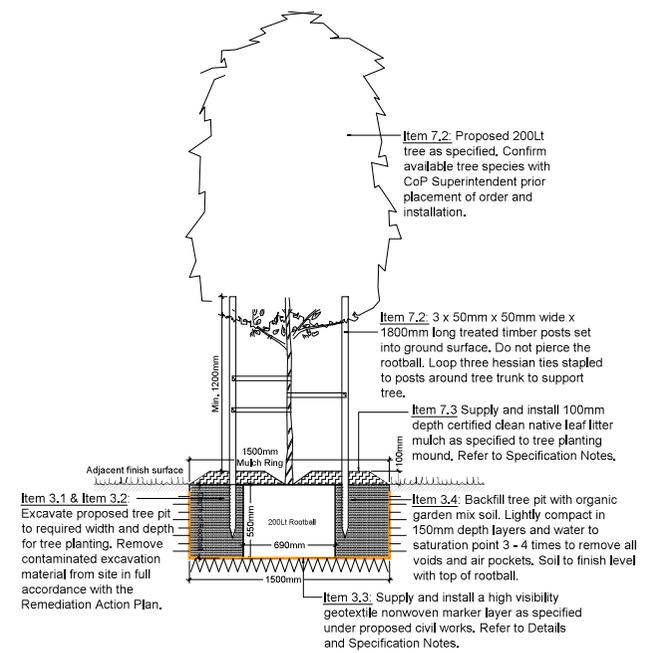
CODE	SCIENTIFIC NAME	COMMON NAME	POT SIZE	SPACING	QTY.
TREES					
ET	<i>Eucalyptus territicornis</i>	Forest Red Gum	200L	As shown	5
EA	<i>Eucalyptus amplifolia</i>	Cabbage Gum	200L	As shown	4



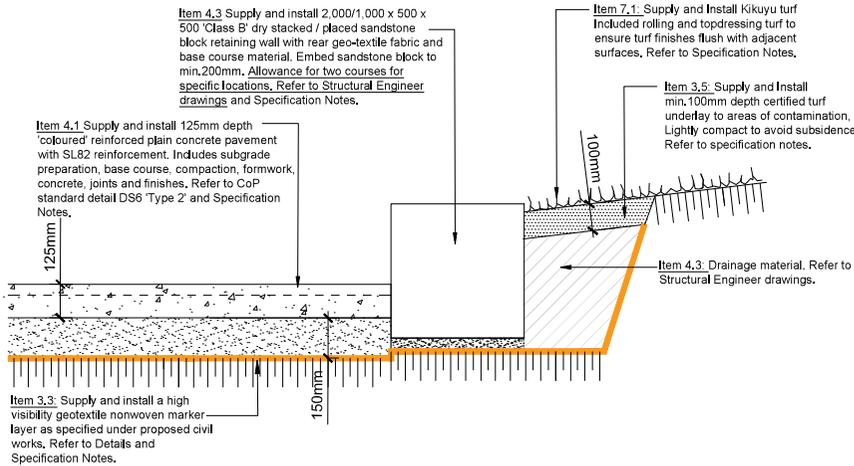
Proposed Turf with Marker Layer Details
Scale 1:10



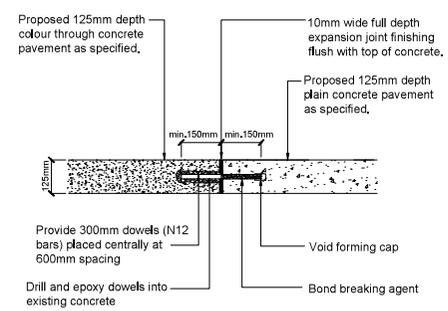
Typical Steel Edge & Turf Details
Scale 1:10



Proposed Tree Pit with Marker Layer
Scale 1:20



Proposed Coloured Concrete Path, Sandstone block wall and Turf Details
Scale 1:10

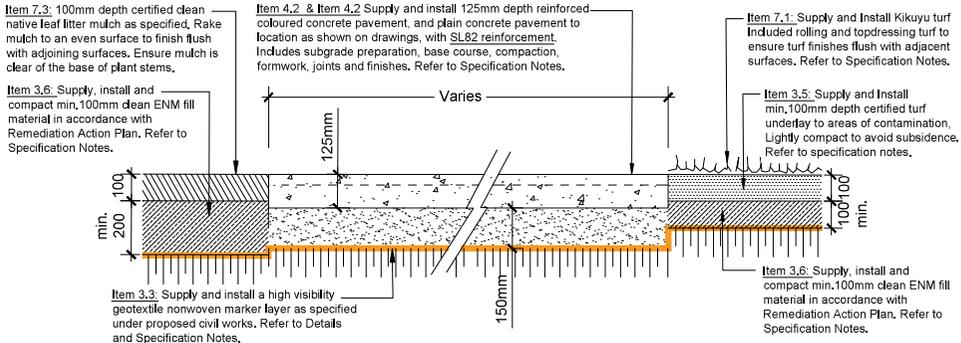


Proposed Dowel Joint Detail (Between Plain & Coloured Concrete pavements)
Scale 1:10

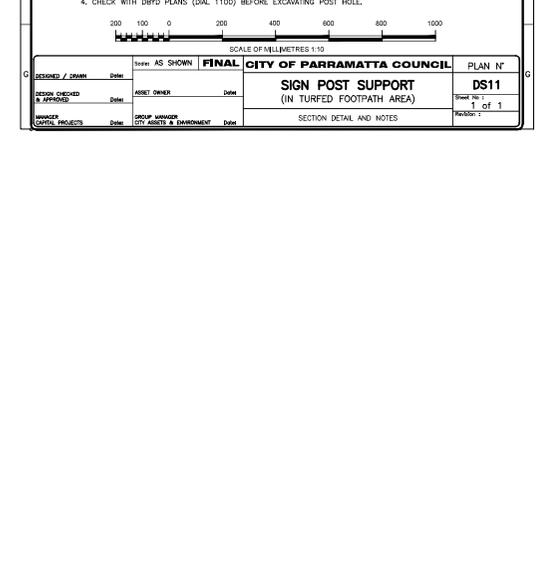
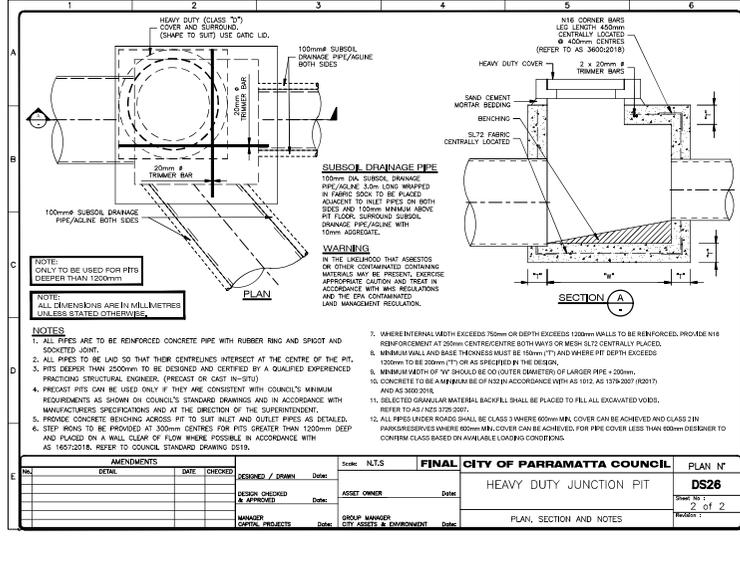
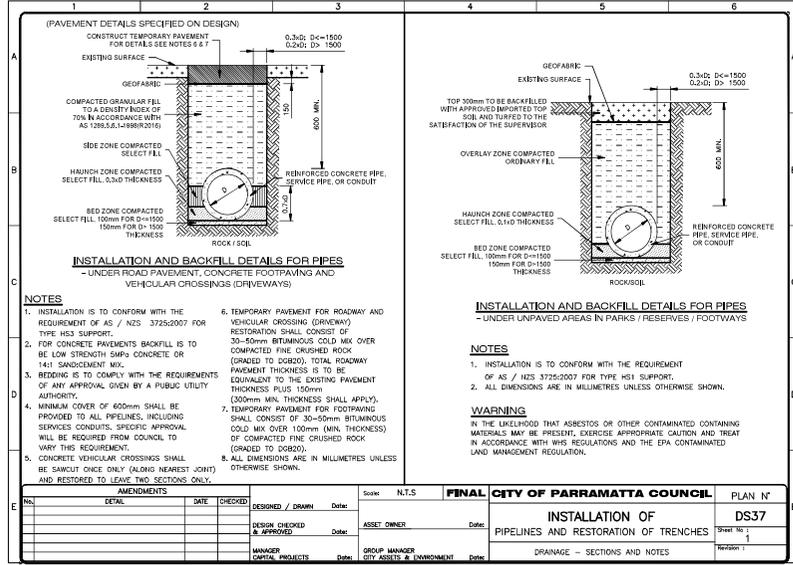
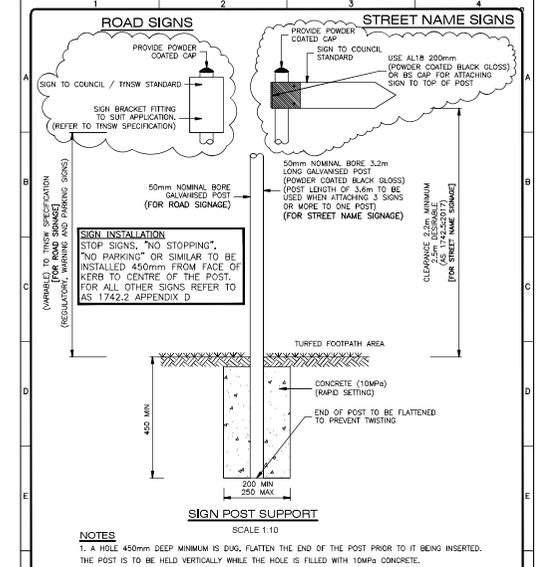
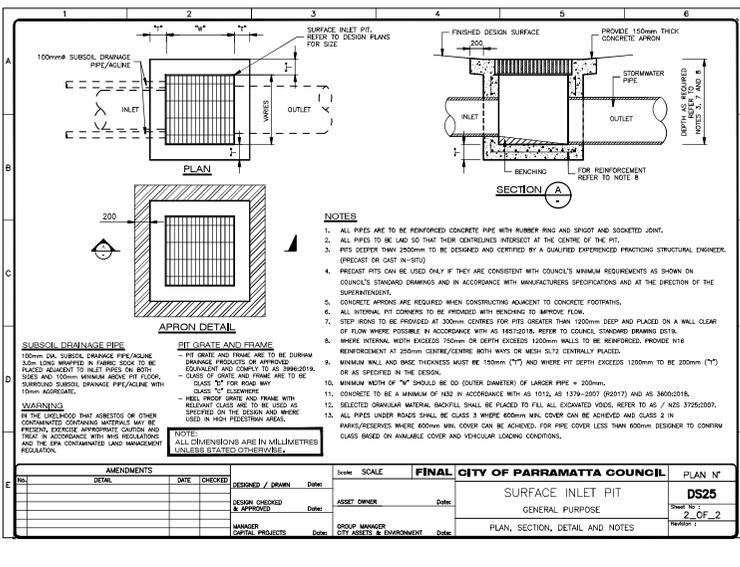
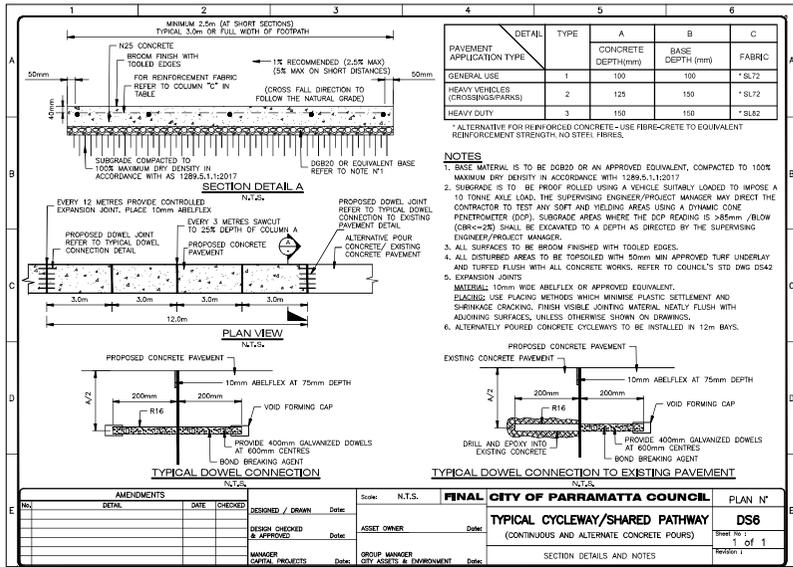
NOTE:
Plain concrete pavement to be poured before coloured concrete pavement. Provide dowels with full depth continuous black expansion joint along joint edge between plain and coloured concrete pavement. Ensure no trip hazard from expansion joint providing a smooth even transition between pavements.

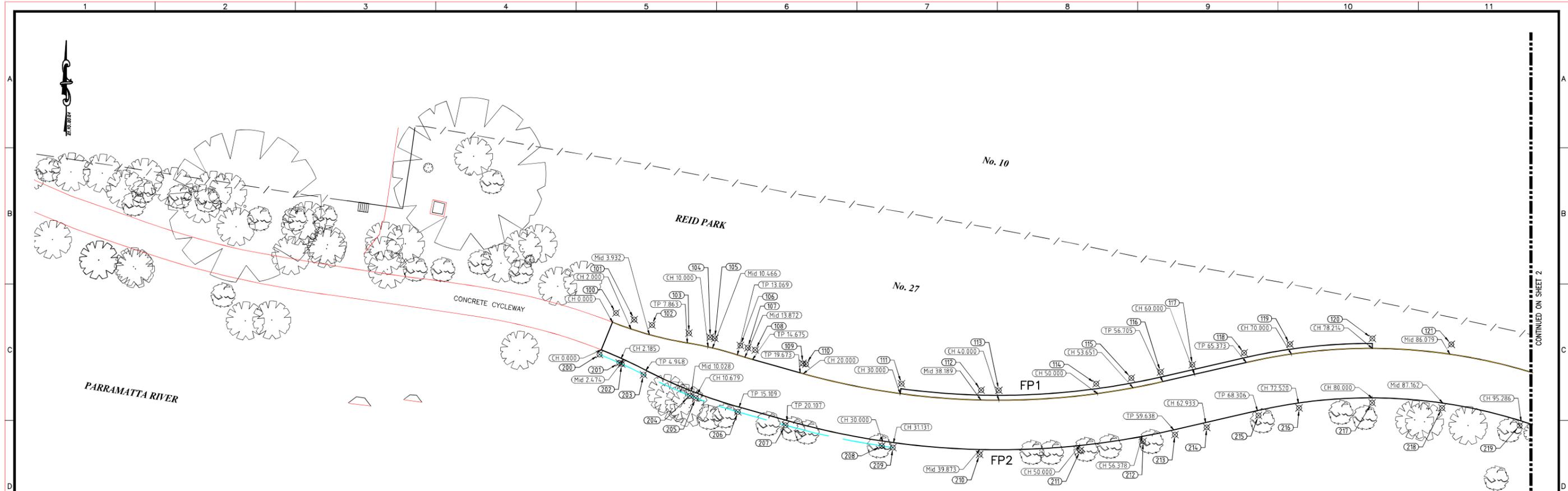
SPECIFICATION
Plain Concrete Pavement (to be poured prior to coloured concrete pavement)
As per City of Parramatta standard detail DS6 'Type 2'

Coloured Concrete Pavement
Concrete Colour Supplier: Concrete Colour Systems (02 9677 1056)
Concrete Colour: CCS 'Canvas' thoroughly mixed through concrete in accordance with supplier's specifications
Finish: Perpendicular soft broom finish right to edge of pathway and joints with pencil edge (no tumbled edges)
Expansion/Isolation joints: 10mm wide full depth black expansion joint. Place joint longitudinally as detailed, perpendicular at every 12.0m intervals and at the junction of all existing and proposed civil works.
Control joints: 3mm wide x 25mm deep saw cuts placed perpendicular evenly at every 3.0m intervals between expansion joints.
Dowels: 300mm long N12 bars placed centrally at 600mm spacing's, greased at one end with bond breaking agent, Dowels are to be placed at the junction of all proposed and existing concrete works.



Proposed Concrete Path, Marker Layer, Mulch and Turf Details
Scale 1:10





SETOUT PLAN
SCALE 1:200

SETOUT – FP1 FOOTPATH LHS (1m OFFSET)

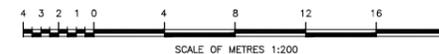
POINT	CHAINAGE	EASTING	NORTHING	DESIGN LEVEL	REMARKS
100	0.000	318076.903	6256272.362	2.587	TP (R 36.1m) / MATCH EXISTING
101	2.000	318078.736	6256271.690	2.546	VC 3m
102	3.932	318080.532	6256271.141	2.538	MID ARC (R 36.1m)
103	7.863	318084.265	6256270.324	2.539	CTP (R 36.1m – R 35m)
104	10.000	318086.422	6256269.905	2.538	VC 5m
105	10.466	318086.889	6256269.796	2.537	MID ARC (R 35m)
106	13.069	318089.466	6256269.076	2.529	CTP (R 35m – R 45m)
107	13.872	318090.216	6256268.843	2.526	MID ARC (R 45m)
108	14.675	318090.970	6256268.623	2.522	TP (R 45m)
109	19.673	318095.782	6256267.270	2.503	TP (R 74.1m)
110	20.000	318096.092	6256267.184	2.502	
111	30.000	318105.749	6256265.203	2.470	VC 5m / RETAINING WALL 1 START
112	38.189	318113.798	6256264.562	2.524	MID ARC (R 74.1m)
113	40.000	318115.584	6256264.541	2.537	
114	50.000	318125.419	6256265.208	2.612	
115	53.651	318128.974	6256265.782	2.637	VC 2m
116	56.705	318131.924	6256266.396	2.636	TP (R 74.1m)
117	60.000	318135.135	6256267.133	2.631	VC 2m
118	65.373	318140.371	6256268.336	2.586	TP (R 55.95m)
119	70.000	318145.000	6256269.199	2.535	VC 5m
120	78.214	318153.333	6256269.781	2.332	RETAINING WALL 1 END
121	86.079	318161.310	6256269.190	2.127	MID ARC (R 55.95m)

SETOUT – FP2 FOOTPATH RHS (0.5m OFFSET)

POINT	CHAINAGE	EASTING	NORTHING	DESIGN LEVEL	REMARKS
200	0.000	318075.228	6256268.168	2.577	TP (R 52.2m) / MATCH EXISTING
201	2.185	318077.218	6256267.318	2.537	VC 3m
202	2.474	318077.478	6256267.200	2.533	MID ARC (R 52.2m)
203	4.948	318079.681	6256266.126	2.504	CTP (R 52.2m – R 50m)
204	10.028	318084.350	6256264.004	2.450	MID ARC (R 50m)
205	10.679	318084.963	6256263.766	2.444	VC 5m
206	15.109	318089.211	6256262.366	2.418	TP (R 50m)
207	20.107	318094.022	6256261.013	2.393	TP (R 79.1m)
208	30.000	318103.749	6256258.923	2.346	
209	31.131	318104.876	6256258.762	2.346	VC 5m
210	39.873	318113.641	6256258.064	2.399	MID ARC (R 79.1m)
211	50.000	318123.817	6256258.470	2.469	
212	56.378	318130.167	6256259.392	2.511	VC 2m
213	59.638	318133.379	6256260.061	2.513	TP (R 79.1m)
214	62.933	318136.590	6256260.798	2.512	VC 2m
215	68.306	318141.826	6256262.001	2.499	TP (50.95m)
216	72.520	318145.927	6256262.766	2.471	VC 5m
217	80.000	318153.309	6256263.281	2.268	
218	87.162	318160.376	6256262.758	2.058	MID ARC (R 50.95m)
219	95.286	318168.211	6256260.973	1.849	VC 10m

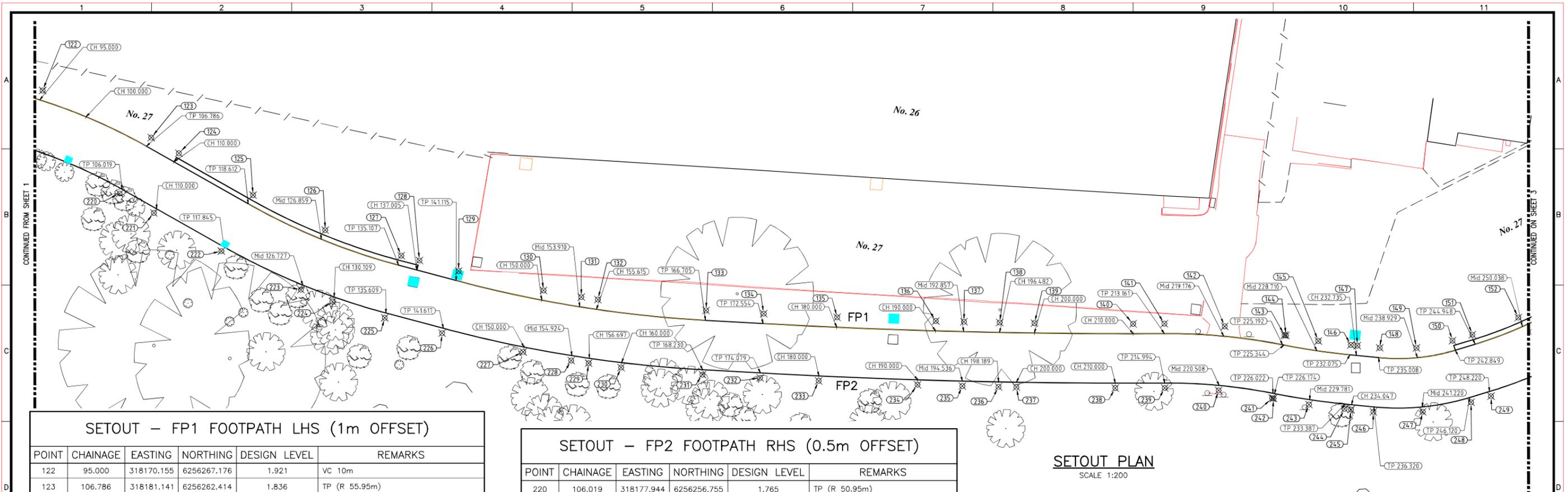
SURVEY CONTROL MARKS

POINT	STATIONS	EASTING	NORTHING	R.L.	REMARKS
442	STN	318075.671	6256268.687	2.574	STN\NAIL
443	STN	318147.791	6256266.404	2.465	STN\RSN
445	STN	318288.387	6256243.250	1.864	STN\NAIL
448	STN	318375.719	6256284.437	3.143	STN\NAIL
4041	STN	318215.383	6256260.501	2.274	STN\RSN



UNLESS DETAILED ON THIS DRAWING ALL WORK SHALL CONFORM TO **AUS SPEC**

EXISTING/MISCELLANEOUS		PLAN FEATURES		PUBLIC UTILITIES		AMENDMENTS		DESIGN CHECKED AND APPROVED		DESIGNED		CITY OF PARRAMATTA COUNCIL		PLAN NUMBER					
KERB AND GUTTER:	KERB AND GUTTER:	TELSTRA:	ABOVEGROUND:	U/GROUND:	No.	DETAIL	CHECKED	DATE	30/06/25	30/06/25	DATUM: AHD	CITY OF PARRAMATTA COUNCIL		REID PARK PARK ROAD, RYDALMERE CYCLIST AND PEDESTRIAN PATHWAYS		18036			
EDGE OF BITUMEN:	EDGE OF BITUMEN:	ELECTRICITY:	GAS & MISC.:	SEWER:					APPROVED	DRAWN	CO-ORDS: MGA 94							Revision: 1	
ROAD @ CROWN:	ROAD @ CROWN:	POLES:	OVERHEAD:	SURVEY:					ACCEPTED	DRAWING REVIEW	RATIO: 1:200								
EARTH BATTERS:	EARTH BATTERS:	PIPE DRAINS:	SET-OUT LINE:								TRIM No: N/A	Revision: 1							
PIPE DRAINS:	PIPE DRAINS:	DRAINAGE PITS:									STATUS: FINAL			Revision: 1					
DRAINAGE PITS:	DRAINAGE PITS:	SUB-SOIL DRAIN:										Revision: 1							
TREES & SHRUBS:	TREES & SHRUBS:													Revision: 1					
SPOT LEVELS:	SPOT LEVELS:											Revision: 1							



SETOUT - FP1 FOOTPATH LHS (1m OFFSET)

POINT	CHAINAGE	EASTING	NORTHING	DESIGN LEVEL	REMARKS
122	95.000	318170.155	6256267.176	1.921	VC 10m
123	106.786	318181.141	6256262.414	1.836	TP (R 55.95m)
124	110.000	318183.940	6256260.833	1.819	RETAINING WALL START
125	118.612	318191.438	6256256.597	1.776	TP (R 65m)
126	126.859	318198.742	6256253.062	1.735	MID ARC (R 65m)
127	135.107	318206.436	6256250.479	1.694	TP (R 65m) / RETAINING WALL 2 END
128	137.005	318208.270	6256249.990	1.691	VC 5m
129	141.115	318212.241	6256248.932	1.705	TP (R 125m)
130	150.000	318220.831	6256246.966	1.750	
131	153.910	318224.651	6256246.296	1.771	MID ARC (R 125m)
132	155.615	318226.323	6256246.041	1.783	VC 5m
133	166.705	318237.266	6256244.942	1.901	TP (R 125m)
134	172.554	318243.106	6256244.616	1.958	TP (R 660m) / VC 5m
135	180.000	318250.531	6256244.244	1.965	
136	190.000	318260.509	6256243.876	1.965	
137	192.857	318263.361	6256243.798	1.965	MID ARC (R 660m)
138	196.482	318266.980	6256243.718	1.959	VC 5m
139	200.000	318270.492	6256243.659	1.932	
140	210.000	318280.476	6256243.593	1.839	
141	213.161	318283.632	6256243.604	1.825	CTP (R 660m - R 60m) / VC 5m
142	219.176	318289.739	6256243.333	1.897	MID ARC (R 60m)
143	225.192	318295.789	6256242.452	1.979	TP (R 60m)
144	225.344	318295.938	6256242.422	1.981	TP (R 70m) / VC 5m
145	228.710	318299.208	6256241.859	2.003	MID ARC (R 70m)
146	232.075	318302.500	6256241.453	2.024	TP (R 70m)
147	232.735	318303.156	6256241.388	2.030	VC 5m
148	235.008	318305.419	6256241.165	2.059	TP (R 20m)
149	238.929	318309.137	6256241.162	2.119	MID ARC (R 20m)
150	242.849	318312.784	6256241.885	2.180	TP (R 20m) / RETAINING WALL 3 START
151	244.948	318314.794	6256242.492	2.212	TP (R 40m)
152	250.038	318319.440	6256244.225	2.291	MID ARC (R 40m)

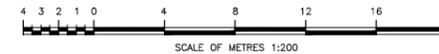
SETOUT - FP2 FOOTPATH RHS (0.5m OFFSET)

POINT	CHAINAGE	EASTING	NORTHING	DESIGN LEVEL	REMARKS
220	106.019	318177.944	6256256.755	1.765	TP (R 50.95m)
221	110.000	318181.411	6256254.797	1.745	
222	117.845	318188.241	6256250.938	1.706	TP (R 70m)
223	126.727	318196.287	6256247.043	1.662	MID ARC (R 70m)
224	130.109	318199.471	6256245.833	1.650	VC 10m
225	135.609	318204.762	6256244.198	1.641	TP (R 70m)
226	141.617	318210.567	6256242.651	1.641	TP (R 130m) / VC 5m
227	150.000	318218.763	6256240.747	1.690	
228	154.924	318223.628	6256239.877	1.721	MID ARC (R 130m)
229	156.697	318225.388	6256239.609	1.733	VC 5m
230	160.000	318228.675	6256239.173	1.754	
231	168.230	318236.904	6256238.452	1.806	TP (R 130m)
232	174.079	318242.743	6256238.126	1.839	TP (R 665m) / VC 5m
233	180.000	318248.661	6256237.823	1.843	
234	190.000	318258.661	6256237.429	1.843	
235	194.536	318263.198	6256237.300	1.843	MID ARC (R 665m)
236	198.189	318266.853	6256237.219	1.841	VC 5m
237	200.000	318268.665	6256237.186	1.837	
238	210.000	318278.672	6256237.094	1.800	
239	214.994	318283.670	6256237.104	1.788	CTP (R 665m - R 55m) / VC 5m
240	220.508	318289.126	6256236.862	1.826	MID ARC (R 55m)
241	226.022	318294.531	6256236.075	1.871	TP (R 55m)
242	226.174	318294.680	6256236.045	1.872	TP (R 75m)
243	229.781	318298.258	6256235.429	1.901	MID ARC (R 75m)
244	233.387	318301.860	6256234.985	1.933	TP (R 75m)
245	234.047	318302.517	6256234.920	1.940	VC 5m
246	236.320	318304.779	6256234.696	1.970	TP (R 25m)
247	241.220	318309.769	6256234.693	2.042	MID ARC (R 25m)
248	246.120	318314.664	6256235.662	2.115	TP (R 25m)
249	248.220	318316.674	6256236.270	2.146	TP (R 45m)

SETOUT PLAN
SCALE 1:200

SURVEY CONTROL MARKS

POINT	STATIONS	EASTING	NORTHING	R.L.	REMARKS
442	STN	318075.671	6256268.687	2.574	STN\NAIL
443	STN	318147.791	6256266.404	2.465	STN\RSN
445	STN	318288.387	6256243.250	1.864	STN\NAIL
448	STN	318375.719	6256284.437	3.143	STN\NAIL
4041	STN	318215.383	6256260.501	2.274	STN\RSN



UNLESS DETAILED ON THIS DRAWING ALL WORK SHALL CONFORM TO **AUS SPEC**

EXISTING/MISCELLANEOUS KERB AND GUTTER: EDGE OF BITUMEN: ROAD & CROWN: EARTH BATTERS: PIPE DRAINS: DRAINAGE PITS: TREES & SHRUBS: SPOT LEVELS:		PLAN FEATURES PROPOSED KERB AND GUTTER: EDGE OF BITUMEN: ROAD & CROWN: EARTH BATTERS: PIPE DRAINS: DRAINAGE PITS: SUB-SOIL DRAIN: SET-OUT LINE:		PUBLIC UTILITIES ABOVEGROUND: U/GROUND: TELSTRA: ELECTRICITY: GAS & MISC.: SEWER: WATER: POLES: OVERHEAD: SURVEY:		AMENDMENTS No. DETAIL CHECKED DATE		DESIGN CHECKED AND APPROVED 30/06/25 APPROVED Group Manager Capital Projects ACCEPTED Client		DESIGNED 30/06/25 DRAWN 30/06/25 DRAWING REVIEW		DATUM: AHD CO-ORDS: MGA 94 RATIO: 1:200 TRIM No: N/A STATUS: FINAL		CITY OF PARRAMATTA COUNCIL REID PARK PARK ROAD, RYDALMERE CYCLIST AND PEDESTRIAN PATHWAYS SETOUT PLAN - 2		PLAN NUMBER 18036 Sheet No: 2 Revision:	
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SETOUT – FP1 FOOTPATH LHS (1m OFFSET)

POINT	CHAINAGE	EASTING	NORTHING	DESIGN LEVEL	REMARKS
153	255.128	318323.829	6256246.535	2.370	TP (R 40m)
154	256.343	318324.866	6256247.167	2.389	TP (R 22m)
155	260.000	318327.681	6256249.225	2.445	VC 5m
156	262.621	318329.470	6256250.972	2.483	MID ARC (R 22m)
157	268.899	318332.816	6256255.918	2.574	TP (R 22m)
158	270.000	318333.297	6256256.909	2.594	VC 5m
159	274.567	318335.293	6256261.018	2.699	TP (R 50m)
160	277.505	318336.680	6256263.673	2.771	RETAINING WALL 3 END
161	280.000	318337.979	6256265.861	2.828	VC 2m
162	280.610	318338.313	6256266.386	2.837	MID ARC (R 50m)
163	286.652	318341.959	6256271.350	2.886	TP (R 50m)
164	287.065	318342.223	6256271.667	2.890	TP (R 32m)

SETOUT – FP2 FOOTPATH RHS (0.5m OFFSET)

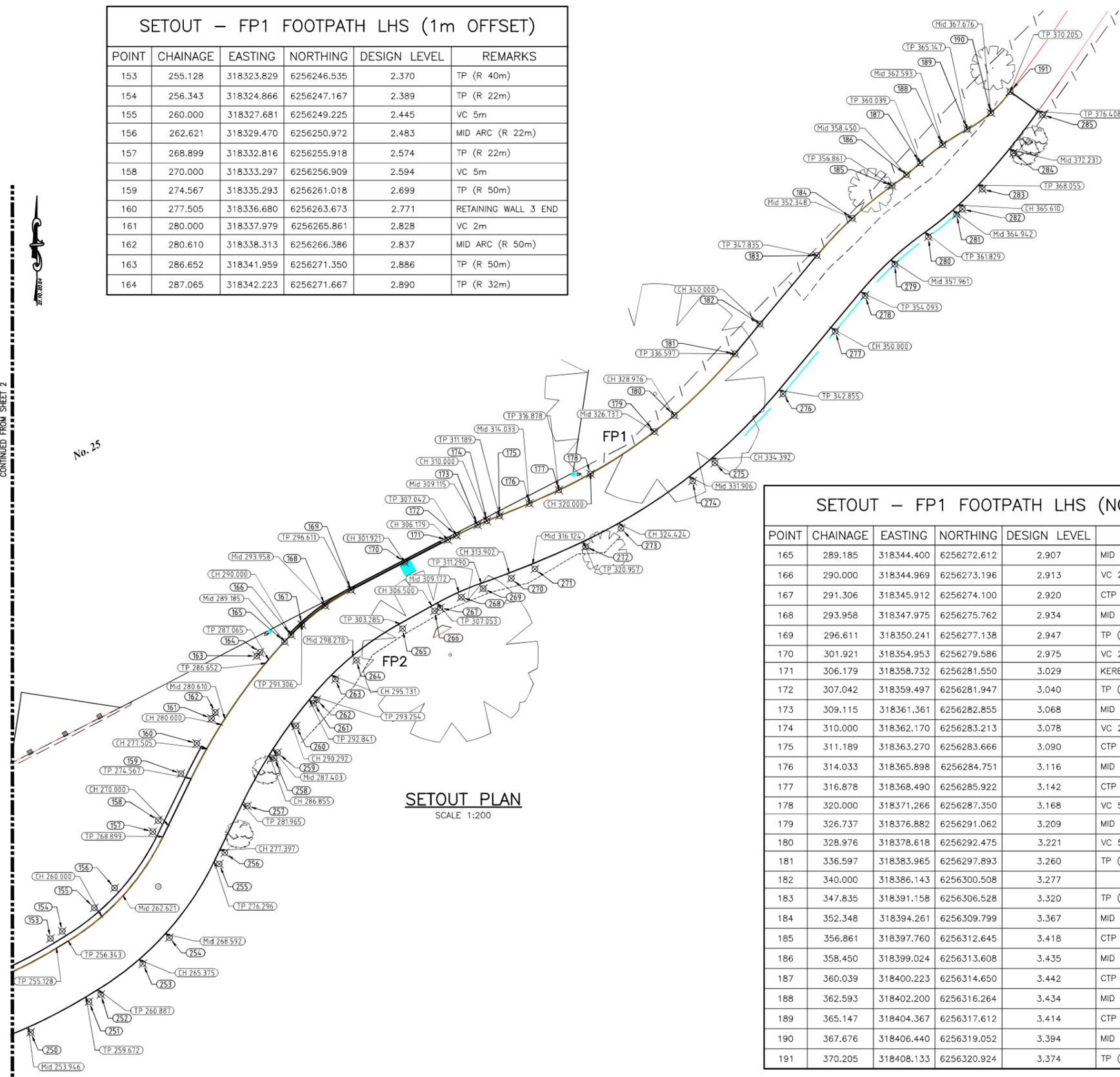
POINT	CHAINAGE	EASTING	NORTHING	DESIGN LEVEL	REMARKS
250	253.946	318322.095	6256238.292	2.230	MID ARC (R 45m)
251	259.672	318327.215	6256240.986	2.315	TP (R 45m)
252	260.887	318328.252	6256241.619	2.333	TP (R 27m)
253	265.375	318331.939	6256244.313	2.396	VC 5m
254	268.592	318334.281	6256246.601	2.429	MID ARC (R 27m)
255	276.296	318338.663	6256253.079	2.504	TP (R 27m)
256	277.398	318339.144	6256254.069	2.520	VC 5m
257	281.965	318341.140	6256258.178	2.615	TP (R 45m)
258	286.854	318343.484	6256262.404	2.725	VC 2m
259	287.403	318343.775	6256262.862	2.735	MID ARC (R 45m)
260	290.292	318345.400	6256265.211	2.781	VC 2m
261	292.841	318346.956	6256267.193	2.821	TP (R 45m)
262	293.254	318347.220	6256267.511	2.827	TP (R 27m)
263	295.731	318348.858	6256269.306	2.863	VC 2m
264	298.270	318350.701	6256270.983	2.871	MID ARC (R 27m)
265	303.285	318354.762	6256273.751	2.882	TP (R 27m)
266	306.500	318357.575	6256275.308	2.890	VC 2m
267	307.053	318358.059	6256275.576	2.893	TP (R 25m)
268	309.172	318359.916	6256276.503	2.911	MID ARC (R 25m)
269	311.290	318361.845	6256277.270	2.930	CTP (R 25m – R 92.4m)
270	313.902	318364.311	6256278.170	2.954	VC 2m
271	316.124	318366.389	6256278.991	2.988	MID ARC (R 92.4m)
272	320.957	318370.836	6256280.948	3.065	CTP (R 92.4m – R 50.3m)
273	324.424	318373.949	6256282.549	3.114	VC 5m
274	331.906	318380.247	6256286.712	3.165	MID ARC (R 50.3m)
275	334.392	318382.195	6256288.296	3.179	VC 5m
276	342.855	318388.190	6256294.373	3.222	TP (R 50.3m)
277	350.000	318392.764	6256299.863	3.257	
278	354.093	318395.383	6256303.007	3.283	TP (R 30m) / VC 5m
279	357.961	318397.999	6256305.765	3.327	MID ARC (R 30m)
280	361.829	318400.948	6256308.164	3.376	CTP (R 30m – R 29.5m)
281	364.942	318403.426	6256310.131	3.407	MID ARC (R 29.5m)
282	365.610	318403.930	6256310.587	3.408	VC 5m
283	368.055	318405.682	6256312.349	3.393	CTP (R 29.5m – R 70m)
284	372.231	318408.428	6256315.535	3.345	MID ARC (R 70m) / VC 5m
285	376.408	318410.979	6256318.879	3.322	TP (R 70m) / MATCH EXISTING

SETOUT – FP1 FOOTPATH LHS (NO OFFSET)

POINT	CHAINAGE	EASTING	NORTHING	DESIGN LEVEL	REMARKS
165	289.185	318344.400	6256272.612	2.907	MID ARC (R 32m)
166	290.000	318344.969	6256273.196	2.913	VC 2m / KERB START
167	291.306	318345.912	6256274.100	2.920	CTP (R 32m – R 20m)
168	293.958	318347.975	6256275.762	2.934	MID ARC (R 20m)
169	296.611	318350.241	6256277.138	2.947	TP (R 20m)
170	301.921	318354.953	6256279.586	2.975	VC 2m
171	306.179	318358.732	6256281.550	3.029	KERB FINISH
172	307.042	318359.497	6256281.947	3.040	TP (R 40m)
173	309.115	318361.361	6256282.855	3.068	MID ARC (R 40m)
174	310.000	318362.170	6256283.213	3.078	VC 2m
175	311.189	318363.270	6256283.666	3.090	CTP (R 40m – R 87.4m)
176	314.033	318365.898	6256284.751	3.116	MID ARC (R 87.4m)
177	316.878	318368.490	6256285.922	3.142	CTP (R 87.4m – R 45.3m)
178	320.000	318371.266	6256287.350	3.168	VC 5m
179	326.737	318376.882	6256291.062	3.209	MID ARC (R 45.3m)
180	328.976	318378.618	6256292.475	3.221	VC 5m
181	336.597	318383.965	6256297.893	3.260	TP (R 45.3m)
182	340.000	318386.143	6256300.508	3.277	
183	347.835	318391.158	6256306.528	3.320	TP (R 35m) / VC 5m
184	352.348	318394.261	6256309.799	3.367	MID ARC (R 35m)
185	356.861	318397.760	6256312.645	3.418	CTP (R 35m – R 24.5m)
186	358.450	318399.024	6256313.608	3.435	MID ARC (R 24.5m)
187	360.039	318400.223	6256314.650	3.442	CTP (R 24.5 – R 20m) / VC 5m
188	362.593	318402.200	6256316.264	3.434	MID ARC (R 20m)
189	365.147	318404.367	6256317.612	3.414	CTP (R 20m – R 11.1m)
190	367.676	318406.440	6256319.052	3.394	MID ARC (R 11.1m)
191	370.205	318408.133	6256320.924	3.374	TP (R 11.1m) / MATCH EXISTING

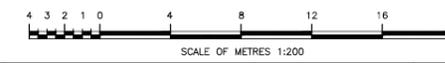
SETOUT PLAN

SCALE 1:200



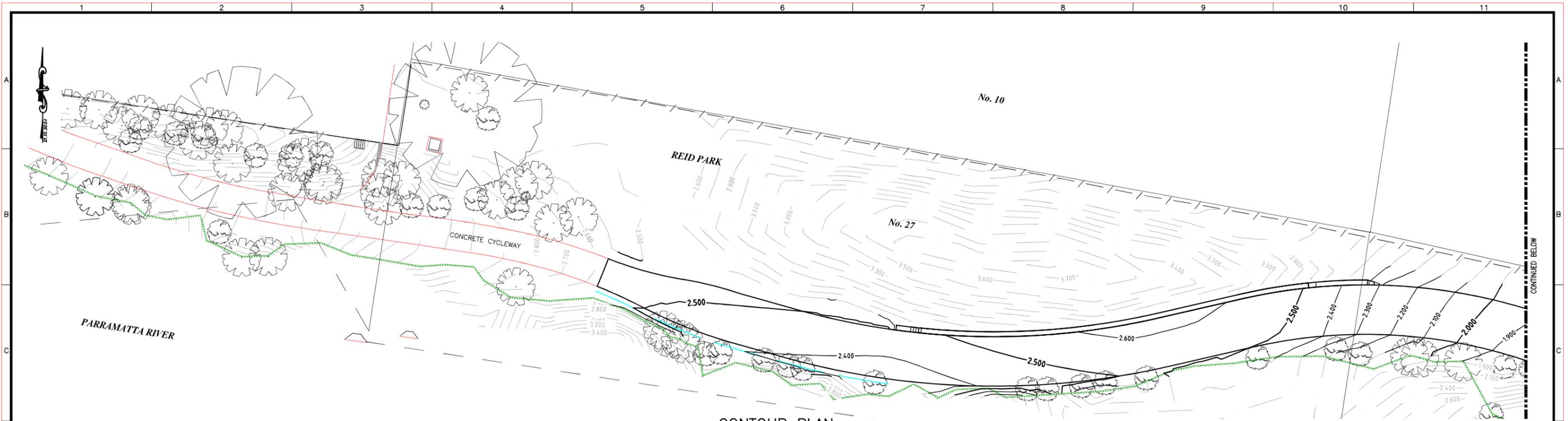
SURVEY CONTROL MARKS

POINT	STATIONS	EASTING	NORTHING	R.L.	REMARKS
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443	STN	318147.791	6256266.404	2.465	STN\RSN
445	STN	318288.387	6256243.250	1.864	STN\NAIL
448	STN	318375.719	6256284.437	3.143	STN\NAIL
4041	STN	318215.383	6256260.501	2.274	STN\RSN

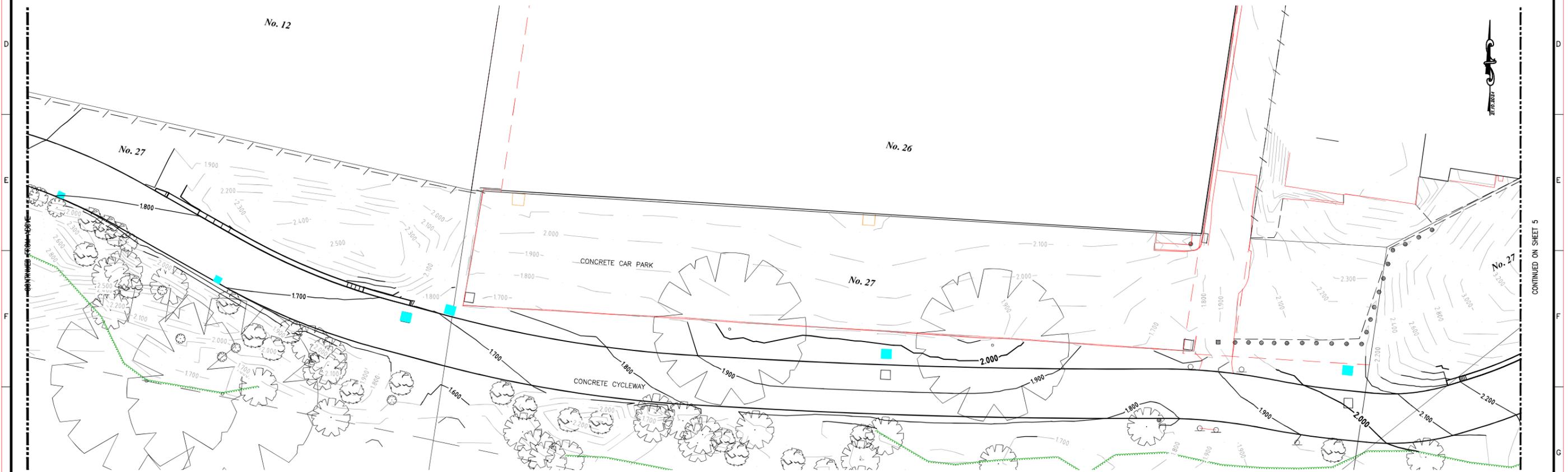


UNLESS DETAILED ON THIS DRAWING ALL WORK SHALL CONFORM TO **AUS SPEC**

EXISTING/MISCELLANEOUS KERB AND GUTTER: EDGE OF BITUMEN: ROAD CROWN: EARTH BATTERS: PIPE DRAINS: DRAINAGE PITS: TREES & SHRUBS: SPOT LEVELS:		PLAN FEATURES PROPOSED KERB AND GUTTER: EDGE OF BITUMEN: ROAD CROWN: EARTH BATTERS: PIPE DRAINS: DRAINAGE PITS: SUB-SOIL DRAIN: SET-OUT LINE:		PUBLIC UTILITIES ABOVEGROUND: TELSTRA: ELECTRICITY: GAS & MISC.: U/GROUND: SEWER: WATER: POLES: OVERHEAD: SURVEY:		AMENDMENTS No. _____ DETAIL _____ CHECKED _____ DATE _____		DESIGN CHECKED AND APPROVED DESIGNED: 30/06/25 APPROVED: 30/06/25 Group Manager Capital Projects ACCEPTED: _____ Client: _____		DATUM: AHD CO-ORDS: MGA 94 RATIO: 1:200 TRIM No: N/A STATUS: FINAL		CITY OF PARRAMATTA COUNCIL REID PARK PARK ROAD, RYDALMERE CYCLIST AND PEDESTRIAN PATHWAYS SETOUT PLAN – 3		PLAN NUMBER 18036 Sheet No: 3 Revision: _____	
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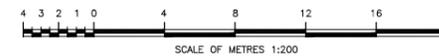


CONTOUR PLAN
SCALE 1:200



CONTOUR PLAN
SCALE 1:200

- LEGEND:**
- 2.000 — MAJOR CONTOUR PROPOSED
 - 1.900 — MINOR CONTOUR PROPOSED



UNLESS DETAILED ON THIS DRAWING
ALL WORK SHALL CONFORM TO **AUS SPEC**

EXISTING/MISCELLANEOUS		PLAN FEATURES PROPOSED		PUBLIC UTILITIES		AMENDMENTS		DESIGN CHECKED AND APPROVED		DESIGNED		CITY OF PARRAMATTA COUNCIL		PLAN NUMBER		
				ABOVEGROUND		DETAIL		DATE		DATE		REID PARK PARK ROAD, RYDALMERE CYCLIST AND PEDESTRIAN PATHWAYS		18036		
KERB AND GUTTER:	—	KERB AND GUTTER:	—	TELSTRA:	—	No.		DESIGNED	30/06/25	30/06/25	DATUM:	AHD	CITY OF PARRAMATTA COUNCIL REID PARK PARK ROAD, RYDALMERE CYCLIST AND PEDESTRIAN PATHWAYS CONTOUR PLAN - 1	18036		
EDGE OF BITUMEN:	—	EDGE OF BITUMEN:	—	ELECTRICITY:	—	CHECKED		APPROVED	30/06/25	30/06/25	CO-ORDS:	MGA 94			Sheet No :	4
ROAD @/CROWN:	—	ROAD @/CROWN:	—	GAS & MISC.:	—	DATE		Group Manager Capital Projects	30/06/25	30/06/25	RATIO:	1:200			Revision :	
EARTH BATTERS:	—	EARTH BATTERS:	—	SEWER:	—			ACCEPTED			TRIM No:	N/A				
PIPE DRAINS:	—	PIPE DRAINS:	—	WATER:	—			DRAWING REVIEW			STATUS:	FINAL				
DRAINAGE PITS:	—	DRAINAGE PITS:	—	POLES:	—			Client								
TREES & SHRUBS:	—	SUB-SOIL DRAIN:	—	OVERHEAD:	—											
SPOT LEVELS:	—	SET-OUT LINE:	—	SURVEY:	—											

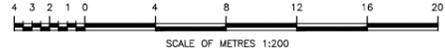


LEGEND:

— 2.000 — MAJOR CONTOUR PROPOSED

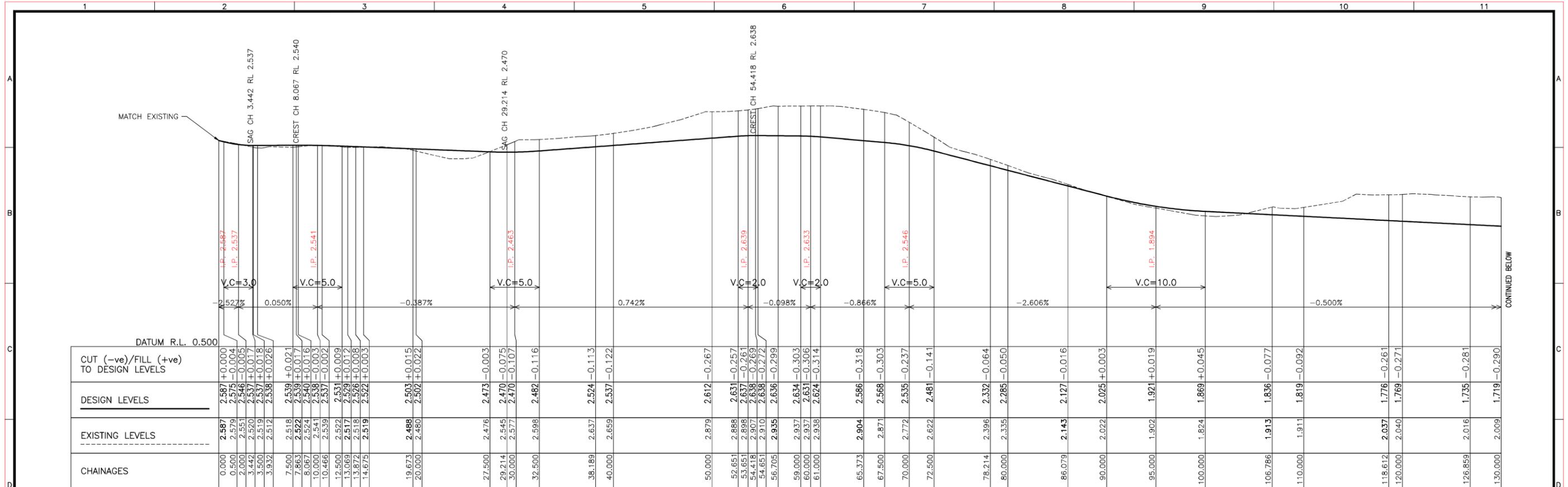
- - - 1.900 - - - MINOR CONTOUR PROPOSED

CONTOUR PLAN
SCALE 1:200

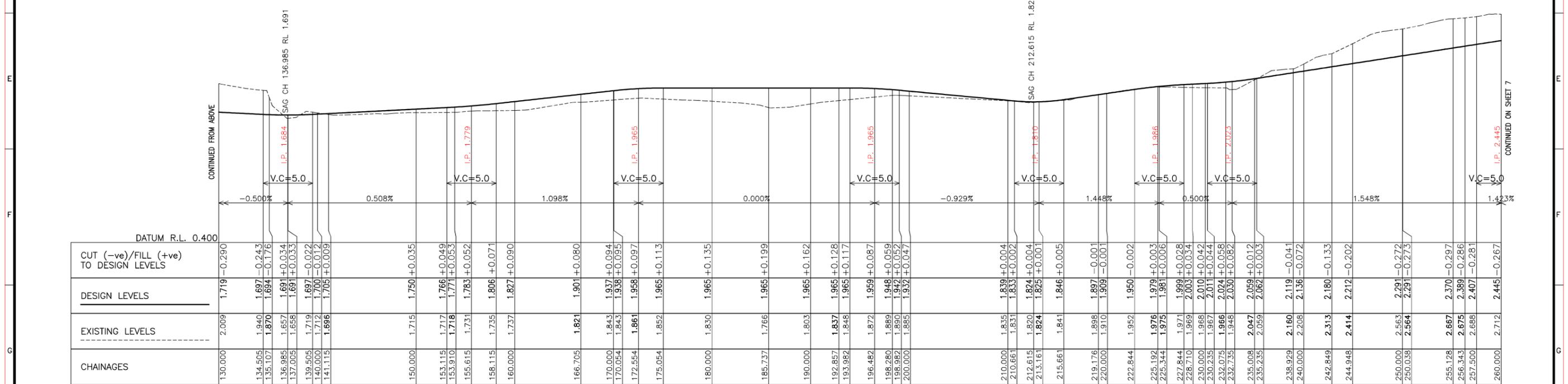


UNLESS DETAILED ON THIS DRAWING
ALL WORK SHALL CONFORM TO **AUS SPEC**

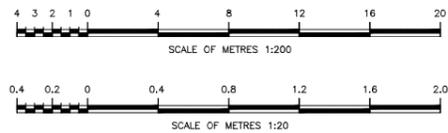
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				ABOVEGROUND	U/GROUND	No.	DETAIL	CHECKED	DATE			DATUM: AHD	REID PARK PARK ROAD, RYDALMERE CYCLIST AND PEDESTRIAN PATHWAYS CONTOUR PLAN - 2	18036	
KERB AND GUTTER:	—	KERB AND GUTTER:	—	TELSTRA:	—							CO-ORDS: MGA 94		Sheet No :	5
EDGE OF BITUMEN:	---	EDGE OF BITUMEN:	---	ELECTRICITY:	—							RATIO: 1:200		Revision :	
ROAD @ CROWN:	---	ROAD @ CROWN:	---	GAS & MISC.:	—							TRIM No: N/A			
EARTH BATTERS:	---	EARTH BATTERS:	---	SEWER:	—							STATUS:			
PIPE DRAINS:	---	PIPE DRAINS:	---	WATER:	—							FINAL			
DRAINAGE PITS:	---	DRAINAGE PITS:	---	POLES:	—										
TREES & SHRUBS:	---	SUB-SOIL DRAIN:	---	OVERHEAD:	—										
SPOT LEVELS:	---	SET-OUT LINE:	---	SURVEY:	—										



LONGITUDINAL SECTION - FP1
 FROM CH 0.000 TO CH 130.000
 SCALE: HORIZONTAL 1:200
 VERTICAL 1:20



LONGITUDINAL SECTION - FP1
 FROM CH 130.000 TO CH 260.000
 SCALE: HORIZONTAL 1:200
 VERTICAL 1:20

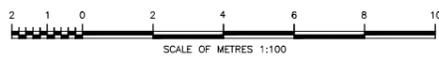
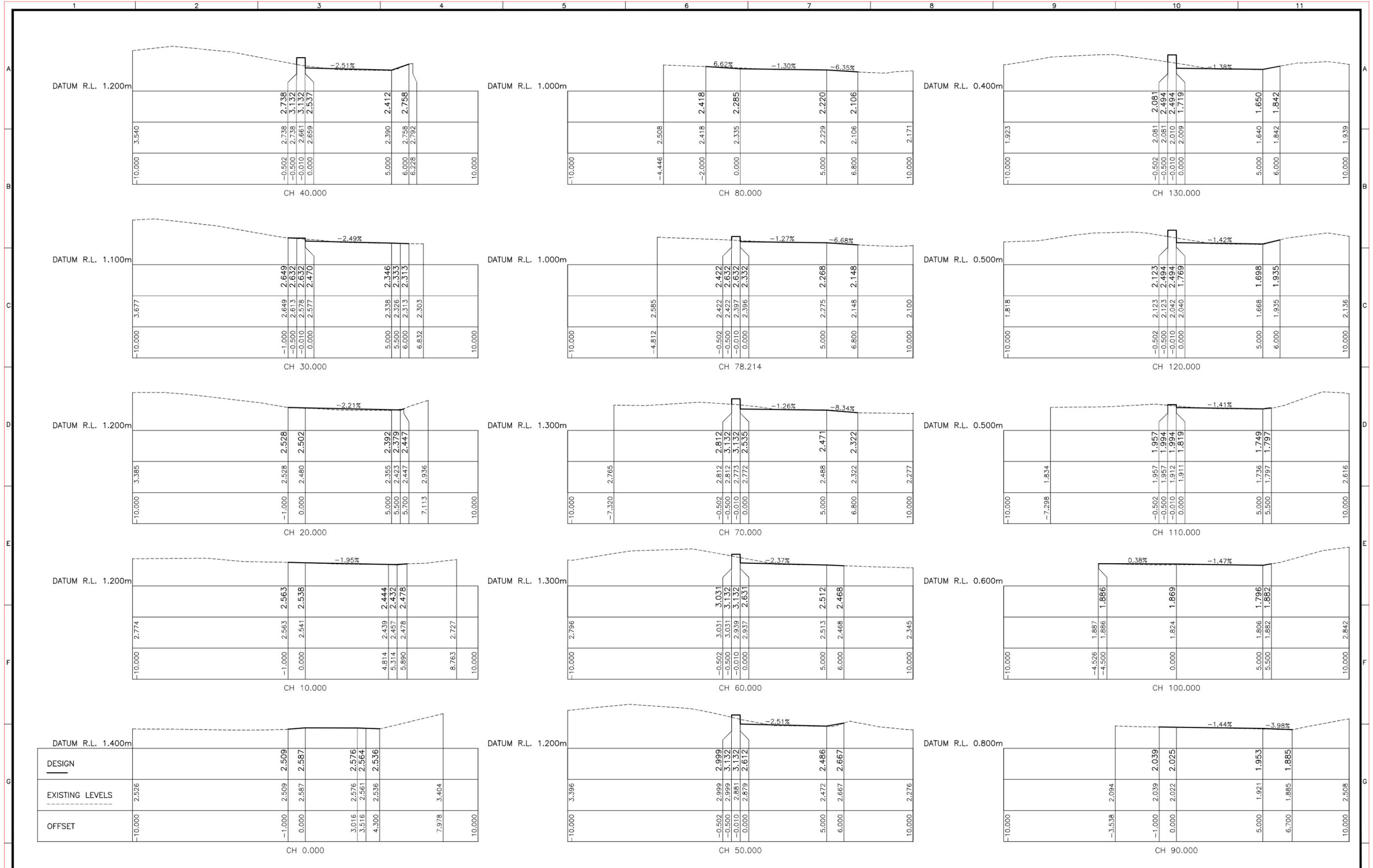


AMENDMENTS		DESIGN CHECKED AND APPROVED	
No.	DETAIL	CHECKED	DATE

DESIGN CHECKED AND APPROVED		DESIGNED	
APPROVED	DATE	DRAWN	DATE

DESIGNED		DATUM: AHD	
DESIGNED	DATE	CO-ORDS: MGA 94	RATIO: AS SHOWN

CITY OF PARRAMATTA COUNCIL		PLAN NUMBER
REID PARK PARK ROAD, RYDALMERE CYCLIST AND PEDESTRIAN PATHWAYS		18036
LONGITUDINAL SECTION - FP1 CH0.000 - CH260.000		Sheet No : 6
STATUS: FINAL		Revision :

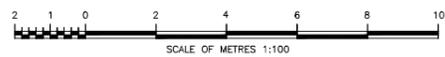
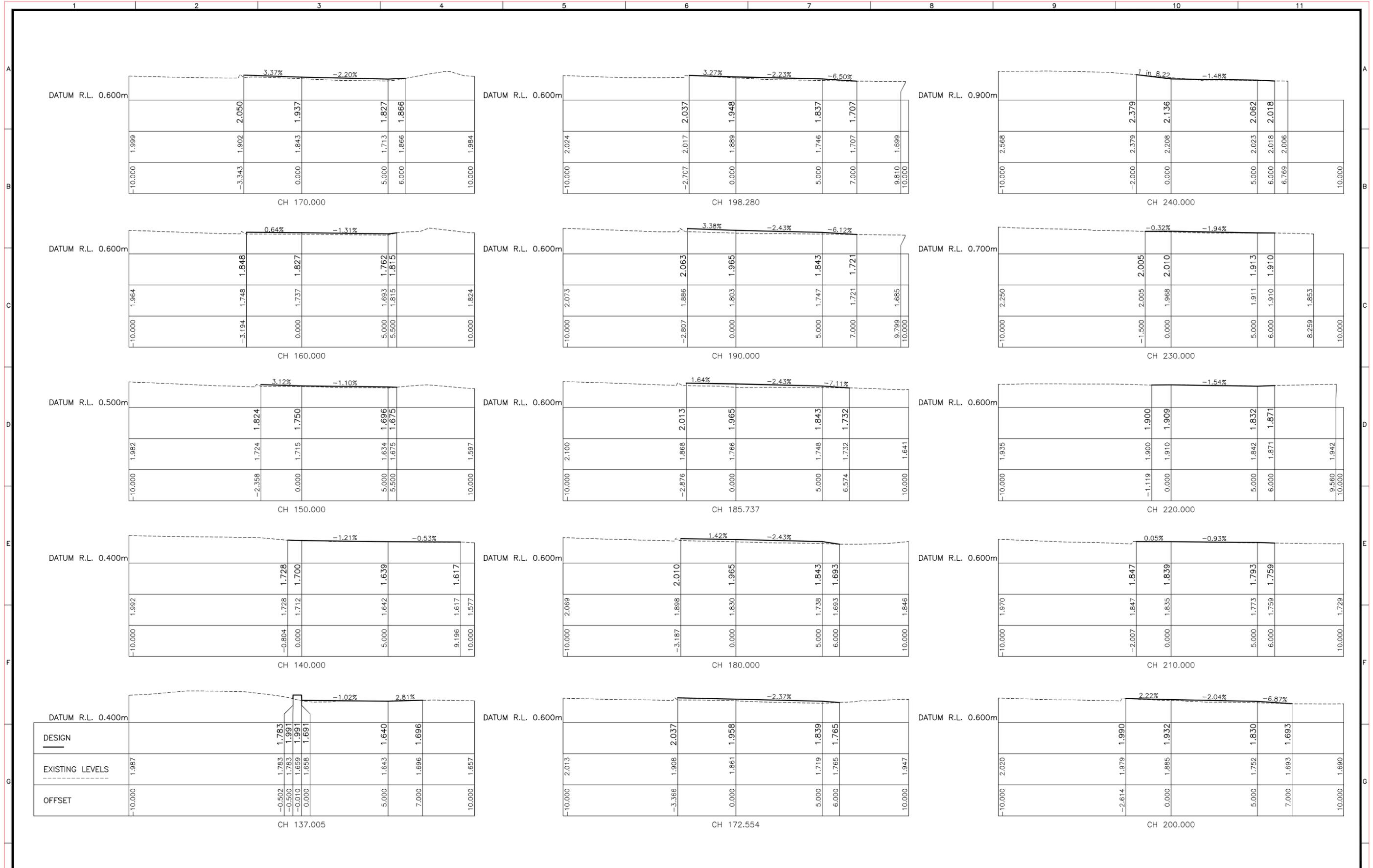


AMENDMENTS		
No.	DETAIL	DATE

DESIGN CHECKED AND APPROVED		DESIGNED

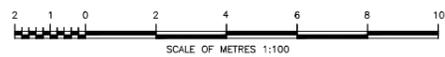
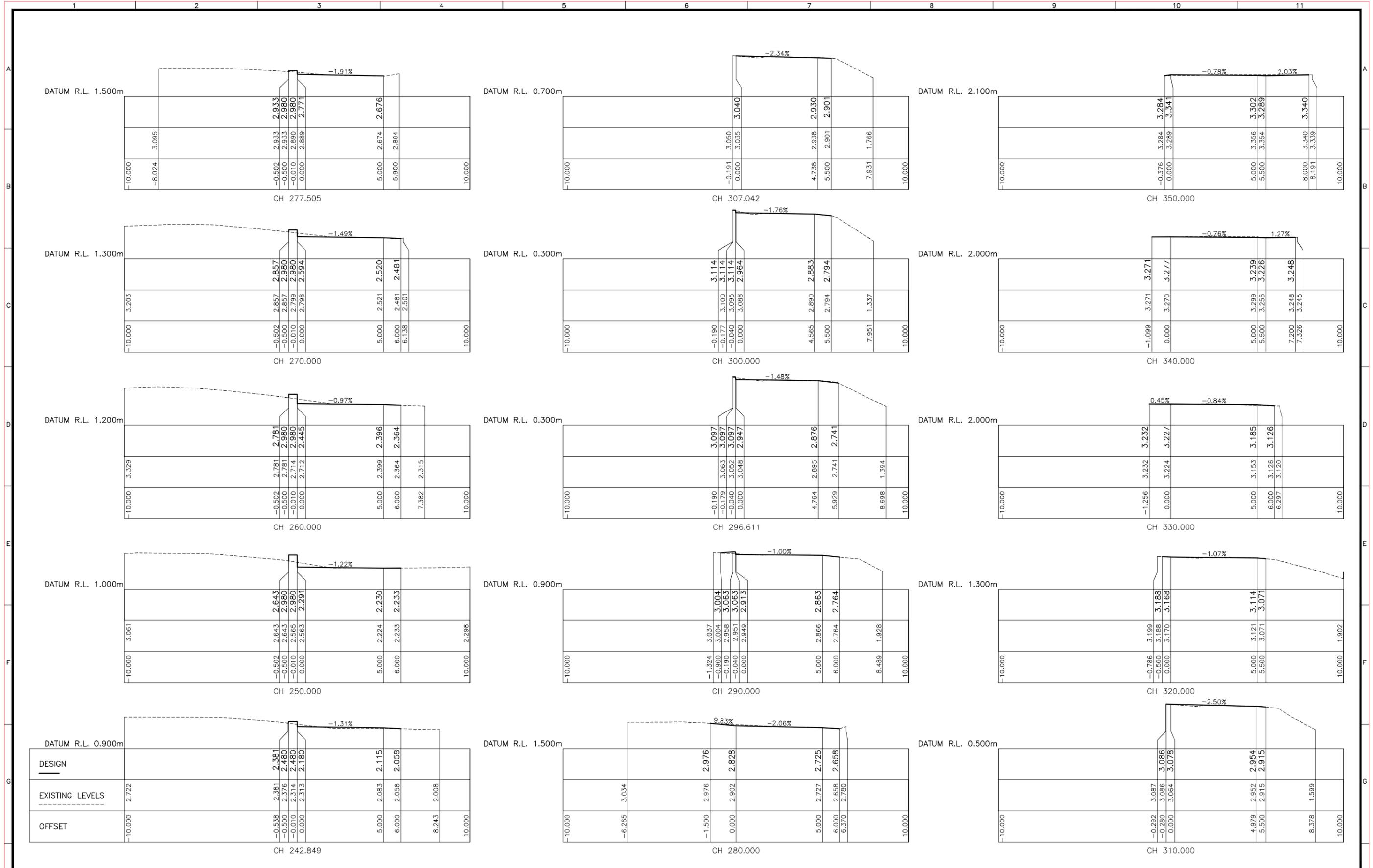
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CO-ORDS: MGA 94
RATIO: 1:100 (NAT)
TRIM No: N/A
STATUS: FINAL

CITY OF PARRAMATTA COUNCIL		PLAN NUMBER
REID PARK PARK ROAD, RYDALMERE CYCLIST AND PEDESTRIAN PATHWAYS		18036
CROSS SECTIONS - FP1 CH0.000 - CH130.000		Sheet No: 9
Revision:		



AMENDMENTS			DESIGN CHECKED AND APPROVED		DESIGNED	DATUM: AHD	CITY OF PARRAMATTA COUNCIL	PLAN NUMBER		
No.	DETAIL	CHECKED	DATE			CO-ORDS: MGA 94			18036	
				30/06/25	<i>[Signature]</i>	30/06/25				Sheet No : 10
						RATIO: 1:100 (NAT)				
						TRIM No: N/A				
						STATUS: FINAL				
								Revision :		

REID PARK
PARK ROAD, RYDALMERE
CYCLIST AND PEDESTRIAN PATHWAYS
CROSS SECTIONS - FP1 CH137.005 - CH240.000

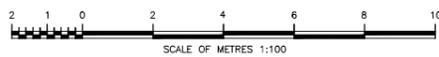
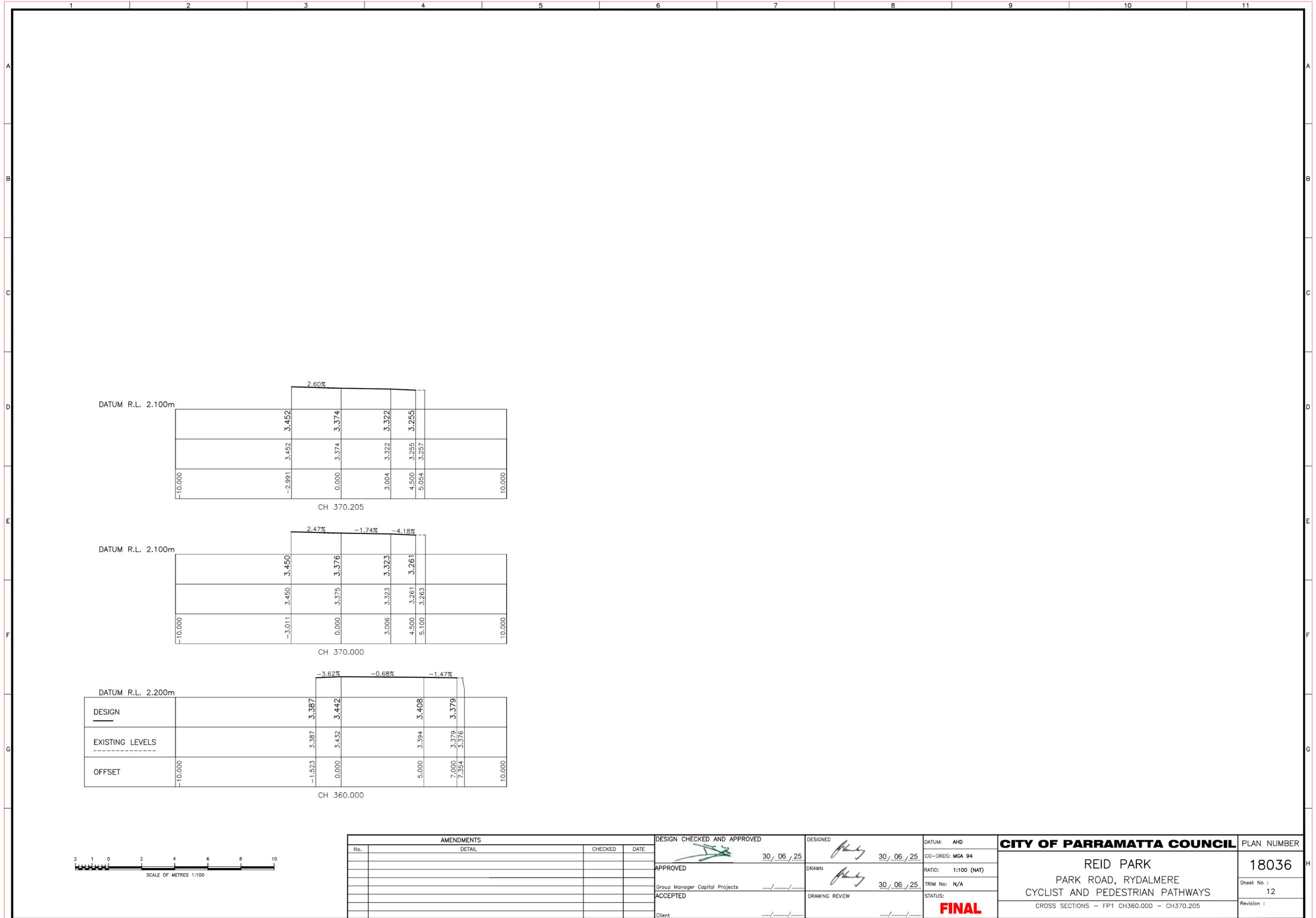


AMENDMENTS		
No.	DETAIL	DATE

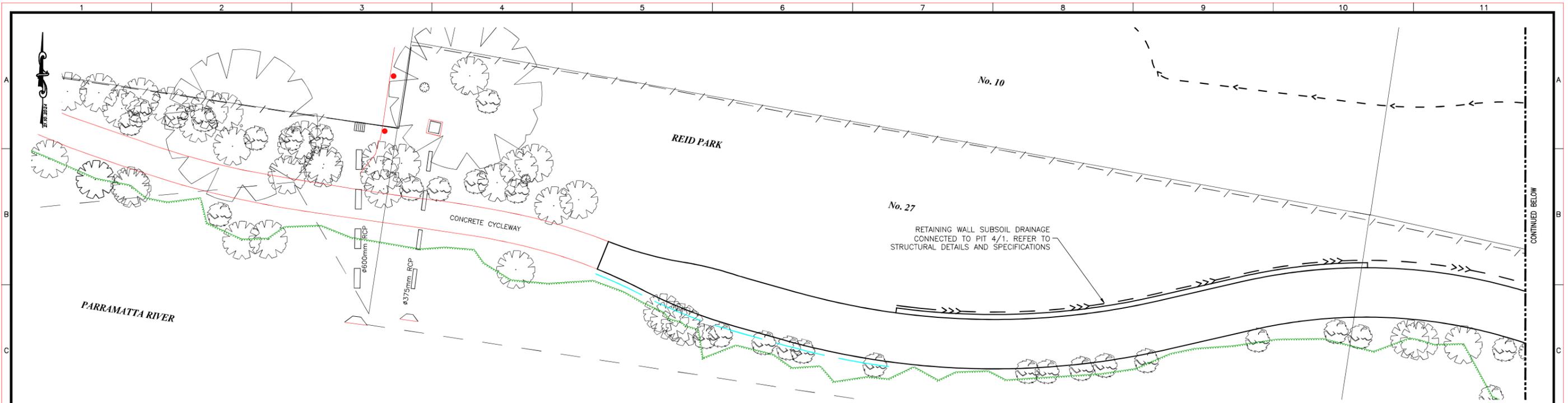
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DATUM: AHD
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RATIO: 1:100 (NAT)
TRIM No: N/A
STATUS: FINAL

CITY OF PARRAMATTA COUNCIL		PLAN NUMBER
REID PARK PARK ROAD, RYDALMERE CYCLIST AND PEDESTRIAN PATHWAYS		18036
CROSS SECTIONS - FP1 CH242.849 - CH350.000		Sheet No: 11
		Revision:

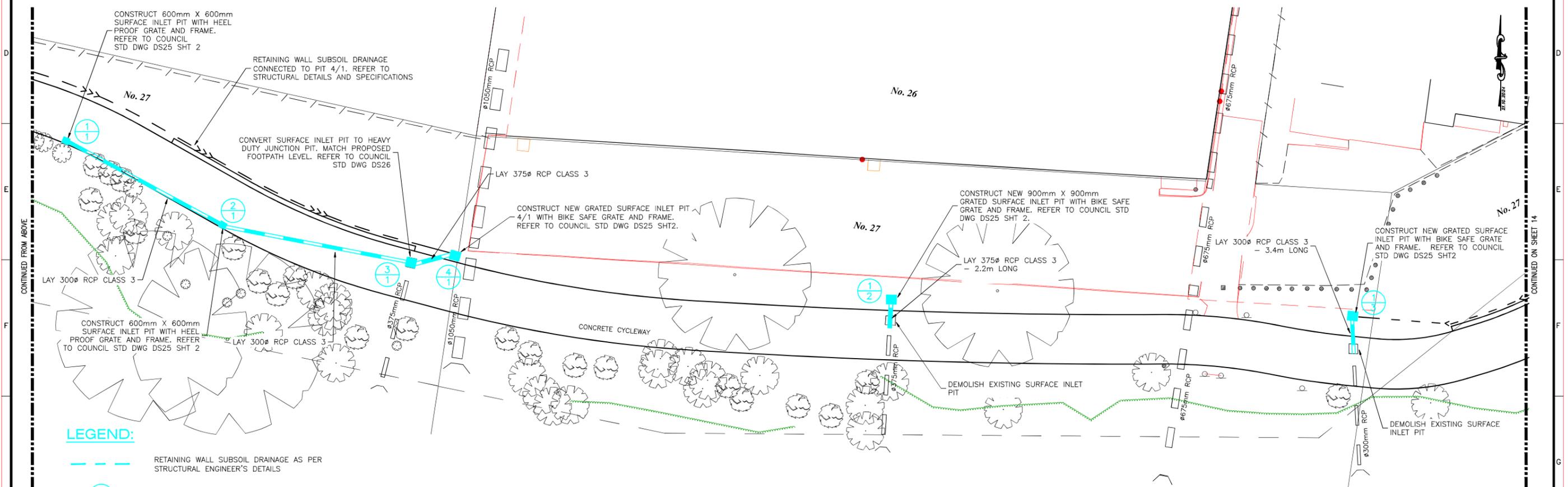


AMENDMENTS			DESIGN CHECKED AND APPROVED		DESIGNED	DATUM: AHD	CITY OF PARRAMATTA COUNCIL REID PARK PARK ROAD, RYDALMERE CYCLIST AND PEDESTRIAN PATHWAYS CROSS SECTIONS - FP1 CH360.000 - CH370.205	PLAN NUMBER
No.	DETAIL	CHECKED	DATE			CO-ORDS: MGA 94		18036
				30/06/25	30/06/25	RATIO: 1:100 (NAT)		Sheet No : 12
				Group Manager Capital Projects	30/06/25	TRIM No: N/A		Revision :
				ACCEPTED	DRAWING REVIEW	STATUS:		
				Client		FINAL		



DRAINAGE PLAN

SCALE 1:200

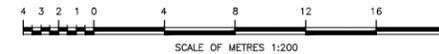


DRAINAGE PLAN

SCALE 1:200

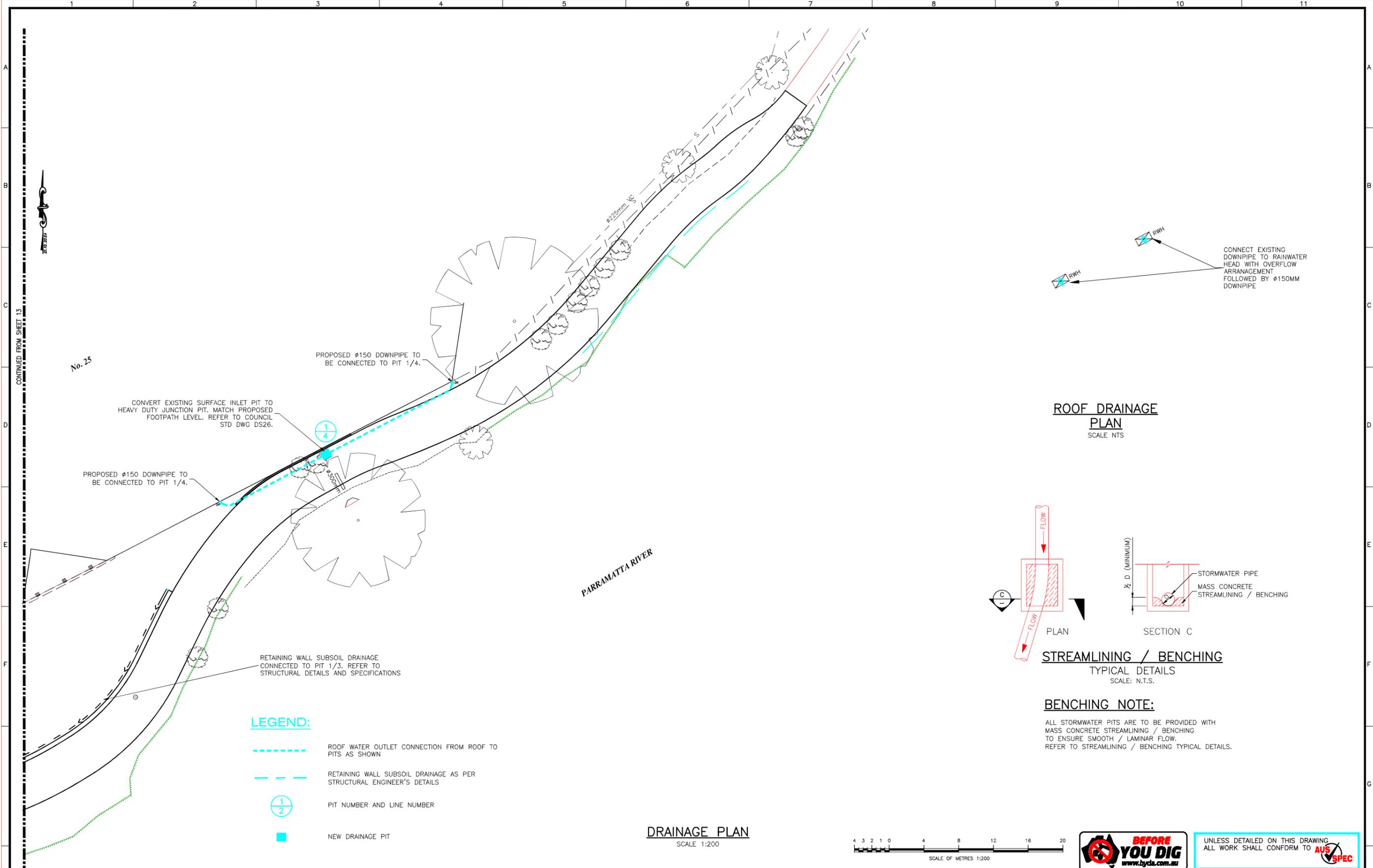
LEGEND:

- RETAINING WALL SUBSOIL DRAINAGE AS PER STRUCTURAL ENGINEER'S DETAILS
- PIT NUMBER AND LINE NUMBER
- NEW DRAINAGE PIT



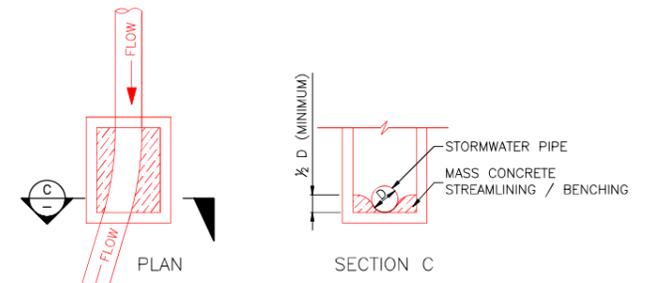
UNLESS DETAILED ON THIS DRAWING ALL WORK SHALL CONFORM TO **AUS SPEC**

EXISTING/MISCELLANEOUS		PLAN FEATURES PROPOSED		PUBLIC UTILITIES		AMENDMENTS		DESIGN CHECKED AND APPROVED		DESIGNED		CITY OF PARRAMATTA COUNCIL		PLAN NUMBER
				ABOVEGROUND	U/GROUND	No.	DETAIL	CHECKED	DATE	DESIGNED	DATE	DATUM: AHD	18036	
KERB AND GUTTER:	KERB AND GUTTER:	TELSTRA:	TELSTRA:								30/06/25	CO-ORDS: MGA 94	REID PARK	
EDGE OF BITUMEN:	EDGE OF BITUMEN:	ELECTRICITY:	ELECTRICITY:								30/06/25	RATIO: 1:200	PARK ROAD, RYDALMERE	
ROAD @/CROWN:	ROAD @/CROWN:	GAS & MISC.:	GAS & MISC.:								30/06/25	TRIM No: N/A	CYCLIST AND PEDESTRIAN PATHWAYS	
EARTH BATTERS:	EARTH BATTERS:	SEWER:	SEWER:									STATUS: FINAL	Revision: 13	
PIPE DRAINS:	PIPE DRAINS:	WATER:	WATER:										DRAINAGE PLAN - 1	
DRAINAGE PITS:	DRAINAGE PITS:	POLES:	POLES:											
TREES & SHRUBS:	SUB-SOIL DRAIN:	OVERHEAD:	OVERHEAD:											
SPOT LEVELS:	SET-OUT LINE:	SURVEY:	SURVEY:											



CONNECT EXISTING DOWNPIPE TO RAINWATER HEAD WITH OVERFLOW ARRANGEMENT FOLLOWED BY Ø150MM DOWNPIPE

ROOF DRAINAGE PLAN
SCALE NTS

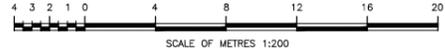


STREAMLINING / BENCHING TYPICAL DETAILS
SCALE: N.T.S.

BENCHING NOTE:

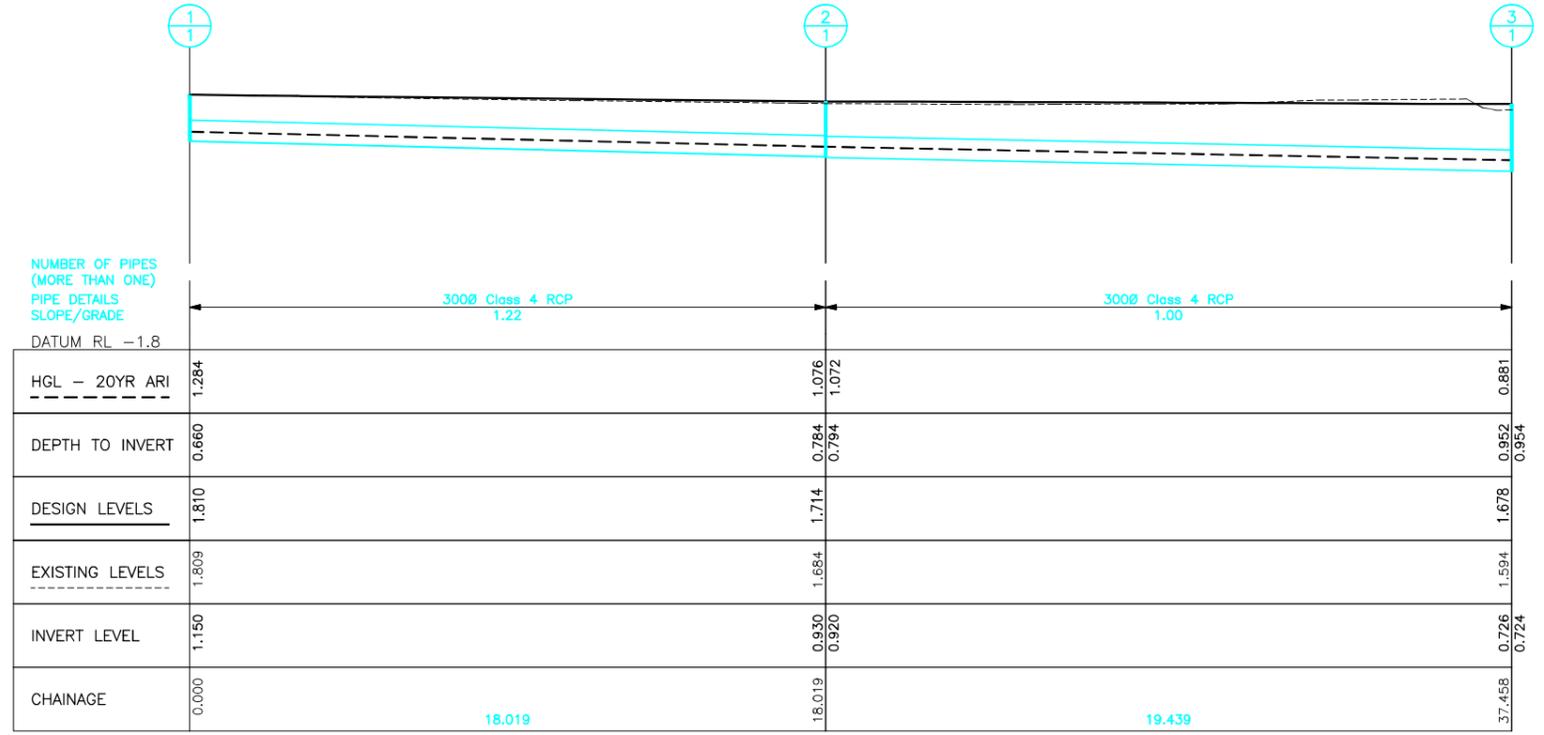
ALL STORMWATER PITS ARE TO BE PROVIDED WITH MASS CONCRETE STREAMLINING / BENCHING TO ENSURE SMOOTH / LAMINAR FLOW. REFER TO STREAMLINING / BENCHING TYPICAL DETAILS.

DRAINAGE PLAN
SCALE 1:200

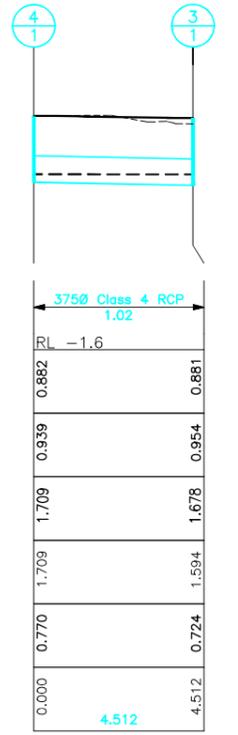


UNLESS DETAILED ON THIS DRAWING ALL WORK SHALL CONFORM TO **AUS SPEC**

EXISTING/MISCELLANEOUS		PLAN FEATURES		PUBLIC UTILITIES		AMENDMENTS		DESIGN CHECKED AND APPROVED		DESIGNED		CITY OF PARRAMATTA COUNCIL		PLAN NUMBER
KORB AND GUTTER:		KORB AND GUTTER:		TELSTRA:		DETAIL		30/06/25				REID PARK		18036
EDGE OF BITUMEN:		EDGE OF BITUMEN:		ELECTRICITY:				APPROVED				PARK ROAD, RYDALMERE		Sheet No: 14
ROAD @ CROWN:		ROAD @ CROWN:		GAS & MISC:				ACCEPTED				CYCLIST AND PEDESTRIAN PATHWAYS		Revision:
EARTH BATTERS:		EARTH BATTERS:		SEWER:				Client				DRAINAGE PLAN - 2 AND ROOF DRAINAGE PLAN AND BENCHING DETAIL		
PIPE DRAINS:		PIPE DRAINS:		WATER:										
DRAINAGE PITS:		DRAINAGE PITS:		POLES:										
TREES & SHRUBS:		SUB-SOIL DRAIN:		OVERHEAD:										
SPOT LEVELS:		SET-OUT LINE:		SURVEY:										



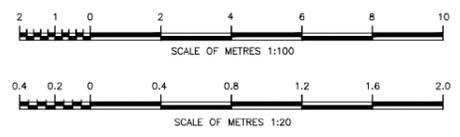
LONGITUDINAL SECTION DRAINAGE LINE 1
 FROM CH 0.000 TO CH 37.458
 SCALE: HORIZONTAL 1:100
 VERTICAL 1:20



LONGITUDINAL SECTION DRAINAGE LINE 1
 FROM CH 0.000 TO CH 4.512
 SCALE: HORIZONTAL 1:100
 VERTICAL 1:20

PIPE SCHEDULE													
Pipe Label	Design Class	WAE Class	Design Dia (Ø)	WAE Dia (Ø)	No. of Pipes	Design U/S Invert	WAE U/S Invert	Pipe Grade	Design D/S Invert	WAE D/S Invert	Design Length (Pit Centre to Centre)	WAE Length	Comments
			(mm)	(mm)	(mm)	(m)	(m)	(%)	(m)	(m)	(m)	(m)	
1/1 2/1	Class 3 RCP		300			1.150		1.2	0.930		18.0		
1/4 3/1	Class 3 RCP		375			0.770		1.0	0.724		4.5		
2/1 3/1	Class 3 RCP		300			0.920		1.0	0.726		19.4		

PIT SCHEDULE														
Pit No.	Design Pit Type	WAE Pit Type	Design Lintel/Grate Size	WAE Lintel/Grate Size	Length	Width	Easting	Northing	Outlet Dia. (Ø)	Outlet Invert RL	Design Depth	WAE Depth	Lid Level	Comment
					(mm)	(mm)	(m)	(m)	(mm)	(m)	(m)	(m)	(m)	
1/1	GSIP		600x600		600	600	318172.764	6256260.170	300	1.150	0.660		1.810	
1/4	GSIP		900x900		900	900	318212.148	6256248.568	375	0.770	0.939		1.709	
2/1	GSIP		600x600		600	600	318188.634	6256251.635	300	0.920	0.794		1.714	
3/1	Junction Pit		900x900		900	900	318207.697	6256247.828	375	0.724	0.954		1.678	Convert Existing Grated Surface Inlet Pit to Junction Pit
1/2	GSIP		900x900		900	900	318256.288	6256244.410	375	0.912	1.077		1.989	
1/3	GSIP		900x900		900	900	318302.918	6256242.431	300	1.105	0.900		2.005	
1/4	Junction Pit		900x900		900	900	318355.224	6256279.060	225	1.854	1.110		2.964	



AMENDMENTS			DESIGN CHECKED AND APPROVED		DESIGNED		DATUM: AHD	
No.	DETAIL	CHECKED	DATE	APPROVED	DATE	DRAWN	DATE	CO-ORDS: MGA 94
					30/06/25		30/06/25	RATIO: AS SHOWN
							30/06/25	TRIM No: N/A
								STATUS: FINAL

CITY OF PARRAMATTA COUNCIL		PLAN NUMBER
REID PARK, RYDALMERE		18036
SOUTH OF PIKE STREET ADJACENT RIVER CYCLEWAY AND ASSOCIATED WORKS		Sheet No: 15
DRAINAGE LONGITUDINAL SECTIONS AND PIPE AND PIT SCHEDULE		Revision:



HUGH
THE ARBORIST

Arboricultural Impact Assessment Report

Parramatta Cycleway Upgrades



Date Prepared: 23rd December 2024
Date Revised: 8th September 2025
Revision: A
Client Name: City of Parramatta Council
Site Address: Parramatta Cycleway NSW
Authors Details: Hugh Millington
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SUMMARY

This revised report has been prepared to identify an additional two trees for removal due to the requirement for contaminated soil removal throughout the TPZ and SRZ area. Trees 192 and 195 are already assessed in the reports previous version and this updates refers to these two trees only. All other aspects of the report remain the same.

A total of 302 trees have been assessed as part of this report. Trees have been included within approximately five metres of any proposed works across the five sites. The proposed works generally consist of upgrading, extending or relocating hard surfaces for the shared paths and cycleways. Therefore there is opportunity to minimize the associated impacts for the trees by constructing the hard surfaces via tree sensitive methods such as structures on or above the existing grade, pier and beam or bridging over sensitive areas. Of the 302 trees assessed across the sites, 36 trees have been identified as requiring removal, 178 trees will be retained under no encroachment, 48 trees will be retained subject to minor encroachment and 40 trees can be retained subject to tree sensitive construction methods. The following report contains a series of tables which summarizes the associated impacts across the sites to provide a more concise presentation of data and provides detailed recommendations on how to minimise development impacts. Table 7 of this report includes additional advice where modifications to the design could potentially enable the retention of additional trees in the event the modifications are achievable.

1. INTRODUCTION

- 1.1 Hugh The Arborist Pty Ltd have been instructed by Shane Lauger of City of Parramatta Council to provide an Arboricultural Impact Assessment Report to assess trees located at five sites along the Parramatta Cycleway that may be impacted by the proposed upgrades.

Table 1: Proposed Plans And Documents Used For The Assessment

Title	Author	Date	Reference on Document
Site Survey Plan	Unknown, DWG files provided only	Not stated	Not stated
Proposed Site Plans	City of Parramatta Council	September 2024	Rangihou Reserve Rev C Baludarri Wetland Rev B Reid Park Rev C Royal Shores Rev C sheets 1,2,3 George Kendall Riverside Park Rev C

- 1.2 The site assessment and tree data collection was carried out on 25th October 2024. Access was available to the subject public areas only. All tree data contained in this report was collected during this time.
- 1.3 The weather during of the site inspections was clear with average visibility.

2. SCOPE OF THE REPORT

- 2.1 **This report has been undertaken to meet the following objectives.**

- 2.1.1 Conduct a visual assessment from ground level of trees identified on the plans provided that may be affected by the proposed upgrade of the cycleway in five locations.
- George Kendall Riverside Park Ermington
 - Rangihou Reserve Parramatta
 - Reid Park Rydalmere
 - Royal Shores Ermington
 - Baludarri Wetland Parramatta
- 2.1.2 Determine the trees estimated contributing years, remaining useful life expectancy and award the trees a retention value.

- 2.1.3 Provide an assessment of the potential impact the proposed development is likely to have on the condition of the subject trees in accordance with AS4970 Protection of trees on development sites (2009).
- 2.1.4 Recommend methods to mitigate development impacts where appropriate.
- 2.1.5 Recommend tree protection measures for any tree to be retained in accordance with AS4970 Protection of Trees on Development Sites - 2009.

3. LIMITATIONS

- 3.1 The findings of this report are based on the observations and site conditions at the time inspection.
- 3.2 All observations were carried out from ground level. No detailed additional testing was carried out on trees or soil on site and none of the surrounding surfaces were lifted for investigation.
- 3.3 The tree identification icons shown on the survey plans and the proposed plans vary considerably and a significant volume of trees that have been assessed in this report are not shown on the survey plan provided. The trees included in this report have been surveyed using GPS and overlaid onto the survey plan then transferred to the proposed plans as accurately as possible. However, their locations and therefore the associated development impacts may vary.
- 3.4 Root decay can sometimes be present with no visual indication above ground. It is also impossible to know the extent of any root damage caused by mechanical damage such as underground root cutting during the installation of services without undertaking detailed root investigation. Any form of tree failure due to these activities is beyond the scope of this assessment.
- 3.5 The report reflects the subject tree(s) as found on the day of inspection. Any changes to the growing environment of the subject tree, or tree management works beyond those recommended in this report may alter the findings of the report. There is no warranty, expressed or implied, that problems or deficiencies relating to the subject tree, or subject site may not arise in the future.
- 3.6 Tree identification is based on accessible visual characteristics at the time of inspection. As key identifying features are not always available the accuracy of identification is not guaranteed. Where tree species is unknown, it is indicated with a spp.
- 3.7 All diagrams, plans and photographs included in this report are visual aids only and are not to scale unless otherwise indicated.
- 3.8 Hugh The Arborist neither guarantees, nor is responsible for, the accuracy of information provided by others that is contained within this report.

- 3.9 While an assessment of the subject trees estimated useful life expectancy is included in this report, no specific tree risk assessment has been undertaken for any of trees at the site.
- 3.10 The retention of trees subject to development impact is only feasible if all recommendations and specifications are followed accurately.
- 3.11 Sensitive methods of construction such as sub-surface boring, manual (or non-destructive excavation) and the use of structural soil for fill may have limitations where the engineering requirements of the design cannot be met using these methods or materials. These limitations include pipe diameters, compaction, allowable garage changes and drainage requirements. Recommendations made in this report relating to amended methodology or materials should be reviewed by a professional qualified in the relevant field.
- 3.12 The ultimate safety of any tree cannot be categorically guaranteed. Even trees apparently free of defects can collapse or partially collapse in extreme weather conditions. Trees are dynamic, biological entities subject to changes in their environment, the presence of pathogens and the effects of ageing. These factors reinforce the need for regular inspections. It is generally accepted that hazards can only be identified from distinct defects or from other failure-prone characteristics of a tree or its locality.
- 3.13 Alteration of this report invalidates the entire report.

4. METHODOLOGY

- 4.1 The following information was collected during the assessment of the subject tree(s).
 - 4.1.1 Tree common name
 - 4.1.2 Tree botanical name
 - 4.1.3 Tree age class
 - 4.1.4 DBH (Trunk/Stem diameter at breast height/1.4m above ground level) - millimetres.
 - 4.1.5 Estimated height - metres
 - 4.1.6 Estimated crown spread (Radius of crown) - metres
 - 4.1.7 Health
 - 4.1.8 Structural condition
 - 4.1.9 Amenity value

- 4.1.10 Estimated remaining contribution years (SULE)¹
- 4.1.11 Retention value (Tree AZ)²
- 4.1.12 Notes/comments
- 4.1.13 An assessment of the trees condition was made using the visual tree assessment (VTA) model (Mattheck & Breloer, 1994).³
- 4.1.14 Tree diameter was measured using a set of 400 millimetre metal callipers or a calculated DBH tape measure. All other measurements were estimations unless otherwise stated.
- 4.1.15 Tree locations have been plotted using Pocket GIS and the site plans prepared using PT Mapper Pro.
- 4.1.16 All DBH measurements, tree protection zones, and structural root zones were calculated in accordance with methods set out in AS4970 Protection of trees on development sites (2009) ⁴ and in some cases estimated. See appendices for information.
- 4.1.17 Details of how the observations in this report have been assessed are listed in the appendices.

5. SITE LOCATIONS AND BRIEF DESCRIPTION OF PROPOSAL

- 5.1 The sites are located within the City of Parramatta Local Government Area (LGA)
- 5.2 This assessment has been carried out in accordance with the following policy and legislation.
 - 5.2.1 Parramatta Local Environmental Plan (LEP) 2011
 - 5.2.2 Parramatta Development Control Plan (DCP) 2011
 - 5.2.3 State Environmental Planning Policy (Biodiversity and Conservation) 2021
- 5.1 Any heritage or ecological significance of the five sites should be referred to by the relevant professional in that field. This assessment will address the impacts on trees from the proposed works only.
- 5.2 The subject sites form part of a shared path and cycleway along the

¹ Barrell Tree Consultancy, *SULE: Its use and status into the New Millennium*, TreeAZ/03/2001, <http://www.treeaz.com/>.

² Barrell Tree Consultancy, *Tree AZ version 10.10-ANZ*, <http://www.treeaz.com/>.

³ Mattheck, C. & Breloer, H., *The body language of trees - A handbook for failure analysis*, The Stationary Office, London, England (1994).

⁴ Council of Standards Australia, *AS4970 Protection of trees on development sites* (2009).

Parramatta river. The sites are generally well vegetated with multiple trees of varying maturity and value located either side of an existing bitumen pathways.

- 5.3 The proposal seeks to provide upgrades to the existing shared pathways, pedestrian pathways, cyclist pathways and the inclusion of environmentally sensitive lighting.

6. OBSERVATIONS AND GENERAL INFORMATION IN RELATION TO PROTECTING TREES ON DEVELOPMENT SITES

- 6.1 **Tree information:** Details of each individual tree assessed, including the observations taken during the site inspection can be found in the tree inspection schedule in appendix 2, where the indicative tree protection zone (TPZ) for the subject trees has been calculated. The TPZ and SRZ should be measured in radius from the centre of the trunk. Trees have been awarded a retention value based on site observations. The system used to award the retention value is Tree AZ. Tree AZ is used to identify higher value trees worthy of being a constraint to development and lower value trees that should generally not be a constraint to the development. A field sheet of Tree AZ categories sheet (Barrell Tree Consultancy) has been included at the end of the report to assist with understanding the retention values. The retention value that has been allocated to the subject trees in this report is not definitive and should only be used as a guideline.
- 6.2 **Site plans:** Refer to the Appendices section of this report for a full list of site plans. Each plan provided contains the tree identification numbers, canopy spread, Tree Protection Zone and Structural Root Zone overlaid onto proposed plans. No site plan has been prepared for Baludarri Wetlands, refer to section 10.
- 6.3 **Tree Inspection Schedules:** Data for each tree assessed can be located in the Appendices section where a tree schedule has been prepared for each site. No Tree Inspection Schedule has been prepared for Baludarri Wetlands, refer to section 10.

- 6.4 **Tree protection zone (TPZ):** The TPZ is principle means of protecting trees on development sites and is an area required to maintain the viability of trees during development. It is commonly observed that tree roots will extend significantly further than the indicative TPZ, however the TPZ is an area identified AS4970-2009 to be the extent where root loss or disturbance will generally impact the viability of the tree. The TPZ is identified as a restricted area to prevent damage to trees either above or below ground during a development. Where trees are intended to be retained proposed developments must provide an adequate TPZ around trees. The TPZ is set aside for the tree's root zone, trunk and crown and it is essential for the stability and longevity of the tree. The tree protection also incorporates the SRZ (see below for more information about the SRZ). The TPZ of palms, other monocots, cycads and tree ferns has been calculated at one metre outside the crown projection.
- 6.5 **Structural Root Zone (SRZ):** This is the area around the base of a tree required for the trees stability in the ground. An area larger than the SRZ always needs to be maintained to preserve a viable tree. There are several factors that can vary the SRZ which include height, crown area, soil type and soil moisture. It can also be influenced by other factors such as natural or built structures. Generally work within the SRZ should be avoided. Soil level changes should also generally be avoided inside the SRZ of trees to be retained. Palms, other monocots, cycads and tree ferns do not have an SRZ.
- 6.6 **Minor encroachment into TPZ:** Sometimes encroachment into the TPZ is unavoidable. Encroachment includes but is not limited to activities such as excavation, compacted fill and machine trenching. Minor encroachment of up to 10% of the overall TPZ area is normally considered acceptable, providing there is space adjacent to the TPZ for the tree to compensate and the tree is displaying adequate vigour/health to tolerate changes to its growing environment.
- 6.7 **Major encroachment into TPZ:** Where encroachment of more than 10% of the overall TPZ area is proposed an Arborist must investigate and demonstrate that the tree will remain in a viable condition. In some cases, tree sensitive construction methods such as pier and beam footings, suspended slabs, or cantilevered sections, can be utilised to allow additional encroachment into the TPZ by bridging over roots and minimising root disturbance. Major encroachment is only possible if it can be undertaken without severing significant size roots, or if it can be demonstrated that significant roots will not be impacted.

7. ASSESSEMENT OF CONSTRUCTION IMPACTS OF INDEIVIDUAL SITES

7.1 The tables below contain a summary of the proposed development impact to trees affected by the proposed works at each site. Refer to Appendix 2 for full tree data.

Table 2: George Kendall Riverside Park, Ermington		
Encroachment/ Impact description	Category A Tree Identification Numbers	Category Z Tree Identification Numbers
Retained trees subject to major encroachment from proposed structures or new surfacing that may affect the viability of the tree where <u>impacts can be minimised by tree sensitive construction methods.</u>	3, 4 (Two trees)	0 (No trees)
Retained trees subject to minor encroachment from proposed structures or new surfacing that will not significantly affect the viability of the trees and <u>does not require tree sensitive construction methods.</u>	11 (One tree)	0 (No trees)
Retained trees subject to no encroachment – no new encroachment is proposed from structures or surfaces and <u>trees will not be impacted by the proposed works.</u>	1, 2, 5, 6, 7, 8, 9, 10 (Eight trees)	0 (No trees)
Trees to be removed – trees within the footprint of the proposed structures or surfacing or impacts from major encroachment which <u>cannot be satisfactorily reduced or mitigated to enable the trees retention</u>	0 (No trees)	0 (No trees)

Table 3: Rangihou Reserve, Parramatta		
Encroachment/ Impact description	Category A Tree Identification Numbers	Category Z Tree Identification Numbers
Retained trees subject to major encroachment from proposed structures or new surfacing that may affect the viability of the tree where <u>impacts can be minimised by tree sensitive construction methods.</u>	233, 234, 235, 237, 250, 254, 255, 258, 267, 268, 270, 271, 272, 274, 275, 287 (sixteen trees)	238 (One tree)
Retained trees subject to minor encroachment from proposed structures or new surfacing that will not significantly affect the viability of the trees and <u>does not require tree sensitive construction methods.</u>	233a, 247, 269, 283, 284, 285 (Six trees)	0 (No trees)
Retained trees subject to no encroachment – no new encroachment is proposed from structures or surfaces and <u>trees will not be impacted by the proposed works.</u>	230, 240, 241, 242, 243, 244, 245, 246, 249, 251, 259, 260, 263, 264, 286, 288 (Sixteen)	228, 229, 261, 262, 265 (Five trees)
Trees to be removed – trees within the footprint of the proposed structures or surfacing or impacts from major encroachment which <u>cannot be satisfactorily reduced or mitigated to enable the trees retention</u>	232, 239, 248, 252, 253, 256, 257, 266, 276, 277, 278, 279, 280, 281, 282 (Fifteen trees)	231, 236, 273 (Three trees)

Table 4: Reid Park Rydalmere

Encroachment/ Impact description	Category A Tree Identification Numbers	Category Z Tree Identification Numbers
Retained trees subject to major encroachment from proposed structures or new surfacing that may affect the viability of the tree where <u>impacts can be minimised by tree sensitive construction methods.</u>	178, 182, 185, 189, 190, 224a, 225a, 226a, 227a, 228a (Ten trees)	183, 184 (Two trees)
Retained trees subject to minor encroachment from proposed structures or new surfacing that will not significantly affect the viability of the trees and <u>does not require tree sensitive construction methods.</u>	174, 218 (Two trees)	0 (No trees)
Retained trees subject to no encroachment – no new encroachment is proposed from structures or surfaces and <u>trees will not be impacted by the proposed works.</u>	175, 176, 177, 187, 191, 193, 194, 196, 197, 198, 199, 200, 201, 202, 206, 207, 208, 209, 211, 212, 216, 217, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233 (Thirty-two trees)	186, 188, 203, 204, 205, 210, 213, 214, 215, 219, 220, 221, 222, 223 (Fourteen trees)
Trees to be removed – trees within the footprint of the proposed structures or surfacing or impacts from major encroachment which <u>cannot be satisfactorily reduced or mitigated to enable the trees retention.</u>	192, 195 (Two Trees)	179, 180, 181 (Three trees)

Table 5: Royal Shores, Ermington

Encroachment/ Impact description	Category A Tree Identification Numbers	Category Z Tree Identification Numbers
Retained trees subject to major encroachment from proposed structures or new surfacing that may affect the viability of the tree where <u>impacts can be minimised by tree sensitive construction methods.</u>	15, 16, 23, 41, 159, 165, 167, 171 (Eight Trees)	139 (One Tree)
Retained trees subject to minor encroachment from proposed structures or new surfacing that will not significantly affect the viability of the trees and <u>does not require tree sensitive construction methods.</u>	21, 25, 26, 27, 31, 42, 52, 67, 71, 72, 73, 74, 75, 76, 79, 90, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 107, 109, 111, 112, 113, 136, 145, 146, 154, 172, 173 (Thirty-nine trees)	0 (No trees)
Retained trees subject to no encroachment – no new encroachment is proposed from structures or surfaces and <u>trees will not be impacted by the proposed works.</u>	14, 18, 19, 20, 22, 28, 29, 30, 36, 43, 42a, 43a, 44, 45, 46, 47, 48, 49, 51, 53, 54, 55, 56, 57, 58, 59, 61, 62, 63, 65, 66, 68, 69, 70, 77, 78, 80, 81, 82, 83, 84, 85, 87, 88, 89, 106, 108, 114, 115, 116, 117, 118, 119, 120, 121, 123, 124, 125, 127, 128, 129, 130, 131, 132, 133, 134, 135, 137, 138, 141, 144, 147, 148, 152, 153, 156, 157, 158, 160, 161, 163, 168, 169 (Eighty-three trees)	32, 33, 34, 35, 37, 50, 60, 64, 86, 91, 92, 93, 122, 126, 140, 142, 143, 149, 162, 170 (Twenty trees)
Trees to be removed – trees within the footprint of the proposed structures or surfacing or impacts from major encroachment which <u>cannot be satisfactorily reduced or mitigated to enable the trees retention</u>	13, 17, 24, 40, 110, 150, 151, 155, 164, 166 (Ten trees)	12, 38, 39 (Three trees)

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 **Table 6:** The table below provides additional information on the recommendations arising from major and minor encroachments and their associated potential impacts.

Encroachment/ Impacts	Conclusions and Recommendations	Total number of trees across the sites
Major	Trees proposed to be retained subject to major encroachment greater than 10% within the Tree Protection Zones or any encroachment within the Structural Root Zones will require tree sensitive methods of construction to minimise development impacts. The dominant source of encroachment from the proposed works is hard surfacing which can potentially be carried out while retaining significant tree roots. Refer to section 9 for full specifications on how to retain tree roots and minimise the impacts below new hard surfacing.	40
Minor	Trees subject to minor encroachment of less than 10% within the Tree Protection Zone with no encroachment in the Structural Root Zone will not be subject to significant impacts and are therefore tree sensitive construction methods are not required and the trees are identified for retention.	48
None	Trees that will not be subject to encroachment and can be retained without development impact.	178
Remove	Trees subject to impacts from major encroachment that cannot be sufficiently mitigated by tree sensitive construction or are within the footprint of proposed hard surfacing and cannot be retained.	36

8.2 **Table 7:** The following table contains recommendations for specific trees that require modifications to the proposal to minimise the associated impact. The trees included in table 7 are generally of higher value and the modifications to design are considered a worthy consideration to reduce development impacts.

Location	Tree ID numbers and additional notes/recommendations
George Kendall Reserve	<ul style="list-style-type: none"> - Tree 3. Consider increasing the setback of the new section of cycleway to 2.6 metres from the centre of the trunk to avoid the SRZ area. - Tree 4. Consider increasing the setback of the new section of cycleway to 1.6 metres from the centre of the trunk to avoid the SRZ area.
Rangihou Reserve	<ul style="list-style-type: none"> - Tree 268. The proposed raised boardwalk is required to be constructed above the existing soil grade with piers located outside of the 2.8 metre SRZ. - Tree 271. The proposed raised boardwalk is required to be constructed above the existing soil grade with piers located outside of the 2 metre SRZ. - Tree 272. The proposed raised boardwalk is required to be constructed above the existing soil grade with piers located outside of the 2 metre SRZ. - Tree 274 and 275. Major encroachment into the SRZ area. Consider extending the pathway on the opposite side to the trees to minimise impacts.

Location	Tree ID numbers and additional notes/recommendations
Royal Shores	<ul style="list-style-type: none"> - Livistona species. Numerous individual Palm trees will be subject to major encroachment from the proposed new cycleway and shared paths. The roots systems of dicotyledonous and coniferous trees are characterised by large, multi-branched woody roots. In contrast, Palms have an adventitious root system composed of numerous, simple fibrous primary roots that arise independently and periodically from the Root Initiation Zone (RIZ) at the base of the trunk. Studies conducted by <i>Broschat and Donselman</i> (1984,1990) in regard to the severing of palm roots for the purpose of transplanting state, “most of a mature palms roots are found within 30cm of the trunk”, and in conclusion found that most mature palms need only a root ball of 30cm radius from the trunk and 30cm soil depth to survive. Literature also shows that most palms are able to generate new root systems, with the production of new roots from the RIZ and / or branching and regrowth of roots severed during transplanting (<i>Pittenger et al 2005</i>). Although there are major encroachments to multiple Palm trees, with reference to the

Location	Tree ID numbers and additional notes/recommendations
	<p>literature and the setbacks on the remaining sides of the TPZ the development should have a minimal impact on the long-term viability of the Palms.</p> <ul style="list-style-type: none"> - Tree 13. The tree is located on an embankment proposed to be excavated for the new pathway and retaining wall which will encroach by up to 30% of the TPZ and the SRZ. Due to the proposed excavation, tree sensitive construction may not be achievable and a greater setback outside of the 2.7 metre SRZ area should be provided if the tree is to be retained. The tree is currently identified for removal. - Tree 16. Mangroves have been grouped into T16. They will not be affected by the proposed works as they are situated on a lower level than the proposed works supported by a retaining wall. - Tree 110. The plans provided identify T110 for removal. The proposed hard surfaces encroach by up to 30% in the TPZ and the SRZ indicating tree sensitive construction methods to retain significant tree roots could enable the retention of the tree. The tree is currently identified for removal as per the proposed plans. - Trees 145 and 146. Livistona Palm species. The proposed pathway is located within close proximity to the RIZ (refer to the notes above on RIZ) indicating the Palm may be impacted by the major encroachment. Allowing a greater setback from the trunk of up to 500mm will reduce the impact. The trees are currently identified for retention. - Tree 165. The proposed pathway location transects through the landscapes area containing significant trees. The existing levels are higher than the existing (and assumed proposed pathway) indicating grading will be required which will significantly impact the tree. A raised boardwalk section over the TPZ and SRZ will allow the retention of major tree roots and minimise the impact on the tree. The tree is currently identified for retention under tree sensitive construction methods.

9. TREE SENSITIVE CONSTRUCTION SPECIFICATIONS

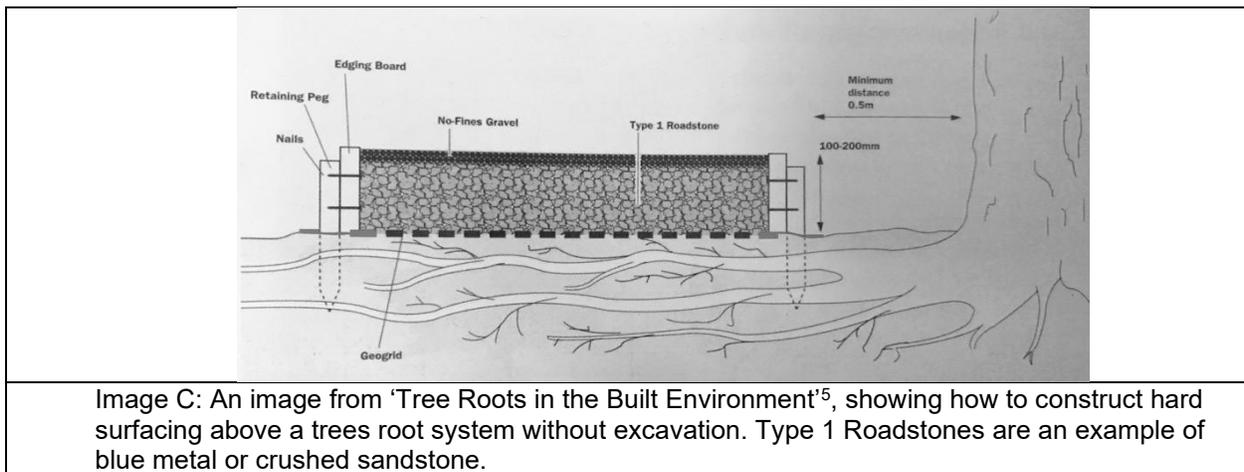
9.1 Tree Sensitive Construction Specification: The dominant source of impact from the proposed upgrades is the installation of hard surfacing. To ensure that trees identified for retention are not adversely impacted by the construction, it must be demonstrated the following design and construction specifications can be implemented within the TPZ of the trees. If the construction cannot be completed in accordance with these specifications, the trees may not be viable for retention.

9.1.1 Tree Sensitive Hard Surfacing Construction: Hard surfacing within the TPZ of the trees should be constructed in a tree sensitive method. The hard surfacing should be constructed above existing grades in the TPZ of the trees. The diagram below (Image C) gives an example of a no-excavation method for constructing

hard surfacing close to trees. The location of retaining pegs should be flexible, avoiding damage to structural roots.

If excavations are essential, they must not exceed 100mm below the existing grades. The excavations should be supervised by a project Arborist with a minimum AQF level 5 qualification. All excavations for the hard surfacing should be carried out manually to avoid impacting retained tree roots. All tree roots greater than 40mm in diameter should be retained unless the project arborist has assessed and advised that the pruning/severing of the root will not impact the condition or stability of the tree. Manual excavation may include the use of pneumatic and hydraulic tools, high-pressure air or a combination of high-pressure water and a vacuum device.

Where tree roots greater than 40mm are encountered that must be retained, the hard surfacing should be elevated over the individual tree root to allow for its retention. Examples of methods that can be used to bridge individual tree roots have been included below (Image D and E). Using pier and beam bridges as per image E is the recommended/preferred method, as it will allow for future growth of the tree roots, reducing future damage to the surfacing from the roots.



⁵ Roberts, J., Jackson, N., & Smith, M., *Tree Roots in the Built Environment*, The Stationary Office, London, England (2006). Page 305 & 306.

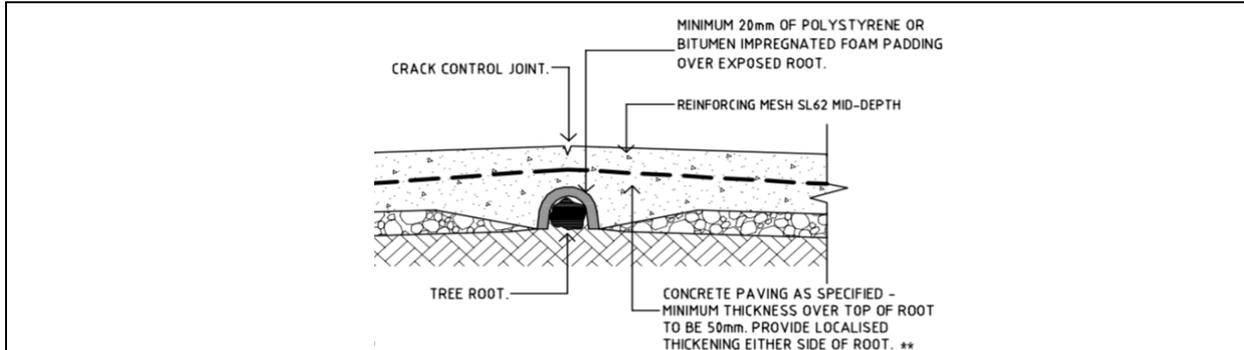


Image D: Example method for bridging concrete surfacing over tree roots provided in the Canterbury Bankstown Council standard drawings.⁶

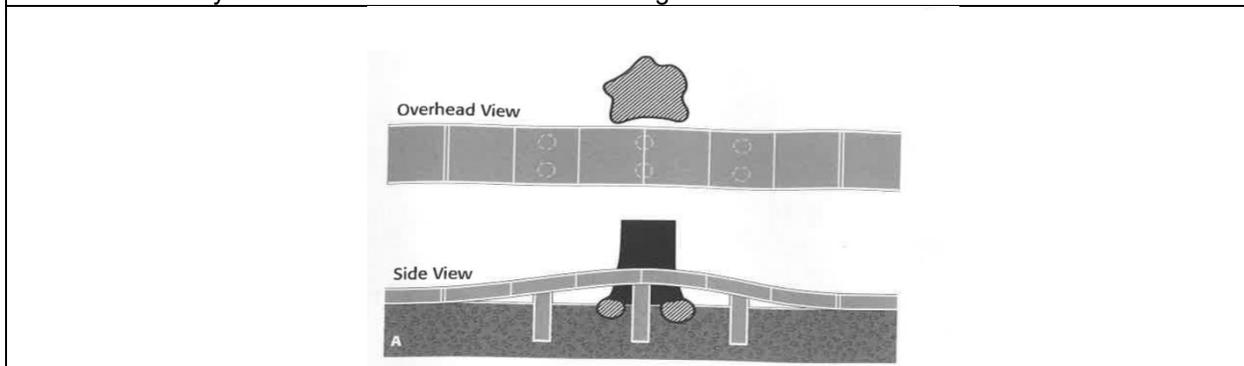


Image E: Example method from Reducing infrastructure damage by tree roots: A compendium of strategies.⁷

9.1.2 **Underground services:** AS4970 Protection of trees on development sites (2009) recommends that all underground services located inside the TPZ of any tree to be retained should be installed via tree sensitive techniques. This should include either directional drilling methods or manual excavations to minimise the impact to trees identified for retention.

If directional drilling is proposed, section 4.5.5 of AS4970-2009 says that ‘The directional drilling bore should be at least 600 mm deep. The project Arborist should assess the likely impacts of boring and bore pits on retained trees’.⁸ If manual excavations are proposed, all excavations for the services should be carried out manually under the supervision of the project Arborist (minimum qualification AQF 5). Manual excavation may include the use of pneumatic and hydraulic tools, high-pressure air or a combination of high-pressure water and a

⁶ Canterbury Bankstown Council standard drawing S-209 Existing street tree treatments, <https://www.cbccity.nsw.gov.au/development/planning-control-policies/council-standard-drawings>, accessed 3 October 2019.

⁷ Costello, L. R., & Jones, K. S, *Reducing infrastructure damage by tree roots: A compendium of strategies*, Western Chapter of the International Society of Arboriculture, 31883 Success Valley Drive, Porterville, CA (2003), page 27.

⁸ Council Of Standards Australia, *AS 4970 Protection of trees on development sites* (2009) page 18.

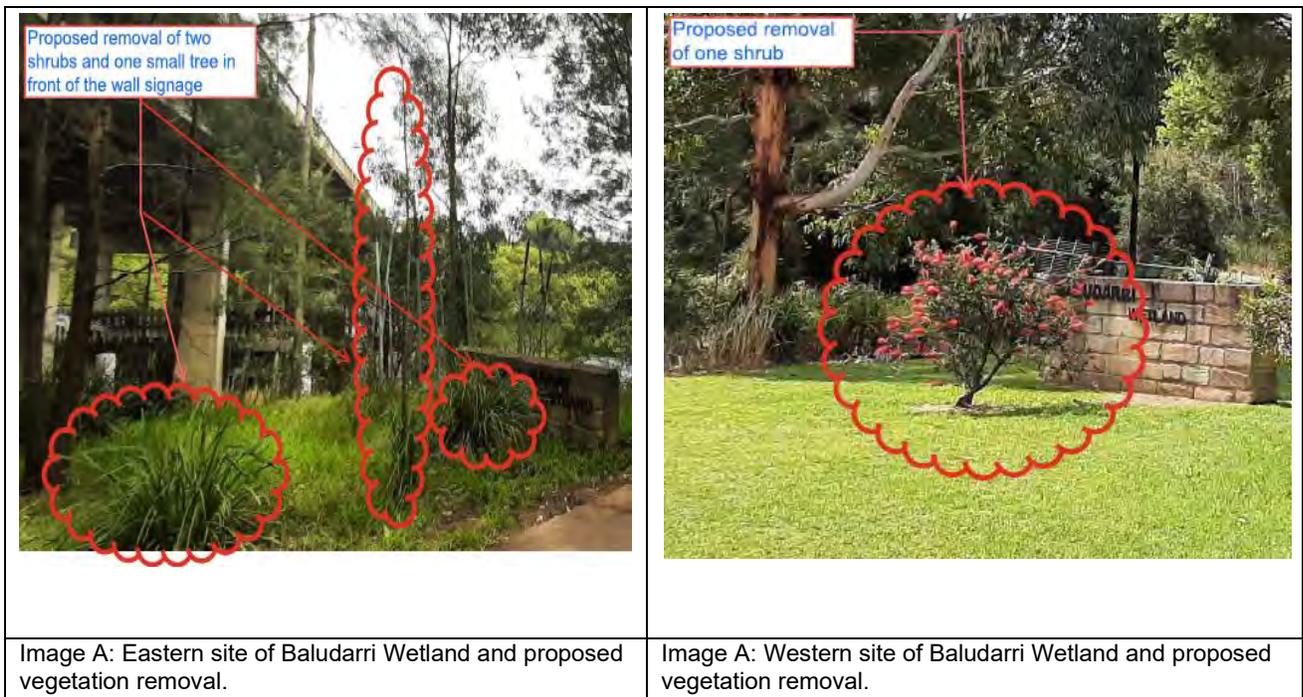
vacuum device. All roots greater than 40mm in diameter should be retained in the service trench. The service pipe should then be threaded below the retained roots where practical. Roots greater than 40mm within the alignment of the service pipe should only be severed/pruned under the approval of the project Arborist. All root pruning should be in accordance with AS4373 Pruning of amenity trees (2007). Open trenching in the SRZ of trees can be impractical without impacting significant roots, as often dense root growth is present in the SRZ. Open trenching should therefore be avoided in the SRZ. It is recommended that any section of pipe that is located in the SRZ of trees to be retained is installed via sub-surface boring/directional drilling methods only. The feasibility of sub-surface boring/directional drilling will need to be investigated by a sub-surface boring/directional drilling specialist. The project Arborist should provide advice and supervise excavations for bore pits, which must be carried out manually if located within the TPZ. The top of the pipe must be at least 600mm below the existing soil grade. The location of bore pits should be flexible in the TPZ to avoid significant roots, the project Arborist should assess and advise in writing the impact of any significant root severance to the condition of the tree.

- 9.1.3 **Tree Sensitive Pier Footings (decking and boardwalks):** To minimise root loss in the TPZ of the trees, the footings of the structures must be located to avoid significant tree roots in the TPZ and SRZ. To ensure that significant tree roots are retained, it must be demonstrated that the following construction methods can be implemented;
- All decking boards/horizontal materials are to be located on or above existing soil grades. This will allow for the majority of the root system to be retained between the posts, minimising root loss.
 - Excavations in the TPZ should be for pier footings only. All excavations for piers must be carried out manually under the supervision of the project Arborist (see section 11 for details of manual excavation and project Arborist).
 - The location of piers must be flexible to avoid significant roots (roots greater than 40mm in diameter). If practical, it is recommended that piers are located to avoid the SRZ of the trees.
 - All roots greater than 40mm in diameter must be retained unless the project arborist has assessed and approved in writing that the root(s) are not critical to the health or stability of the tree.

- 9.1.4 **Root investigations:** Where major TPZ encroachments require demonstrating the viability of trees the following method for root investigations is to be used. Non-destructive excavations are to be carried out along the outer edge of proposed or existing structures within the TPZ (excavation methods include the use of pneumatic and hydraulic tools, high-pressure air or a combination of high-pressure water and a vacuum device). Excavations generally consist of a trench to a depth dictated by the location of significant roots, bedrock, unfavourable conditions for root growth, or the required depth for footings up to 1 metre. The investigation is to be carried out by AQF5 consulting Arborist who is to record all roots greater than 40 millimetres in diameter and produce a report discussing the significance of the findings. No roots 40 millimetres in diameter are to be frayed or damaged during excavation and the trench is to be backfilled as soon as possible to reduce the risk of roots drying out. In the event roots must be left exposed they are to be wrapped in hessian sack and regularly irrigated for the duration of exposure.
- 9.2 All construction activity is recommended to comply with Australian Standard AS4970 Protection of Trees on Development Sites (2009), sections 7, 10 and 11 of this report.
- 9.3 This report does not provide approval for tree removal or pruning works. All recommendations in this report are subject to approval by the relevant authorities and/or tree owners. This report should be submitted as supporting evidence with any tree removal/pruning or development application.

10. BALUDARRI WETLANDS

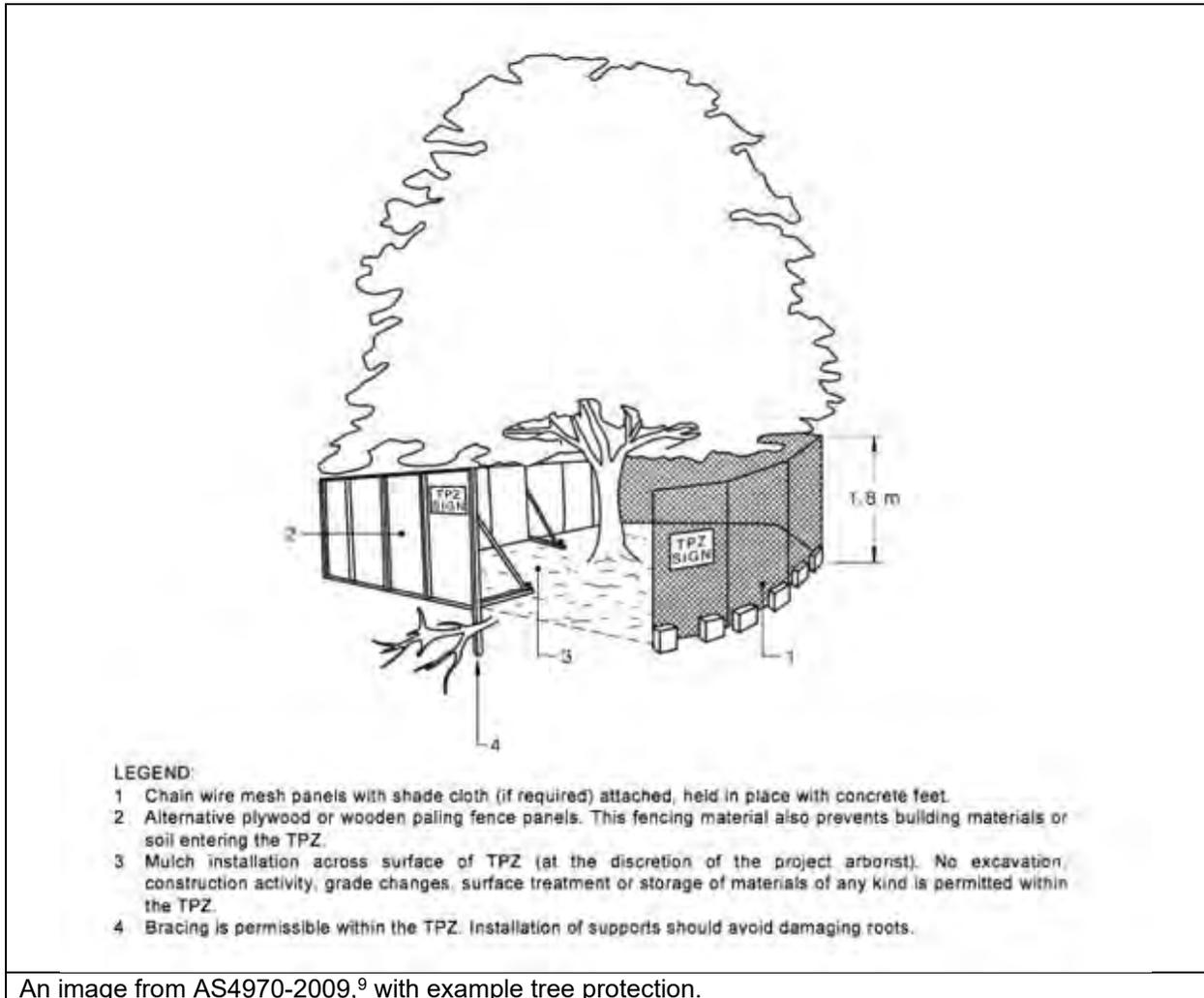
- 10.1 The works proposed in this location that affects trees is the cleaning and upgrade of the sandstone block walls at each end of the reserve which show the name of the reserve. The other proposed works consist of installing environmentally sensitive lighting that will not impact trees.
- 10.2 At the eastern side of the site, one small *Callistemon viminalis* is proposed to be removed: the tree is approximately 1 metre tall and is multi stemmed. The tree is considered to be easily replaceable.
- 10.3 To the western end of the site, two *Lomandra* grasses are proposed to be removed and one young Eucalypt Spp. The eucalypt is estimated to be less than five years old and has a height of approximately 3 metres and a stem diameter of 50 millimetres. Both the *Eucalypt* and the *Lomandra* are considered to be easily offset with replacement planting. Refer to the images below.



11. ARBORICULTURAL WORK METHOD STATEMENT (AMS) AND TREE PROTECTION REQUIREMENTS

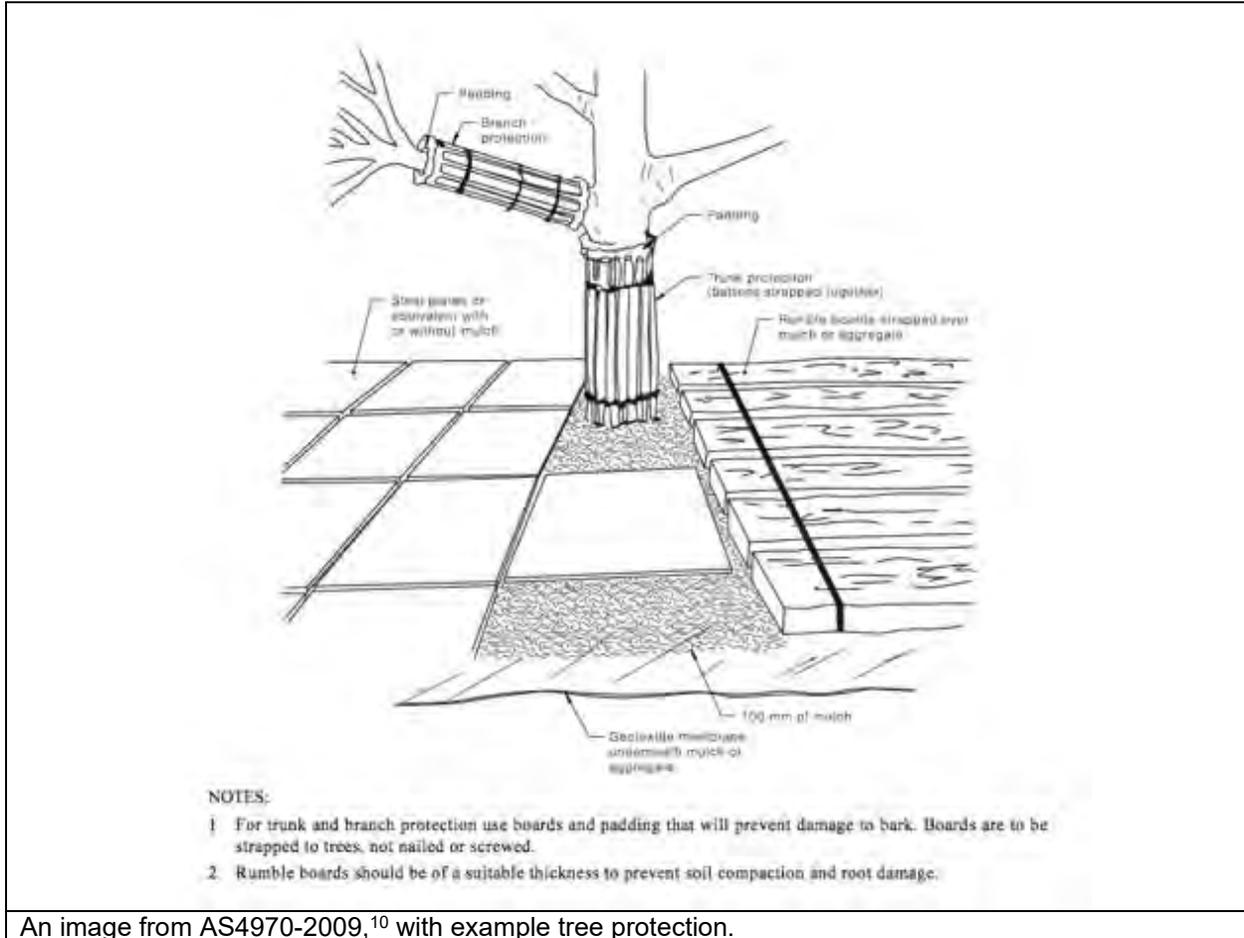
- 11.1 **Use of this report:** All contractors must be made aware of the tree protection requirements prior to commencing works at the site and be provided a copy of this report.
- 11.2 **Project Arborist:** Prior to any works commencing at the site a project Arborist should be appointed. The project Arborist should be qualified to a minimum AQF level 5 and/or equivalent qualifications and experience, and should assist with any development issues relating to trees that may arise. If at any time it is not feasible to carryout works in accordance with this, an alternative must be agreed in writing with the project Arborist.
- 11.3 **Tree work:** All tree work must be carried out by a qualified and experienced Arborist with a minimum of AQF level 3 in arboriculture, in accordance with NSW Work Cover Code of Practice for the Amenity Tree Industry (1998) and AS4373 Pruning of amenity trees (2007).
- 11.4 **Initial site meeting/on-going regular inspections:** The project Arborist is to hold a pre-construction site meeting with principle contractor to discuss methods and importance of tree protection measures and resolve any issues in relation to tree protection that may arise. In accordance with AS4970-2009, the project Arborist should carryout regular site inspections to ensure works are carried out in accordance with this document throughout the development process. I recommend regular site inspections on a frequency based on the longevity of the project, this is to be agreed in the initial meeting.
- 11.5 **Tree protection Specifications:** It is the responsibility of the principle contractor to install tree protection prior to works commencing at the site (prior to demolition works) and to ensure that the tree protection remains in adequate condition for the duration of the development. The tree protection must not be moved without prior agreement of the project Arborist. The project Arborist must inspect that the tree protection has been installed in accordance with this document and AS4970-2009 prior to works commencing.
- 11.6 **Protective fencing:** Where it is not feasible to install fencing at the specified location due to factors such restricting access to areas of the site or for constructing new structures, an alternative location and protection specification must be agreed with the project Arborist. Where the installation of fencing in unfeasible due to restrictions on space, trunk and branch protection will be required (see below). The protective fencing must be constructed of 1.8 metre 'cyclone chainmesh fence'. The fencing must only be removed for the landscaping phase and must be authorised by the project Arborist. Any modifications to the fencing locations must be approved by the project Arborist.

- 11.7 **TPZ signage:** Tree protection signage is to be attached to the protective fencing, displayed in a prominent position and the sign repeated at 10 metres intervals or closer where the fence changes direction. Each sign shall contain in a clearly legible form, the following information:
- Tree protection zone/No access.
 - This fence has been installed to prevent damage to the tree/s and their growing environment both above and below ground. Do not move fencing or enter TPZ without the agreement of the project Arborist.
 - The name, address, and telephone number of the developer/builder and project Arborist
- 11.8 **Trunk and Branch Protection:** The trunk must be protected by wrapped hessian or similar material to limit damage. Timber planks (50mm x 100mm or similar) should then be placed around tree trunk. The timber planks should be spaced at 100mm intervals, and must be fixed against the trunk with tie wire, or strapping and connections finished or covered to protect pedestrians from injury. The hessian and timber planks must not be fixed to the tree in any instance. The trunk and branch protection shall be installed prior to any work commencing on site and shall be maintained in good condition for the entire development period.
- 11.9 **Mulch:** Any areas of the TPZ located inside the subject site (only trees to be retained directly adjacent to site works must be mulched to a depth of 75mm with good quality composted wood chip/leaf mulch.
- 11.10 **Ground Protection:** Ground protection is required to protect the underlying soil structure and root system in areas where it is not practical to restrict access to whole TPZ, while allowing space for construction. Ground protection must consist of good quality composted wood chip/leaf mulch to a depth of between 150-300mm, laid on top of geo textile fabric. If vehicles are to be using the area, additional protection will be required such as rumble boards or track mats to spread the weight of the vehicle and avoid load points. Ground protection is to be specified by the project Arborist as required.



An image from AS4970-2009,⁹ with example tree protection.

⁹ Council of Standards Australia, *AS4970 Protection of trees on development sites* (2009), page 16.



An image from AS4970-2009,¹⁰ with example tree protection.

11.11 Restricted activities inside TPZ: The following activities must be avoided inside the TPZ of all trees to be retained unless approved by the project Arborist. If at any time these activities cannot be avoided an alternative must be agreed in writing with the project Arborist to minimise the impact to the tree.

- A) Machine excavation.
- B) Ripping or cultivation of soil.
- C) Storage of spoil, soil or any such materials
- D) Preparation of chemicals, including preparation of cement products.
- E) Refueling.
- F) Dumping of waste.
- G) Wash down and cleaning of equipment.
- H) Placement of fill.

¹⁰ Council of Standards Australia, *AS4970 Protection of trees on development sites* (2009), page 17.

- I) Lighting of fires.
 - J) Soil level changes.
 - K) Any physical damage to the crown, trunk, or root system.
 - L) Parking of vehicles.
- 11.12 **Demolition:** The demolition of all existing structures inside or directly adjacent to the TPZ of trees to be retained must be undertaken in consultation with the project Arborist. Any machinery is to work from inside the footprint of the existing structures or outside the TPZ, reaching in to minimise soil disturbance and compaction. If it is not feasible to locate demolition machinery outside the TPZ of trees to be retained, ground protection will be required. The demolition should be undertaken inwards into the footprint of the existing structures, sometimes referred to as the 'top down, pull back' method.
- 11.13 **Excavations and root pruning:** The project Arborist must supervise and certify that all excavations and root pruning are in accordance with AS4373-2007 and AS4970-2009. For excavations within the TPZ, manual excavation is required along the edge of the structures closest to the subject trees. Manual excavation should be a depth of 1 metre (or to unfavourable root growth conditions such as bed rock or heavy clay, if agreed by project Arborist). Next roots must be pruned back in accordance with AS4373-2007. After all root pruning is completed, machine excavation is permitted within the footprint of the structure. For tree sensitive footings, such as pier and beam, all excavations inside the TPZ must be manual. Manual excavation may include the use of pneumatic and hydraulic tools, high-pressure air or a combination of high-pressure water and a vacuum device. No pruning of roots greater 30mm in diameter is to be carried out without approval of the project arborist. All pruning of roots greater than 10mm in diameter must be carried out by a qualified Arborist/Horticulturalist with a minimum AQF level 3. Root pruning is to be a clean cut with a sharp tool in accordance with AS4373 Pruning of amenity trees (2007).¹¹ The tree root is to be pruned back to a branch root if possible. Make a clean cut and leave as small a wound as possible.
- 11.14 **Landscaping:** All landscaping works within the TPZ of trees to be retained are to be undertaken in consultation with a consulting Arborist to minimize the impact to trees. General guidance is provided below to minimise the impact of new landscaping to trees to be retained.

¹¹ Council Of Standards Australia, AS 4373 *Pruning of amenity trees* (2007) page 18

New footpaths and hard surfaces should be minimised, as they can limit the availability of water, nutrients and air to the trees root system. Where they are proposed, they should be constructed on or above existing soil grades to minimise root disturbance and consider using a permeable surface. Footpath should be located outside the SRZ.

The location of new plantings inside the TPZ of trees to be retained should be flexible to avoid unnecessary damage to tree roots greater than 30mm in diameter.

Sediment and Contamination: All contamination run off from the development such as but not limited to concrete, sediment and toxic wastes must be prevented from entering the TPZ at all times.

- 11.15 **Tree Wounding/Injury:** Any wounding or injury that occurs to a tree during the construction process will require the project Arborist to be contacted for an assessment of the injury and provide mitigation/remediation advice. It is generally accepted that trees may take many years to decline and eventually die from root damage. All repair work is to be carried out by the project Arborist, at the contractor's expense.
- 11.16 **Completion of Development Works:** After all construction works are complete the project Arborist should assess that the subject trees have been retained in the same condition and vigour. If changes to condition are identified the project Arborist should provide recommendations for remediation.

12. HOLD POINTS

12.1 **Hold Points:** Below is a sequence of hold points requiring project Arborist certification throughout the development process. It provides a list of hold points that must be checked and certified. All certification must be provided in written format upon completion of the development. The final certification must include details of any instructions for remediation undertaken during the development.

Hold Point	Stage	Responsibility	Certification	Complete Y/N and date
Project Arborist to hold pre construction site meeting with principle contractor to discuss methods and importance of tree protection measures and resolve any issues in relation to feasibility of tree protection requirements that may arise.	Prior to work commencing.	Principle contractor	Project Arborist	
Project Arborist To supervise all pruning works to retained trees.	Prior to works commencing	Principal Contractor	Project Arborist	
Project Arborist to assess and certify that tree protection has been installed in accordance with section 11 and AS4970-2009 prior to works commencing at site.	Prior to development work commencing.	Principle contractor	Project Arborist	
In accordance with AS4970-2009 the project arborist should carry out regular site inspections to ensure works are carried out in accordance with the recommendations. I recommend site inspections on a monthly frequency.	Ongoing throughout the development	Principle contractor	Project Arborist	
Project Arborist to supervise all manual excavations and demolition inside the TPZ of any tree to be retained.	Construction	Principle contractor	Project Arborist	

Hold Point	Stage	Responsibility	Certification	Complete Y/N and date
Project Arborist to certify that all pruning of roots greater than 40mm in diameter has been carried out in accordance with AS4373-2007. All root pruning must be carried out by a qualified Arborist/Horticulturalist with a minimum AQF level 3.	Construction	Principle contractor	Project Arborist	
Project Arborist to certify that all underground services including storm water inside TPZ of any tree to be retained have been installed in accordance with AS4970-2009.	Construction	Principle contractor	Project Arborist	
All landscaping works within the TPZ of trees to be retained are to be undertaken in consultation with the project Arborist to minimize the impact to trees.	Landscape	Principle contractor	Project Arborist	
After all construction works are complete the project Arborist should assess that the subject trees have been retained in the same condition and vigor and authorize the removal of protective fencing. If changes to condition are identified the project Arborist should provide recommendations for remediation.	Upon completion of construction	Principle contractor	Project Arborist	
Any wounding or injury that occurs to a tree during the demolition/construction process will require the project arborist to be contacted for an assessment of the injury and provide mitigation/remediation advice. All remediation work is to be carried out by the project arborist, at the contractor's expense.	Ongoing throughout the development	Principle contractor	Project Arborist	

13. BIBLIOGRAPHY/REFERENCES

- Council of Standards Australia, *AS4970 Protection of trees on development sites* (2009).
- Council of Standards Australia, *AS4373 Pruning of amenity trees* (2007).
- Mattheck, C. & Breloer, H., *The body language of trees - A handbook for failure analysis*, The Stationary Office, London, England (1994).
- Barrell Tree Consultancy, *SULE: Its use and status into the New Millennium*, TreeAZ/03/2001, <http://www.treeaz.com/>.
- Barrell Tree Consultancy, *Tree AZ version 10.10-ANZ*, <http://www.treeaz.com/>.
- <http://www.innerwest.nsw.gov.au>
- *Roberts J, Jackson N, Smith M, Tree Roots in the Built Environment*. TSO 2006.
Urban J, Up By Roots, ISA 2008.
- Parramatta Local Environmental Plan (LEP) 2011
- Parramatta Development Control Plan (DCP) 2011
- State Environmental Planning Policy (Biodiversity and Conservation) 2021

14. LIST OF APPENDICES

The following are included in the appendices that have been provided as separate documents to this report:

- Appendix 1 - Proposed Site Plans
- Appendix 2 – Tree Inspection Schedules
- Appendix 3 – Health
- Appendix 4 – Amenity/Landscape Value
- Appendix 5 – Age Class
- Appendix 6 – Structural Condition
- Appendix 7 – SULE Categories
- Appendix 8 – Tree AZ Values
- Appendix 9 – TPZ Encroachment

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Flora and Fauna Assessment

Eastern Parramatta River & CBD Precinct Cycleway

Prepared for: City of Parramatta Council

Report Date: September 2025



Document Control

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GLOSSARY

Abbreviation	Definition
amsl	Above mean sea level
BAM	Biodiversity Assessment Method 2020
BC Act	<i>Biodiversity Conservation Act 2016 (NSW)</i>
BDAR	Biodiversity Development Assessment Report
BOM	Bureau of Meteorology
DBH	Diameter at Breast Height
DCCEEW	Department of Climate Change, the Environment and Water
DPE	Department of Planning and Environment
DPI	Department of Primary Industries
DPIE	Department of Planning, Industry and Environment
ECE	East Coast Ecology
EP&A Act	<i>Environmental Planning & Assessment Act 1979 (NSW)</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
FFA	Flora and Fauna Assessment
FM Act	<i>Fisheries Management Act 1994</i>
ha	Hectares
km	Kilometres
LGA	Local Government Area
Locality	The same meaning when describing a local population of a species or local occurrence of an ecological community.
m	metres
mm	millimetres
MNES	Matters of National Environmental Significance
NSW	New South Wales
PCT	Plant Community Type
SEPP	State Environmental Planning Policy
SIS	Species Impact Statement
Subject Land	The land depicted in Figure 1 - Figure 6.
TEC	Threatened Ecological Community
TfNSW	Transport for NSW

1. INTRODUCTION

1.1 The Proposed Activity

The City of Parramatta Council proposes to upgrade the existing Eastern Parramatta River and CBD Precinct Cycleway. The current cycleway stretches over 15km alongside the Parramatta River and is an important asset and public facility of the Parramatta CBD. The proposal is concentrated within the following five separate site locations along the existing cycleway:

- Rangihou Reserve, Parramatta
- Baludarri Wetlands, Parramatta
- Ried Park, Rydalmere
- Royal Shores, Ermington, and
- George Kendall Riverside Park, Ermington.

These areas been identified as high priority for upgrade due to an increase in cyclist and pedestrian usage.

Key features of the proposed activity would include the following scope of works:

- Resurfacing and widening of the existing pathway
- Installation of new public seating
- Replacement of existing fencing with sandstone retaining walls, and
- Installation of new light poles and LED handrail lights.

To facilitate the proposed activity, removal of native vegetation will be required. East Coast Ecology Pty Ltd (ECE) was commissioned by City of Parramatta Council to prepare a Flora and Fauna Assessment (FFA) to assess the works associated with the proposed activity.

1.2 The Subject Land

The area assessed within this report is referred to as the 'Subject Land' and has been defined by the extent of construction including proposed path extensions and lighting upgrades as depicted in the Concept Design Plans (City of Parramatta Council, 2024) (**Appendix A**).

The location of the proposed activity is depicted in **Figure 1- Figure 6**.



Figure 1. The Subject Land (Rangihou Reserve).

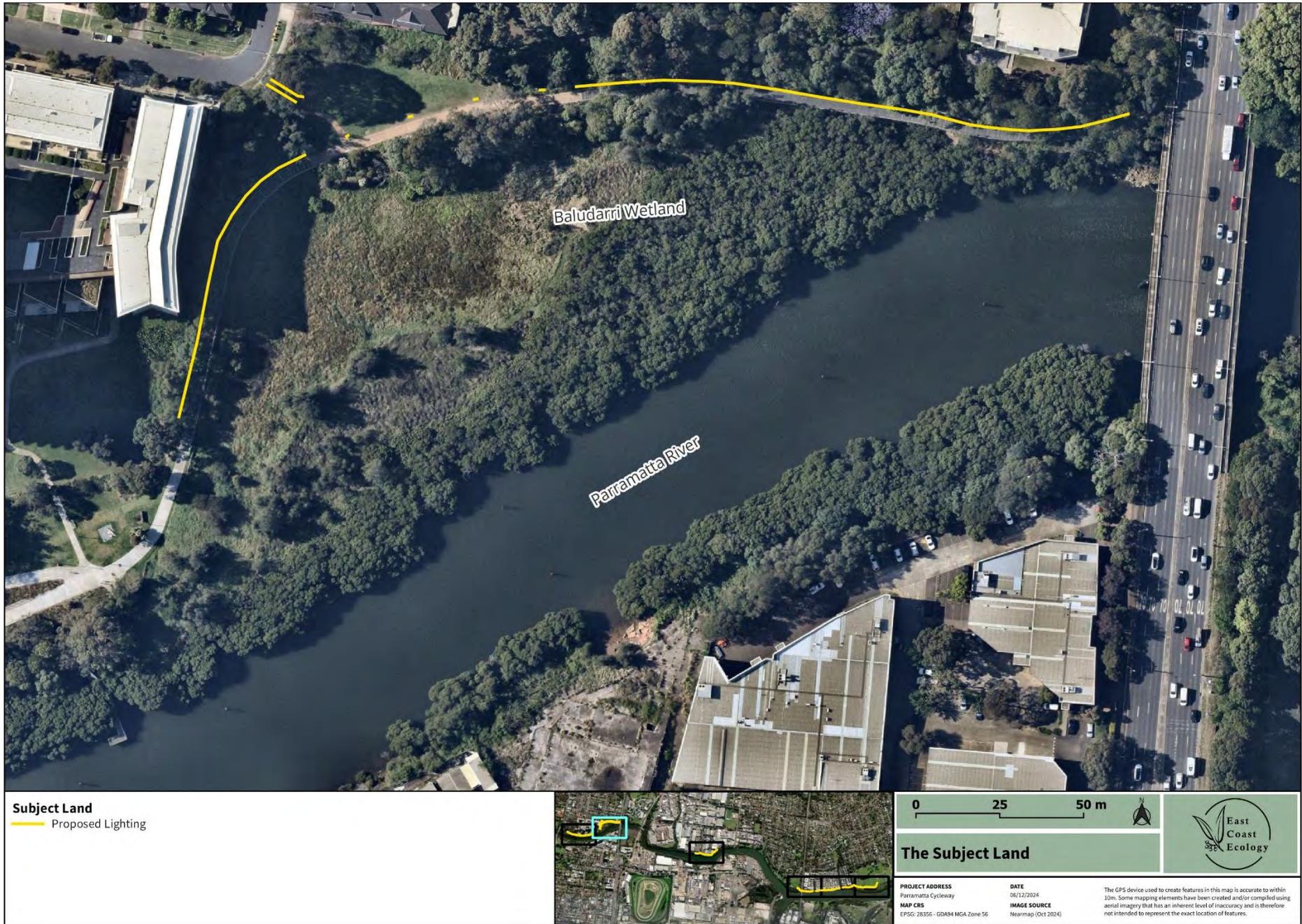


Figure 2. The Subject Land (Baludarri Wetland).



Figure 3. The Subject Land (Reid Park).

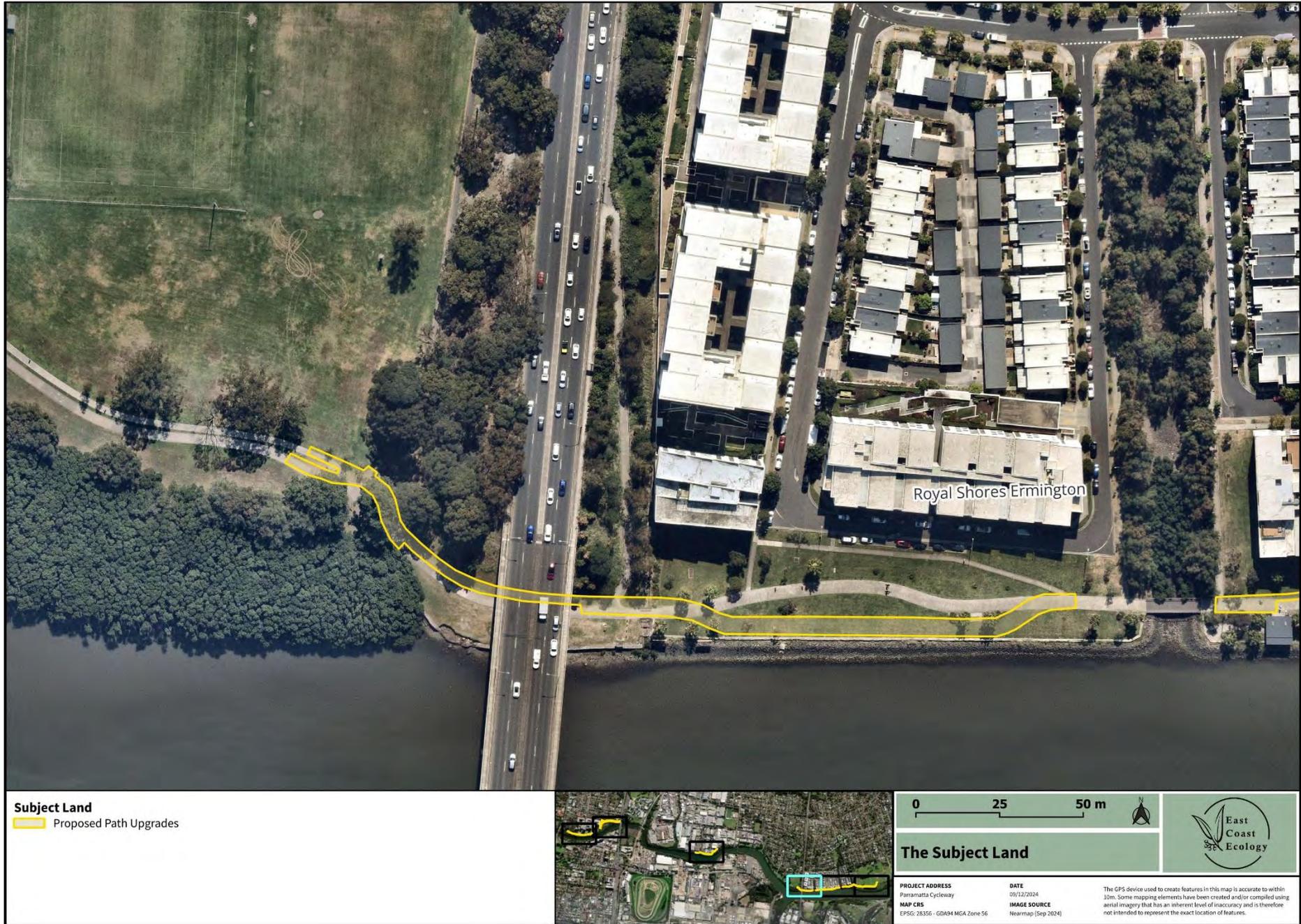


Figure 4. The Subject Land (Royal Shores Ermington).

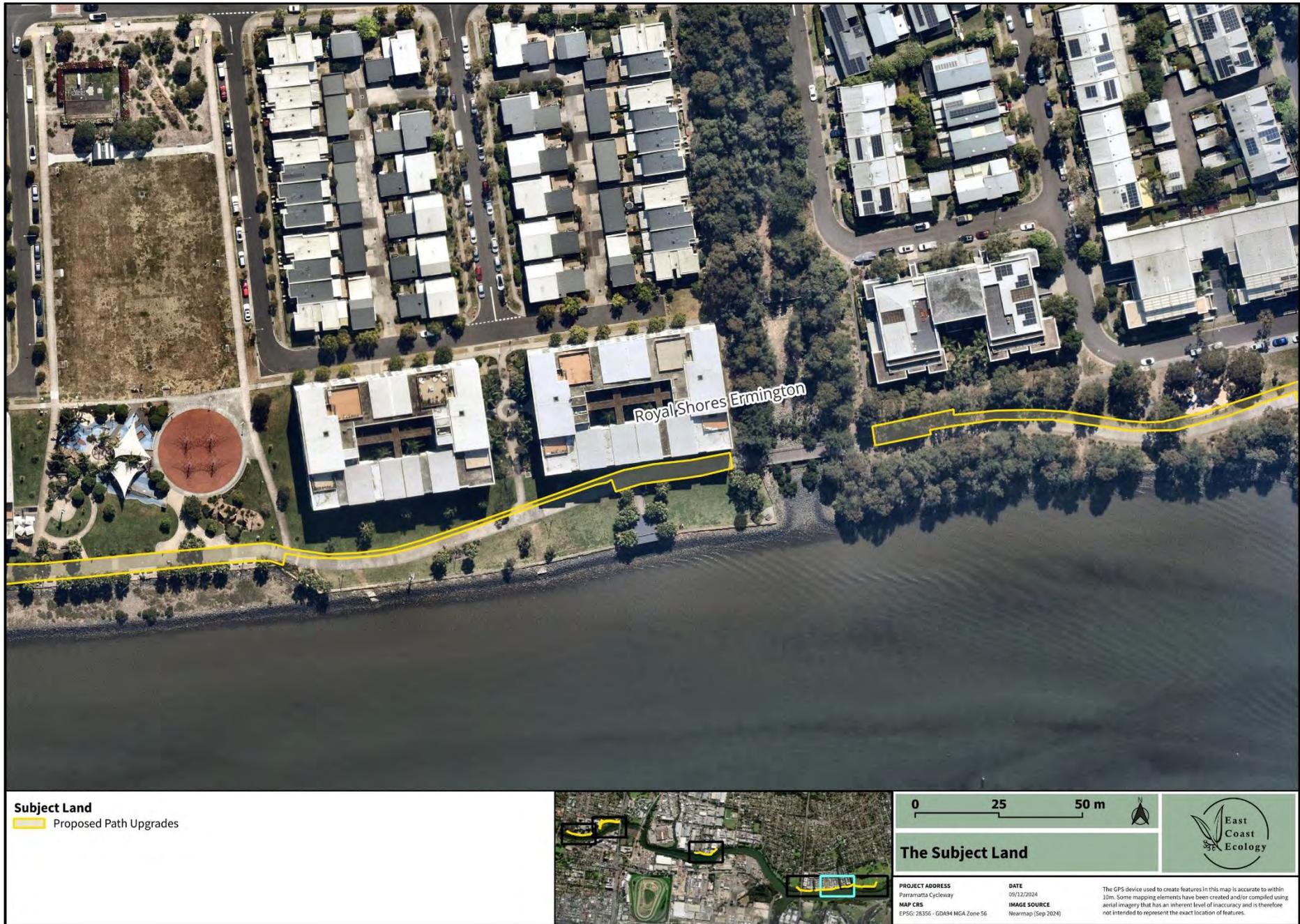


Figure 5. The Subject Land (Royal Shores Ermington).

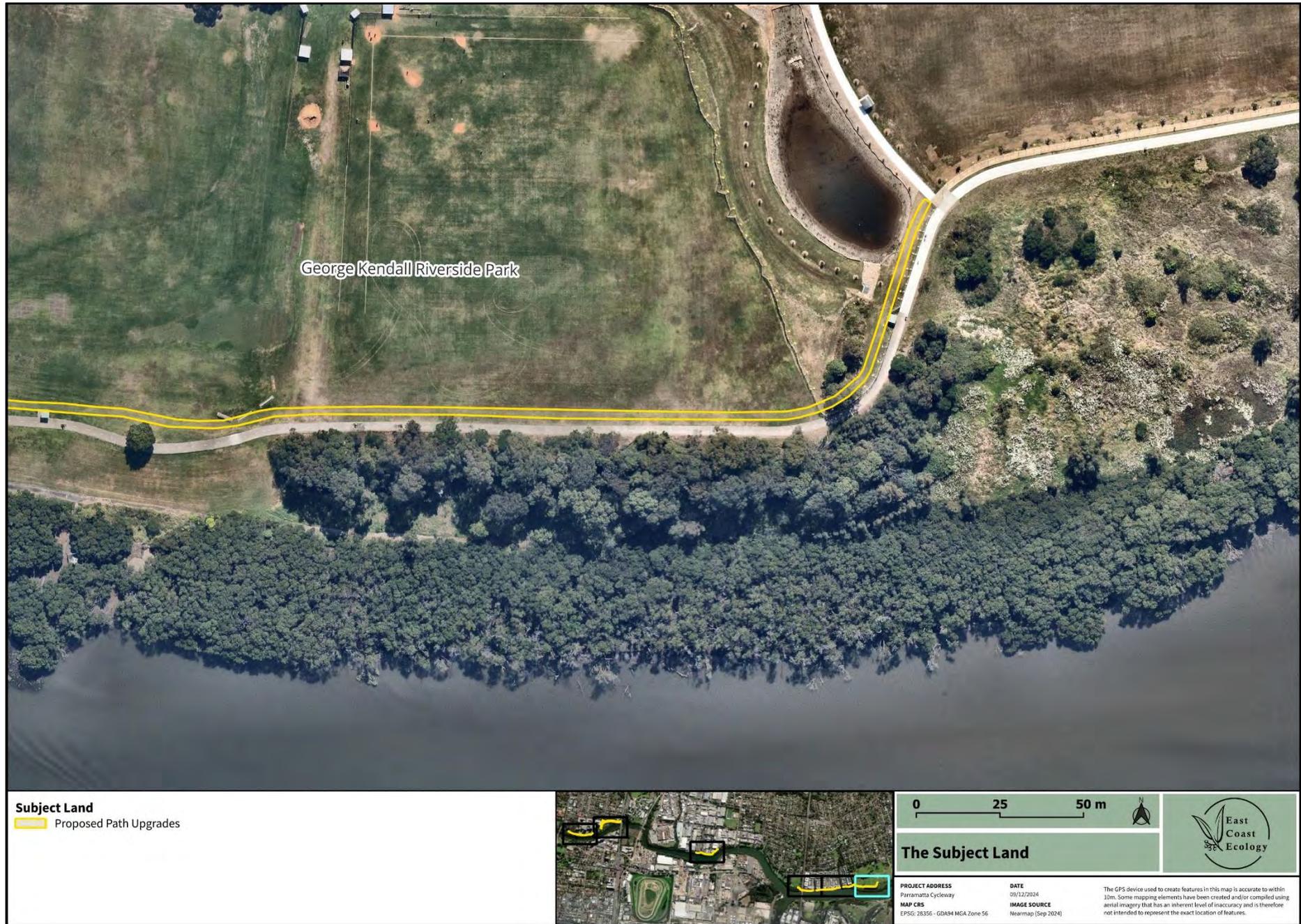


Figure 6. The Subject Land (George Kendall Riverside Park).

1.3 Legislative Context

1.3.1 *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*

The Commonwealth EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places which are considered Matters of National Environmental Significance (MNES). Under the EPBC Act, approval is required for actions that have, will have, or are likely to have a significant impact on MNES.

Several EPBC listed threatened species have potential to utilise the Subject Land. The proposed activity will not result in a 'significant impact' on any MNES and a referral to the Australian Government Minister for the Environment is not required.

1.3.2 *Environmental Planning and Assessment Act 1979*

The *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) establishes the system of environmental planning and assessment in NSW. The proposed activity is being assessed under Division 5.1 of the EP&A Act via a Review of Environment Factors (REF). This report provides input into the REF and environmental impact assessment process by providing assessment specific to matters of biodiversity.

1.3.3 *Biodiversity Conservation Act 2016*

The BC Act (NSW) seeks to conserve biological diversity and promote ecologically sustainable development, to prevent extinction and promote recovery of threatened species, populations and ecological communities and to protect areas of outstanding biodiversity value.

Several BC Act listed threatened species have the potential to occur within, or utilise, the Subject Land. The BC Act requires that the significance of the impact on threatened species, populations and threatened ecological communities is assessed using the test listed in Section 7.3 of the BC Act. Where a significant impact is likely to occur, a Species Impact Statement (SIS) must be prepared in accordance with the Environment Agency Head's requirements, or a Biodiversity Development Assessment Report (BDAR) must be prepared by an accredited assessor in accordance with the Biodiversity Assessment Method (BAM) (DPE, 2020a). The proposed activity will not result in a 'significant impact' on any threatened entities and therefore the Biodiversity Offset Scheme is not triggered (**Appendix C**). As such, an SIS or a BDAR is not required. The Subject Land is not located within any Areas of Outstanding Biodiversity Value.

1.3.4 *Biosecurity Act 2015*

The *Biosecurity Act 2015* (NSW) provides a framework for the prevention, elimination and minimisation of biosecurity risks posed by an activity as a matter of biosecurity. As defined in Part 3, section 23 of this Act, any non-conformance by an individual is defined as guilty of an offence.

No priority weeds for the Greater Sydney Region were identified within the Subject Land.

Suitable mitigation measures (**Section 7.2**) have been provided to manage weeds within the impact areas in accordance with the *Biosecurity Act 2015*, should they be identified in future.

1.3.5 Water Management Act 2000

The main objective of the *Water Management Act 2000* (NSW) (WM Act) is to manage NSW water in a sustainable and integrated manner that will benefit today's generations without compromising future generations' ability to meet their needs. Section 91E of the Act establishes an approval regime for controlled activities within waterfront land. However, clause 41 of the Water Management (General) Regulation 2018 provides an exemption for public authorities in relation to all controlled activities on waterfront land. Therefore, approval under the WM Act is not required.

1.3.6 Fisheries Management Act 1994

The *Fisheries Management Act 1994* (NSW) (FM Act) aims to conserve, develop and share the fishery resources of NSW for the benefit of present and future generations including conserving fish stocks and key fish habitats and promoting ecologically sustainable development. No Key Fish Habitat (KFH) was identified within the Subject Land. The closest KFH is mapped within the Parramatta River, immediately adjoining the Subject Land, however, no impact to KFH is expected.

1.3.7 State Environmental Planning Policy (Biodiversity and Conservation) 2021

On 1 March 2022, the State Environmental Planning Policy (Biodiversity Conservation) 2021 (Biodiversity Conservation SEPP) came into effect, consolidating and repealing several former State Environmental Planning Policies (SEPPs) and Regional Environmental Plans (REPs) relating to biodiversity in NSW. Specifically, Chapters 3 and 4 of the Biodiversity Conservation SEPP incorporate the Koala SEPP 2020 and Koala SEPP 2021, respectively. Neither Chapter 3, nor Chapter 4 of the Biodiversity Conservation SEPP apply to the Hills Shire LGA.

Chapter 2 aims to protect the biodiversity values of trees and other vegetation in non-rural areas of the State, and to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation. Chapter 2 does apply to City of Parramatta, however, as the proposal does not require development consent in accordance with the State Environmental Planning Policy (Transport and Infrastructure) 2021, the Biodiversity Conservation SEPP does not apply to the proposal. Regardless, this document has been considered when assessing potential impacts on trees and vegetation.

1.3.8 State Environmental Planning Policy (Resilience and Hazards) 2021

The State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP) commenced on the 1st of March 2022 and replaces the following former SEPPs:

- State Environmental Planning Policy (Coastal Management) 2018
- State Environmental Planning Policy 33 – Hazardous and Offensive Development, and
- State Environmental Planning Policy 55 – Remediation of Land.

The Subject Land is situated within land mapped under the following areas:

- 'Coastal Use Area'
- 'Coastal Environment Area' and,
- 'Proximity to coastal wetlands or littoral rainforest'.

Compliance with the controls listed under Division 4 – Coastal Use Area are discussed in the REF. The following subsections details the criteria (biodiversity specific) of this SEPP that applies.

1.3.8.1 Development on land within the coastal environment area

- (1) Development consent must not be granted to development on land that is within the coastal environment area unless the consent authority has considered whether the proposed development is likely to cause an adverse impact on the following:
 - (a) the integrity and resilience of the biophysical, hydrological (surface and groundwater) and ecological environment
 - (b) coastal environmental values and natural coastal processes
 - (c) the water quality of the marine estate (within the meaning of the Marine Estate Management Act 2014), in particular, the cumulative impacts of the proposed development on any of the sensitive coastal lakes identified in Schedule 1,
 - (d) marine vegetation, native vegetation and fauna and their habitats, undeveloped headlands and rock platforms,
 - (e) existing public open space and safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,
 - (f) Aboriginal cultural heritage, practices and places,
 - (g) the use of the surf zone
- (2) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:
 - (a) the development is designed, sited and will be managed to avoid an adverse impact referred to in subclause (1), or
 - (b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or
 - (c) if that impact cannot be minimised—the development will be managed to mitigate that impact

The proposed activity is an extension of an existing pathway within a highly modified landscape. Any further degradation of the coastal environmental values and natural coastal processes is unlikely given the existing state of the Subject Land. Subject to mitigation measures, no further impacts to the coastal environment area are anticipated as a result of the proposal.

1.3.8.2 Development on land in proximity to coastal wetlands or littoral rainforest

Development consent must not be granted to development on land identified as “proximity area for coastal wetlands” or “proximity area for littoral rainforest” on the Coastal Wetlands and Littoral Rainforests Area Map unless the consent authority is satisfied that the proposed development will not significantly impact on

- (a) the biophysical, hydrological or ecological integrity of the adjacent coastal wetland or littoral rainforest, or
- (b) the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland or littoral rainforest.

The proposed activity has been specifically designed to avoid impacts to Coastal Wetlands. Given the proposed activity is an extension of an existing pathway within a highly modified landscape, no changes to the quantity and quality of surface and groundwater flows that feed adjoining coastal wetlands are expected. The biophysical, hydrological and ecological integrity of the Coastal Wetlands will not be adversely affected by the proposed activity.

2. METHODOLOGY

2.1 Background Research

A thorough literature review of local information relevant to the Subject Land was undertaken. Searches using NSW Wildlife Atlas (BioNet) (NSW DCCEEW, 2024a) and the Commonwealth Protected Matters Search Tool (PMST) (DCCEEW, 2024) were conducted to identify all current threatened flora and fauna, as well as migratory fauna records, within a 5km radius of the Subject Land. These data were used to assist in establishing the presence or likelihood of any ecological values as occurring on or adjacent to the Subject Land and helped inform our ecologists on what to look for during the site assessment.

Soil landscape and geological mapping, as well as existing vegetation mapping, were examined to assist in determining whether any threatened flora or ecological communities could be present. The following technical resources were comprised in the preparation of this report:

- State and Commonwealth datasets:
 - EPBC Protected Matters Search Tool (DCCEEW, 2024)
 - NSW BioNet. The website of the Atlas of NSW Wildlife (NSW DCCEEW, 2024a)
 - NSW BioNet. Threatened Biodiversity Data Collection (NSW DCCEEW, 2024b)
 - NSW BioNet. Vegetation Classification System (NSW DCCEEW, 2024c)
 - NSW Government Spatial Services: Search and Discovery - Historical, Aerial and Satellite Imagery (Spatial Services, 2024a)
 - NSW Government Spatial Services: Six Maps Clip & Ship (Spatial Services, 2024b)
 - Key Fish Habitat Maps – Sydney Metro (DPI, 2024b)
- Vegetation and soil mapping:
 - The NSW State Vegetation Type Map (NSW DCCEEW, 2024d)
 - eSPADE v2.2.0 (NSW DCCEEW, 2024f)
- NSW State guidelines:
 - Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method (DPE, 2020a)
 - Threatened Species Survey and Assessment: Guidelines for developments and activities. Working Draft (DEC, 2004)

Species from both the BioNet and PMST online searches were combined to produce a list of threatened species, populations and communities that are likely to occur within the Subject Land (**Appendix B**).

2.2 Scope of Assessment

The overarching objective of this assessment was to evaluate the ecological values that occur within the Subject Land and identify how the proposed activity satisfies the relevant planning framework. This report discerns the likelihood of occurrence of any threatened entities (i.e. ecological communities and species) listed under the *Biodiversity Conservation Act 2016* (NSW) (BC Act) and the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The full scope of the assessment included:

- Background research to determine the likelihood for NSW and/ or Commonwealth threatened biota to occur within the Subject Land during any point of their lifecycle
- Assess any potential impacts to species and/ or communities listed under the BC Act and EPBC Act, including the Long-nosed bandicoot, North Head - endangered population,
- Establishing the likelihood of occurrence of migratory species and threatened ecological communities (TEC) as listed under the BC Act and/ or the EPBC Act
- Identifying and mapping the distribution of vegetation communities within the Subject Land
- Recording presence and the extent of any known or potential fauna habitat features such as nests, dreys, caves, crevices, culverts, pools, soaks, flowering trees, fruiting trees or hollow-bearing trees and provide recommendations for on-going management of these habitat features and any fauna present
- Determining potential ecological impacts or risks that may result due to the proposed works, and
- Recommendation of any controls or additional actions to be taken to protect or improve environmental outcomes of the activity.

2.3 Limitations

Not all flora and fauna species could be directly surveyed for during the site assessment. These species include nocturnal fauna and cryptic flora with flowering times outside of the survey period. The presence of nocturnal and cryptic species was assessed based on habitat constraints and historical records

2.4 Native Vegetation, Threatened Ecological Communities and Vegetation Integrity Methods

2.4.1 Existing Information

A review of the State Vegetation Type Map (NSW DCCEEW, 2024d) was used to assist in the identification of Plant Community Types (PCTs) within and surrounding the Subject Land. The PCT of 'best-fit' was determined based on the floristic descriptions within the Vegetation Classification System database (NSW DCCEEW, 2024c).

2.4.2 Mapping Native Vegetation Extent

The extent of native vegetation within the Subject Land was determined through a field assessment with the aid of a GPS-enabled tablet.

2.5 Threatened Flora Survey Methods

2.5.1 Review of Existing Information

Threatened flora with potential to occur within the Subject Land and immediate surrounds were identified following review of BioNet and the PMST. Soil mapping (NSW DCCEEW, 2024e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened flora.

2.5.2 Field Surveys

To determine whether any threatened flora or their habitats were present, a survey was undertaken using parallel field traverses in accordance with the ‘Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method’ (DPE, 2020a).

2.6 Threatened Fauna Survey Methods

2.6.1 Review of Existing Information

Threatened fauna with potential to occur within the Subject Land and immediate surrounds were identified following review of BioNet and the PMST. Soil mapping (NSW DCCEEW, 2024e) and topography (Google Earth) were also used to provide further context on habitat constraints for threatened fauna.

2.6.2 Habitat Constraints

A field survey was undertaken to identify any habitat constraints (e.g. waterbodies, rocky areas, tree hollows), including microhabitat, present within the Subject Land and immediate surrounds. Potential habitat constraints within the broader area (500m buffer) were assessed using Google Earth, historical aerial imagery (Spatial Services, 2024a), soil landscape mapping (NSW DCCEEW, 2024e) and recent vegetation mapping (NSW DCCEEW, 2024b).

2.6.3 Field Surveys

No targeted surveys for fauna were undertaken. To determine whether any threatened fauna species were present, targeted habitat surveys were undertaken using parallel field traverses.

2.7 Weather Conditions

Surveys were undertaken on 3rd December 2024 within and immediately surrounding the Subject Land. Weather conditions taken from the nearest weather station (Parramatta (station 066124) in the lead up and during the field survey are outlined in **Table 1**.

Table 1. Weather conditions taken from the nearest weather stations (Station number 066124) in the lead up and during the field survey (BOM, 2024).

Timing/activities	Date	Day	Temperature (°C)		Rainfall (mm)
			Min	Max	
Lead up to the survey	26/12/2024	Tuesday	19	37.5	0
	27/12/2024	Wednesday	19.8	37	0
	28/12/2024	Thursday	21.8	29.2	2
	29/12/2024	Friday	21	22.8	3.8
	30/12/2024	Saturday	20.5	26	14.6
	01/12/2024	Sunday	20.2	31.5	1.4
	02/12/2024	Monday	18.8	36	5.2
Site Assessment	03/12/2024	Tuesday	20.5	32.5	0

2.8 Permits and Licences

The biodiversity assessment was conducted under the terms of ECE's Scientific Licence issued by the NSW Department of Planning and Environment (SL102667). Fauna survey was conducted under approval RVF22/2367 from the NSW Animal Care and Ethics Committee.

3. SITE CONTEXT

3.1 Landscape Features

3.1.1 IBRA Bioregion and subregion

The Subject Land is situated within the Parramatta Local Government Area (LGA) and lies partly within the Cumberland and the Pittwater Interim Biogeographic Regionalisation for Australia (IBRA) Subregions, within the Sydney Basin IBRA Bioregion.

3.1.2 Rivers, streams, estuaries and wetlands

The Subject Land does not intersect with any mapped or unmapped watercourses.

Parramatta River, a fourth-order stream, adjoins to the south of the Subject Land. The Subject Land is therefore located within its associated 40m riparian buffer zone.

3.1.3 Topography, Geology and Soils

The Subject Land occurs on a consistent gradient across all areas of 7m above sea level (asl). The Subject Land is mapped as occurring on the 'Lucas Heights' soil landscape, characterised by gently undulating crests and ridges of interbedded shale on plateau surfaces of the Mittagong formation.

3.1.4 Karst, Caves, Crevices, Cliffs, Rocks or Other of Geological Features of Significance

The Subject Land did not contain areas of geological significance (karsts, caves, cliffs and crevices). The Subject Land, and surrounding area (500m buffer), is mapped as occurring on acid sulfate soils and/or having a risk/ probability of exhibiting occurrence of acid sulfate soils.

3.1.5 Areas of Outstanding Biodiversity Value

No Areas of Outstanding Biodiversity Value (AOBV) occur within the Subject Land.

3.1.6 NSW (Mitchell) Landscapes

Mitchell Landscapes (Mitchell, 2002) groups ecosystems into meso-ecosystems representing larger natural entities based on topography and geology. The naming of ecosystems and meso-ecosystems was standardised so that each name provided location information and a meaningful descriptive landscape term. The Subject Land occurs within the 'Port Jackson Basin' and 'Ashfield Plains' Mitchell Landscape Ecosystem.

3.1.6.1 Port Jackson Basin

Deep elongated harbour with steep cliffed margins on horizontal Triassic quartz sandstone. Small pocket beaches and more extensive Quaternary estuary fill of muddy sand at the head of most tributary streams. General elevation 0 to 80m, local relief 10 to 50m. Sandstone slopes and cliffs have patches of uniform or gradational sandy soil on narrow benches and within joint crevices that support forest and woodland of Sydney Peppermint (*Eucalyptus piperita*), Smooth-barked Apple (*Angophora costata*), Red Bloodwood (*Corymbia gummifera*) and Blackbutt (*Eucalyptus pilularis*). Sheltered gullies contain some Turpentine

(*Syncarpia glomulifera*), Coachwood (*Ceratopetalum apetalum*) and Water Gum (*Tristaniopsis laurina*). Estuarine sands were originally dominated by saltmarsh but have been taken over by Grey Mangrove (*Avicennia marina*) in the past century.

3.1.6.2 Ashfield Plains

Undulating hills and valleys on horizontal Triassic shale and siltstone, occasional quartz sandstones especially near the margin of the Port Jackson landscape. Coastal extension of the Cumberland Plain landscape. Red and brown texture-contrast soils on crests grading to yellow harsh texture-contrast soils in valleys. Open forest of Broad-leaved Ironbark (*Eucalyptus fibrosa ssp. fibrosa*), Grey Box (*Eucalyptus moluccana*), with Tea-tree (*Leptospermum sp.*) along creeks and forests of Turpentine (*Syncarpia glomulifera*), Red Mahogany (*Eucalyptus resinifera*), Grey gum (*Eucalyptus punctata*), Sydney Blue Gum (*Eucalyptus saligna*) and Blackbutt (*Eucalyptus pilularis*) with a grassy understorey of Kangaroo Grass (*Themeda triandra*) on moister sites.

4. RESULTS: NATIVE VEGETATION

4.1 Plant Community Types

4.1.1 Historically Mapped Vegetation

The State Vegetation Type Map (NSW DCCEE, 2024d) indicated the presence of four Plant Community Types (PCT) in proximity to the Subject Land:

- PCT 3595: Sydney Coastal Sandstone Gully Forest
- PCT 4028: Estuarine Swamp Oak Twig-rush Forest
- PCT 4091: Grey mangrove-River Mangrove Forest, and
- PCT 4097: Samphire Saltmarsh

The following PCTs are associated with the below threatened ecological communities (TEC):

- PCT 4028:
 - Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions (BC Act Listed; Endangered)
 - Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and Southeast Queensland ecological community (EPBC Act Listed; Endangered)
- PCT 4097:
 - Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions (BC Act Listed; Endangered), and
 - Subtropical and Temperate Coastal Saltmarsh (EPBC Act Listed; Vulnerable)

The State Vegetation Type Map is presented in **Figure 7 - Figure 12**.

4.1.2 Field-validated Vegetation

Site assessment determined the presence of one PCT within the Subject Land:

- PCT 4006: Northern Paperbark-Swamp Mahogany Saw-sedge Forest

Native vegetation within the Subject Land has been assessed as aligning with the BioNet Vegetation Classification PCT identified within **Table 2**. A detailed description of the PCT is provided in the following subsections. One novel vegetation type was allocated to exotic and/or planted vegetation that could not be assigned to a PCT:

- Exotic/Ornamental Grasses

The vegetation within the Subject Land is detailed in **Table 3** and presented in **Figure 13- Figure 18**.

Table 2. PCT identified within the Subject Land.

PCT ID	PCT Scientific Name	Area within the Subject Land
4006	Northern Paperbark Swamp Mahogany Saw-sedge Forest	33 trees (0.09ha)



Figure 7. Vegetation Communities within and surrounding the Subject Land (Rangihou Reserve).



Figure 8. Vegetation Communities within and surrounding the Subject Land (Baludarri Wetland).

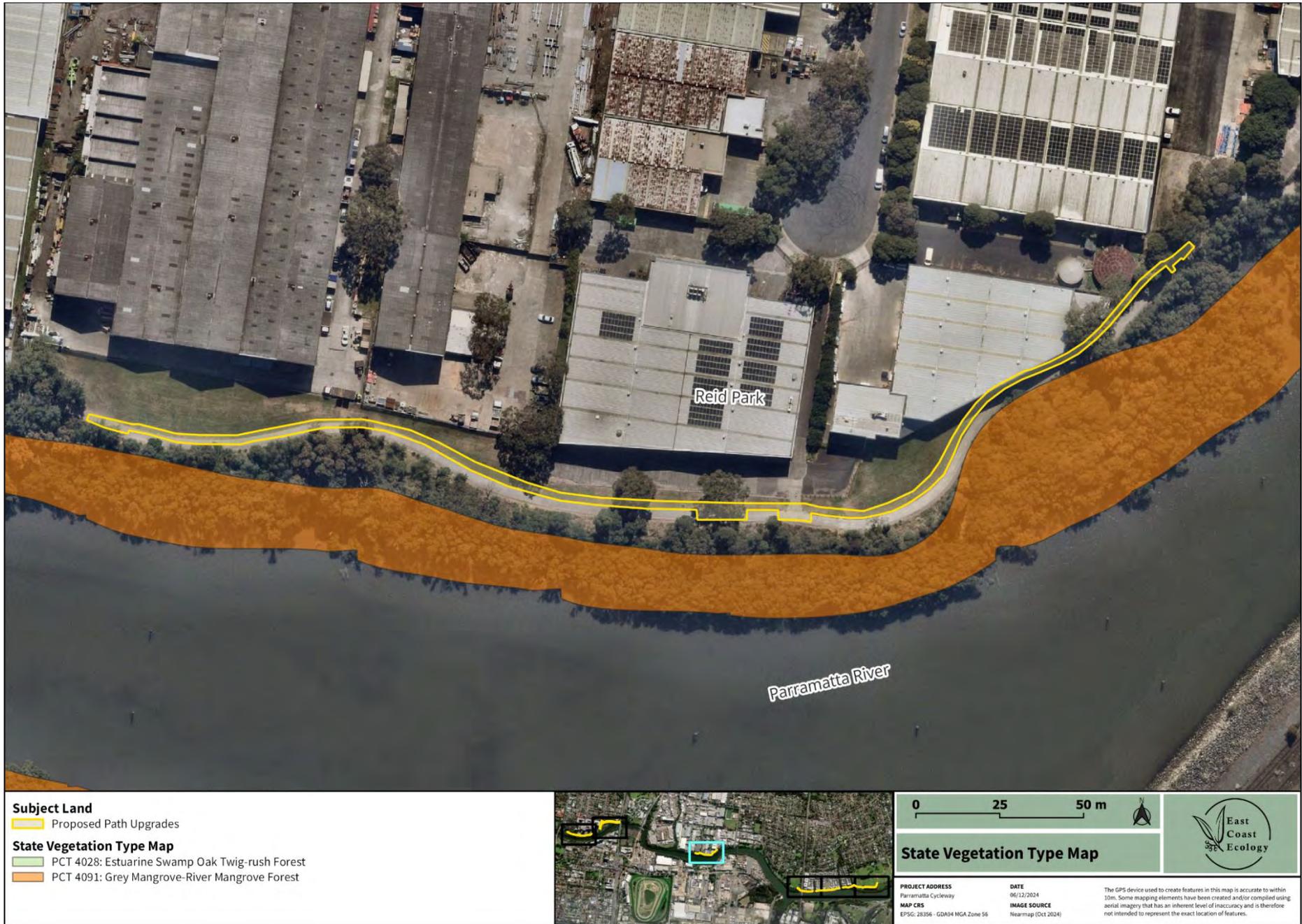


Figure 9. Vegetation Communities within and surrounding the Subject Land (Reid Park).



Figure 10. Vegetation Communities within and surrounding the Subject Land (Royal Shores Ermington).

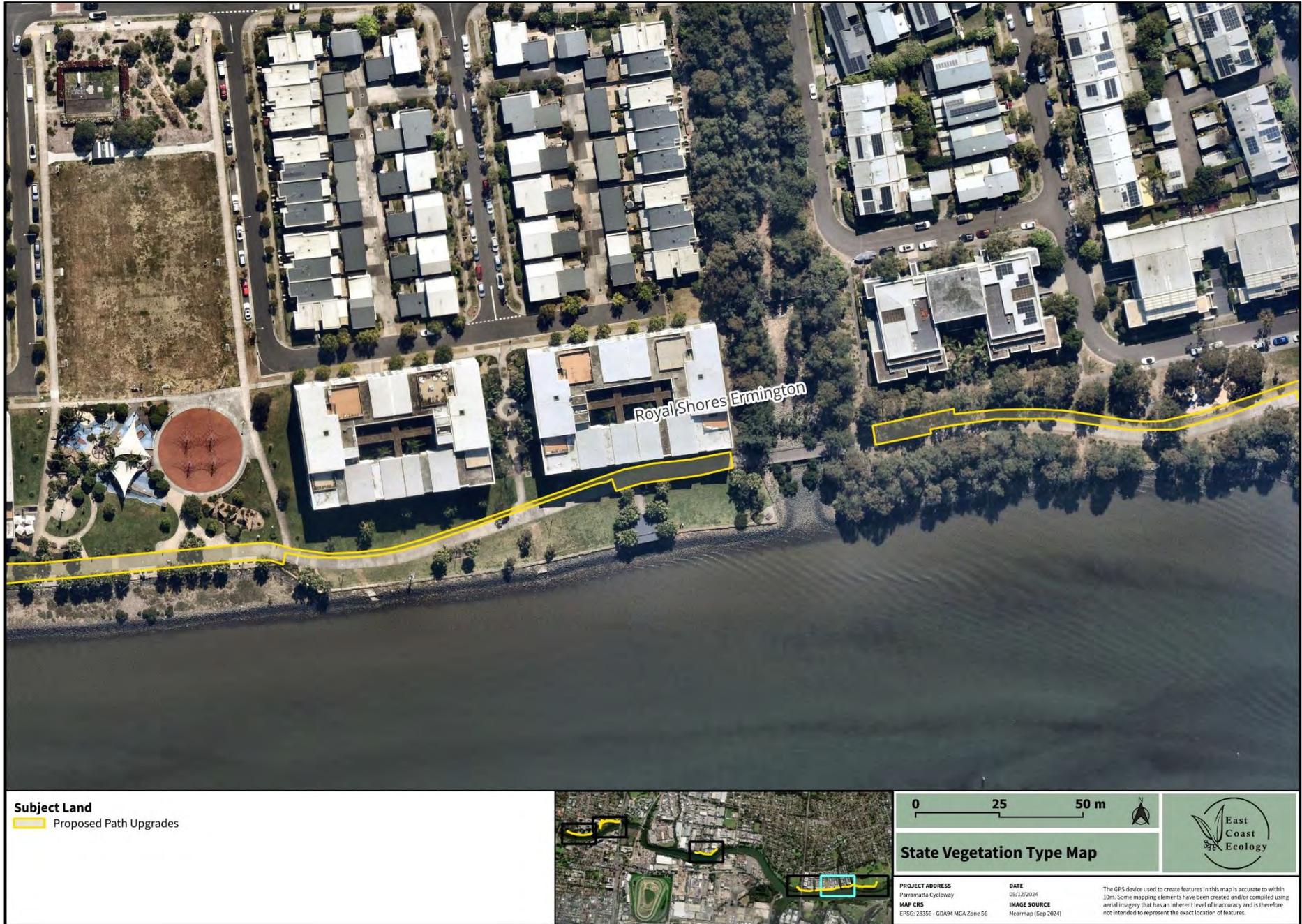


Figure 11. Vegetation Communities within and surrounding the Subject Land (Royal Shores Ermington).



Figure 12. Vegetation Communities within and surrounding the Subject Land (George Kendall Riverside Park).

Table 3. Description of vegetation within the Subject Land, that will be impacted by the activity.

PCT 4006: Northern Paperbark-Swamp Mahogany Saw-sedge Forest	
	
Vegetation Formation	Forested Wetlands
Extent within Subject Land (approximate)	33 trees (0.09ha)
Description of the Vegetation within the Subject Land	
<p>Within the Subject Land, this PCT was highly modified, characterised by trees, on a mostly absent native ground and midstorey. The following trees, characteristic of PCT 4006, are proposed for removal:</p> <ul style="list-style-type: none"> ▪ 2 x <i>Corymbia citriodora</i> (T12, T253) ▪ 1 x <i>Allocasuarina torulosa</i> (T13) ▪ 5 x <i>Corymbia maculata</i> (T17, T24, T192, T195, T231) ▪ 4 x <i>Angophora costata</i> (T39, T110, T150 – T151) ▪ 9 x <i>Casuarina glauca</i> (T40, T232, T276 – T282) ▪ 1 x <i>Livistona australis</i> (T155) ▪ 5 x <i>Casuarina cunninghamiana</i> (T164, T166, T252, T256 – T257) ▪ 1 x <i>Glochidion ferdinandi</i> (T236) ▪ 2 x <i>Melaleuca quinquenervia</i> (T239, T248) ▪ 2 x <i>Melaleuca styphelioides</i> (T179, T273) ▪ 1 x <i>Eucalyptus spp.</i> (T180), and ▪ Occasional native shrubs and groundcovers. 	

PCT 4006: Northern Paperbark-Swamp Mahogany Saw-sedge Forest

The locations of these trees are depicted in **Figure 13 - Figure 18**.

Nearby to the Subject Land, good condition patches of this PCT were represented with the same upper canopy species, with a sparse mid stratum layer dominated by *Leptospermum laevigatum*, *Kunzea ambigua*, *Acacia parramattensis* and *Homalanthus populifolius*. The ground layer was dominated by common coastal grass and grasslike species including, *Juncus usitatus*, *Lomandra longifolia*, *Dianella caerulea*, *Themeda triandra*, *Imperata cylindrica* and *Bromus spp.*.

Description of PCT 4006 in BioNet

A mid-high to very tall mixed eucalypt and Melaleuca open to closed forest with a sparse mid-stratum of mesophyll small trees and palms and a dense ground layer of sedges and ferns. This PCT occurs on low-lying coastal alluvial swamps and depressions and back barrier sand flats between Sydney and Yamba, Central Coast and north coast. The tree canopy very frequently includes both *Melaleuca quinquenervia* and *Eucalyptus robusta*, rarely with other eucalypts. The vine *Parsonsia straminea* is very frequently recorded in the canopy or mid-stratum. The mid-stratum is otherwise sparse, however often layered with small trees that very frequently includes *Glochidion ferdinandi*, occasionally *Livistona australis* and *Casuarina glauca*, and rarely *Melaleuca linariifolia*. A patchy cover of smaller sclerophyll shrubs occasionally includes *Acacia longifolia* and *Breynia oblongifolia*. The ground layer is very often dense and almost always includes a high cover of the tall sedge *Gahnia clarkei* together with the ferns *Telmatoblechnum indicum*, *Pteridium esculentum*, *Hypolepis muelleri* and *Calochlaena dubia*. Other species include grasses such as *Entolasia marginata*, which is common and occasionally sedges *Machaerina rubiginosa*, *Machaerina articulata* or *Carex appressa*. This PCT occurs on very low-lying alluvium, estuarine deposits, back barrier flats, back swamps and rarely sand swales, at elevations almost always below 20 metres asl. It is mainly constrained to within a few kilometres of the coastline, although spatial outliers occur on coastal floodplains that extend some way inland. This community partially overlaps with a range of coastal swamp forests of the central and north coasts, each varying in the frequency and duration of inundation, and substrate characteristics.

Groundwater Dependent Ecosystems (GDE)	Assessment of the potential for the Subject Land to support groundwater dependent ecosystems was carried out using the Commonwealth’s Bureau of Meteorology Groundwater Dependent Ecosystems Atlas (BOM, 2024a). This PCT is associated with a Groundwater Dependent Ecosystems.
BC Act 2016 Status	Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions (Endangered) (Section 4.2.1).
EPBC Act 1999 Status	Coastal Swamp Sclerophyll Forest of New South Wales and Southeast Queensland (Endangered) Does not meet eligibility criteria (Section 4.2.2).

4.2 Threatened Ecological Communities

4.2.1 Listing under the Biodiversity Conservation Act 2016 - Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions – endangered ecological community listing

The NSW Scientific Committee (2011) has determined that the EEC, Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and Southeast Corner bioregions, is associated with:

- The Sydney Basin Bioregion, including the Parramatta LGA
- Humic clay loams and sandy loams, on waterlogged or periodically inundated alluvial flats and drainage lines associated with coastal floodplains, and
- An upper storey that is usually dominated by a tree layer of Eucalypts and Paperbarks; *Eucalyptus robusta*, *Melaleuca quinquenervia*, *Melaleuca styphelioides* and, south from Sydney, *Eucalyptus botryoides* and *Eucalyptus longifolia* with other scattered trees species present including *Callistemon salignus* and *Casuarina glauca*.

The vegetation within the Subject Land is dominated by *E. robusta*, with occasional *Melaleuca spp.* and occurs in the Sydney Basin Bioregion along a drainage line associated with a coastal floodplain. Although the vegetation proposed for removal is severely degraded, it has been determined to loosely conform to the Final Determination (Scientific Committee, 2011) and has therefore been determined to form a part of the endangered ecological community.

4.2.2 Listing under the *Environmental Protection and Biodiversity Conservation Act 1999* – Coastal Swamp Sclerophyll Forest of New South Wales and Southeast Queensland ecological community

The vegetation within the Subject Land was determined to loosely conform to the EPBC Act listed Endangered Ecological Community, Coastal Swamp Sclerophyll Forest of New South Wales and Southeast Queensland ecological community on the basis of the following criteria:

- The vegetation is isolated and part of a patch is at least 0.5ha, and
- Contains a mostly native ground cover.

Although the ground layer assessed within the Subject Land was mostly planted and highly limited in variety, the vegetation within the areas to be impacted meet the minimum conditions for the EEC listing. The impacts to the EEC are anticipated to be of low significance and very minimal if any. The results from the assessment of significance are provided in **Appendix D**.

Table 4. Description of vegetation within the Subject Land, that will be impacted by the activity.

Exotic/Ornamental Grasses	
	
Extent within Subject Land (approximate)	0.38ha
Description of the Vegetation within the Subject Land	
<p>This novel vegetation type dominated by exotic, ornamental lawn species such as <i>Axonopus fissifolius</i> amidst occasional environmental weeds, including <i>Trifolium repens</i>. This vegetation type occurred the length of the proposed activity, occasionally beneath the canopy of PCT 4006.</p>	
BC Act 2016 Status	Not listed.
EPBC Act 1999 Status	Not listed.



Figure 13. Field-validated Vegetation Mapping within the Subject Land (Rangihou Reserve)

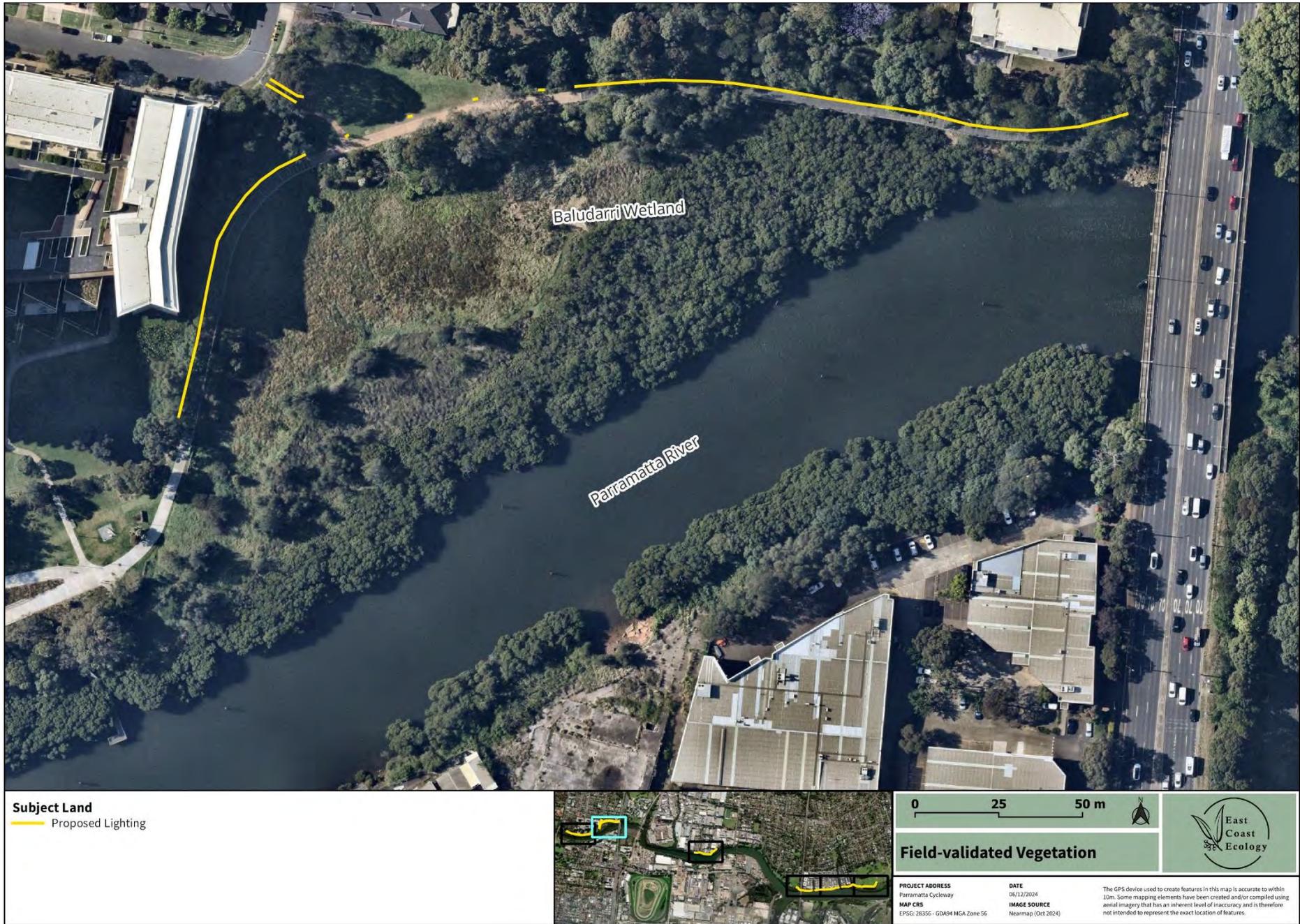


Figure 14. Field-validated Vegetation Mapping within the Subject Land (Baludarri Wetland)

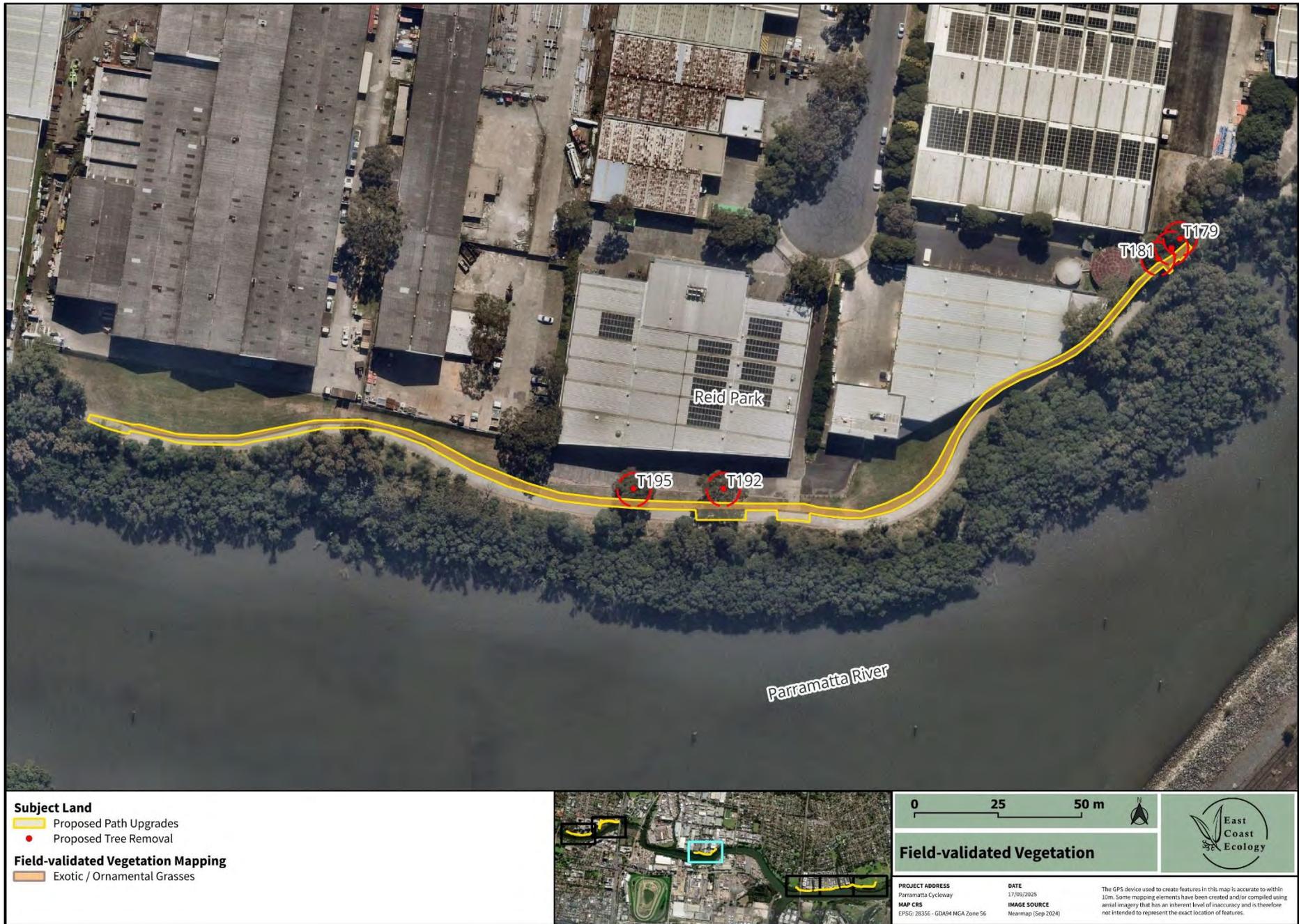


Figure 15. Field-validated Vegetation Mapping within the Subject Land (Reid Park)



Figure 16. Field-validated Vegetation Mapping within the Subject Land (Royal Shores Ermington)

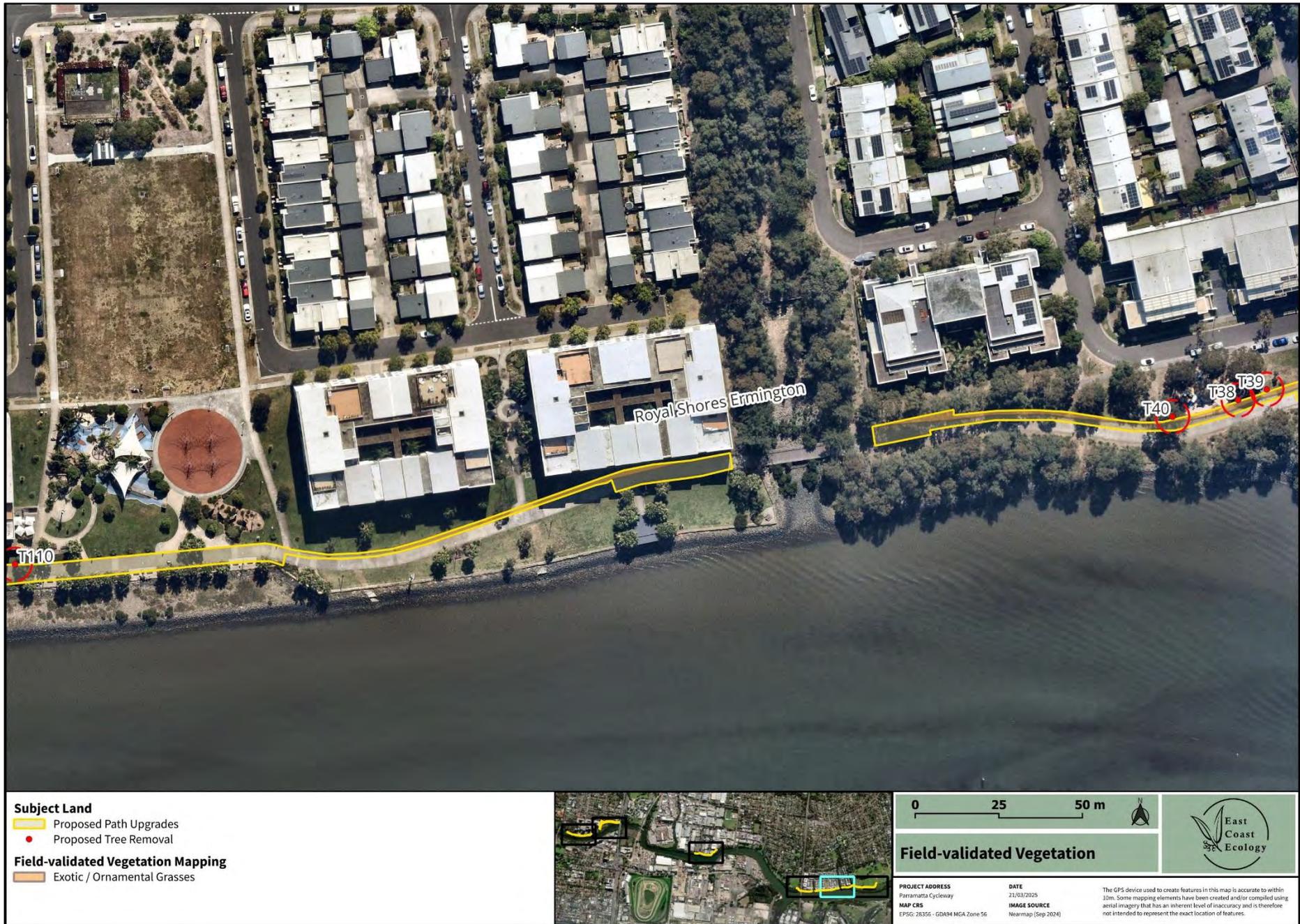


Figure 17. Field-validated Vegetation Mapping within the Subject Land (Royal Shores Ermington)

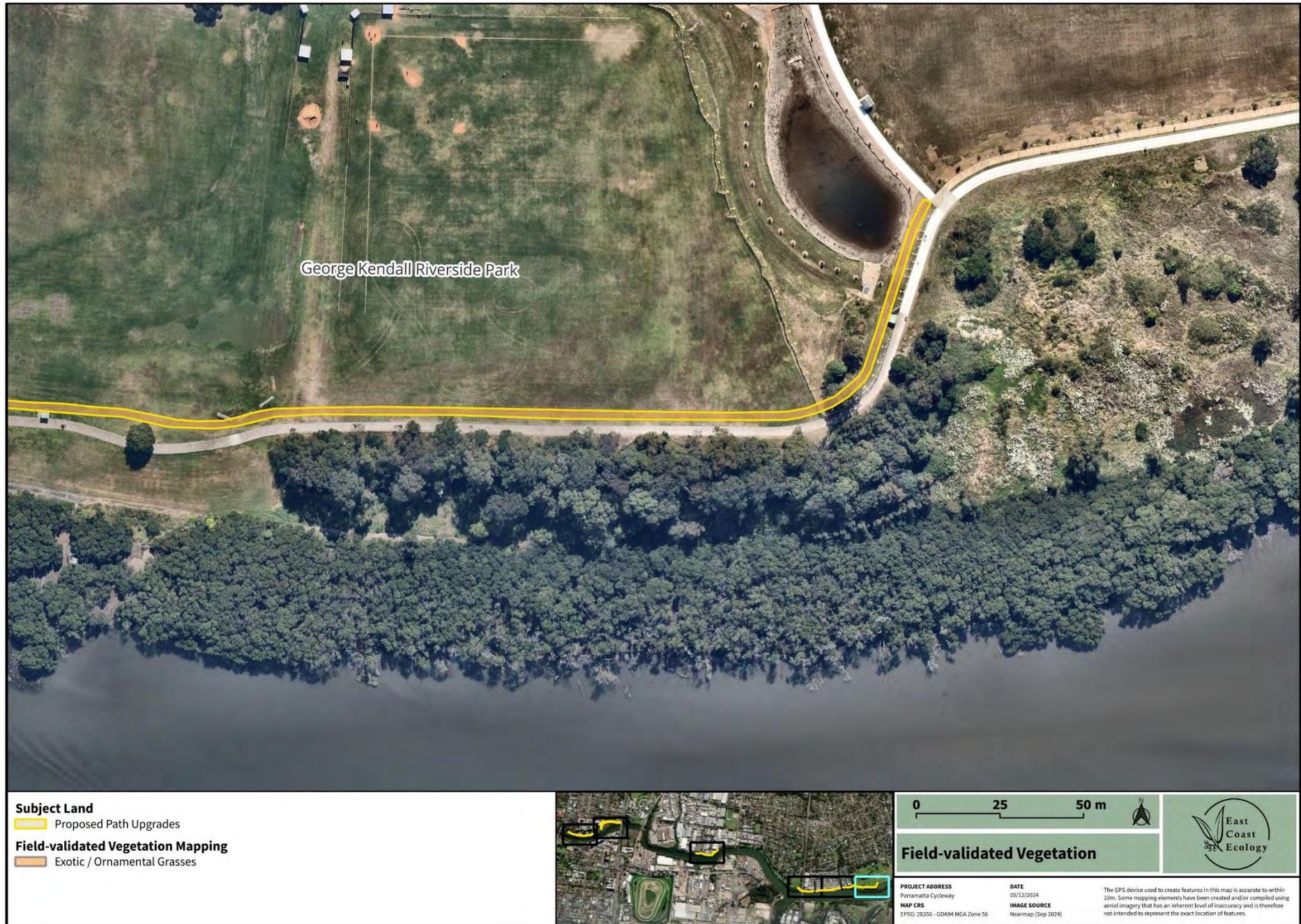


Figure 18. Field-validated Vegetation Mapping within the Subject Land (George Kendall Riverside Park).

5. RESULTS: THREATENED SPECIES

5.1 Threatened Flora

Database searches revealed 18 threatened flora have potential to occur within a ~5km radius of the Subject Land (**Table 5**).

Table 5. Threatened flora with potential to occur within the Subject Land.

Scientific Name	Common Name	BC Act	EPBC Act	Records within 5km
<i>Acacia pubescens</i>	Downy Wattle	V	V	56
<i>Callistemon linearifolius</i>	Netted Bottle Brush	V	-	6
<i>Dillwynia tenuifolia</i>	-	V	-	2
<i>Epacris purpurascens</i> var. <i>purpurascens</i>	-	V	-	52
<i>Grammitis stenophylla</i>	Narrow-leaf Finger Fern	E	-	1
<i>Isotoma fluviatilis</i> subsp. <i>fluviatilis</i>	-	-	X	2
<i>Macadamia integrifolia</i>	Macadamia Nut	-	V	2
<i>Persicaria elatior</i>	Tall Knotweed	V	V	1
<i>Pimelea curviflora</i> var. <i>curviflora</i>	-	V	V	9
<i>Pimelea spicata</i>	Spiked Rice-flower	E	E	2
<i>Pomaderris prunifolia</i>	P. prunifolia in the Parramatta, Auburn, Strathfield and Bankstown Local Government Areas	E	-	8
<i>Rhodamnia rubescens</i>	Scrub Turpentine	E	CE	4
<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	E	E	6
<i>Tetratheca glandulosa</i>	-	V	-	1
<i>Triplarina imbricata</i>	Creek Triplarina	E	E	4
<i>Wahlenbergia multicaulis</i>	Tadgell's Bluebell in the local government areas of Auburn, Bankstown, Baulkham	E	-	8

Scientific Name	Common Name	BC Act	EPBC Act	Records within 5km
	Hills, Canterbury, Hornsby, Parramatta and Strathfield			
<i>Wilsonia backhousei</i>	Narrow-leafed <i>Wilsonia</i>	V	-	100
<i>Zannichellia palustris</i>	-	E	-	6

V – Vulnerable; E – Endangered; EP – Endangered Population; CE – Critically Endangered; X – Extinct

No threatened flora species were identified within the Subject Land. Based on habitat constraints and targeted surveys, no threatened flora species were considered likely to occur within the Subject Land. It is not expected that the proposed activity would pose a significant impact to a nearby viable local population, on the basis that all mitigation measures proposed in this report are adhered to (**Section 7.2**). Further assessment is provided in **Appendix B** of this report.

5.2 Threatened Fauna

Database searches revealed 54 threatened fauna occur, or have potential to occur, within a ~5km radius of the Subject Land (**Table 6**).

Table 6. Threatened fauna with potential to occur within the Subject Land.

Scientific Name	Common Name	BC Act	EPBC Act	Records within 5km
<i>Anthochaera phrygia</i>	Regent Honeyeater	E	CE	7
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V	-	35
<i>Botaurus poiciloptilus</i>	Australasian Bittern	E	E	13
<i>Calidris canutus</i>	Red Knot	-	E	14
<i>Calidris ferruginea</i>	Curlew Sandpiper	E	CE	438
<i>Calidris tenuirostris</i>	Great Knot	V	V	2
<i>Calyptorhynchus lathami lathami</i>	South-eastern Glossy Black-Cockatoo	V	V	3
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	E	E	3
<i>Circus assimilis</i>	Spotted Harrier	V	-	12
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V	-	4
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V	E	3

Scientific Name	Common Name	BC Act	EPBC Act	Records within 5km
<i>Epthianura albifrons</i>	White-fronted Chat population in the Sydney Metropolitan Catchment Management Area	E	-	437
<i>Epthianura albifrons</i>	White-fronted Chat	V	-	437
<i>Falco subniger</i>	Black Falcon	V	-	1
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V	-	11
<i>Gallinago hardwickii</i>	Latham's Snipe	V	V	1965
<i>Glossopsitta pusilla</i>	Little Lorikeet	V	-	21
<i>Haematopus longirostris</i>	Pied Oystercatcher	E	-	1
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V	-	743
<i>Hieraaetus morphnoides</i>	Little Eagle	V	-	18
<i>Hirundapus caudacutus</i>	White-throated Needletail	V	V	51
<i>Ixobrychus flavicollis</i>	Black Bittern	V	-	6
<i>Lathamus discolor</i>	Swift Parrot	E	CE	7
<i>Limicola falcinellus</i>	Broad-billed Sandpiper	V	V	2
<i>Limosa limosa</i>	Black-tailed Godwit	V	E	17
<i>Litoria aurea</i>	Green and Golden Bell Frog	E	V	17069
<i>Meridolum corneovirens</i>	Cumberland Plain Land Snail	E	-	3
<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	V	-	11
<i>Miniopterus australis</i>	Little Bent-winged Bat	V	-	11
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	V	-	96
<i>Myotis macropus</i>	Southern Myotis	V	-	53
<i>Neophema pulchella</i>	Turquoise Parrot	V	-	2

Scientific Name	Common Name	BC Act	EPBC Act	Records within 5km
<i>Ninox connivens</i>	Barking Owl	V	-	6
<i>Ninox strenua</i>	Powerful Owl	V	-	306
<i>Numenius madagascariensis</i>	Eastern Curlew	E	CE	40
<i>Oxyura australis</i>	Blue-billed Duck	V	-	2
<i>Pandion cristatus</i>	Eastern Osprey	V	-	13
<i>Petauroides volans</i>	Southern Greater Glider	E	E	1
<i>Petroica boodang</i>	Scarlet Robin	V	-	5
<i>Petroica phoenicea</i>	Flame Robin	V	-	2
<i>Phascolarctos cinereus</i>	Koala	E	E	1
<i>Pommerhelix duralensis</i>	Dural Land Snail	E	E	39
<i>Pseudophryne australis</i>	Red-crowned Toadlet	V	-	2
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	902
<i>Rostratula australis</i>	Australian Painted Snipe	E	E	10
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V	-	14
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V	-	7
<i>Sternula albifrons</i>	Little Tern	E	C	7
<i>Stictonetta naevosa</i>	Freckled Duck	V	-	3
<i>Tringa nebularia</i>	Common Greenshank	E	E	334
<i>Tyto longimembris</i>	Eastern Grass Owl	V	-	2
<i>Tyto novaehollandiae</i>	Masked Owl	V	-	3
<i>Tyto tenebricosa</i>	Sooty Owl	V	-	1
<i>Xenus cinereus</i>	Terek Sandpiper	V	V	1

V – Vulnerable; E – Endangered; EP – Endangered Population; CE – Critically Endangered.

No threatened fauna species were identified within the Subject Land however, this does not rule out the potential for threatened species to still exist within the Subject Land, particularly given no targeted surveys were undertaken.

Based on habitat constraints and the urban nature of the Subject Land (**Appendix B**), no threatened fauna were considered likely to occur and no further assessment was required. Details of the threatened fauna habitat recorded within the Subject Land are included in **Table 7**.

Table 7. Fauna habitat values identified within the Subject Land.

Habitat component	Subject Land
Coarse woody debris	Absent.
Rock outcrops and bush rock	Absent.
Caves, crevices and overhangs	Absent.
Culverts, bridges, mine shafts, or abandoned structures	Absent.
Nectar/lerp-bearing Trees	Present throughout – <i>Melaleuca</i> spp.
Nectar-bearing shrubs	Present nearby – <i>Acacia</i> spp.
Large stick nests	Absent.
Sap and gum sources	Present – <i>Eucalyptus</i> spp.
She-oak fruit	Present throughout – <i>Casuarina</i> spp.
Seed-bearing trees and shrubs	Present throughout – <i>Casuarina</i> spp.
Soft-fruit-bearing trees/shrubs	Absent.
Dense shrubbery and leaf litter	Present throughout.
Tree hollows	Absent- Nestboxes located outside the Subject Land.
Decorticating bark	Absent.
Wetlands, soaks, and streams	Present nearby – Baludarri Wetland.
Open water bodies	Present nearby – Parramatta River..
Estuarine, beach, mudflats, and rocky foreshores	Absent.

5.3 Migratory Species

Database searches revealed seven migratory terrestrial species, or their habitat, are known to occur within the Subject Land (**Table 8**). These species do not breed in Australia.

Table 8. Migratory terrestrial species with potential to occur in the Subject Land.

Species	EPBC Act Status
<i>Cuculus optatus</i> (Oriental Cuckoo)	Migratory, CAMBA, JAMBA, ROKAMBA
<i>Hirundapus caudacutus</i> (White-throated Needletail)	Vulnerable, Migratory, CAMBA, JAMBA, ROKAMBA
<i>Monarcha melanopsis</i> (Black-faced Monarch)	Migratory, Bonn

<i>Monarcha trivirgatus</i> (Spectacled Monarch)	Migratory, Bonn
<i>Motacilla flava</i> (Yellow Wagtail)	Migratory, CAMBA, JAMBA, ROKAMBA
<i>Myiagra cyanoleuca</i> (Satin Flycatcher)	Migratory, Bonn
<i>Rhipidura rufifrons</i> (Rufous Fantail)	Migratory, Bonn

CAMBA = China-Australia Migratory Bird Agreement, JAMBA = Japan-Australia Migratory Bird Agreement, ROKAMBA = Republic of Korea-Australia Migratory Bird Agreement and Bonn = Convention on the Conservation of Migratory Species of Wild Animals.



Figure 19. Threatened species records in proximity to the Subject Land (Rangihou Reserve).

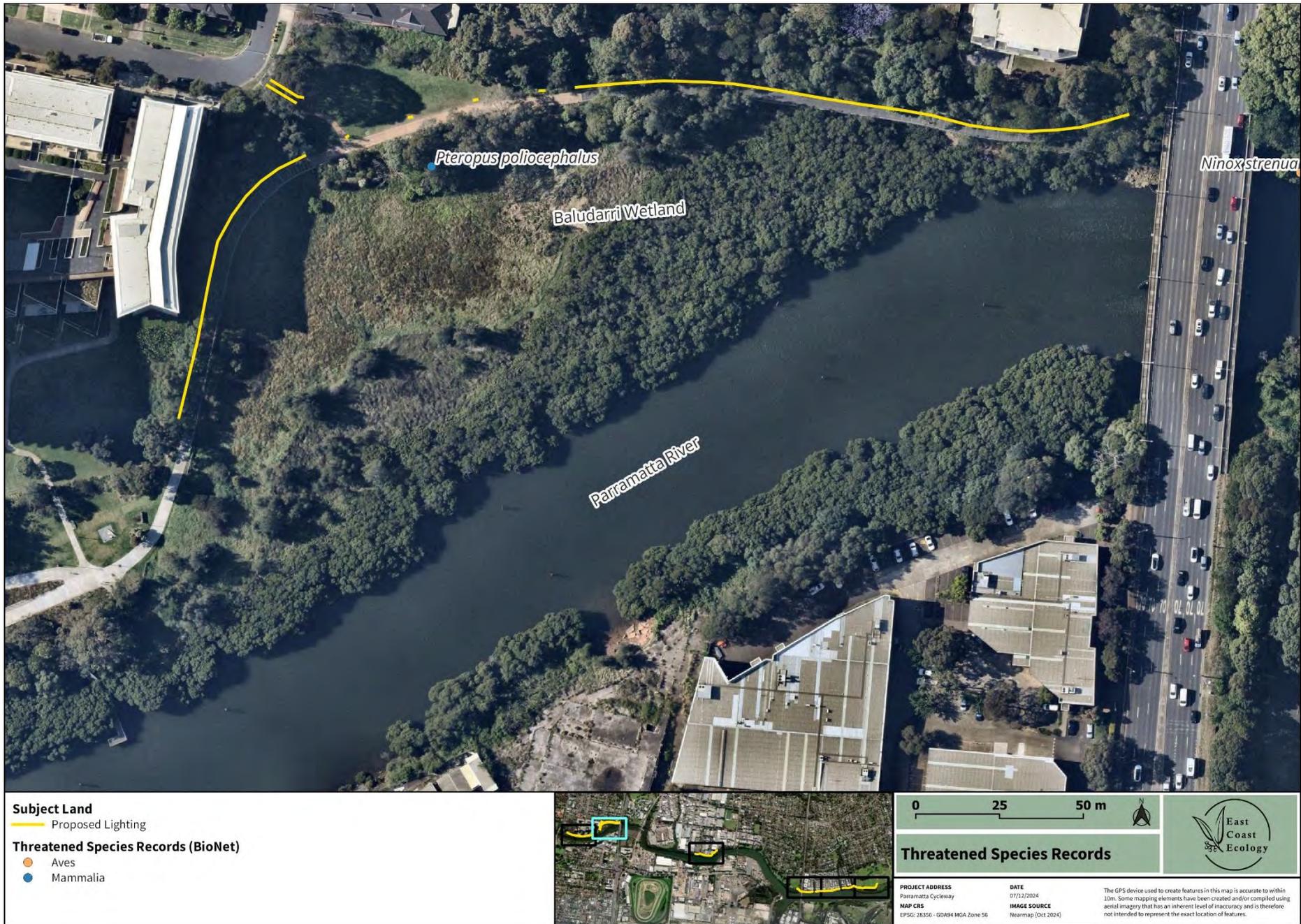


Figure 20. Threatened species records in proximity to the Subject Land (Baludarri Wetland).

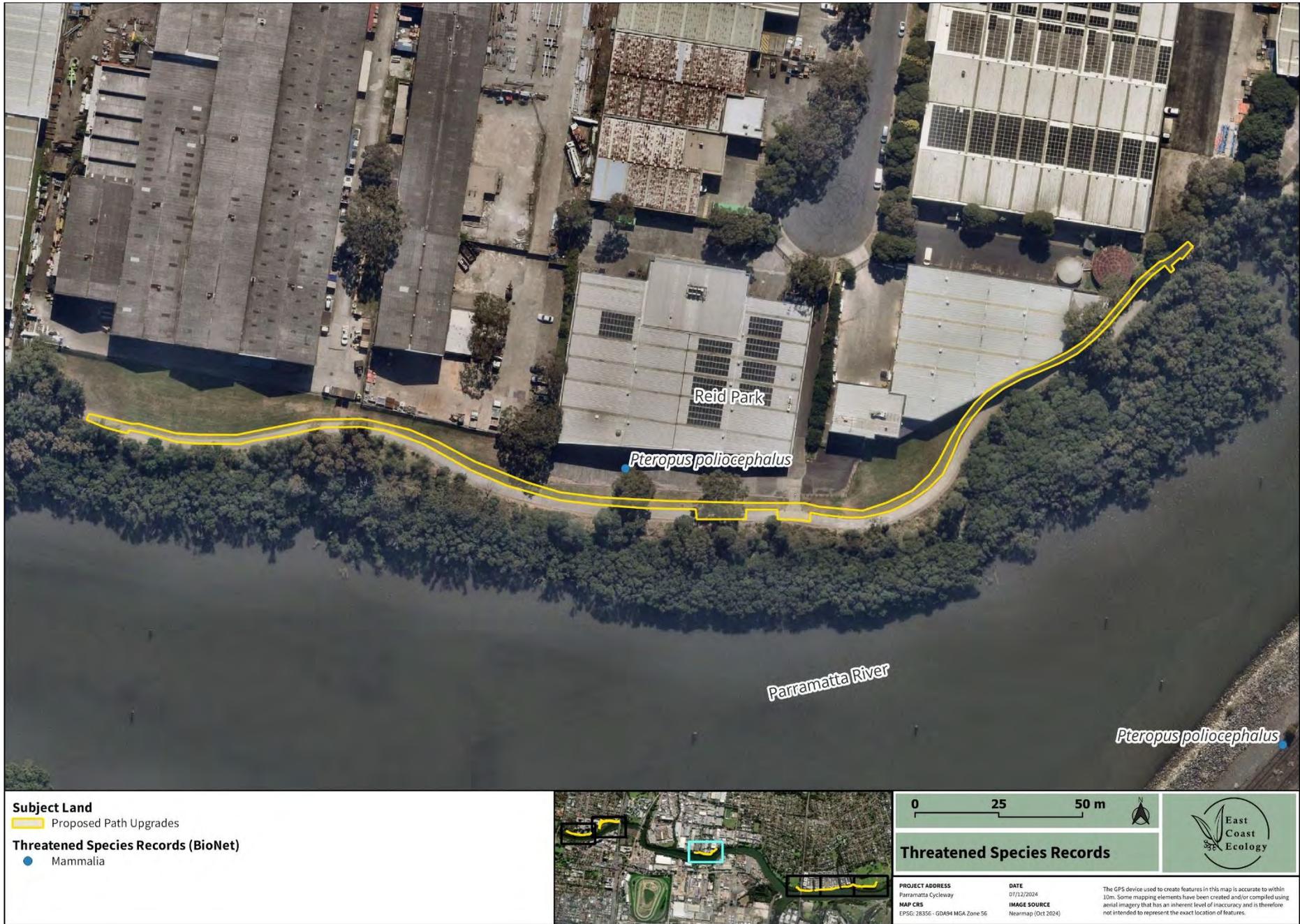


Figure 21. Threatened species records in proximity to the Subject Land (Reid Park).

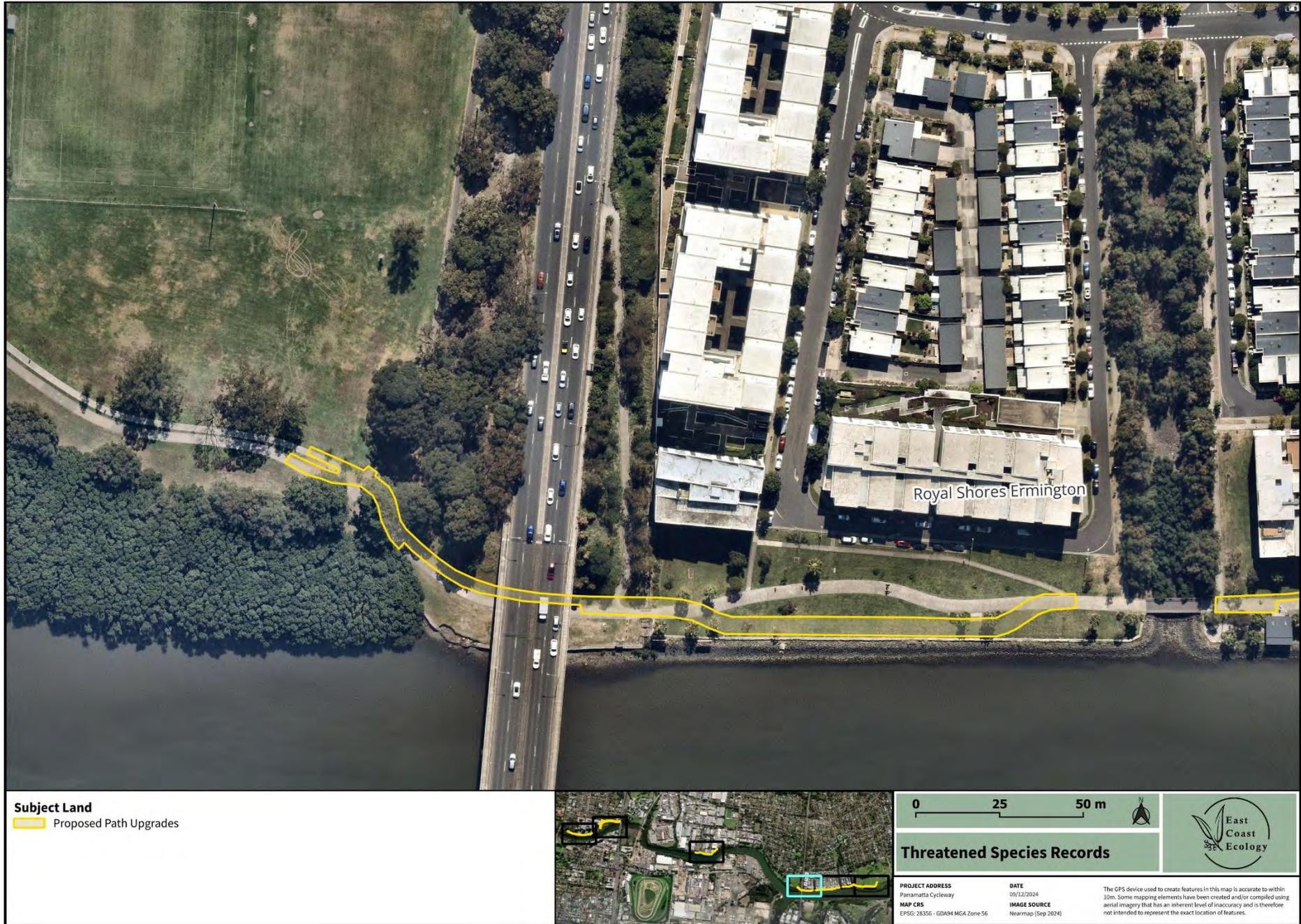


Figure 22. Threatened species records in proximity to the Subject Land (Royal Shores Ermington).

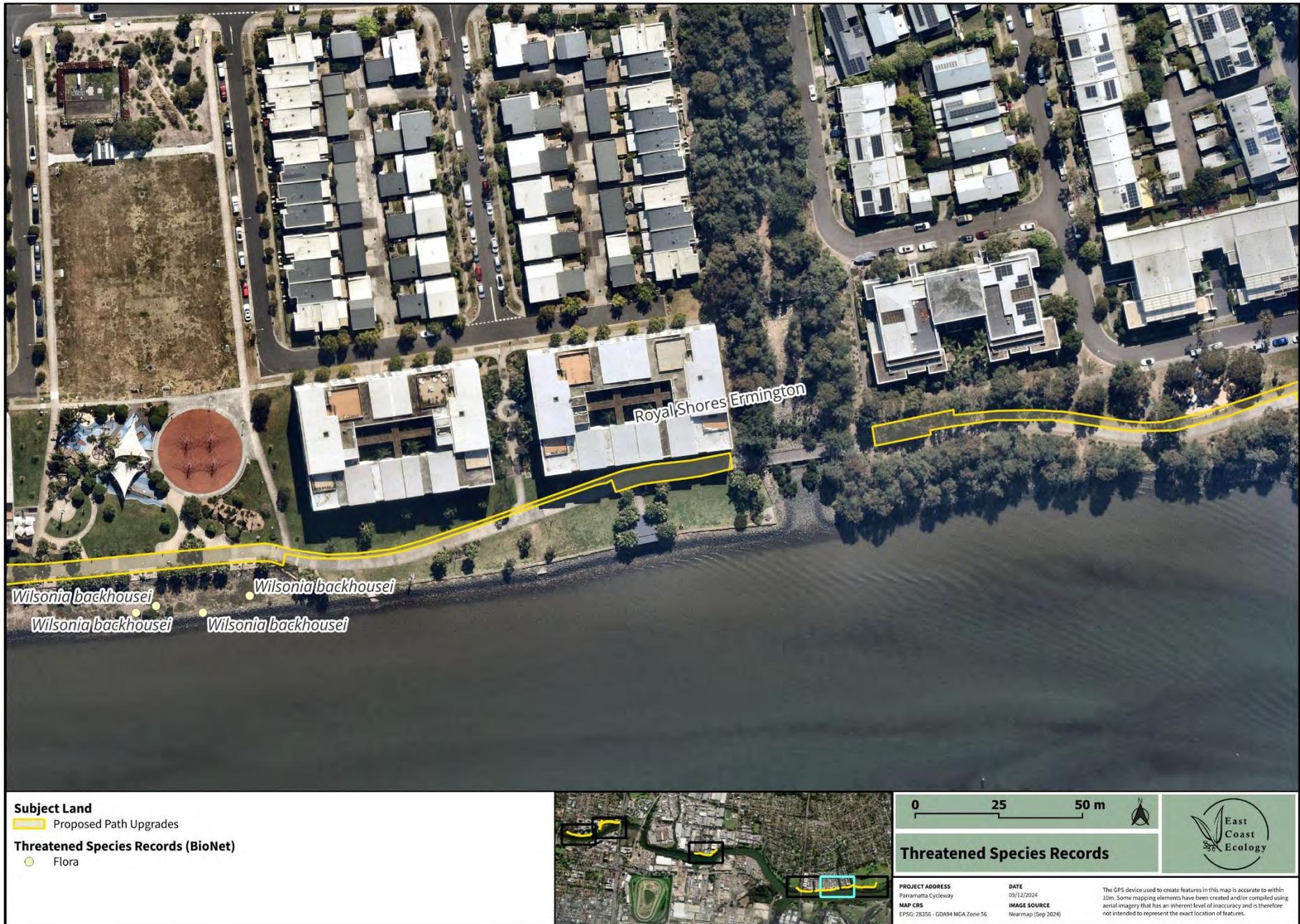


Figure 23. Threatened species records in proximity to the Subject Land (Royal Shores Ermington).

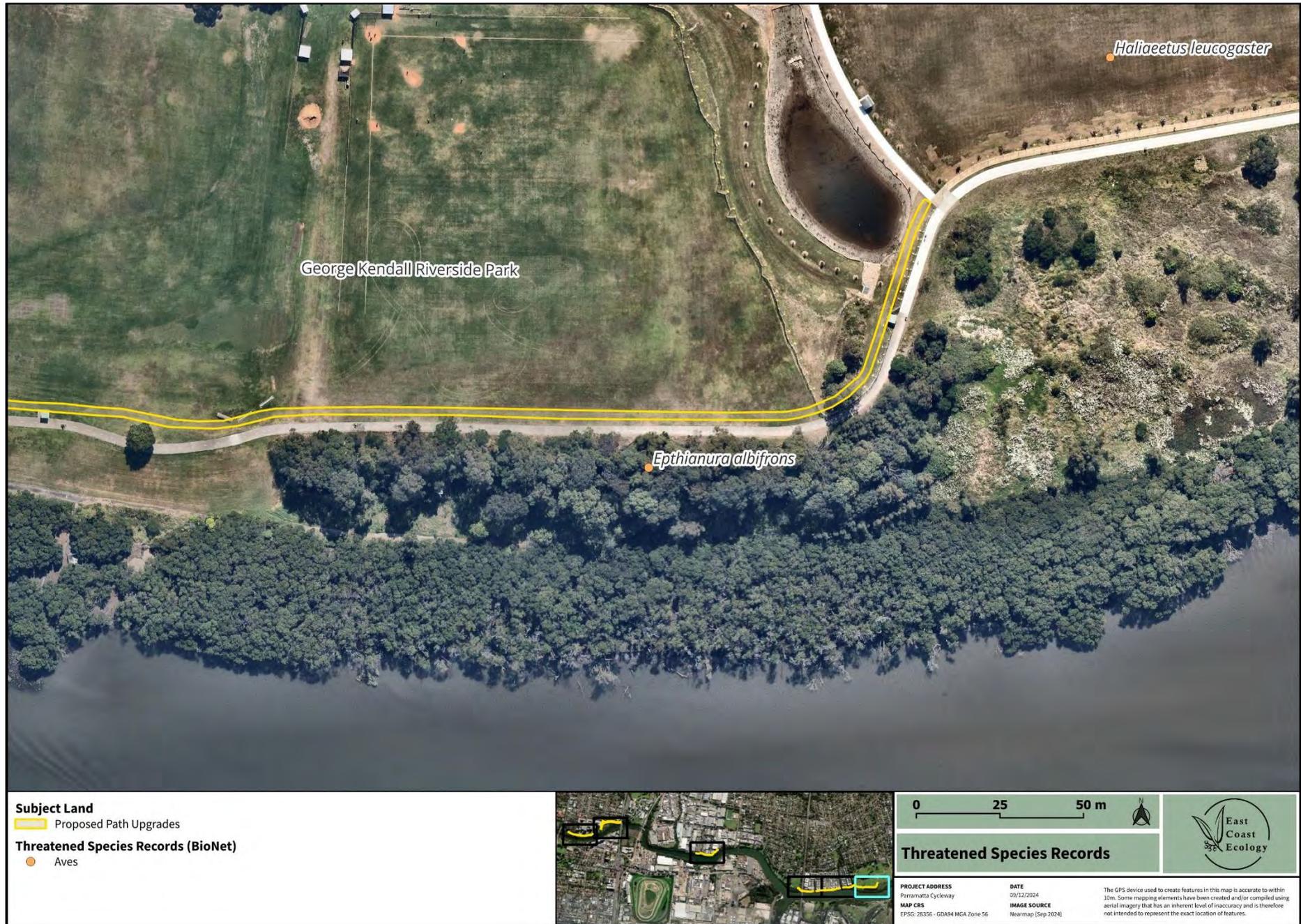


Figure 24. Threatened species records in proximity to the Subject Land (George Kendall Riverside Park).

6. IMPACT SUMMARY

6.1 Direct Impacts

6.1.1 Impacts to Plant Community Types

The primary direct ecological impact of the proposed activity is clearing of 33 native trees. The following trees, characteristic of PCT 4006, are proposed for removal:

- 2 x *Corymbia citriodora* (T12, T253)
- 1 x *Allocasuarina torulosa* (T13)
- 5 x *Corymbia maculata* (T17, T24, T192, T195, T231)
- 4 x *Angophora costata* (T39, T110, T150 – T151)
- 9 x *Casuarina glauca* (T40, T232, T276 – T282)
- 1 x *Livistona australis* (T155)
- 5 x *Casuarina cunninghamiana* (T164, T166, T252, T256 – T257)
- 1 x *Glochidion ferdinandi* (T236)
- 2 x *Melaleuca quinquenervia* (T239, T248)
- 2 x *Melaleuca styphelioides* (T179, T273)
- 1 x *Eucalyptus spp.* (T180), and
- Occasional native shrubs and groundcovers.

Based on the location (i.e. in garden beds), all trees have likely been planted but still provide a modified form representative of PCT 4006 within the Subject Land.

Additionally, the following three exotic species also require removal from within the Subject Land to facilitate the proposal:

- 1 x *Pistacia chinensis* (T38)
- 1 x *Phoenix canariensis* (T226), and
- 1 x *Olea europaea subsp. cuspidata* (T181).

6.1.2 Impacts to Protected Fauna

All vegetation proposed for removal and/or pruning provides minor foraging habitat for a suite of protected fauna species. Sensitive and/ or specialist fauna habitats (e.g. nectar/lerp-bearing trees and sap and gum sources) were present within the Subject Land. No hollow-bearing trees were present within the Subject Land at the time of the assessment.

In addition, a compliance permit has been acquired by City of Parramatta that allows for all proposed lighting and handrail construction within the Baludarri Wetlands areas of the project. It is predicted that adjacent habitat outside the Subject Land is likely to experience a negligible increase to indirect impacts created by noise, dust and light spill, during construction and operation of the future development of the Subject Land.

Site lighting will be designed to minimise glare and light spillage into adjoining properties and vegetation and be consistent with the requirements of Australian Standards and Guidelines 4282-2019 Control of the

obtrusive effects of outdoor lighting. Additional control measures are to be installed to minimise glare and light spillage into adjoining vegetation to minimise potential impacts to fauna species and lighting is to be installed in a direction oriented away from the vegetation within the Baludarri Wetlands. These indirect impacts will be managed via best practices outlined in an approved Construction Environmental Management Plan. The Subject Land already occurs within a disturbed landscape where light and noise pollution is already moderate. These impacts are not likely to substantially increase due to the proposed activity.

6.1.3 Impacts to Threatened Species and Communities

The proposed activity will result in the removal of 33 native trees characteristic the following BC & EPBC Act Listed TEC;

- Swamp Sclerophyll Forest of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions (endangered).

Each of these trees belong to a now highly modified landscape. The result of a Test of Significance (5-Part Test) under the BC Act was that the proposed activity will not result in a 'significant impact' on any threatened entities and therefore the Biodiversity Offset Scheme is not triggered (**Appendix C & Appendix D**).

Although all areas of native vegetation within the Subject Land may be considered minor, potential habitat for threatened fauna; based on the minor nature of the impacts, no threatened fauna species were considered likely to be significantly impacted by the proposed activity. No threatened flora were identified within the Subject Land. A likelihood of occurrence table for threatened flora and fauna species within the Subject Land is presented in **Appendix B**.

Based on a lack of suitable habitat constraints, or the minor nature of the impact (i.e. select tree removal) no significant impact is likely and no further assessment was required. As such, an SIS or a BDAR is not required. The proposed activity will not result in a 'significant impact' on any MNES and a referral to the Australian Government Minister for the Environment is not required.

7. AVOIDANCE, MINIMISATION & MITIGATION

7.1 Avoidance and Minimisation

When assessing the biodiversity impacts of a proposed activity there are three key considerations. These three approaches are listed in a descending order of best biodiversity outcomes:

- **Avoid:** measures taken by a proponent such as careful site selection, or actions taken through the design, planning, construction and operational phases of the development to completely prevent impacts on biodiversity values, or certain areas of biodiversity
- **Minimise:** a process applied throughout the development planning and design life cycle that seeks to reduce the residual impacts of development on biodiversity values
- **Compensate:** measures in a proposed activity to compensate for the biodiversity values lost. This can be achieved through offsets (financial or not).

Given the nature of the proposed activity (widening of an existing pathway), opportunities to change the project design in favour of vegetation retention are fairly limited and defined by engineering requirements. The proposed activity has been designed with consideration of impact avoidance to nearby Coastal Wetlands. Furthermore, laydown and storage areas will be positioned outside of native vegetation to avoid any additional impacts to native vegetation beyond the unavoidable impacts associated with the proposed activity.

7.2 Impact Mitigation and Minimisation Recommendations

This section of the report details recommended efforts to avoid and minimise impacts on biodiversity values associated with the proposed activity. Measures to be implemented before, during, and post construction are detailed in **Table 9**.

Table 9. Measures to be implemented before, during, and after construction to avoid and minimise the impacts of the proposed activity.

Action	Outcome	Timing	Responsibility
<p>Assigning a Project Ecologist for Vegetation Clearing</p>	<p>Prior to works, the applicant should commission the services of a qualified and experienced Ecologist (minimum 3 years’ experience). The Ecologist must be licensed with a current Department of Primary Industries Animal Research Authority permit and New South Wales Scientific License issued under the BC Act. The Ecologist will be commissioned to implement the following measures in accordance with best-practice, publicly available guidelines:</p> <ul style="list-style-type: none"> • Pre-clearing surveys will be undertaken in accordance with Guide 1: Pre-clearing process of the Biodiversity Guidelines: Protecting and managing biodiversity on Transport for NSW projects (TfNSW, 2024) • Vegetation and Habitat removal should be undertaken in accordance with Guide 4: Clearing of vegetation and removal of bushrock of the Biodiversity Guidelines: Protecting and managing biodiversity on Transport for NSW projects (TfNSW, 2024) • Fauna will be managed in accordance with Guide 9: Fauna handling of the Biodiversity Guidelines: Protecting and managing biodiversity on Transport for NSW projects (TfNSW, 2024) • Habitat will be replaced or re-instated in accordance with Guide 5: Re-use of woody debris and bushrock and Guide 8: Nest boxes of the Biodiversity Guidelines: Protecting and managing biodiversity on Transport for NSW projects (TfNSW, 2024) <p>The unexpected species find procedure is to be followed under Guide 1: Pre-clearing process of the Biodiversity Guidelines: Protecting and managing biodiversity on Transport for NSW projects (TfNSW, 2024) if threatened flora and fauna, not assessed in the biodiversity assessment, are identified in the Subject Land.</p>	<p>Prior to Construction</p>	<p>City of Parramatta Council Ecologist</p>

Action	Outcome	Timing	Responsibility
Edge Effects on Adjacent Native Vegetation and Habitat	Exclusion zones will be set up at the limit of clearing in accordance with Guide 2: Exclusion zones of the Biodiversity Guidelines: Protecting and managing biodiversity on Transport for NSW projects (TfNSW, 2024)	During Construction	City of Parramatta Council
Erosion and Sedimentation	Appropriate erosion and sediment control should be erected and maintained at all times during construction in order to avoid the potential of incurring indirect impacts on biodiversity values. Erosion and sediment controls would be established in accordance with an erosion and sedimentation plan to be produced for the proposed works. As a minimum, such measures should comply with the relevant industry guidelines such as ‘the Blue Book’ (Landcom, 2004).	During Construction	City of Parramatta Council
Storage and Stockpiling (Soil and Materials)	Allocate all storage, stockpile, and laydown sites away from any vegetation that is planned to be retained. Avoid importing any soil from outside the site in order to avoid the potential of incurring indirect impacts on biodiversity values as this can introduce weeds and pathogens to the site. If materials are required to be imported for landscaping works, they are to be sterilised according to industry standards prior to importation to site.	During Construction	City of Parramatta Council
No Weeds imported on to the Subject Land	No priority or environmental weeds, pathogens or other biosecurity issues (e.g. fireants) are to be imported on to the site prior to or during construction works.	During Construction	City of Parramatta Council
Minimisation of Light Spill	Control measures (e.g. the directional lighting and task lighting) are to be installed to minimise glare and light spillage into adjoining vegetation to minimise potential impacts to fauna species.	During Construction and Operation	City of Parramatta Council

8. CONCLUSION

The proposed activity will result in the clearing of the following 33 native trees characteristic of PCT 4006:

- 2 x *Corymbia citriodora* (T12, T253)
- 1 x *Allocasuarina torulosa* (T13)
- 5 x *Corymbia maculata* (T17, T24, T192, T195, T231)
- 4 x *Angophora costata* (T39, T110, T150 – T151)
- 9 x *Casuarina glauca* (T40, T232, T276 – T282)
- 1 x *Livistona australis* (T155)
- 5 x *Casuarina cunninghamiana* (T164, T166, T252, T256 – T257)
- 1 x *Glochidion ferdinandi* (T236)
- 2 x *Melaleuca quinquenervia* (T239, T248)
- 2 x *Melaleuca styphelioides* (T179, T273)
- 1 x *Eucalyptus spp.* (T180), and
- Occasional native shrubs and groundcovers.

The proposed activity will result in the removal of 33 native trees characteristic the following BC Act Listed TEC;

- Swamp Sclerophyll Forest of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions (endangered).

Additionally, the following three commonly planted exotic species also require removal from within the Subject Land to facilitate the proposal:

- 1 x *Pistacia chinensis* (T38)
- 1 x *Phoenix canariensis* (T226), and
- 1 x *Olea europaea subsp. Cuspidata* (T181).

Each of these trees belong to a now highly modified landscape. The result of a Test of Significance (5-Part Test) under the BC Act was that the proposed activity will not result in a ‘significant impact’ on any threatened entities and therefore the Biodiversity Offset Scheme is not triggered (**Appendix C & Appendix D**).

Although all areas of native vegetation within the Subject Land may be considered minor, potential habitat for threatened fauna; based on the minor nature of the impacts, no threatened fauna species were considered likely to be significantly impacted by the proposed activity. No threatened flora were identified within the Subject Land. A likelihood of occurrence table for threatened flora and fauna species within the Subject Land is presented in **Appendix B**.

Based on a lack of suitable habitat constraints, or the minor nature of the impact (i.e. select tree removal) no significant impact is likely and no further assessment was required. As such, an SIS or a BDAR is not required. The proposed activity will not result in a ‘significant impact’ on any MNES and a referral to the Australian Government Minister for the Environment is not required.

9. REFERENCES

Australian Standard 4970 (2009) Protection of Trees on Development Sites

Biodiversity Conservation Regulation (2017)

<https://www.legislation.nsw.gov.au/#/view/regulation/2017/432>

Bureau of Meteorology (BOM) Daily Weather Observations. Available from: www.bom.gov.au.

City of Parramatta Council (2024) Concept Design Plans – Pedestrian and Cyclist Pathways

Department of Climate Change Energy the Environment and Water (DCCEEW) (2024) Protected Matters Search Tool.

Department of Environmental Conservation (DEC) (2004) Threatened Species Survey and Assessment: Guidelines for developments and activities (working draft), New South Wales Department of Environment and Conservation, Hurstville, NSW.

Department of the Environment and Energy (2018) Interim Biogeographic Regionalisation for Australia (IBRA), Version 7 (Subregions)

Department of Planning and Environment (DPE) (2019) Guidance to assist a decision-maker to determine a serious and irreversible impact <https://www.environment.nsw.gov.au/-media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/guidance-decision-makers-determine-serious-irreversible-impact-190511.pdf>

Department of Planning and Environment (DPE) (2020a) Biodiversity Assessment Method

Department of Planning and Environment (DPE) (2020b) Surveying threatened plants and their habitats – NSW survey guide for the Biodiversity Assessment Method

Department of Planning and Environment (NSW DCCEEW) (2024a) BioNet. The website of the Atlas of NSW Wildlife <http://www.bionet.nsw.gov.au/>

Department of Planning and Environment (NSW DCCEEW) (2024b) BioNet. Threatened Biodiversity Data Collection

Department of Planning and Environment (NSW DCCEEW) (2024c) BioNet. Vegetation Classification System

Department of Planning and Environment (NSW DCCEEW) (2024d) NSW State Vegetation Type Map <https://datasets.seed.nsw.gov.au/dataset/nsw-state-vegetation-type-map>

Department of Planning and Environment (NSW DCCEEW) (2024e) Soil Landscapes <http://espade.environment.nsw.gov.au>

Department of Primary Industries (DPI) (2024b) Priority weeds for the Greater Sydney <https://weeds.dpi.nsw.gov.au/WeedBiosecurities?Areald=3>

Hugh the Arborist (2024) Arboricultural Impact Assessment – Parramatta Cycleway Upgrades

Landcom (2004) Managing Urban Stormwater: Soils and Construction 'The Blue Book', Volume 1, Fourth Edition, New South Wales Government, ISBN 0-9752030-3-7

Mitchell (2002) NSW Ecosystems Study: Background and Methodology (Unpublished)

NSW Government (2017) NSW Legislation: Biodiversity Conservation act 2016 No 63, Schedule 4: Key Threatening Processes <https://www.legislation.nsw.gov.au/acts/2016-63.pdf>

NSW Spatial Services (Six Maps) (2024) Six Maps Clip & Ship <https://maps.six.nsw.gov.au/clipnship.html>

PlantNET (2024) The NSW Plant Information Network System, Royal Botanic Gardens and Domain Trust, Sydney. <http://plantnet.rbgsyd.nsw.gov.au>

Robinson (2003) Field Guide to the Native Plants of Sydney, Third Edition, Kangaroo Press

Scientific Committee (2011) Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and Southeast Corner bioregions - endangered ecological listing

Scientific Committee (2017) Conservation advice (incorporating listing advice) for the Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and Southeast Queensland ecological community

Transport for NSW (2024), Biodiversity Management Guidelines: Protecting and managing biodiversity on Transport for NSW Projects

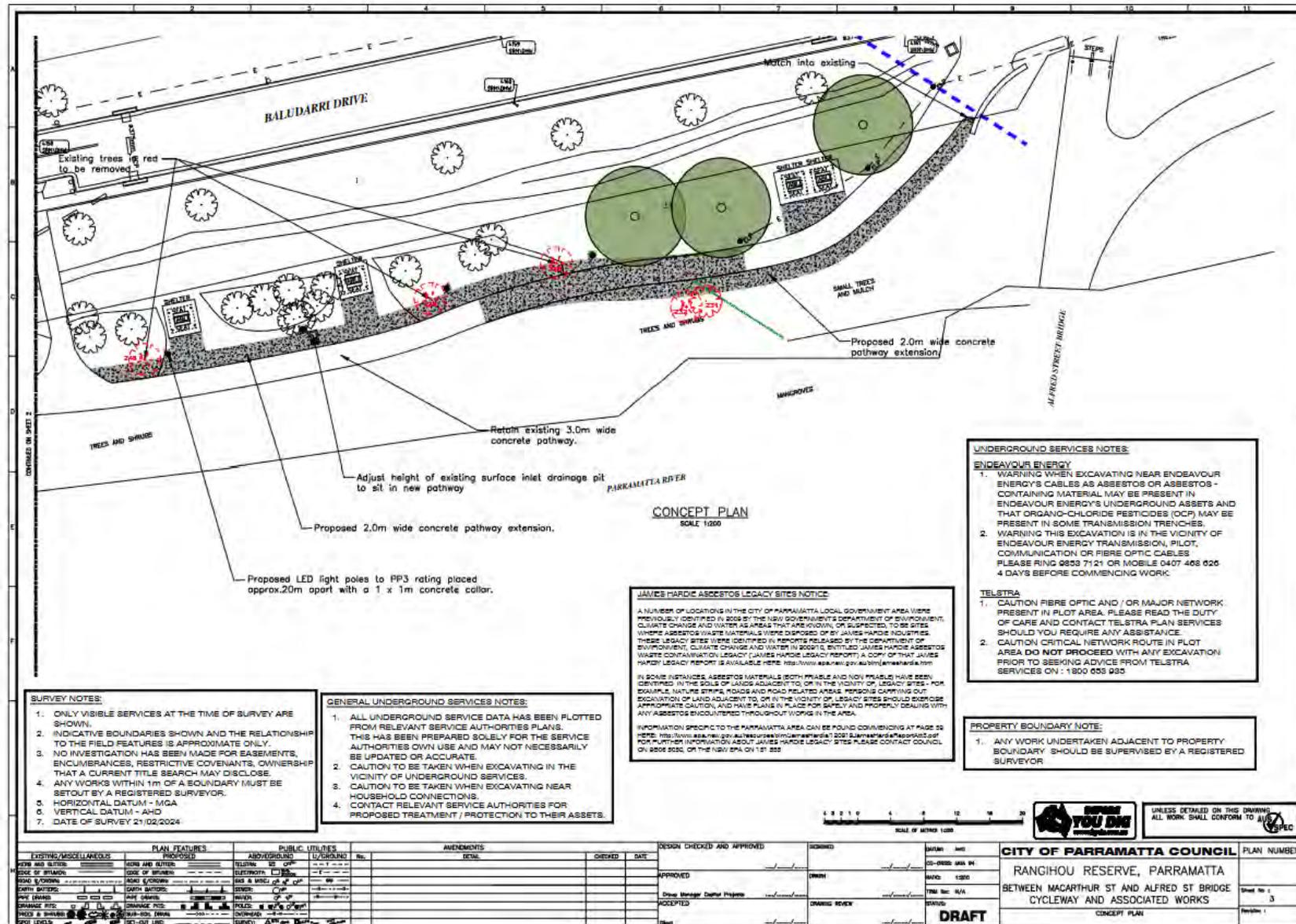
10. APPENDICES

Appendix A. Concept Design Plans (City of Parramatta Council, 2024).

Appendix B. Assessment of likely occurrence of threatened species within the Subject Land.

Appendix C. 5-Part Tests (Tests of Significance) (BC Act).

Appendix D. Assessment of Significant Impact Criteria under the EPBC Act.



CONCEPT PLAN
SCALE 1:200

UNDERGROUND SERVICES NOTES:

ENDEAVOUR ENERGY

1. WARNING WHEN EXCAVATING NEAR ENDEAVOUR ENERGY'S CABLES AS ASBESTOS OR ASBESTOS-CONTAINING MATERIAL MAY BE PRESENT IN ENDEAVOUR ENERGY'S UNDERGROUND ASSETS AND THAT ORGANIC-CHLORIDE PESTICIDES (OCP) MAY BE PRESENT IN SOME TRANSMISSION TRENCHES.
2. WARNING THIS EXCAVATION IS IN THE VICINITY OF ENDEAVOUR ENERGY TRANSMISSION, PILOT, COMMUNICATION OR FIBRE OPTIC CABLES. PLEASE RING 0003 7121 OR MOBILE 0407 405 025 4 DAYS BEFORE COMMENCING WORK.

TELSTRA

1. CAUTION FIBRE OPTIC AND / OR MAJOR NETWORK PRESENT IN PLOT AREA. PLEASE READ THE DUTY OF CARE AND CONTACT TELSTRA PLAN SERVICES SHOULD YOU REQUIRE ANY ASSISTANCE.
2. CAUTION CRITICAL NETWORK ROUTE IN PLOT AREA DO NOT PROCEED WITH ANY EXCAVATION PRIOR TO SEEKING ADVICE FROM TELSTRA SERVICES ON : 1 800 033 935

JAMES HARCIE ASBESTOS LEGACY SITES NOTICE

A NUMBER OF LOCATIONS IN THE CITY OF PARRAMATTA LOCAL GOVERNMENT AREA WERE PREVIOUSLY IDENTIFIED IN 2005 BY THE NEW GOVERNMENT'S DEPARTMENT OF ENVIRONMENT, CLIMATE CHANGE AND WATER AS AREAS THAT ARE KNOWN, OR SUSPECTED, TO BE SITES WHERE ASBESTOS WASTE MATERIALS WERE DISPOSED OF BY JAMES HARCIE INDUSTRIES. THESE LEGACY SITES WERE IDENTIFIED IN REPORTS RELEASED BY THE DEPARTMENT OF ENVIRONMENT, CLIMATE CHANGE AND WATER IN 2009/10, ENTITLED JAMES HARCIE ASBESTOS WASTE CONTAMINATION LEGACY (JAMES HARCIE LEGACY REPORT). A COPY OF THAT JAMES HARCIE LEGACY REPORT IS AVAILABLE HERE: <http://www.ecc.nsw.gov.au/6610/paramatta.htm>

IN SOME INSTANCES ASBESTOS MATERIALS (BOTH FRIBABLE AND NON-FRIBABLE) HAVE BEEN IDENTIFIED IN THE SOILS OF LANDS ADJACENT TO, OR IN THE VICINITY OF, LEGACY SITES. FOR EXAMPLE, NATURE STRIPS, ROADS AND ROAD RELATED AREAS. BEFORE CARRYING OUT EXCAVATION OF LAND ADJACENT TO, OR IN THE VICINITY OF, LEGACY SITES SHOULD EXERCISE APPROPRIATE CAUTION, AND HAVE PLANS IN PLACE FOR SAFELY AND PROPERLY DEALING WITH ANY ASBESTOS ENCOUNTERED THROUGHOUT WORKS IN THE AREA.

INFORMATION SPECIFIC TO THE PARRAMATTA AREA CAN BE FOUND COMMENCING AT PAGE 22 HERE: <http://www.ecc.nsw.gov.au/6610/paramatta.htm#page=22> FOR FURTHER INFORMATION ABOUT JAMES HARCIE LEGACY SITES PLEASE CONTACT COUNCIL ON 0003 7003, OR THE NRM EPA ON 13 2522.

SURVEY NOTES:

1. ONLY VISIBLE SERVICES AT THE TIME OF SURVEY ARE SHOWN.
2. INDICATIVE BOUNDARIES SHOWN AND THE RELATIONSHIP TO THE FIELD FEATURES IS APPROXIMATE ONLY.
3. NO INVESTIGATION HAS BEEN MADE FOR EASEMENTS, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP THAT A CURRENT TITLE SEARCH MAY DISCLOSE.
4. ANY WORKS WITHIN 1m OF A BOUNDARY MUST BE SETOUT BY A REGISTERED SURVEYOR.
5. HORIZONTAL DATUM - MGA
6. VERTICAL DATUM - AHD
7. DATE OF SURVEY 21/02/2024

GENERAL UNDERGROUND SERVICES NOTES:

1. ALL UNDERGROUND SERVICE DATA HAS BEEN PLOTTED FROM RELEVANT SERVICE AUTHORITIES PLANS. THIS HAS BEEN PREPARED SOLELY FOR THE SERVICE AUTHORITIES OWN USE AND MAY NOT NECESSARILY BE UPDATED OR ACCURATE.
2. CAUTION TO BE TAKEN WHEN EXCAVATING IN THE VICINITY OF UNDERGROUND SERVICES.
3. CAUTION TO BE TAKEN WHEN EXCAVATING NEAR HOUSEHOLD CONNECTIONS.
4. CONTACT RELEVANT SERVICE AUTHORITIES FOR PROPOSED TREATMENT / PROTECTION TO THEIR ASSETS.

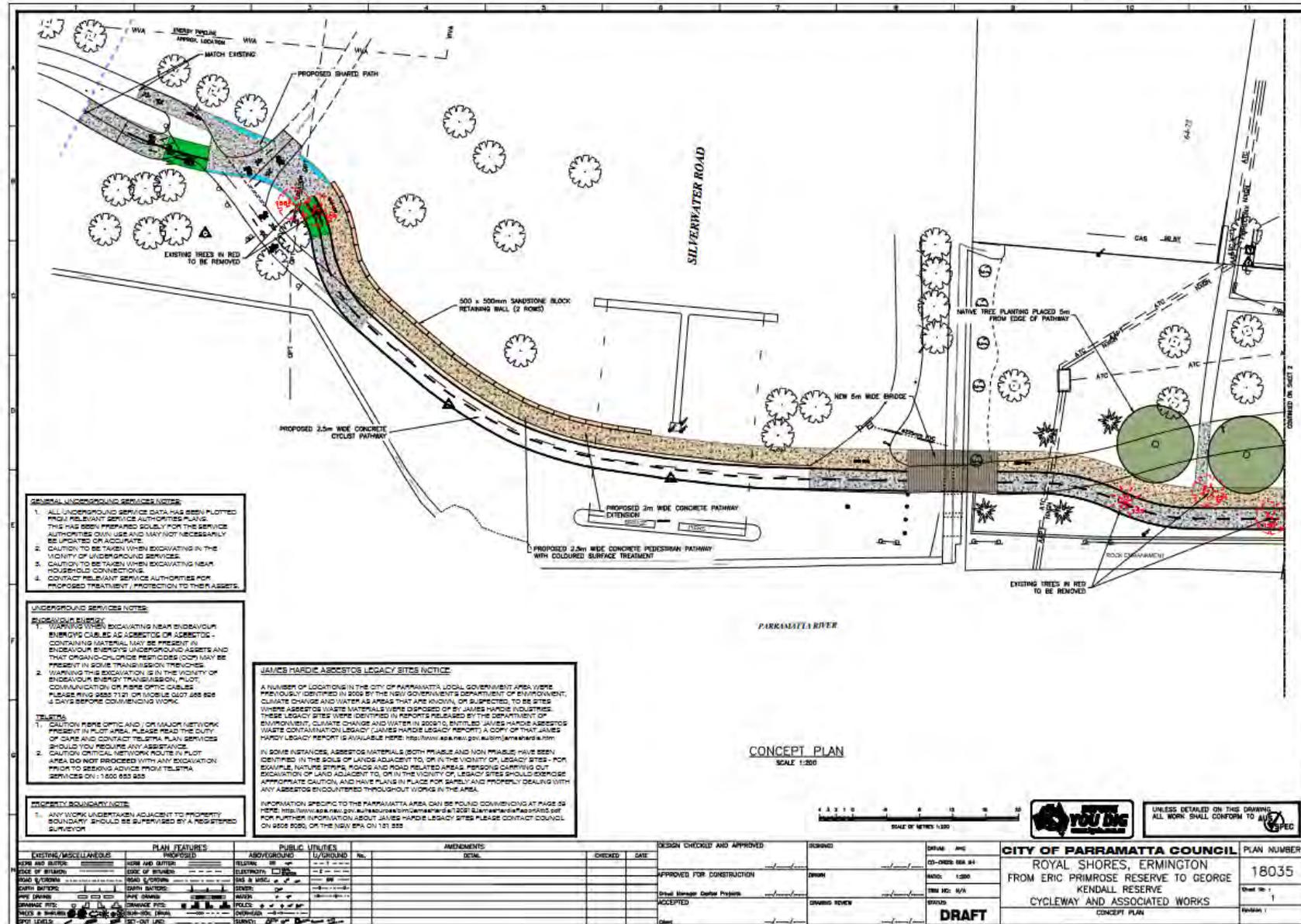
PROPERTY BOUNDARY NOTE:

1. ANY WORK UNDERTAKEN ADJACENT TO PROPERTY BOUNDARY SHOULD BE SUPERVISED BY A REGISTERED SURVEYOR



UNLESS DETAIL ON THIS DRAWING ALL WORK SHALL CONFORM TO AS 4576:2012

EXISTING/ASSEMBLAGE		PLAN FEATURES	PUBLIC UTILITIES	AMENDMENTS	DESIGN CHECKED AND APPROVED	REVISIONS	DATE	CITY OF PARRAMATTA COUNCIL	PLAN NUMBER
ROADS AND ALLEYS	ROADS AND ALLEYS	ROADS AND ALLEYS	TELEPHONE	NEW	DESIGNED	1	09-10-2024	RANGIHOU RESERVE, PARRAMATTA	Sheet No. 1
EDGE OF BOUNDARY	EDGE OF BOUNDARY	EDGE OF BOUNDARY	ELECTRICITY	NEW	APPROVED	2	09-10-2024	BETWEEN MACARTHUR ST AND ALFRED ST BRIDGE	Sheet No. 3
ROADS & DRIVEWAYS	ROADS & DRIVEWAYS	ROADS & DRIVEWAYS	GAS & MISC.	NEW	DRUG MANAGER	3		CYCLEWAY AND ASSOCIATED WORKS	Revision 1
CONCRETE PATHS	CONCRETE PATHS	CONCRETE PATHS	WATER	NEW	ACCEPTED				
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3. CAUTION TO BE TAKEN WHEN EXCAVATING NEAR HOUSEHOLD CONNECTIONS.
4. CONTACT RELEVANT SERVICE AUTHORITIES FOR PROPOSED TREATMENT / PROTECTION TO THE ASSETS.

UNDERGROUND SERVICES NOTES:

TELEPHONE SERVICES:

WARNING: WHEN EXCAVATING NEAR ENDEAVOUR ENERGY CABLES AND ASBESTOS OR ASBESTOS-CONTAINING MATERIAL MAY BE PRESENT IN ENDEAVOUR ENERGY'S UNDERGROUND ASSETS AND THAT ORGANIC-CHLORIDE PESTICIDES (OCP) MAY BE PRESENT IN SOME TRANSMISSION TRENCHES.

1. WARNING THIS EXCAVATION IS IN THE VICINITY OF ENDEAVOUR ENERGY TRANSMISSION, PILOT, COMMUNICATION OR FIBRE OPTIC CABLES. PLEASE RING 9252 7121 OR MOBILE 0207 266 666 4 DAYS BEFORE COMMENCING WORK.

TELETRA:

1. CAUTION: FIBRE OPTIC AND / OR MAJOR NETWORK PRESENT IN PLOT AREA. PLEASE READ THE DUTY OF CARE AND CONTACT TELETRA PLAN SERVICES SHOULD YOU REQUIRE ANY ASSISTANCE. CAUTION: CRITICAL NETWORK ROUTES IN PLOT AREA. DO NOT PROCEED WITH ANY EXCAVATION PRIOR TO SEEKING ADVICE FROM TELETRA SERVICES ON: 1300 655 650.

JAMES HARCIS ASBESTOS LEGACY SITES NOTICE:

A NUMBER OF LOCATIONS IN THE CITY OF PARRAMATTA LOCAL GOVERNMENT AREA WERE PREVIOUSLY IDENTIFIED IN 2006 BY THE NEW SOUTH WALES DEPARTMENT OF ENVIRONMENT, CLIMATE CHANGE AND WATER AS AREAS THAT ARE KNOWN, OR SUSPECTED, TO BE SITES WHERE ASBESTOS WASTE MATERIALS WERE DEPOSITED BY JAMES HARCIS INDUSTRIES. THESE LEGACY SITES WERE IDENTIFIED IN REPORTS RELEASED BY THE DEPARTMENT OF ENVIRONMENT, CLIMATE CHANGE AND WATER IN 2007, ENTITLED JAMES HARCIS ASBESTOS WASTE CONTAMINATION LEGACY (JAMES HARCIS LEGACY) REPORT. A COPY OF THAT JAMES HARCIS LEGACY REPORT IS AVAILABLE HERE: <http://www.aep.nsw.gov.au/legacysites.html>

IN SOME INSTANCES ASBESTOS MATERIALS (BOTH FRASER AND NON FRASER) HAVE BEEN IDENTIFIED IN THE SOILS OF LANDS ADJACENT TO, OR IN THE VICINITY OF, LEGACY SITES - FOR EXAMPLE, NATURE STRIPS, ROADS AND ROAD RELATED AREAS. PERSONS CARRYING OUT EXCAVATION OF LAND ADJACENT TO, OR IN THE VICINITY OF, LEGACY SITES SHOULD EXERCISE APPROPRIATE CAUTION, AND HAVE PLANS IN PLACE FOR SAFELY AND PROPERLY DEALING WITH ANY ASBESTOS ENCOUNTERED THROUGHOUT WORKS IN THE AREA.

INFORMATION SPECIFIC TO THE PARRAMATTA AREA CAN BE FOUND COMMENCING AT PAGE 28 HERE: <http://www.aep.nsw.gov.au/resources/legacysites.html> FOR FURTHER INFORMATION ABOUT JAMES HARCIS LEGACY SITES PLEASE CONTACT COUNCIL ON 9206 2026 OR THE NEW SPA ON 131 222

PROPERTY BOUNDARIES:

1. ANY WORK ADJACENT TO PROPERTY BOUNDARY SHOULD BE SUPERVISED BY A REGISTERED SURVEYOR

EXISTING / MISCELLANEOUS	PLAN FEATURES	PUBLIC UTILITIES		AMENDMENTS		DESIGN CHECKED AND APPROVED	SCHEMATIC	DATE: 03-09-2024	CITY OF PARRAMATTA COUNCIL	PLAN NUMBER: 18035
		ABOVEGROUND	UNDERGROUND	NO.	DETAIL					
WATER AND SEWER	ROAD AND OTHER	TELTRA	ELECTRICAL							
ROAD & CYCLING	ROAD & CYCLING	SD & MISC.	SD & MISC.							
SEWER SERVICES	SEWER SERVICES	SEWER	SEWER							
WATER SERVICES	WATER SERVICES	WATER	WATER							
DRAINAGE PITS	DRAINAGE PITS	POLES	POLES							
POLES & SERVICES	POLES & SERVICES	POLES	POLES							
SPOT LEVELS	SPOT LEVELS	SURVEY	SURVEY							

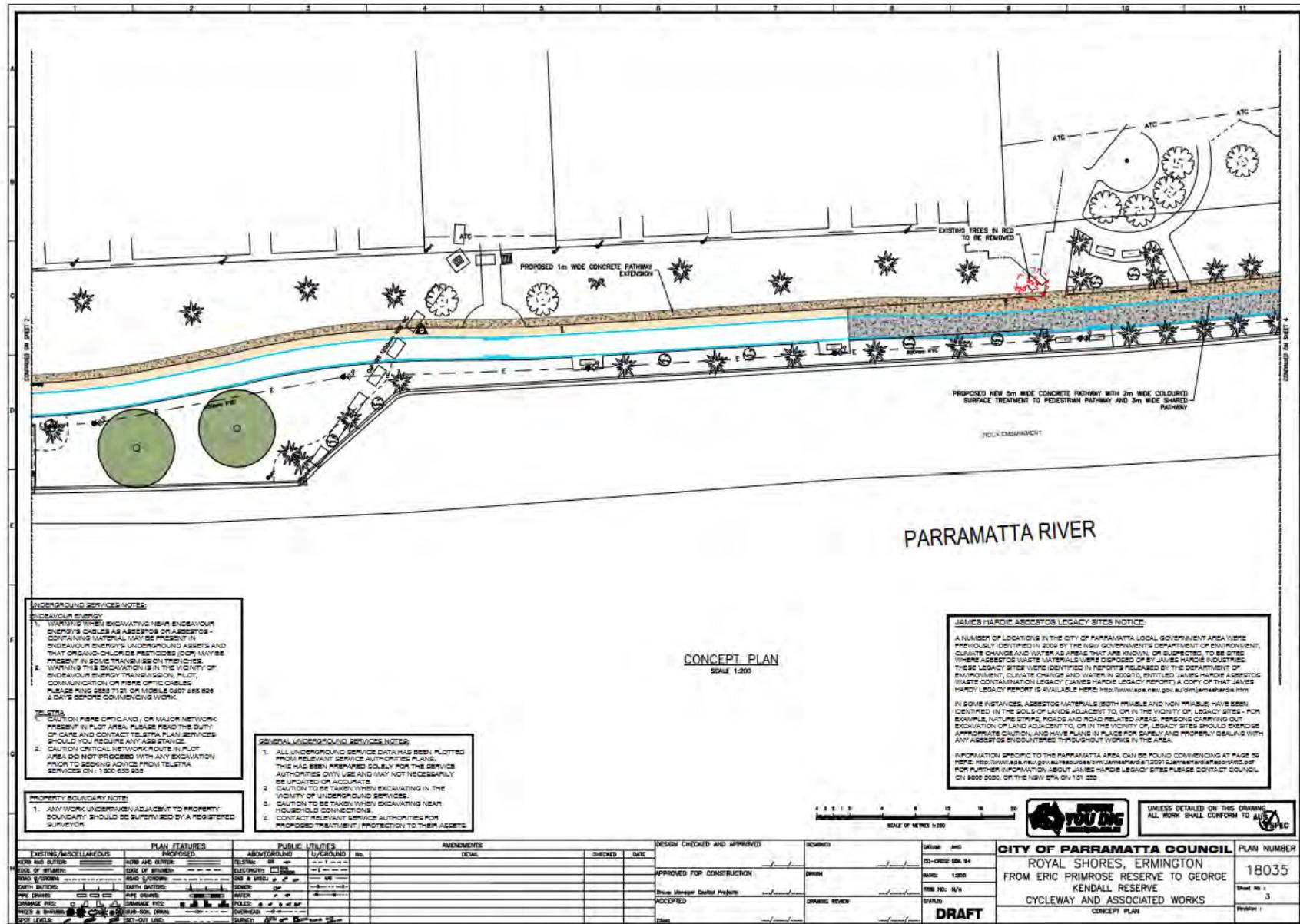
CONCEPT PLAN
SCALE 1:200



UNLESS DETAILED ON THIS DRAWING ALL WORK SHALL CONFORM TO AUSTRALIAN STANDARDS

CITY OF PARRAMATTA COUNCIL
 ROYAL SHORES, ERMINGTON
 FROM ERIC PRIMROSE RESERVE TO GEORGE
 KENDALL RESERVE
 CYCLEWAY AND ASSOCIATED WORKS
 CONCEPT PLAN

PLAN NUMBER: 18035
 SHEET NO: 1
 STATUS: DRAFT



UNDERGROUND SERVICES NOTES:

ENDOUR ENERGY

1. WARNING WHEN EXCAVATING NEAR ENDOUR ENERGY CABLES AS ASBESTOS OR ASBESTOS-CONTAINING MATERIAL MAY BE PRESENT IN ENDOUR ENERGY'S UNDERGROUND ASSETS AND THAT ORGANIC-ORIGIN PESTICIDES (OOP) MAY BE PRESENT IN SOLVENTS TRASHES OR TRINCHES.
2. WARNING THIS EXCAVATION IS IN THE VICINITY OF ENDOUR ENERGY TRANSMISSION, PILOT, COMMUNICATION OR FIBRE OPTIC CABLES. PLEASE READ 808 9121 OR MOBILE 0821 855 826 6 DAYS BEFORE COMMENCING WORK.

TELETRA

1. CAUTION FIBRE OPTIC/LAND / OR MAJOR NETWORK PRESENT IN PLOT AREA. PLEASE READ THE DUTY OF CARE AND CONTACT TELETRA PLAN SERVICES SHOULD YOU REQUIRE ANY ASSISTANCE.

2. CAUTION CRITICAL NETWORK ROUTES IN PLOT AREA DO NOT PROCEED WITH ANY EXCAVATION PRIOR TO RECEIVING ADVICE FROM TELETRA SERVICES ON 1 800 855 955

GENERAL UNDERGROUND SERVICES NOTES:

1. ALL UNDERGROUND SERVICE DATA HAS BEEN PLOTTED FROM RELEVANT SERVICE AUTHORITIES PLANS. THIS HAS BEEN PREPARED SOLELY FOR THE SERVICE AUTHORITIES OWN USE AND MAY NOT NECESSARILY BE UPDATED OR ACCURATE.
2. CAUTION TO BE TAKEN WHEN EXCAVATING IN THE VICINITY OF UNDERGROUND SERVICES.
3. CAUTION TO BE TAKEN WHEN EXCAVATING NEAR HOUSEHOLD CONNECTIONS.
4. CONTACT RELEVANT SERVICE AUTHORITIES FOR PROPOSED TREATMENT / PROTECTION TO THEIR ASSETS.

PROPERTY BOUNDARY NOTE:

1. ANY WORK UNDERTAKEN ADJACENT TO PROPERTY BOUNDARY SHOULD BE SUPERVISED BY A REGISTERED SURVEYOR.

JAMES HARDIE ASBESTOS LEGACY SITES NOTICE:

A NUMBER OF LOCATIONS IN THE CITY OF PARRAMATTA LOCAL GOVERNMENT AREA WERE PREVIOUSLY IDENTIFIED IN 2008 BY THE NSW GOVERNMENT'S DEPARTMENT OF ENVIRONMENT, CLIMATE CHANGE AND WATER AS AREAS THAT ARE KNOWN, OR SUSPECTED, TO BE SITES WHERE ASBESTOS WASTE MATERIALS WERE DISPOSED OF BY JAMES HARDIE INDUSTRIES. THESE LEGACY SITES WERE IDENTIFIED IN REPORTS RELEASED BY THE DEPARTMENT OF ENVIRONMENT, CLIMATE CHANGE AND WATER IN 2008/9, ENTITLED JAMES HARDIE ASBESTOS WASTE CONTAMINATION LEGACY (JAMES HARDIE LEGACY SITES) PLEASE CONTACT COUNCIL ON 8555 2020, OR THE NSW EPA ON 131 322.

IN SOME INSTANCES, ASBESTOS MATERIALS (BOTH FRASBLE AND NON FRASBLE) HAVE BEEN IDENTIFIED IN THE SOILS OF LANDS ADJACENT TO, OR IN THE VICINITY OF, LEGACY SITES - FOR EXAMPLE, NATURE STRIPS, ROADS AND ROAD RELATED AREAS. PERSONS CARRYING OUT EXCAVATION OF LANDS ADJACENT TO, OR IN THE VICINITY OF, LEGACY SITES SHOULD EXERCISE APPROPRIATE CAUTION AND HAVE PLANS IN PLACE FOR SAFELY AND PROPERLY DEALING WITH ANY ASBESTOS ENCOUNTERED THROUGHOUT WORKS IN THE AREA.

INFORMATION SPECIFIC TO THE PARRAMATTA AREA CAN BE FOUND COMMENCING AT PAGE 35 HERE: <http://www.epa.nsw.gov.au/prepare/our-work/2011-2012/2011-2012-legacy-sites-report> FOR FURTHER INFORMATION ABOUT JAMES HARDIE LEGACY SITES PLEASE CONTACT COUNCIL ON 8555 2020, OR THE NSW EPA ON 131 322.

CONCEPT PLAN
SCALE 1:200



UNLESS DETAILED ON THIS DRAWING ALL WORK SHALL CONFORM TO AUSTRALIAN STANDARDS

EXISTING/ASCILLANOUS		PLAN FEATURES		PUBLIC UTILITIES		AMENDMENTS		DESIGN CHECKED AND APPROVED		CITY OF PARRAMATTA COUNCIL	
NO	DESCRIPTION	NO	DESCRIPTION	NO	DESCRIPTION	NO	DESCRIPTION	DESIGNED	DATE	OFFICE	PLAN NUMBER
1	ROAD & SIDEWALK	1	ROAD & SIDEWALK	1	TELEPHONE	1	NEW	DESIGNED	12/08/24	18035	
2	ROAD & SIDEWALK	2	ROAD & SIDEWALK	2	ELECTRICITY	2	NEW	DESIGNED	12/08/24	18035	
3	ROAD & SIDEWALK	3	ROAD & SIDEWALK	3	WATER	3	NEW	DESIGNED	12/08/24	18035	
4	ROAD & SIDEWALK	4	ROAD & SIDEWALK	4	SEWER	4	NEW	DESIGNED	12/08/24	18035	
5	ROAD & SIDEWALK	5	ROAD & SIDEWALK	5	POLES	5	NEW	DESIGNED	12/08/24	18035	
6	ROAD & SIDEWALK	6	ROAD & SIDEWALK	6	POLES	6	NEW	DESIGNED	12/08/24	18035	
7	ROAD & SIDEWALK	7	ROAD & SIDEWALK	7	POLES	7	NEW	DESIGNED	12/08/24	18035	
8	ROAD & SIDEWALK	8	ROAD & SIDEWALK	8	POLES	8	NEW	DESIGNED	12/08/24	18035	
9	ROAD & SIDEWALK	9	ROAD & SIDEWALK	9	POLES	9	NEW	DESIGNED	12/08/24	18035	
10	ROAD & SIDEWALK	10	ROAD & SIDEWALK	10	POLES	10	NEW	DESIGNED	12/08/24	18035	

Appendix B. Assessment of likely occurrence of threatened species within the Subject Land.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
<i>Acacia pubescens</i>	V	V	Concentrated around the Bankstown-Fairfield-Rookwood area and the Pitt Town area, with outliers occurring at Barden Ridge, Oakdale and Mountain Lagoon. Occurs on alluviums, shales and at the intergrade between shales and sandstones. The soils are characteristically gravelly soils, often with ironstone. Grows in open woodland and forest, in a variety of plant communities, including Cooks River-Castlereagh Ironbark forest, Shale-Gravel Transition forest and Cumberland Plain woodland.	56	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required.
<i>Callistemon linearifolius</i>	V	-	Recorded from the Georges River to Hawkesbury River in the Sydney area, and north to the Nelson Bay area of NSW. Recorded in 2000 at Coalcliff in the northern Illawarra. For the Sydney area, recent records are limited to the Hornsby Plateau area near the Hawkesbury River. Grows in dry sclerophyll forest on the coast and adjacent ranges.	6	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required.
<i>Dillwynia tenuifolia</i>	V	-	The core distribution is the Cumberland Plain from Windsor to Penrith east to Deans Park. Other populations in western Sydney are	2	Low. A targeted survey during the site assessment did not identify this species. If present, this species would

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			recorded from Voyager Point and Kemps Creek in the Liverpool LGA, Luddenham in the Penrith LGA and South Maroota in the Baulkham Hills Shire. Disjunct localities include: the Bulga Mountains at Yengo in the north, Kurrajong Heights and Woodford in the Lower Blue Mountains. In western Sydney, may be locally abundant particularly within scrubby-dry heath areas within Castlereagh Ironbark forest and Shale Gravel Transition forest on tertiary alluvium or laterised clays. May also be common in transitional areas where these communities adjoin Castlereagh Scribbly Gum woodland. At Yengo, is reported to occur in disturbed escarpment woodland on Narrabeen sandstone.		have been easily identified during the December 2024 survey (at least to genus level). No further assessment is required.
<i>Epacris purpurascens</i> var. <i>purpurascens</i>	V	-	Recorded from Gosford in the north, to Narrabeen in the east, Silverdale in the west and Avon Dam vicinity in the South. Found in a range of habitat types, most of which have a strong shale soil influence.	52	Low. A targeted survey during the site assessment did not identify this species. If present, this species would have been easily identified during the December 2024 survey (at least to genus level). No further assessment is required.
<i>Grammitis stenophylla</i>	E	-	Moist places, usually near streams, on rocks or in trees, in rainforest and moist eucalypt forest.	1	Unlikely. Appropriate habitat for this species was absent from within the Subject Land.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
					No further assessment is required.
<i>Isotoma fluviatilis subsp. fluviatilis</i>	-	X	Known from only two adjacent sites on a single private property at Erskine Park in the Penrith LGA. Previous sightings are all from western Sydney, at Homebush and at Agnes Banks. Grows in damp places, on the Cumberland Plain, including freshwater wetland, grassland/alluvial woodland and an alluvial woodland/shale plains woodland (Cumberland Plain Woodland) and related vegetation types/. May be an early successional species that benefits from some disturbance. Possibly out competed when overgrown by some species such as <i>Cyndon dactylon</i> .	2	Unlikely. This species is assumed extinct. A targeted survey during the site assessment did not identify this species. If present, this species would have been easily identified during the December 2024 survey (at least to genus level). No further assessment is required.
<i>Macadamia integrifolia</i>	-	V	Macadamia Nut occurs from Mt Bauple, near Gympie, to Currumbin Valley in the Gold Coast hinterland, south-east Queensland. The species was known to occur in north-east New South Wales; was described from 1850-60 specimens collected from Camden Haven, and there are specimens also from Lismore. This species grows in remnant rainforest, including complex mixed notophyll forest,	2	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			and prefers partially open areas such as rainforest edges.		
<i>Persicaria elatior</i>	V	V	This species normally grows in damp places, especially beside streams and lakes. Occasionally in swamp forest or associated with disturbance.	1	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required.
<i>Pimelea curviflora</i> var. <i>curviflora</i>	V	V	Confined to the coastal area of Sydney between northern Sydney in the south and Maroota in the north-west. Former range extended south to the Parramatta River and Port Jackson region including Five Dock, Bellevue Hill and Manly. Occurs on shaley-lateritic soils over sandstone and shale-sandstone transition soils on ridgetops and upper slopes amongst woodlands.	9	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required.
<i>Pimelea spicata</i>	E	E	Once widespread on the Cumberland Plain, the Spiked Rice-flower occurs in two disjunct areas; the Cumberland Plain (Narellan, Marayong, Prospect Reservoir areas) and the Illawarra (Landsdowne to Shellharbour to northern Kiama). In both the Cumberland Plain and Illawarra environments this species is found on well-structured clay soils. On the inland Cumberland Plain sites it is associated	2	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			with grey box and Ironbark. In the coastal Illawarra it occurs commonly in Coast Banksia open woodland with a better developed shrub and grass understorey.		
<i>Pomaderris prunifolia</i> (Endangered population)	E	-	Known from only three sites within the listed local government areas, at Rydalmere, within Rookwood Cemetery and at The Crest of Bankstown. At Rydalmere it occurs along a road reserve near a creek, among grass species on sandstone. At Rookwood Cemetery it occurs in a small gully of degraded Cooks River - Castlereagh Ironbark forest on shale soils.	8	Low. A targeted survey during the site assessment did not identify this species. If present, this species would have been easily identified during the December 2024 survey (at least to genus level). No further assessment is required.
<i>Rhodamnia rubescens</i>	CE	CE	Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils. This species is characterised as highly to extremely susceptible to infection by Myrtle Rust. Myrtle Rust affects all plant parts.	4	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required.
<i>Syzygium paniculatum</i>	E	V	Found only in NSW, in a narrow, linear coastal strip from Bulahdelah to Conjola State forest. On the south coast the species occurs on grey soils over sandstone, restricted mainly to remnant stands of littoral rainforest. On the central coast it occurs on gravels, sands, silts	6	Low. A targeted survey during the site assessment did not identify this species. If present, this species would have been easily identified during the December 2024 survey (at least to genus level).

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			and clays in riverside gallery rainforests and remnant littoral rainforest communities		No further assessment is required.
<i>Tetratheca glandulosa</i>	V	-	Associated with shale-sandstone transition habitat where shale-cappings occur over sandstone, with associated soil landscapes such as Lucas Heights, Gynea, Lambert and Faulconbridge. Topographically, the plant occupies ridgetops, upper-slopes and to a lesser extent mid-slope sandstone benches. Soils are generally shallow, consisting of a yellow, clayey-sandy loam. Stony lateritic fragments are also common in the soil profile on many of these ridgetops. Vegetation structure varies from heaths and scrub to woodlands-open woodlands, and open forest.	1	Low. A targeted survey during the site assessment did not identify this species. If present, this species would have been easily identified during the December 2024 survey (at least to genus level). No further assessment is required.
<i>Triplarina imbricata</i>	E	E	Found only in a few locations in the ranges south-west of Glenreagh and near Tabulam in north-east NSW. Along watercourses in low open forest with water gum.	4	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required
<i>Wahlenbergia multicaulis</i>	E	-	Found in disturbed sites and grows in a variety of habitats including forest, woodland, scrub, grassland and the edges of watercourses and wetlands. Typically occurs	8	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
(Endangered population)			in damp, disturbed sites (with natural or human disturbance of various forms), typically amongst other herbs rather than in the open.		No further assessment is required
<i>Wilsonia backhousei</i>	V	-	In NSW Narrow-leaf <i>Wilsonia</i> is found on the coast between Mimosa Rocks National Park and Wamberal north of Sydney. This is a species of the margins of salt marshes and lakes.	100	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required
<i>Zannichellia palustris</i>	E	-	Grows in fresh or slightly saline stationary or slowly flowing water. NSW populations behave as annuals, dying back completely every summer.	6	Low. A targeted survey was undertaken during the recognised survey period and this species was absent from the Subject Land. No further assessment is required
<i>Anthochaera phrygia</i>	CE	CE	The Regent Honeyeater mainly inhabits temperate woodlands and open forests of the inland slopes of south-east Australia. Birds are also found in drier coastal woodlands and forests in some years. The distribution of the species has contracted dramatically in the last 30 years to between north-eastern Victoria and south-eastern Queensland. There are only three known key breeding regions remaining: north-east Victoria (Chiltern-Albury), and in NSW at Capertee Valley and	7	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			the Bundarra-Barraba region. In NSW the distribution is very patchy and mainly confined to the two main breeding areas and surrounding fragmented woodlands. In some years flocks converge on flowering coastal woodlands and forests.		
<i>Artamus cyanopterus cyanopterus</i>	V	-	The Dusky Woodswallow is widespread in eastern, southern and southwestern Australia. In New South Wales it is widespread from coast to inland, including the western slopes of the Great Dividing Range and farther west. It is sparsely scattered in, or largely absent from, much of the Upper Western region. The Dusky Woodswallow is often reported in woodlands and dry open sclerophyll forests, usually dominated by eucalypts, including mallee associations. It has also been recorded in shrublands and heathlands and various modified habitats, including regenerating forests; very occasionally in moist forests or rainforests. At sites where Dusky Woodswallows are recorded the understorey is typically open with sparse eucalypt saplings, acacias and other shrubs, including heath. The ground cover may consist of grasses, sedges or open	35	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			ground, often with coarse woody debris (Higgins and Peter 2002). Birds are also often observed in farm land, usually at the edges of forest or woodland or in roadside remnants or wind breaks with dead timber.		
<i>Botaurus poiciloptilus</i>	E	E	The Australasian Bitterns is widespread but uncommon over south-eastern Australia. In NSW they may be found over most of the state except for the far north-west. Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes and spikerushes.	13	<p>Low. This highly mobile species may be an occasional visitor, but habitat constraints required for this species are absent within the Subject Land.</p> <p>This species has not been recorded within the locality in the last 10-years.</p> <p>No further assessment is required.</p>
<i>Calidris canutus</i>	E	CE	The Red Knot is common in all the main suitable habitats around the coast of Australia. Very large numbers are regularly recorded in north-west Australia, with 80 Mile Beach and Roebuck Bay being particular strongholds. The only places it is not found in significant numbers are the northern part of the Great Australian Bight in South Australia and Western Australia, and along much of the NSW coast, where wader habitat is rather scarce (excluding the Hunter Estuary). It is widespread along the coast south of	14	<p>Low. This highly mobile species may be an occasional visitor, but habitat constraints required for this species are absent within the Subject Land.</p> <p>No further assessment is required.</p>

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			Townsville and along the coasts of NSW and Victoria.		
<i>Calidris ferruginea</i>	E	CE	The Curlew Sandpiper is distributed around most of the coastline of Australia. It occurs along the entire coast of NSW, particularly in the Hunter Estuary, and sometimes in freshwater wetlands in the Murray-Darling Basin. It generally occupies littoral and estuarine habitats, and in New South Wales is mainly found in intertidal mudflats of sheltered coasts. It also occurs in non-tidal swamps, lakes and lagoons on the coast and sometimes the inland	438	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Calidris tenuirostris</i>	V	V	In NSW, the species has been recorded at scattered sites along the coast to about Narooma. It has also been observed inland at Tullakool, Armidale, Gilgandra and Griffith. Occurs within sheltered, coastal habitats containing large, intertidal mudflats or sandflats, including inlets, bays, harbours, estuaries and lagoons. Often recorded on sandy beaches with mudflats nearby, sandy spits and islets and sometimes on exposed reefs or rock platforms.	2	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
<i>Calyptorhynchus lathami lathami</i>	V	V	Inhabits forest with low nutrients, characteristically with key <i>Allocasuarina</i> spp. Tends to prefer drier forest types with a middle stratum of <i>Allocasuarina</i> below Eucalyptus or Angophora. Often confined to remnant patches in hills and gullies. Breed in hollows stumps or limbs, either living or dead. Endangered population in the Riverina.	3	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Chalinolobus dwyeri</i>	E	E	Located in a variety of drier habitats, including the dry sclerophyll forests and woodlands to the east and west of the Great Dividing Range. Can also be found on the edges of rainforests	3	Low. This highly mobile species may be an occasional visitor, but habitat constraints required for this species are absent within the Subject Land. No further assessment is required.
<i>Circus assimilis</i>	V	-	The Spotted Harrier occurs throughout the Australian mainland, except in densely forested or wooded habitats of the coast, escarpment and ranges, and rarely in Tasmania. Individuals disperse widely in NSW and comprise a single population. Occurs in grassy open woodland including acacia and mallee remnants, inland riparian woodland, grassland and shrub steppe. It is found most commonly in native grassland, but also occurs in agricultural land, foraging over	12	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			open habitats including edges of inland wetlands.		
<i>Daphoenositta chrysoptera</i>	V	-	Inhabits wide variety of dry eucalypt forests and woodlands, usually with either shrubby under storey or grassy ground cover or both, in all climatic zones of Australia. Usually in areas with rough-barked trees, such as stringybarks or ironbarks, but also in paperbarks or mature Eucalypts with hollows.	4	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Dasyurus maculatus</i>	V	E	Spotted-tailed Quoll are found on the east coast of NSW, Tasmania, eastern Victoria and north-eastern Queensland. Only in Tasmania is it still considered common. Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline.	3	Low. Suitable breeding habitat is absent from the Subject Land. This species may occasionally forage within the Subject Land, however, are unlikely to rely upon these areas given the more appropriate foraging habitat available within the broader locality. No further assessment is required.
<i>Epthianura albifrons</i> (Endangered population)	E	-	Low vegetation in salty coastal and inland areas and crops. Runs along ground and is found in local flocks in Winter.	437	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
					No further assessment is required.
<i>Epthianura albifrons</i>	V	-	Low vegetation in salty coastal and inland areas and crops. Runs along ground and is found in local flocks in Winter.	437	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Falco subniger</i>	V	-	The Black Falcon is found along tree-lined watercourses and in isolated woodlands, mainly in arid and semi-arid areas. It roosts in trees at night and often on power poles by day.	1	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. This species has not been recorded within the locality in the last 10-years. No further assessment is required.
<i>Falsistrellus tasmaniensis</i>	V	-	Inhabit sclerophyll forests, preferring wet habitats where trees are more than 20 m high. Two observations have been made of roosts in stem holes of living eucalypts. There is debate about whether or not this species moves to lower altitudes during winter, or	11	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			whether they remain sedentary but enter torpor. This species also appears to be highly mobile and records showing movements of up to 12 km between roosting and foraging sites.		periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Gallinago hardwickii</i>	V	V	Latham's Snipe is a non-breeding migrant to the south east of Australia including Tasmania, passing through the north and New Guinea on passage. Latham's Snipe breed in Japan and on the east Asian mainland. seen in small groups or singly in freshwater wetlands on or near the coast, generally among dense cover. They are found in any vegetation around wetlands, in sedges, grasses, lignum, reeds and rushes and also in saltmarsh and creek edges on migration.	1965	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Glossopsitta pusilla</i>	V	-	Distributed in forests and woodlands from the coast to the western slopes of the Great Dividing Range in NSW, extending westwards to the vicinity of Albury, Parkes, Dubbo and Narrabri. Mostly occur in dry, open eucalypt forests and woodlands. They feed primarily on nectar and pollen in the tree canopy. Nest hollows are located at heights of between 2 m and 15 m, mostly in living, smooth-barked	21	Moderate. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			eucalypts. Most breeding records come from the western slopes.		
<i>Haematopus longirostris</i>	E	-	The Pied Oystercatcher inhabits marine littoral habitats, including islands. It occupies muddy, sandy, stony or rocky estuaries, inlets and beaches, particularly intertidal mudflats and sandbanks in large marine bays.	1	Unlikely. Suitable habitat for the species is absent from the Subject Land. No further assessment is required.
<i>Haliaeetus leucogaster</i>	V	-	Inhabits coastal and near coastal areas, building large stick nests, and feeding mostly on marine and estuarine fish and aquatic fauna.	743	Moderate. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Hieraaetus morphnoides</i>	V	-	Most abundant in lightly timbered areas with open areas nearby. Often recorded foraging in grasslands, crops, treeless dune fields, and recently logged areas. May nest in farmland, woodland and forest in tall trees.	18	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
<i>Hirundapus caudacutus</i>	V	-	An aerial species found in feeding concentrations over cities, hilltops and timbered ranges.	51	Moderate. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Ixobrychus flavicollis</i>	V	-	Usually found on coastal plains below 200 m. Often found along timbered watercourses, in wetlands with fringing trees and shrub vegetation. The sites where they occur are characterized by dense waterside vegetation.	6	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Lathamus discolor</i>	E	CE	The Swift Parrot occurs in woodlands and forests of NSW from May to August, where it feeds on eucalypt nectar, pollen and associated insects. The Swift Parrot is dependent on flowering resources across a wide range of habitats in its wintering grounds in NSW. This species is migratory, breeding in Tasmania and also nomadic,	7	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			moving about in response to changing food availability.		
<i>Limicola falcinellus</i>	V	-	Broad-billed Sandpipers favour sheltered parts of the coast such as estuarine sandflats and mudflats, harbours, embayments, lagoons, saltmarshes and reefs as feeding and roosting habitat. Occasionally, individuals may be recorded in sewage farms or within shallow freshwater lagoons. Broad-billed Sandpipers roost on banks on sheltered sand, shell or shingle beaches.	2	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Limosa limosa</i>	V	E	Primarily a coastal species. Usually found in sheltered bays, estuaries and lagoons with large intertidal mudflats and-or sandflats. Further inland, it can also be found on mudflats and in water less than 10 cm deep, around muddy lakes and swamps.	17	Unlikely. Suitable habitat for the species is absent from the Subject Land. No further assessment is required.
<i>Litoria aurea</i>	E	V	Inhabits a very wide range of water bodies including marshes, dams and streams, particularly those containing emergent vegetation such as bullrushes or spikerushes. It also inhabits numerous types of man-made water bodies including quarries and sand extraction sites. Optimum habitat includes water-bodies that are un-shaded, free of	17069	Unlikely. Suitable habitat for the species is absent from the Subject Land. Extensive aquatic habitat more appropriate for this species will continue to be available within the Parramatta River. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			predatory fish such as Plague Minnow, have a grassy area nearby and diurnal sheltering sites available.		
<i>Meridolum corneovirens</i>	E	-	Primarily inhabits Cumberland Plain woodland (an EEC). This community is a grassy, open woodland with occasional dense patches of shrubs. Lives under litter of bark, leaves and logs, or shelters in loose soil around grass clumps. Occasionally shelters under rubbish.	3	Low. Suitable habitat for this species is available within the Subject Land however extensive more appropriate leaf litter will continue to be available in the broader locality. No further assessment is required.
<i>Micronomus norfolkensis</i>	V	-	Most records are from dry eucalypt forests and woodlands to the east of the Great Dividing Range. Appears to roost in trees, but little is known of this species' habits.	11	Low. This highly mobile species may be an occasional visitor, but habitat constraints required for this species are absent within the Subject Land. No further assessment is required.
<i>Miniopterus australis</i>	V	-	Coastal north-eastern NSW and eastern Queensland. Little Bent-wing Bat is an insectivorous bat that roost in caves, in old mines, in tunnels, under bridges, or in similar structures. They breed in large aggregations in a small number of known caves and may travel 100s km from feeding home ranges to breeding sites. Little Bent-wing Bat has a preference for moist eucalypt forest,	11	Low. This highly mobile species may be an occasional visitor. Suitable aerial foraging habitat for this species is found both within and immediately adjacent to the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			rainforest or dense coastal banksia scrub where it forages below the canopy for insects.		
<i>Miniopterus orianae oceanensis</i>	V	-	Eastern Bent-wing Bats occur along the east and north-west coasts of Australia. Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures. Form discrete populations centred on a maternity cave that is used annually in spring and summer for the birth and rearing of young.	96	Low. This highly mobile species may be an occasional visitor. Suitable aerial foraging habitat for this species is found both within and immediately adjacent to the Subject Land. No further assessment is required.
<i>Myotis macropus</i>	V	-	The Large-footed Myotis is found in the coastal band from the north-west of Australia, across the top-end and south to western Victoria. Generally roost in groups of 10 – 15 close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage.	53	Low. This highly mobile species may be an occasional visitor, but habitat constraints required for this species are absent within the Subject Land. No further assessment is required.
<i>Neophema pulchella</i>	V	-	The Turquoise Parrot's range extends from southern Queensland through to northern Victoria, from the coastal plains to the western slopes of the Great Dividing Range. Lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland. Nests in tree hollows, logs	2	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding) on habitats in the Subject Land. No hollows suitable for breeding were identified within the Subject Land.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			or posts, from August to December. It lays four or five white, rounded eggs on a nest of decayed wood dust.		No further assessment is required.
<i>Ninox connivens</i>	V	-	Generally found in open forests, woodlands, swamp woodlands and dense scrub. Can also be found in the foothills and timber along watercourses in otherwise open country.	6	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding) on habitats in the Subject Land. No hollows suitable for breeding were identified within the Subject Land. No further assessment is required.
<i>Ninox strenua</i>	V	-	Occupies wet and dry eucalypt forests and rainforests. Can occupy both un-logged and lightly logged forests as well as undisturbed forests where it usually roosts on the limbs of dense trees in gully areas. It is most commonly recorded within red turpentine in tall open forests and black she-oak within open forests. Large mature trees with hollows at least 0.5 m deep are required for nesting. Tree hollows are particularly important for the Powerful Owl because a large proportion of the diet is made up of hollow-dependent arboreal marsupials. Nest trees for this	306	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding) on habitats in the Subject Land. No hollows suitable for breeding were identified within the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			species are usually emergent with a diameter at breast height of at least 100 cm.		
<i>Numenius madagascariensis</i>	E	CE	The Eastern curlew spends its breeding season in northeastern Asia, including Siberia to Kamchatka, and Mongolia. Its breeding habitat is composed of marshy and swampy wetlands and lakeshores. Most individuals winter in coastal Australia, with a few heading to South Korea, Thailand, Philippines and New Zealand, where they stay at estuaries, beaches, and salt marshes. It uses its long, decurved bill to probe for invertebrates in the mud. It may feed in solitary but it generally congregates in large flocks to migrate or roost. Its call is a sharp, clear whistle, cuuue-reee, often repeated.	40	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Oxyura australis</i>	V	-	Widespread in NSW, but most common in the southern Murray-Darling Basin area. Birds disperse during the breeding season to deep swamps up to 300 km away. It is generally only during summer or in drier years that they are seen in coastal areas. The Blue-billed Duck prefers deep water in large permanent wetlands and swamps with dense aquatic vegetation.	2	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. This species has not been recorded within the locality in the last 10-years.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
					No further assessment is required.
<i>Pandion cristatus</i>	V	-	Ospreys are found right around the Australian coast line, except for Victoria and Tasmania. They are common around the northern coast, especially on rocky shorelines, islands and reefs. The species is uncommon to rare or absent from closely settled parts of south-eastern Australia. Favour coastal areas, especially the mouths of large rivers, lagoons and lakes. Feed on fish over clear, open water.	13	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Petauroides volans</i>	E	E	The Greater Glider occurs in eucalypt forests and woodlands. Utilise tree hollows	1	Unlikely. Suitable habitat for the species is absent from the Subject Land. This species has not been recorded within the locality in the last 10-years. No further assessment is required.
<i>Petroica boodang</i>	V	-	The Scarlet Robin is found from SE Queensland to SE South Australia and also in Tasmania and SW Western Australia. In NSW, it occurs from the coast to the inland slopes. The Scarlet Robin lives in dry eucalypt forests and woodlands. The understorey is usually open and grassy with few scattered shrubs.	5	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
					No further assessment is required.
<i>Petroica phoenicea</i>	V	-	Flame Robins are found in a broad coastal band from southern Queensland to just west of the South Australian border. The species is also found in Tasmania. The preferred habitat in summer includes eucalyptus forests and woodland, whilst in winter prefers open woodlands and farmlands. It is considered migratory. The Flame Robin breeds from about August to January.	2	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Phascolarctos cinereus</i>	E	E	Inhabits eucalypt forests and woodlands. The suitability of these forests for habitation depends on the size and species of trees present, soil nutrients, climate and rainfall .	1	Unlikely. Suitable habitat for the species is absent from the Subject Land due to the urban nature of the area and relatively fragmented nature of the habitat. No further assessment is required.
<i>Pommerhelix duralensis</i>	E	E	Endemic to NSW and confined to northwest fringes of the Cumberland Plain. Distribution extends as far north as St. Albans; southwest to Mulgoa, and southeast to Parrammatta. Occurs in low densities in Hawkesbury Sandstone Vegetation and Shale/Sandstone Transition Forest. Found under rocks, logs, bark and in leaf litter. Has a strong preference for shale-influenced transitional landscapes	39	Low. Suitable habitat for this species is available within the Subject Land however extensive more appropriate leaf litter will continue to be available in the broader locality. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			and has not been confirmed outside such habitats.		
<i>Pseudophryne australis</i>	V	-	Occurs on wetter ridge tops and upper slopes of sandstone formations on which the predominant vegetation is dry open forests and heaths. This species typically breeds within small ephemeral creeks that feed into larger semi-perennial streams. After rain these creeks are characterised by a series of shallow pools lined by dense grasses, ferns and low shrubs and usually contain leaf litter for shelter. Eggs are terrestrial and laid under litter, vegetation or rocks where the tadpoles inside will reach a relatively late stage of development before waiting for flooding waters before hatching will occur.	2	Unlikely. Suitable habitat for the species is absent from the Subject Land. Extensive aquatic habitat more appropriate for this species will continue to be available within the Parramatta River. No further assessment is required.
<i>Pteropus poliocephalus</i>	V	V	This species is a canopy-feeding frugivore and nectarivore of rainforests, open forests, woodlands, melaleuca swamps and banksia woodlands. Bats commute daily to foraging areas, usually within 15 km of the day roost although some individuals may travel up to 70 km.	902	High. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
<i>Rostratula australis</i>	E	E	In NSW, this species has been recorded at the Paroo wetlands, Lake Cowell, Macquarie Marshes and Hexham Swamp. Most common in the Murray-Darling Basin. Prefers fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber. Nests on the ground amongst tall vegetation, such as grasses, tussocks or reeds.	10	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Saccolaimus flaviventris</i>	V	-	Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. When foraging for insects, flies high and fast over the forest canopy, but lower in more open country. Forages in most habitats across its very wide range, with and without trees; appears to defend an aerial territory.	14	Low. This highly mobile species may be an occasional visitor, but habitat constraints required for this species are absent within the Subject Land. No further assessment is required.
<i>Scoteanax rueppellii</i>	V	-	Prefer moist gullies in mature coastal forests and rainforests, between the Great Dividing Range and the coast. They are only found at low altitudes below 500 m. In dense environments they utilise natural and human-made opening in the forest for flight paths. Creeks and small rivers are favoured foraging	7	Low. This highly mobile species may be an occasional visitor, but habitat constraints required for this species are absent within the Subject Land. No further assessment is required.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			habitat. This species roosts in hollow tree trunks and branches.		
<i>Sternula albifrons</i>	E	-	Almost exclusively coastal, preferring sheltered environments; however may occur several hundred kilometres from the sea in harbours, inlets and rivers.	7	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Stictonetta naevosa</i>	V	-	The freckled duck breeds in permanent fresh swamps that are heavily vegetated. Found in fresh or salty permanent open lakes, especially during drought. Often seen in groups on fallen trees and sand spits.	3	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land. No further assessment is required.
<i>Tringa nebularia</i>	E	E	Habitat is diverse, both inland and coastal. Found inland on both permanent and temporary wetland- billabongs, swamps, lakes, floodplains, sewage, farms and saltwater ponds. On the coast, it uses sheltered estuaries and bays with extensive mudflats, mangrove swamps, muddy	334	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land.

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			shallows of harbours and lagoons and occasionally rocky tidal edges.		This species has not been recorded within the locality in the last 10-years. No further assessment is required.
<i>Tyto longimembris</i>	V	-	Found in areas of tall grass, including grass tussocks, in swampy areas, grassy plains, swampy heath, and in cane grass or sedges on flood plains.	2	Low. This highly mobile species may be an occasional visitor, but habitat constraints required for this species are absent within the Subject Land. No further assessment is required.
<i>Tyto novaehollandiae</i>	V	-	Inhabits a diverse range of wooded habitat that provide tall or dense mature trees with hollows suitable for nesting and roosting. Mostly recorded in open forest and woodlands adjacent to cleared lands. Nest in hollows, in trunks and in near vertical spouts or large trees, usually living but sometimes dead. Nest hollows are usually located within dense forests or woodlands. Masked owls prey upon hollow-dependent arboreal marsupials, but terrestrial mammals make up the largest proportion of the diet.	3	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding) on habitats in the Subject Land. No hollows suitable for breeding were identified within the Subject Land. No further assessment is required.
<i>Tyto tenebricosa</i>	V	-	Often found in tall old-growth forests, including temperate and subtropical rainforests. In NSW mostly found on escarpments with a mean altitude less than	1	Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding) on habitats in the

Scientific name	Status		Distribution and habitat	Number of records (BioNet)	Likelihood of occurrence
	BC Act	EPBC Act			
			500 metres. Nests and roosts in hollows of tall emergent trees, mainly eucalypts often located in gullies. Nests have been located in trees 125 to 161 centimetres in diameter.		<p>Subject Land. No hollows suitable for breeding were identified within the Subject Land.</p> <p>This species has not been recorded within the locality in the last 10-years.</p> <p>No further assessment is required.</p>
<i>Xenus cinereus</i>	V	V	The Terek Sandpiper mostly forages in the open, on soft wet intertidal mudflats or in sheltered estuaries, embayment's, harbours or lagoons.	1	<p>Low. This highly mobile species may be an occasional visitor, but habitat similar to the Subject Land is widely distributed in the locality, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitats in the Subject Land.</p> <p>This species has not been recorded within the locality in the last 10-years.</p> <p>No further assessment is required.</p>

Appendix C. 5-Part Tests (Tests of Significance) (BC Act).

*Biodiversity Conservation Act 2016 – Test of Significance (5-part Test)
for Threatened Ecological Communities*

Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions (Endangered)

<p>Species Ecology (Scientific Committee, 2011)</p>	<p>Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and Southeast Corner bioregions is the name given to the ecological community associated with humic clay loams and sandy loams, on waterlogged or periodically inundated alluvial flats and drainage lines associated with coastal floodplains. Swamp Sclerophyll Forest on Coastal Floodplains generally occurs below 20 m (though sometimes up to 50 m) elevation, often on small floodplains or where the larger floodplains adjoin lithic substrates or coastal sand plains in the NSW North Coast, Sydney Basin and Southeast Corner bioregions. The structure of the community is typically open forest, although partial clearing may have reduced the canopy to scattered trees. In some areas the tree stratum is low and dense, so that the community takes on the structure of scrub. The community also includes some areas of fern land and tall reed land or sedgeland, where trees are very sparse or absent. Typically, these forests, scrubs, fenlands, Redlands and sedgelands form mosaics with other floodplain forest communities and treeless wetlands, and often they fringe treeless floodplain lagoons or wetlands with semi-permanent standing water.</p>
<p>(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,</p>	<p>Not applicable.</p>

**Biodiversity Conservation Act 2016 – Test of Significance (5-part Test)
for Threatened Ecological Communities**

Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions (Endangered)

<p>(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:</p>	<p>(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or</p>	<p>No. The proposed activity is unlikely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction. Only 33 trees, representative of the EEC, will be impacted to facilitate the proposal.</p> <p>This TEC is represented within the vegetation to be retained surrounding the Subject Land will continue to adjoin to areas of high-quality habitat within the broader locality based on information provided within the current State Vegetation Type Map (NSW DCCEEW, 2024d).</p>
	<p>(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,</p>	<p>The proposed activity is not likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.</p> <p>The proposed activity will impact 33 trees which constitute a part of the EEC. Of these, all species are well represented elsewhere within the Subject Land and in other adjoining parks and properties, which are not impacted. It is not expected that the proposed activity will cause the permanent loss of any complexity or unique floristic</p>

**Biodiversity Conservation Act 2016 – Test of Significance (5-part Test)
for Threatened Ecological Communities**

Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions (Endangered)

		components of the ecological community, such that it is likely to be placed at risk of extinction.
(c) in relation to the habitat of a threatened species or ecological community:	(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and	The proposed activity will require the removal of 33 trees serving as habitat. This ‘habitat’ constitutes a negligible portion of the TEC within the local occurrence.
	(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and	Minor increased fragmentation will occur as a result of the proposed activity, however within the existing landscape context, the select removal of planted trees that reflect this TEC is not likely to constitute a significant impact to the TEC.
	(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,	All areas which support viable patches are important. Given the patches of habitat available in the vicinity, it is not expected that the development will impact the long-term survival of the EEC.
(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),	The activity proposed is not likely to have an adverse effect on any declared area of critical habitat, directly or indirectly.	
(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	The following Key Threatening Processes (KTPs) are documented to impact upon the survival of the ecological community: <ul style="list-style-type: none"> • Clearing of native vegetation 	

Biodiversity Conservation Act 2016 – Test of Significance (5-part Test)
for Threatened Ecological Communities

Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions (Endangered)

Conclusion

There will be no significant impact on these species therefore the proposed action should not warrant the preparation of a Species Impact Statement (SIS) or Biodiversity Development Assessment Report (BDAR).

Appendix D. Assessment of Significant Impact Criteria under the EPBC Act.

<i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999– Assessment of Significant Impact Criteria</i>	
for Coastal Swamp Sclerophyll Forest of New South Wales and Southeast Queensland	
EPBC Act Status: Endangered	
Significant Impact Criteria	
An action is likely to have a significant impact on a critically endangered or endangered ecological community if there is a real chance or possibility that it will:	
<ul style="list-style-type: none"> • Reduce the extent of an ecological community; 	<p>The proposed activity will not result in very low impacts to the Coastal Swamp Sclerophyll Forest mapped within the Subject Land. Vegetation to be impacted characteristic of the EEC is planted and of low value within the area. Subject to mitigation measures, no other areas of vegetation will be impacted by the proposal. It is therefore not considered likely that the extent of the ecological community will be reduced.</p>
<ul style="list-style-type: none"> • Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines; 	<p>Coastal Swamp Sclerophyll Forest within the area is already fragmented due to the urban nature of the landscape. No increased fragmentation will occur, and connectivity is expected to remain the same extent within the Subject Land.</p>
<ul style="list-style-type: none"> • Adversely affect habitat critical to the survival of an ecological community; 	<p>Minimal Coastal Swamp Sclerophyll Forest requires removal to facilitate the works (33 trees 0.09ha). Subject to mitigation measures, it is considered unlikely that the proposed activity would adversely affect habitat critical to the survival of this community.</p>
<ul style="list-style-type: none"> • Modify or destroy abiotic (non-living) factors (such as water, nutrients or soil) necessary for an ecological community’s survival including reduction of groundwater levels or substantial alteration of surface water drainage patterns; 	<p>It is not expected that the proposed activity will modify or destroy abiotic factors (such as water, nutrients, or soil) that is necessary for the survival of this ecological community. No reduction in groundwater levels, or substantial alterations of surface water drainage patterns are anticipated as a result of the proposed activity.</p>

Commonwealth Environment Protection and Biodiversity Conservation Act 1999– Assessment of Significant Impact Criteria for Coastal Swamp Sclerophyll Forest of New South Wales and Southeast Queensland

EPBC Act Status: Endangered

- **Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting;**

The proposed activity will require clearing of 0.09ha of Coastal Swamp Sclerophyll Forest. The 0.09ha of vegetation to be removed are all exceedingly common native canopy species; (*Angophora costata*, *Melaleuca quinquenervia*, *Eucalyptus spp.*, *Melaleuca styphelioides*, *Casuarina glauca*, *Corrymbia maculata*). These species do not contribute to unique species compositions of this EEC. It is considered unlikely that the proposal will cause a substantial change in the species composition of the occurrence of the ecological community.

- **Cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:**
 - i. **assisting invasive species, that are harmful to the listed ecological community, to become established**
 - ii. **causing regular mobilisation of fertilisers, herbicides, or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community;**

The proposed activity will not cause a substantial reduction in the quality or integrity of the occurrence of this EEC.

- i. The proposed activity will not assist invasive species to become established as the Coastal Swamp Sclerophyll Forest, subject to appropriate management. No harmful, invasive species were identified within the Subject Land; and
- ii. The proposed activity is not expected to cause the regular mobilisation of fertilisers, herbicides, or other chemicals or pollutants.

- **Interfere with the recovery of an ecological community.**

It is not anticipated that the proposed activity will interfere with the recovery of the EEC. The anticipated impacts are both minimal and highly insignificant in the context of the surrounding landscape. Appropriate habitat for the EEC will remain available in the broader locality. As such, it is not expected that the proposed activity will interfere with the recovery of this ecological community.

Commonwealth Environment Protection and Biodiversity Conservation Act 1999– Assessment of
Significant Impact Criteria
for

Coastal Swamp Sclerophyll Forest of New South Wales and Southeast Queensland

EPBC Act Status: Endangered

Conclusion

There will be no significant impact on the ecological community therefore the proposed action should not warrant the producing of a Species Impact Statement (SIS) or Biodiversity Development Assessment Report (BDAR).



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Report

Reid Park – Drainage Investigation and Flood Impact Assessment Report

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1 Introduction

This report has been prepared by City of Parramatta Council to analyse the drainage components and flood impact assessment associated with the proposed pedestrian and cyclist pathway design at Reid Park located south of Pike Street adjacent to Parramatta River. This report will include assessment of the following:

- Hydrological and Hydraulic Analysis
- Design Drainage Considerations
- Flood Impact Assessment

1.1 Project Description

The proposal involves construction of a shared cycleway within Reid Park, located south of Pike Street adjacent to Parramatta River. The proposed works, illustrated in Figure 1 includes widening of the existing pedestrian path to a total width of 5 metres, incorporating new pavement and supporting Infrastructure.

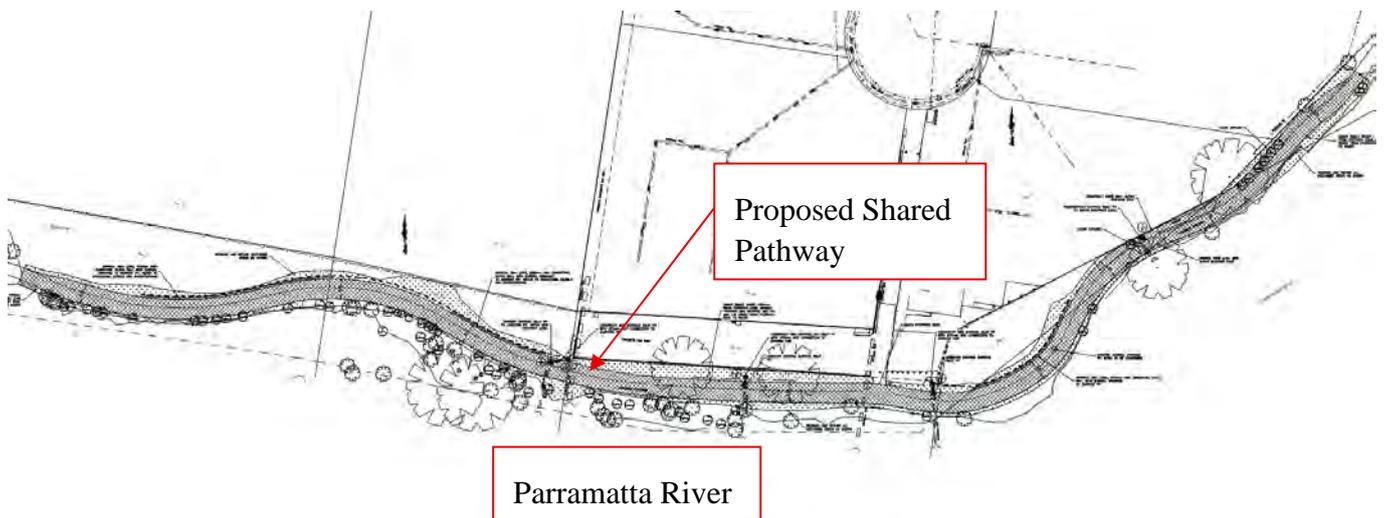


Figure 1: Proposed Shared Cycleway

1.2 Existing Stormwater Drainage Network

The existing stormwater drainage infrastructure along the developmental area has been extracted from the council’s asset database and is illustrated in Figure 2 below.

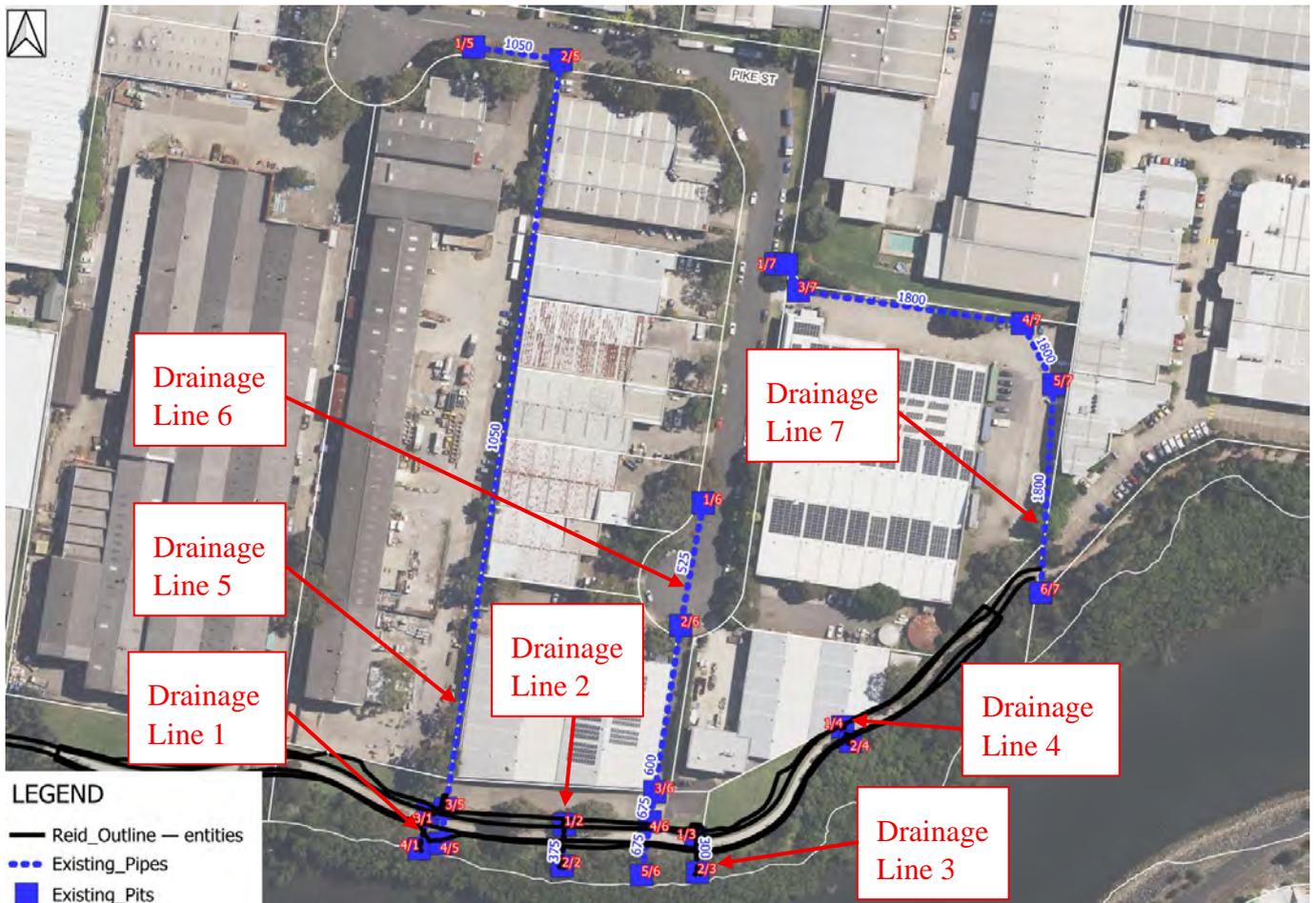


Figure 2: Existing Stormwater Drainage Network

Runoff from the upstream catchment is currently collected by the existing drainage network presented in Figure 2 and convey to Parramatta River across the existing 3m wide shared pathway. The details on the existing stormwater drainage network conveying stormwater runoff across the existing shared pathway is presented in Table 1 below.

Table 1: Drainage Network across Existing Footpath

Drainage Network	Pipe	Description
Line 1	3\1 – 4\1	Ø375mm
Line 2	1\2 – 2\2	Ø375mm
Line 3	1\3 – 2\3	Ø300mm
Line 4	1\4 – 2\4	Ø300mm
Line 5	3/5 – 4/5	Ø1050mm
Line 6	4/5 - 5/6	Ø675mm
Line 7	5/7 – 6/7	Ø1080mm

The site investigation has been carried out to analyse the state of the existing stormwater drainage network. Below are the findings from site investigation.

- Line 1, Line 2, Line 3, Line 4, and Line 7** – The pits and pipes along these drainage lines are operating efficiently without any blockage.
- Line 5:** Pit 3/5 has blocked grate with sediment and leaves as shown in Figure 3 below which needs to be cleaned.



Figure 3: Pit 3/5 blocked with Sediment and Leaves

- Line 6:** Pit 4/6 has blocked grate with sediment as shown in Figure 4 below which needs to be cleaned.



Figure 4: Pit 4/6 blocked with Sediment

- Unmanaged Downpipes:** The two downpipes shown in Figure 5 from the roof of the existing building at 25 Pike Street currently discharge directly onto the adjacent grass verge near the existing shared pathway. With the proposed upgrade to a 5-metre-wide shared cycleway, this high-velocity runoff will instead flow directly onto the pathway during all storm events. Such uncontrolled discharge presents a significant safety risk to both pedestrians and cyclists. It is therefore essential that these downpipes be adequately managed and redirected into a suitable stormwater drainage system.

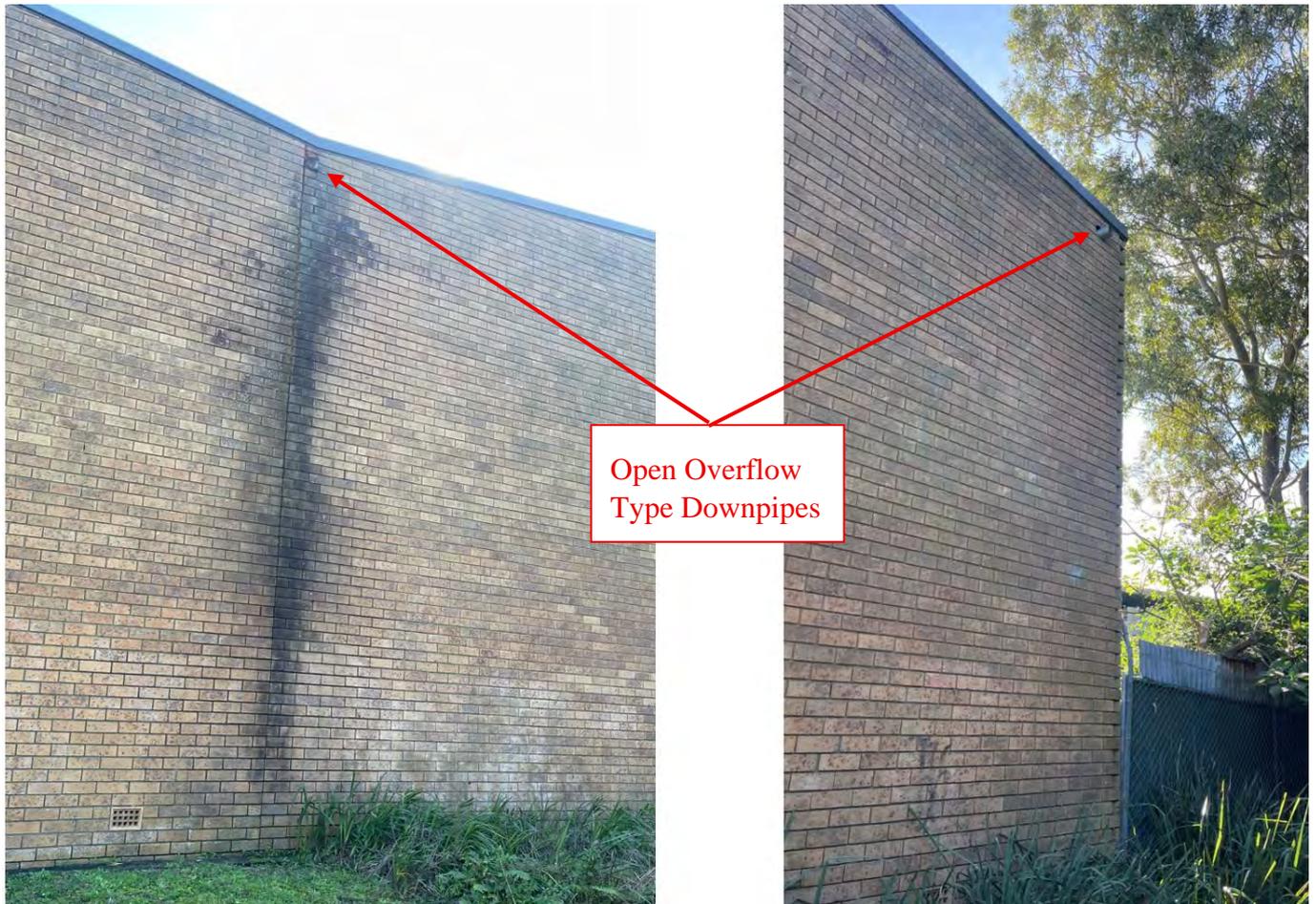


Figure 5: Unmanaged Downpipe from Roof of 25 Pike Street

2 Hydrological and Hydraulic Model

The hydrological and hydraulic analysis has been conducted using stormwater drainage design software DRAINS and 1D/2D flood modelling software TUFLOW. The DRAINS model was used to design the stormwater drainage system, while TUFLOW was employed to simulate flood behaviour.

2.1 DRAINS Model

The DRAINS model was developed to quantify flow rates across the defined catchments and to assess the hydraulic capacity of the stormwater pipes and pits. The model also identifies overflow rates at each pits and headwalls under various storm events.

Rainfall inputs were based on 2016 Intensity-Frequency-Duration (IFD) data from Australian Rainfall and Runoff and adjusted for site-specific conditions. The ILSAX hydrological model was applied to simulate flows under both existing and proposed conditions for the 20-year Average Recurrence Interval (ARI) storm event.

The computer model also contained the following parameters:

- Paved (impervious) area depression storage (mm) = 1
- Supplementary area depression storage (mm) = 1
- Grassed (pervious) area depression storage (mm) = 5
- Soil Type = 3
- AMC (Antecedent Moisture Condition) = 3

2.1.1 Existing Scenario

The catchments associated with each existing drainage network shown in Figure 2 were delineated using CatchmentSIM software, based on LiDAR data obtained from ELVIS website. The delineated Catchment catchments are shown in Figure 6 below.

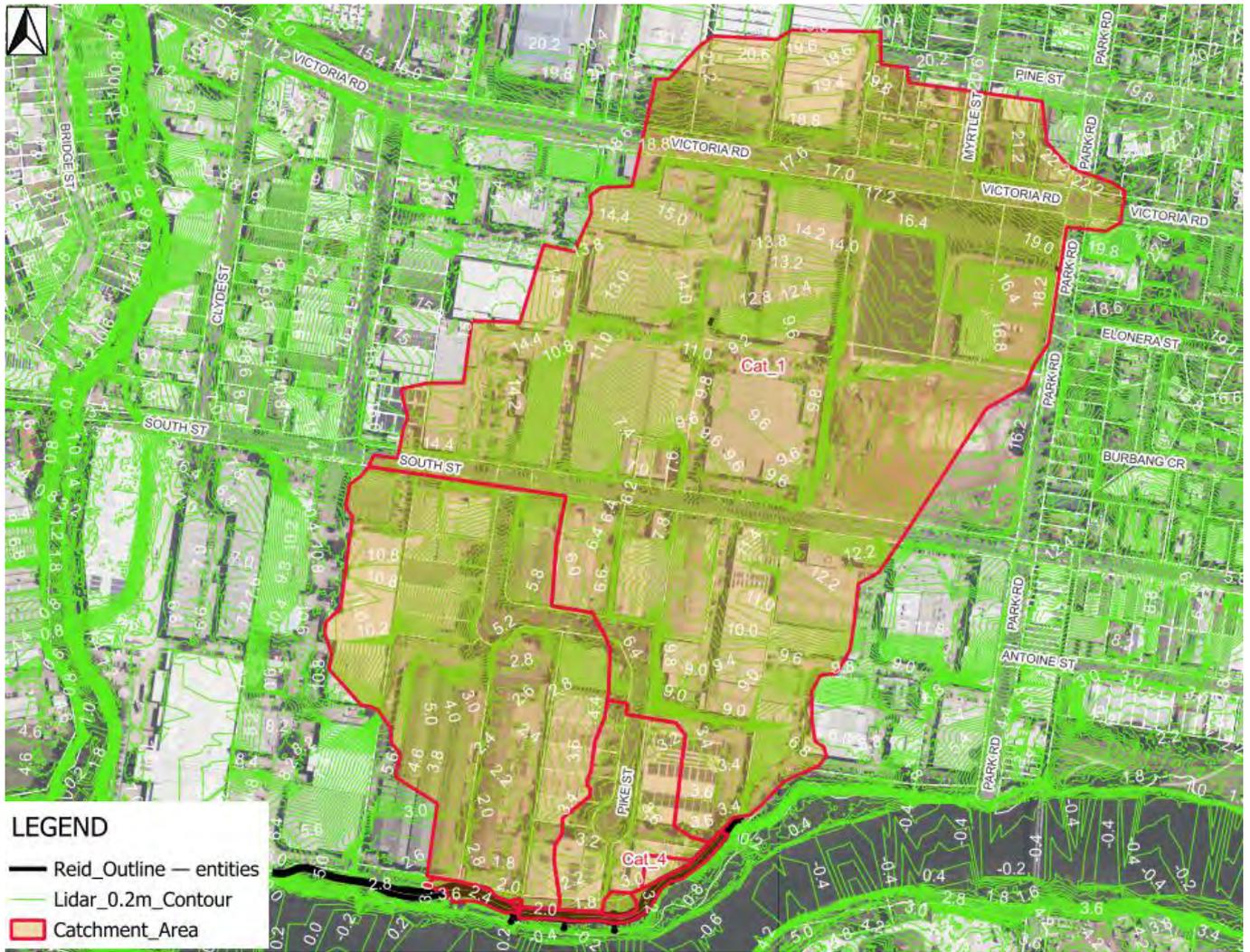


Figure 6: Catchment Map

The details of associated sub-catchments and corresponding drainage line are summarised in Table 2.