Biodiversity Assessment – Westgate 253-267 Aldington Road, Kemps Creek

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Template 2.8.1

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Abbreviations

Abbreviation	Description
AOBV	Areas of Outstanding Biodiversity Value
BAM	Biodiversity Assessment Method
BC Act	*Biodiversity Conservation Act 2016*
BDAR	Biodiversity Development Assessment Report
Biodiversity and Conservation SEPP	*State Environmental Planning Policy (Biodiversity and Conservation) 2021*
CBD	Central Business District
CEEC	Critically endangered ecological community
CPCP	Cumberland Plain Conservation Plan
CPW	Cumberland Plain Woodland
DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
DCP	Development Control Plan
DNG	Derived Native Grasslands
DPE	Department of Planning and Environment (NSW State Government)
ELA	Eco Logical Australia Pty Ltd
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
FM Act	*Fisheries Management Act 1994*
HBV	High Biodiversity Value
HTW	High Threat Weeds
LGA	Local Government Area
LLS Amendment Act	*Local Land Services Amendment Act 2016*
MNES	Matters of National Environmental Significance
PCT	Plant Community Type
RFEF	River-flat Eucalypt Forest
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SSD	State Significant Development
SSDA	State Significant Development Application
TEC	Threatened Ecological Community
TfNSW	Transport for New South Wales
Western Parkland City SEPP	*State Environmental Planning Policy (Precincts – Western Parkland City) 2021*
WM Act	*Water Management Act 2000*

Executive Summary

This Biodiversity Assessment Report (BAR) has been prepared by Eco Logical Australia Pty Ltd (ELA) for ICON Oceania Pty Ltd for the proposed development of an industrial warehouse on Lot 9 DP 253505 as part of the warehouse and logistics estate, known as 'Westgate' located along Aldington Road. The study area is located within the Mamre Road Precinct of the Western Sydney Aerotropolis.

The proposed development is to be assessed as a State Significant Development (SSD), SSD-23480429. The Secretary's Environmental Assessment Requirements (SEARs) have been issued in respect of the proposal. The SEARs, issued 30 July 2021, require an assessment of environmental impacts on biodiversity. The specific SEARs requirements set by the Planning Secretary require an *assessment of the proposal's biodiversity impacts in accordance with the Biodiversity Conservation Act 2016, including the preparation of a Biodiversity Development Assessment Report (BDAR) where required under the Act, except where a waiver for preparation of a BDAR has been granted*. This requirement and how it is addressed within this report is indicated in Section 2 and Section 4.

Since the issue of the SEARs, the NSW State Government has approved the Cumberland Plain Conservation Plan (CPCP), which is a strategic assessment across Western Sydney, including the Aerotropolis. It provides for the protection of biodiversity in strategic areas as well as the biodiversity certification of what is considered urban capable land and major transport corridors. The land has been certified under the *Order conferring strategic biodiversity certification – Cumberland Plain Conservation Plan* (22 July 2022). Certified land does not require further assessment under Part 8 of the *Biodiversity Conservation Act 2016* (BC Act). The development is wholly located within certified land which has previously assessed and approved, under the CPCP.

The NSW State Government is seeking Commonwealth approval for the CPCP. However, as the CPCP is yet to receive Commonwealth approval, an assessment of Matters of National Environmental Significance (MNES) that occur, or have the potential to occur, within the impact area of the development must be assessed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This assessment is contained within Section 5 of this report.

Table 1-1: Biodiversity SEARs

SEARs Biodiversity Requirements	How this report addresses the requirement
Biodiversity - an assessment of the proposal's biodiversity impacts in accordance with the Biodiversity Conservation Act 2016, including the preparation of a Biodiversity Development Assessment Report (BDAR) where required under the Act, except where a waiver for preparation of a BDAR has been granted.	Assessment under the *Biodiversity Conservation Act 2016* – namely, preparation of a BDAR – is no longer required for the study area as it is entirely biodiversity certified via *the Order conferring strategic biodiversity certification – Cumberland Plain Conservation Plan* (22 July 2022) This report briefly describes biodiversity values on site and provides evidence of biodiversity certification and consistency with the CPCP. In addition, this report assesses the potential impacts on MNES as required under Commonwealth legislation.

This report describes the biodiversity values of the impacted land, describes such impacts and confirms the biodiversity certification of the study area. The impact area contains remnant native vegetation, derived native grasslands, exotic grassland, previously and aquatic features in the form of farm dams.

Two (2) Plant Community Types (PCT) were identified across four (4) vegetation zones within the impact area of the proposal:

- PCT 1071: *Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion*
- PCT 835: *Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion (Cumberland Riverflat Forest)*

While PCT 1071 is associated with the TEC *Freshwater Wetlands on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions*, this PCT within the study area was present only in constructed farm dams. Additionally, the occurrence did not meet the Final Determination of the TEC. It is therefore considered an artificial wetland, and not consistent with the TEC listed under either the BC Act or the EPBC Act. No further assessment of this vegetation community is required.

PCT 835 identified within the study area is consistent with the TEC *River Flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions* (RFEF), listed as endangered under the BC Act. No further assessment is required under the BC Act. The PCT did not meet key diagnostic characteristics of the TEC listed under the EPBC Act because the Conservation Advice provided by DAWE (2002) states that the smallest patch size that can be identified is 0.5 ha, while the total area within the development site was 0.03 ha.

Several MNES under the EPBC Act were identified as having potential to be adversely affected by the proposed development. Significance assessments have been undertaken for these matters, which are:

- *Botaurus poiciloptilus* (Australasian Bittern)
- *Rostratula australis* (Australian Painted Snipe)
- *Hirundapus caudacutus* (White-throated Needletail)
- *Pteropus poliocephalus* (Grey-headed Flying Fox)

The assessment concludes that the development would not have a significant impact on these species. Mitigation measures have been proposed to address residual impacts to native vegetation and native fauna habitat within the impact area before, during and after construction.

1. Introduction

This Biodiversity Assessment Report (BAR) has been prepared by Eco Logical Australia Pty Ltd (ELA) for ICON Oceania Pty Ltd for the proposed estate works and development of a warehouse in Lot 9 DP 253503 to form the Westgate warehouse and logistics estate, at 253-267 Aldington Road, Kemps Creek. The study area is located within the Mamre Road Precinct of the Western Sydney Aerotropolis. The proposed development is to be assessed as a State Significant Development (SSD), SSD-23480429. As the proposal is located within biodiversity certified land under the Cumberland Plain Conservation Plan (CPCP), no further assessment under the *Biodiversity Conservation Act 2016* (BC Act) is required.

1.1. Study Area Description

The proposed development site is located at 253-267 Aldington Road, Kemps Creek (Lot 9 DP 253503) within the local government area (LGA) of Penrith City Council (Figure 1). The study area covers a broader assessment area, which contains the impact area as defined by a yellow dashed line on all figures throughout this report. The size of the impact area (defined in Section 1.3.2) is approximately 10 ha.

1.2. Project Description

The site is located within the Mamre Road Precinct and is zoned under the *State Environmental Planning Policy (Precincts - Western Parkland City) 2021*. Consistent with the above, this report has been prepared to support a State Significant Development (SSD) Application (SSD-23480429) under Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The proposed development comprises a concept plan to guide the staged development of an industrial estate. The scope of works is described in Table 1-1 below.

Table 1-1: Description of Proposed Development

Element	Proposed Development

Project Description	• Site Establishment:
	  ○ Demolition and removal of existing rural residential structures including removal of farm dams
	  ○ Remediation
	  ○ Bulk earthworks (175,000 m³ of fill) and retaining walls.
	• Staged construction of four warehouses with ancillary handstand and office spaces as follows:
	  ○ Warehouse 1A: 8,700 m² with 660 m² office space
	  ○ Warehouse 1B: 9,130 m² with 750 m² office space
	  ○ Warehouse 1C: 8,405 m² with 655 m² office space
	  ○ Warehouse 2 (temperature controlled): 16,390 m² with 840 m² office space (incl. 50 sqm Dock Office)
	• Use of the warehouses for warehouse and distribution purposes 24 hours per day 7 days per week.
	• Ancillary development including:
	  ○ business identification signage zones
	  ○ a minimum of 261 vehicular car parking spaces
	  ○ a minimum of 54 bicycle parking spaces

Element	Proposed Development
	○ landscaping ○ retaining walls ○ utility infrastructure and services connection ○ stormwater management including below ground on-site detention systems. • Construction and dedication of new local roads and the widening of Aldington Road. • Subdivision of the site into two Torrens title allotments.

1.3. Terms used in this report

1.3.1. Development Footprint

The 'development footprint' refers to the design of the proposed development, which includes subdivision works, the construction of warehouse buildings (1A, 1B, 1C and 2) and provision of associated utilities such as roads, wastewater, and a riparian channel within the site.

1.3.2. Impact Area

The 'impact area' refers to the area subject to direct and indirect impacts as a result of the proposed development. The impact area is shown in Figure 1 and includes a 10 m construction buffer. This is the area for which impacts to biodiversity values have been assessed within this report. It is shown as a dashed yellow line on each figure.

1.3.3. Study Area

The 'study area', presented as a solid red border and defined in Figure 1.

Figure 1 Site Map

Figure 2 Cumberland Plain Conservation Plan (CPCP) land categories

2. Statutory Framework

2.1. Commonwealth Legislation

Table 2-1 Commonwealth legislative context

Act	Relevance to Project
Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)	The EPBC Act establishes a regime for assessing and regulating the environmental impact of activities (including development) where a Matters of National Environmental Significance (MNES) may be affected. Under the EPBC Act, any action which has, will have, or is likely to have a significant impact on a matter of MNES is defined as a "controlled action", and requires approval from the Minister. The Commonwealth Department of Agriculture, Fisheries and Forestry (DAFF) is responsible for administering the EPBC Act. The process includes undertaking an Assessment of Significance for listed threatened species and ecological communities that represent a matter of MNES that will be impacted as a result of the proposed action. *The Significant Impact Guidelines 1.1 – Matter of National Environmental Significance* published by DAWE (2009a) provide overarching guidance on determining whether an action is likely to have a significant impact on a MNES. The NSW Department of Planning and Environment released the Cumberland Plain Conservation Plan (CPCP), which applies biodiversity certification and protection measures to areas of Western Sydney, in August 2022. Urban – certified capable land (Figure 2) is land identified under the CPCP for future urban development and is to be biodiversity certified under Part 10 of the EPBC Act. Development in these areas would not require further site by site biodiversity assessment or approval under the EPBC Act if it is considered consistent with the CPCP and its approvals. At the time of this report, Commonwealth approval for the CPCP under Part 10 of the EPBC Act had not yet been granted. As such, this report assesses impacts to MNES and concludes that the proposed action is unlikely to have a significant impact on any MNES. Further information Is provided in Section 5.

2.2. NSW State Legislation

Table 2-2 State legislative context

Act	Relevance to Project
Environmental Planning and Assessment Act 1979 (EP&A Act)	The EP&A Act is the principal planning legislation for NSW. It provides a framework for the overall environmental planning and assessment of development proposals. The proposed development is State Significant Development and is to be assessed under Part 4.12 of the EP&A Act. Secretary's Environmental Assessment Requirements (SEARs) have been issued (dated 30 July 2021) and require assessment of: • *Biodiversity* ○ *an assessment of the proposal's biodiversity impacts in accordance with the Biodiversity Conservation Act 2016, including the preparation of a Biodiversity Development Assessment Report (BDAR) where required under the Act, except where a waiver for preparation of a BDAR has been granted.* Since the release of the SEARs, the site has been biodiversity certified under the Cumberland Plain Conservation Plan (CPCP), removing the need for biodiversity assessment under the *Biodiversity Conservation Act 2016* (BC Act). Development in certified-urban capable land (Figure 2) does not require further site by site biodiversity assessment or approval under the BC Act, if consistent with the CPCP and its approvals.

Act	Relevance to Project
	As such, this report was prepared to provide evidence of certification under the CPCP, its consistency with other NSW planning and assessment legislation and to assess potential impacts MNES in accordance with EPBC Act, as explained above.
Biodiversity Conservation Act 2016 (BC Act)	The overall purpose of the BC Act is to provide the legislative framework to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development. The development site is located on land that is biodiversity certified under section 8.2 of the BC Act. The Order conferring strategic biodiversity certification – Cumberland Plain Conservation Plan, was signed by the NSW Minister for the Environment on 20 July 2022. The CPCP applies to the study area (Figure 2), being wholly within certified-urban capable land, (Figure 2). The land categories that apply to the Westgate site under the CPCP are: • **Urban – certified capable land.** This is land identified under the CPCP for future urban development and is biodiversity certified under Part 8 of the BC Act. Biodiversity certification removes the need for biodiversity assessment under BC Act, however approval under the EPBC Act has not yet been granted. As such, this report has been prepared to provide evidence of certification under the CPCP under Section 8.2 of the BC Act, and to assess potential impacts MNES in accordance with EPBC Act.
Local Land Services Amendment Act 2016 (LLS Amendment Act)	The LLS Amendment Act does not apply to the study area. In accordance with Section 60O, the clearing of any native vegetation has been authorised by the CPCP biodiversity certification enacted under the BC Act.
Fisheries Management Act 1994 (FM Act)	The objectives of the FM Act are to conserve, develop and share the fishery resources of the State for the benefits of present and future generations. The FM Act provides protection and approval processes for activities which may impact on threatened species, protected marine vegetation, or involve dredging, reclamation, or obstruction of fish passage. The development does not involve impacts to Key Fish Habitat, does not involve harm to marine vegetation, dredging, reclamation, or obstruction of fish passage. A permit or consultation under the FM Act is not required.

2.3. Environmental Planning Instruments (EPIs)

Table 2-3 EPIs relevant to the proposal

Planning Instrument	Relevance to Project
State Environmental Planning Policy (Biodiversity and Conservation) 2021 Biodiversity and Conservation SEPP	**Strategic Conservation Planning** Chapter 13 of the Biodiversity and Conservation SEPP applies to the study area. Section 13.4 provides definitions for terms used under the CPCP, which have been used throughout this document for the purposes of certified land. Part 13.2 of the Biodiversity and Conservation SEPP provides development controls for the CPCP land type classifications. These controls have been addressed in Section 4.1 of this report. It is noted that the controls provided by this SEPP are not applicable to the development, based on site location and characteristics. Section 13.15 stipulates that Asset Protection Zones (APZs) remain within certified urban capable land. The development footprint of the Project, including an APZ, is wholly located within certified urban capable land, and therefore is in accordance with Section 13.15 of the BC SEPP. **Koala Habitat Protection** In accordance with Schedules 2 and 3 of the Biodiversity and Conservation SEPP, Chapter 3 'Koala Habitat Protection 2020' and Chapter 4 'Koala Habitat Protection 2021' do not apply to the City of Penrith. Therefore, this section of the SEPP is not applicable to the proposed development.

Planning Instrument	Relevance to Project
State Environmental Planning Policy (Precincts - Western Parkland City) 2021 Western Parkland City SEPP	**Western Sydney Aerotropolis** The following land use zones apply to the impact area under Chapter 4: • IN1 – General Industrial The objectives of IN1 zoned land in accordance with Chapter 4 are as follows: **General Industrial** • *to provide a wide range of industrial and warehouse land uses;* • *to encourage employment opportunities and to support the viability of centres;* • *to minimise any adverse effect of industry on other land uses;* • *to enable development for the purpose of commercial offices only where it is associated with, and ancillary to, another permissible use on the same land; and* • *to enable development for the purpose of retail premises only where it serves convenience needs, or where the goods or materials sold are of a type and nature consistent with construction and maintenance of buildings.* The proposed development is in accordance with the objectives of the IN1 zone.
Western Sydney Aerotropolis Precinct Plan 2022	The Precinct Plan provides further direction for development within the Aerotropolis. The *Western Sydney Aerotropolis Precinct Plan* establishes the strategic vision and general objectives, proposed land uses, performance criteria for development of land and the approach to both infrastructure and water cycle management. The Plan provides objectives for the protection, restoration and maintenance of vegetated riparian zones as well as managing the impacts of development on waterways to achieve established waterway health targets. Additionally, the Plan stipulates that waterways and riparian corridors are to be retained and rehabilitated to a natural state. The proposal complies with these objectives through the restoration of the riparian corridor that traverses the study area (Figure 2). The extent of the riparian corridor is clearly shown in Figure 1. A Riparian Assessment has previously been prepared by ELA (2021b) for the original Watergate SSD (SSD-23480429) which provides for the compliance with this Plan.
Mamre Road Development Control Plan 2021	The Mamre Road Development Control Plan provides planning controls for future industrial development within the Mamre Road Precinct, including building design controls, a road network, drainage strategy and biodiversity controls. The DCP provides for objectives and controls regarding biodiversity and riparian land in order to help guide appropriate industrial development within the Precinct. The proposal complies with these objects following ecological and riparian assessments that determined development has been designed and managed to avoid or mitigate potential adverse impacts on natural areas and habitat. As the development site is lacking in any significant native ecological values, with only 0.35 ha of the entire site identified as native vegetation, the proposed works are in accordance with the objectives of the DCP.

3. Biodiversity Values

3.1. Landscape Features

3.1.1. Landscape and Soils

The study area is within the Sydney Basin IBRA region, within the Cumberland subregion. Under the NSW Mitchell landscapes classification, the study area is within the Cumberland Plain.

3.1.2. Hydrology

The impact area intersects with one (1) second order watercourse and is fed by two first order watercourses located to the northeast of the study area. These watercourses are tributaries of Kemps Creek within the Hawkesbury Nepean Catchment (Figure 3).

There are also three (3) farm dams within the impact area as shown in Figure 6. An accompanying riparian assessment has been undertaken by ELA (2023), which concluded that these mapped watercourses do not meet the definition of a 'river' under the WM Act. The farm dams within the development are also not connected to any watercourses that meet the definition of a river.

Three (3) dams are located in the study area. Wetland environments, including PCT 1071 associated with the farm dams, are the result of manmade construction and are not naturally occurring. No important wetlands under State or Commonwealth definitions have been mapped in or near the impact area.

Figure 3: Validated watercourses within the study area

3.1.3. Areas of Outstanding Biodiversity Value

The impact area does not contain any Areas of Outstanding Biodiversity Value (AOBV) (DPE, 2022).

3.2. Previous Vegetation Mapping

The State Vegetation Type Map (SVTM) was referenced to understand what vegetation communities have previously been mapped across the study area or are predicted as likely to occur. Previous vegetation mapping under the SVTM is presented in Figure 5. There are no previously mapped vegetation communities under the SVTM (2022) within the study area. The closest vegetation communities are approximately 100 m to the north and west of the site.

3.3. Vegetation Validation

Vegetation validation was undertaken in 2021 by ELA Ecologists and included full floristic and vegetation integrity plots. Two (2) plant community types across three (3) full-floristic vegetation plots were identified within the study area. One additional full-floristic vegetation plot and vegetation integrity plot were undertaken to ensure the absence of Derived Native Grassland, but was excluded from further assessment as it did not correspond to a native PCT.

3.3.1. Plant Community Types (PCTs)

The vegetation validation survey undertaken by ELA ecologists in 2021 for the preparation of a BDAR identified two (2) PCTs within the study area. A total of 4 full-floristic vegetation plots were surveyed to identify Plant Community Types (PCTs) and Threatened Ecological Communities (TECs) within the study area. PCTs within the impact area are presented in Figure 6, being:

- PCT 1071: *Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion*
- PCT 835: *Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion (Cumberland Riverflat Forest)*

A very small portion of PCT 835 (0.03 ha) within the development site met the description set out in the Final Determination of the TEC listed under the BC Act (DPIE 2019b) (Figure 7). PCT 835 did not meet key diagnostic characteristics of the TEC listed under the EPBC Act because the Conservation Advice (DAWE 2002), states that the smallest patch size that can be identified is 0.5 ha, but the total area within the development site was 0.03 ha.

PCT 835 is the only native vegetation identified under the study area listed as a threatened ecological community (TEC) under the EPBC Act. The extent of this is shown in a simplified TEC map in Figure 7. Assessment of this MNES has been undertaken within Section 5 of this report.

The PCTs and non-native vegetation identified within the study area are summarised in Table 3-1 and displayed in Figure 6.

Table 3-1 PCTs and non-native vegetation within the impact area

PCT ID	PCT Name / Non-native Area	Vegetation Class	Vegetation Formation	Area (ha)
Native PCTs				
PCT 1071	*Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion*	Coastal Freshwater Lagoons	Freshwater Wetlands	0.35
PCT 835	*River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*	Coastal Floodplain Wetlands	Forested Wetlands	0.026
Planted vegetation and non-native areas				
-	Dams	-	-	1.13
-	Exotic Grassland	-	-	8.64
			Total	**10.14 ha**

Figure 4 High Biodiversity Value Areas

Figure 5 Previously mapped Vegetation (SVTM 2022)

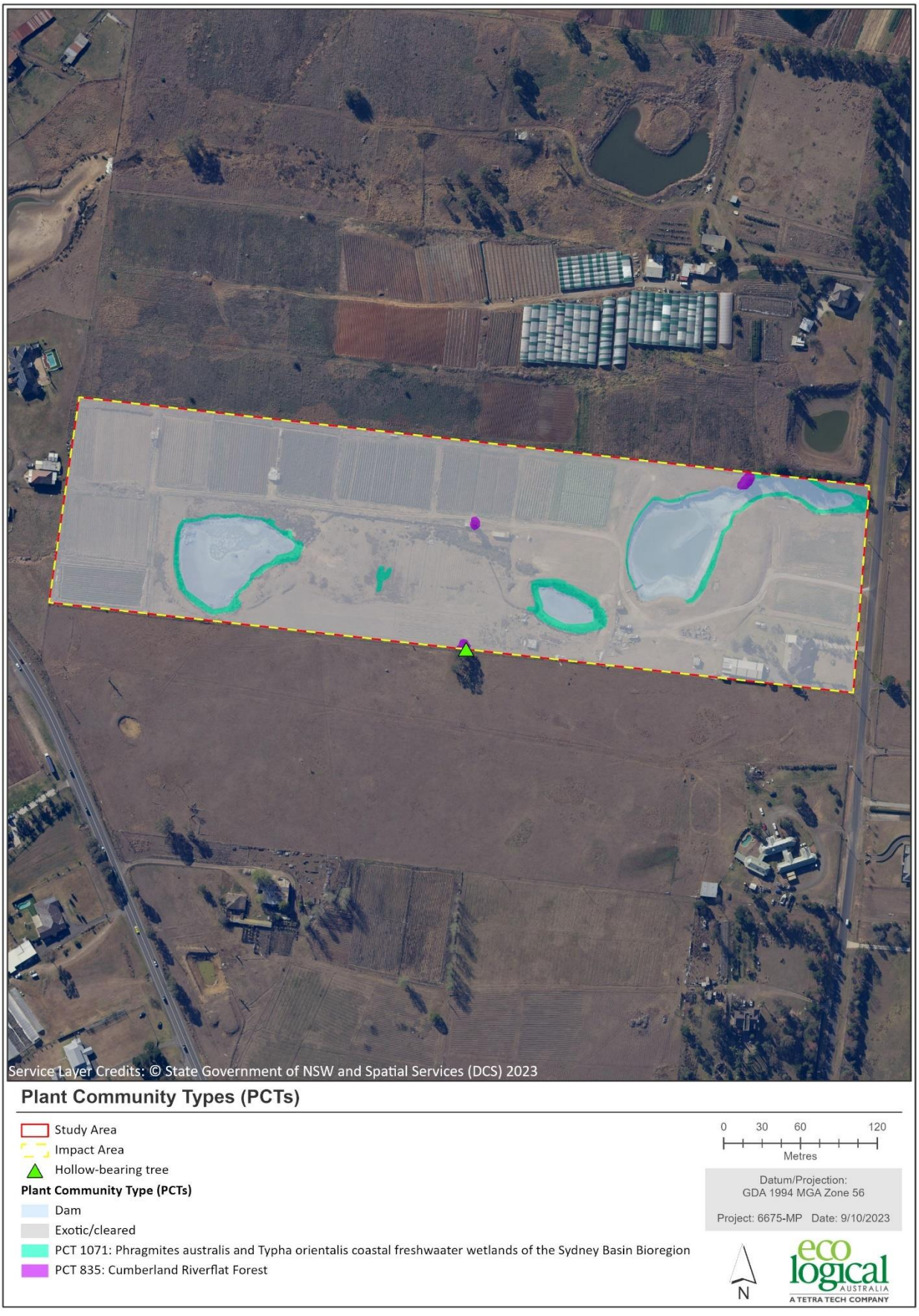

Figure 6 Plant Community Types (PCTs) within the impact area

Figure 7 TECs listed under the EPBC Act within the impact area

3.3.2. PCT Conditions and Fauna Habitats

A brief summary of the PCTs validated within the site are provided below. While no further assessment is required under the BC Act as a result of the impact area's biodiversity certification under the CPCP, descriptions of each PCT are still provided in order to justify why PCT 1071 (Section 3.3.2.1) and PCT 835 (Section 3.3.2.2) do not require further assessment under the EPBC Act.

A discussion of the habitat features and dominant species across each PCT also provides some background to undertake the Likelihood of Occurrence assessment (Section 5.2), so that potential habitat for EPBC Act listed threatened flora and fauna species is understood.

PCT 835 within the impact area meets the criteria for the EPBC Act critically endangered ecological community listing. However, occurrences within the development site did not meet the description of the Threatened Ecological Community. This is discussed in further detail below (Section 3.3.2.2).

3.3.2.1. PCT 1071 – Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion

PCT 1071 within the impact area did not meet the description for the endangered ecological community, *Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion* as set out in the NSW Scientific Committee Final Determination. It is not listed under the EPBC Act. No canopy trees are part of this PCT. The PCT formed around the dams within the impact area. Aquatic vegetation, where present, primarily comprised native species including *Typha orientalis* (Broad lead Cumbungi), and *Juncus usitatus*. High threat weeds (HTW) covered 45.3% of the PCT and comprised a number of exotic species, including *Arundo donax, Cenchrus clandestinus, Cirsium vulgare, Conyza bonariensis, Cynodon sp., Juncus acutus subsp. acutus, Oxalis purpurea, Paspalum dilatatum, Rumex crispus, Senecio madagascariensis, Setaria parviflora, Solanum linnaeanum, Sporobolus africanus, Taraxacum officinale* and *Verbena bonariensis.*

The overall condition of the vegetation was Degraded. This PCT may provide occasional foraging habitat for migratory birds.

Figure 8: PCT 1071 Phragmites australis and Typha orientalis

3.3.2.2. PCT 835 – Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion

There was one (1) tree containing hollows present in this vegetation zone, with one large hollow (≥20 cm) and two smaller hollows. PCT 835 is listed as threatened under the EPBC Act, however it was determined that this PCT does not conform to the key diagnostics required to be considered part of a Commonwealth-listed ecological community and is discussed in further detail in Section 3.3.3 and Table 3-2 below. This community occurs as three small patches across the eastern portion of the site, representing 0.03 ha of the study area.

Figure 9 PCT 835 – Forest Red Gum

3.3.3. Threatened Ecological Communities listed under the EPBC Act

There are two threatened ecological communities (TECs) within the development site under the BC Act, one of which conforms to an EPBC Act TEC listing. A summary of all PCTs and their associated TECs is presented in Figure 6.

PCT 1071 *Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion* does not conform to endangered ecological community (EEC) listed under the EPBC Act. Therefore, no further assessment has been undertaken for this community.

PCT 835 Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion conforms to the CEEC under the EPBC Act: River-flat eucalypt forest on coastal floodplains of southern NSW and eastern Victoria (RFEF). Plot data was collected for this vegetation zone. It was determined through analysis of the plot data that PCT 835 did not meet key diagnostic characteristics of the TEC listed under the EPBC Act because the Conservation Advice (DAWE 2002), states that the smallest patch size that can be identified is 0.5 ha, but the total area within the development site was 0.03 ha. A total of 0.03 ha of RFEF will be removed as part of the proposed development. Details of PCT 835 are provided in Table 3-2 below.

Table 3-2 PCT 835 – Modified Understorey

PCT 835	Forest Red Gum – Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion
Vegetation formation and class	Freshwater Wetlands / Coastal Floodplain Wetlands
CONSERVATION STATUS	
BC Act	Endangered - *River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions* Due to the effects of biodiversity certification under the CPCP, no further assessment of biodiversity under the BC Act is required.
EPBC Act	This vegetation zone did not meet the description of the critically endangered ecological community as set out in the Conservation Advice.
Description	This community occurs as two trees and regenerating stand of Casuarina glauca scattered throughout the development site.
Characteristic canopy trees	*Angophora subvelutina, Melaleuca quinquenervia, Casuarina glauca*
Characteristic mid-storey	*Casuarina glauca*
Characteristic groundcovers	*Aristida spp., Bothriochloa macra, Centella asiatica, Cotula australis, Cyperus gracilis, Echinopogon caespitosus var. caespitosus, Eragrostis brownii, Juncus usitatus, Microlaena stipoides var. stipoides, Oplismenus aemulus, Sida corrugata, Sporobolus creber, Urtica incisa*
Exotic Species / HTW cover (%)	*Bidens pilosa var. pilosa, Cenchrus clandestinus, Cirsium vulgare, Conyza bonariensis, Cynodon sp., Cyperus brevifolius, Cyperus eragrostis, Eragrostis curvula, Lotus angustissimus, Modiola caroliniana, Oxalis purpurea, Paspalum dilatatum, Rumex crispus, Senecio madagascariensis, Setaria parviflora, Solanum linnaeanum, Solanum nigrum, Sonchus oleraceus, Sporobolus africanus, Stellaria media, Verbena bonariensis* 54.1%
Condition	Degraded
Number of sites sampled	1
Threatened flora species	None
Fauna habitats	One hollow bearing tree was identified within this PCT. The tree contained one large hollow (≥20 cm) and two smaller hollows (5-10 cm). Down feathers were present at the entrance to the large hollow. No fauna, whitewash or pellets were observed. Tree species may provide occasional foraging habitat for *Pteropus poliocephalus* (Grey-headed Flying-fox).

Composition	Structure	Function	Vegetation Integrity Score
42.4	19.2	50	34.4

3.4. Hollow-bearing trees

One (1) hollow-bearing tree was recorded within the study (Figure 6 Plant Community Types (PCTs) within the impact area). The tree contained one large hollow (≥20 cm) and two smaller hollows (5-10 cm). Down feathers were present at the entrance to the large hollow. No fauna, whitewash or pellets were observed. Tree species may provide occasional foraging habitat for *Pteropus poliocephalus* (Grey-headed Flying-fox). This report does not include assessment of tree protection or structural root zones which dictate areas of encroachment into the tree, and as a result the ability for a tree to be retained.

This assessment is based on only **one** hollow-bearing tree requires removal as a result of the proposed development.

4. Consistency with Development Controls

4.1. Development Controls under the Cumberland Plain Conservation Plan (CPCP)

Chapter 13 'Strategic Conservation Planning' of the Biodiversity and Conservation SEPP provides development controls for the land type classifications under the CPCP. Table 4-1 below provides responses to the development controls relevant to the proposed works.

Table 4-1 Biodiversity and Conservation SEPP Chapter 13 – Development Controls

Development Control	Response
Part 13.2 Development controls – general	
13.6 Koala fences and fauna crossings *Development involving the erection, maintenance or modification of a fauna crossing or koala fence may be carried out by or on behalf of a public authority without development consent if the crossing or fence is consistent with the Cumberland Plain Conservation Plan.*	Koala have not been recorded on the site or within proximity to it. The development does not propose to erect, maintain or modify fauna crossings or koala fencing.
Part 13.5 Development on certified urban capable land	
13.15 Asset protection zones *Development consent must not be granted to development involving an asset protection zone on certified urban capable land unless the asset protection zone is located wholly on certified urban capable land.*	A Bushfire Assessment Report has been undertaken by Conacher Consulting (2021). The report recommended defendable locations for the development meeting the criteria of an Asset Protection Zone of between 7.5 m to 12 m from adjoining vegetation. As the proposed development is located within a larger expanse of urban capable land, the proposed APZ in relation to the Project would be within certified urban capable land and therefore in accordance with Control 13.15
13.16 Mitigation Measures *Development consent must not be granted to development on certified urban capable land unless the consent authority has considered whether the development is consistent with the Cumberland Plain Conservation Plan Mitigation Measures Guideline.* ***Cumberland Plain Conservation Plan Mitigation Measures Guideline** means the document titled* "Cumberland Plain Conservation Plan Mitigation Measures Guideline" *published by the Department on the commencement of this Chapter and available on the NSW planning portal.*	The *CPCP Mitigation Measures Guideline* only applies to land within the Greater Macarthur Growth Area, and Greater Penrith to Eastern Creek Investigation Area. Therefore, this clause does not apply.

4.2. Mamre Road Development Control Plan 2022

The Mamre Road Development Control Plan 2022 was adopted in November 2021 and applies to the study area. Chapter 2.2.2 and 2.2.3 provides controls relevant to the protection of biodiversity, trees and vegetation. Table 4-2 below addresses the specific development controls relating to biodiversity, noting that riparian and bushfire specific controls are not addressed in this report

Table 4-2: Mamre Road DCP - Development Controls

Development Control		Response
Part 2.2.2 - Biodiversity Certification		
1.	Development is to be sited, designed and managed to avoid or mitigate potential adverse impacts on natural areas and habitat.	The entirety of the site is certified under the CPCP. The development will involve bulk earthworks across the site and therefore no habitats are to be retained. Habitat will however be re-established in the riparian corridors.
2.	Development applications for land that has the potential to impact biodiversity prior to the approval of the CPCP are to be accompanied by a Biodiversity Development Assessment Report.	The CPCP was approved in November 2022 and the study area is now wholly certified under the CPCP.
3.	Where development is proposed to impact on an area of native vegetation, it shall be demonstrated that no reasonable alternative is available and suitable ameliorative measures are proposed (e.g. weed management, rehabilitation, nest boxes).	N/A – the entirety of the site is certified under the CPCP. However, a Weed Eradication Management Plan has been prepared by ELA to reduce potential impacts.
4.	A Weed Eradication and Management Plan outlining weed control measures during and after construction is to be submitted with the development application.	ELA has prepared a Weed Eradication Management Plan (WEMP) to be submitted.
Part 2.2.3 - Biodiversity Conservation and Management		
1.	Minimise clearing of native vegetation within the blue-green network, which comprises land zoned E2 Environmental Conservation, RE1 Public Recreation, RE2 Private Recreation and riparian corridors. Note: Clause 33K of WSEA SEPP also applies.	N/A – the study site is not zoned E2, RE1 or RE2
2.	No clearing of native vegetation shall occur within the Precinct on land zoned Environmental Conservation (E2), Public Recreation (RE1), and Private Recreation (RE2) without having regard to the Biodiversity Conservation Act 2016.	N/A – the study site is not zoned E2, RE1 or RE2
3.	A Vegetation Management Plan (VMP) for the rehabilitation and conservation of native vegetation is to be prepared by a suitably qualified expert for land within the blue-green network.	N/A – the development is not within the blue-green network.
4.	A Threatened Species Assessment is to be undertaken for development applications on land within 500m of an E2 Environmental Conservation zone to determine the presence of threatened species or their habitat. Building setbacks for grey-headed flying fox and raptors are required, if present on or adjacent to the development site, are outlined in Table 3.	N/A – the study area is not within 500 m of land zoned E2.
5.	Bushfire Asset Protection Zones (APZs), stormwater detention basins, and roads are to be located wholly within land zoned IN1 General Industrial and avoid the blue-green network.	A Bushfire Assessment Report was undertaken by Conacher Consulting (2021) which outlined a number of mitigation measures, including the implementation of an APZ as a part of the proposed works. This will be achieved by providing a defendable space of between 7.5 m and 12 m to the

Development Control	Response
	adjoining vegetation as outlined by Conacher Consulting (2021).
6. Avoid impacts on habitat features which provide essential habitat for threatened species and other fauna including large trees including dead trees at (>50cm trunk diameter at breast height) and avoid impacts to soil within the dripline of the retained trees.	One large hollow bearing tree along the southern boundary will be removed. No trees are proposed to be retained as bulk earthworks are to be undertaken across the site to achieve necessary levels.
7. Any mature native tree removed is to be replaced by at least 2 trees selected from the Plant List (Appendix C) which would develop to a similar size at maturity.	The removal of the large hollow bearing tree will be replaced by tree planting within the riparian corridors.
8. Mitigation for threatened ecological communities is to be undertaken in accordance with: a. *Best Practice Guidelines: Cooks River/Castlereagh Ironbark Forest* (NSW DECC, 2008) within and adjacent to the TEC; and b. *Recovering Bushland on the Cumberland Plain: Best Practice Guidelines for the Management and Restoration of Bushland* (NSW DECC, 2005)	The site contains 0.38 ha of degraded threatened ecological communities. These are not proposed to be retained.
9. Where practical, prior to development commencing, applicants are to: a. Provide for the appropriate re-use of native plants (including but not limited to seed collection) on site and re-use of topsoil that contains known or potential native seed bank; b. Undertake a pre-clearance assessment for native fauna immediately prior to native vegetation clearing to ensure arboreal mammals, roosting and hollow-using birds, bats and reptiles found to be present are prevented from accessing vegetation to be cleared, and appropriately removed prior to clearing; and c. Native animals are to be relocated from development sites in accordance with the former Office of Environment and Heritage's Policy on the Translocation of Threatened Fauna in NSW.	Section 6 of this report provides mitigation measures including sed collection and pre-clearance surveys.
10. WONS and weeds on the National Environmental Alert List under the National Weeds Strategy are to be managed and eradicated (refer to NSW Weed Wise for current weed identification and management approaches).	N/A – no WONS have been detected within the study area. A Weed Eradication Management Plan has been prepared and submitted with the Development Application
11. Subdivision design and bulk earthworks are to consider the need to minimise weed dispersion during and after construction and promote weed eradication. A Weed Eradication and Management Plan is to be submitted with subdivision development applications.	As above.
12. Pest control techniques implemented during and post construction are to be in accordance with regulatory requirements for chemical use and address the relevant pest control strategy and are to reduce the risk of secondary poisoning (e.g. from Pindone or second-generation rodenticides).	N/A
13. Vegetation to which Part 3 of State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 applies is the same vegetation that must not be ringbarked, cut down, lopped, topped, removed,	This SEPP does not apply to the proposal.

Development Control	Response
injured, wilfully destroyed or cleared without a development consent or permit granted by Council.	
14. Where high intensity lighting is necessary for site operation, safety and security, it is to be designed to avoid light spill into adjoining natural areas. Australian Standard AS 4282 or updates to that standard are to be considered as a minimum.	Lighting design will be developed during the detailed design phase. Section 6 outlines mitigation measures, including the development of lighting to be conducted in accordance with Australian Standard AS 4282 as a minimum.
15. Where a development footprint contains or is within 100 m of known microbat colonies or habitat likely to support microbat colonies, street lighting must be of the type that will not attract insects.	No known microbat colonies are within 100m of the development.
16. Where noise adjacent to natural areas is likely to impact wildlife, the proponent must manage the timing of noise producing activities, including installing appropriate noise treatment barriers along major roads and other attenuation measures.	The site is not adjacent to a natural area.
17. Ensure appropriate mitigation strategies (including fauna-sensitive road design elements) are employed to minimise vehicle strike during and after road construction and upgrading.	Mitigation measures have been proposed in Section 6 to minimise potential impacts as a result of vehicle strike.
18. Traffic calming measures shall be considered in all development areas adjacent to Environmental Conservation and Recreation zoned lands not subject to wildlife (including koala) exclusion fencing, such as speed humps, audible surfacing and faunal bridges.	N/A – the study area is not adjacent to Environmental Conservation and Recreation zoned lands.
19. Ensure movement of fauna is facilitated within and through wildlife corridors by: a. Ensuring that activities do not create barriers to the movement of fauna along and within wildlife corridors; and b. Separating fauna from potential construction hazards through the pre-construction and construction process.	The site does not contain a wildlife corridor.
20. Adopt and implement open structure design for roads adjacent to known populations of Cumberland Plain Land Snail in accordance with actions under the Save our Species Program (EES, 2020).	N/A – there are no known Cumberland Plain Land Snail populations in proximity to the study area. The nearest recorded population is over 1 km north of the study area (Figure 10)

Controls below address the performance outcomes relating to biodiversity within the Mamre Road Precinct, noting that landscaping and arboriculture specific controls are not addressed in this report.

Table 4-2: Mamre Road DCP - Development Controls

Development Control	Response
Part 2.2.2 - Biodiversity Certification	
21. Development is to be sited, designed and managed to avoid or mitigate potential adverse impacts on natural areas and habitat.	The entirety of the site is certified under the CPCP. The development will involve bulk earthworks across the site and therefore no habitats are to be retained. Habitat will however be re-established in the riparian corridors.
22. Development applications for land that has the potential to impact biodiversity prior to the approval of the CPCP are to be accompanied by a Biodiversity Development Assessment Report.	The CPCP was approved in November 2022 and the study area is now wholly certified under the CPCP.
23. Where development is proposed to impact on an area of native vegetation, it shall be demonstrated that no reasonable alternative is available and suitable ameliorative measures are proposed (e.g. weed management, rehabilitation, nest boxes).	N/A – the entirety of the site is certified under the CPCP. However, a Weed Eradication Management Plan has been prepared by ELA to reduce potential impacts.
24. A Weed Eradication and Management Plan outlining weed control measures during and after construction is to be submitted with the development application.	ELA has prepared a Weed Eradication Management Plan (WEMP) to be submitted.
Part 2.2.3 - Biodiversity Conservation and Management	
25. Minimise clearing of native vegetation within the blue-green network, which comprises land zoned E2 Environmental Conservation, RE1 Public Recreation, RE2 Private Recreation and riparian corridors. Note: Clause 33K of WSEA SEPP also applies.	N/A – the study site is not zoned E2, RE1 or RE2
26. No clearing of native vegetation shall occur within the Precinct on land zoned Environmental Conservation (E2), Public Recreation (RE1), and Private Recreation (RE2) without having regard to the Biodiversity Conservation Act 2016.	N/A – the study site is not zoned E2, RE1 or RE2
27. A Vegetation Management Plan (VMP) for the rehabilitation and conservation of native vegetation is to be prepared by a suitably qualified expert for land within the blue-green network.	N/A – the development is not within the blue-green network.
28. A Threatened Species Assessment is to be undertaken for development applications on land within 500m of an E2 Environmental Conservation zone to determine the presence of threatened species or their habitat. Building setbacks for grey-headed flying fox and raptors are required, if present on or adjacent to the development site, are outlined in Table 3.	N/A – the study area is not within 500 m of land zoned E2.
29. Bushfire Asset Protection Zones (APZs), stormwater detention basins, and roads are to be located wholly within land zoned IN1 General Industrial and avoid the blue-green network.	A Bushfire Assessment Report was undertaken by Conacher Consulting (2021) which outlined a number of mitigation measures, including the implementation of an APZ as a part of the proposed works. This will be

Development Control	Response
	achieved by providing a defendable space of between 7.5 m and 12 m to the adjoining vegetation as outlined by Conacher Consulting (2021).
30. Avoid impacts on habitat features which provide essential habitat for threatened species and other fauna including large trees including dead trees at (>50cm trunk diameter at breast height) and avoid impacts to soil within the dripline of the retained trees.	One large hollow bearing tree along the southern boundary will be removed. No trees are proposed to be retained as bulk earthworks are to be undertaken across the site to achieve necessary levels.
31. Any mature native tree removed is to be replaced by at least 2 trees selected from the Plant List (Appendix C) which would develop to a similar size at maturity.	The removal of the large hollow bearing tree will be replaced by tree planting within the riparian corridors.
32. Mitigation for threatened ecological communities is to be undertaken in accordance with: a. *Best Practice Guidelines: Cooks River/Castlereagh Ironbark Forest* (NSW DECC, 2008) within and adjacent to the TEC; and b. *Recovering Bushland on the Cumberland Plain: Best Practice Guidelines for the Management and Restoration of Bushland* (NSW DECC, 2005)	The site contains 0.38 ha of degraded threatened ecological communities. These are not proposed to be retained.
33. Where practical, prior to development commencing, applicants are to: a. Provide for the appropriate re-use of native plants (including but not limited to seed collection) on site and re-use of topsoil that contains known or potential native seed bank; b. Undertake a pre-clearance assessment for native fauna immediately prior to native vegetation clearing to ensure arboreal mammals, roosting and hollow-using birds, bats and reptiles found to be present are prevented from accessing vegetation to be cleared, and appropriately removed prior to clearing; and c. Native animals are to be relocated from development sites in accordance with the former Office of Environment and Heritage's Policy on the Translocation of Threatened Fauna in NSW.	Section 6 of this report provides mitigation measures including sed collection and pre-clearance surveys.
34. WONS and weeds on the National Environmental Alert List under the National Weeds Strategy are to be managed and eradicated (refer to NSW Weed Wise for current weed identification and management approaches).	N/A – no WONS have been detected within the study area. A Weed Eradication Management Plan has been prepared and submitted with the Development Application
35. Subdivision design and bulk earthworks are to consider the need to minimise weed dispersion during and after construction and promote weed eradication. A Weed Eradication and Management Plan is to be submitted with subdivision development applications.	As above.
36. Pest control techniques implemented during and post construction are to be in accordance with regulatory requirements for chemical use and address the relevant pest control strategy and are to reduce the risk of secondary poisoning (e.g. from Pindone or second-generation rodenticides).	N/A

Development Control	Response
37. Vegetation to which Part 3 of State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 applies is the same vegetation that must not be ringbarked, cut down, lopped, topped, removed, injured, wilfully destroyed or cleared without a development consent or permit granted by Council.	This SEPP does not apply to the proposal.
38. Where high intensity lighting is necessary for site operation, safety and security, it is to be designed to avoid light spill into adjoining natural areas. Australian Standard AS 4282 or updates to that standard are to be considered as a minimum.	Lighting design will be developed during the detailed design phase. Section 6 outlines mitigation measures, including the development of lighting to be conducted in accordance with Australian Standard AS 4282 as a minimum.
39. Where a development footprint contains or is within 100 m of known microbat colonies or habitat likely to support microbat colonies, street lighting must be of the type that will not attract insects.	No known microbat colonies are within 100m of the development.
40. Where noise adjacent to natural areas is likely to impact wildlife, the proponent must manage the timing of noise producing activities, including installing appropriate noise treatment barriers along major roads and other attenuation measures.	The site is not adjacent to a natural area.
41. Ensure appropriate mitigation strategies (including fauna-sensitive road design elements) are employed to minimise vehicle strike during and after road construction and upgrading.	Mitigation measures have been proposed in Section 6 to minimise potential impacts as a result of vehicle strike.
42. Traffic calming measures shall be considered in all development areas adjacent to Environmental Conservation and Recreation zoned lands not subject to wildlife (including koala) exclusion fencing, such as speed humps, audible surfacing and faunal bridges.	N/A – the study area is not adjacent to Environmental Conservation and Recreation zoned lands.
43. Ensure movement of fauna is facilitated within and through wildlife corridors by: a. Ensuring that activities do not create barriers to the movement of fauna along and within wildlife corridors; and b. Separating fauna from potential construction hazards through the pre-construction and construction process.	The site does not contain a wildlife corridor.
44. Adopt and implement open structure design for roads adjacent to known populations of Cumberland Plain Land Snail in accordance with actions under the Save our Species Program (EES, 2020).	N/A – there are no known Cumberland Plain Land Snail populations in proximity to the study area. The nearest recorded population is over 1 km north of the study area (Figure 10)

5. EPBC Act and Matters of National Environmental Significance

The EPBC Act establishes a regime for assessing and regulating the environmental impact of activities (including development) where Matters of National Environmental Significance (MNES) may be affected. Under the EPBC Act, any action which has, will have, or is likely to have a significant impact on a matter of MNES is defined as a 'controlled action', and requires approval from the Minister. The Commonwealth Department of Climate Change, Energy, Environment and Water (DCCEEW) is responsible for administering the EPBC Act. In lieu of Commonwealth approval of the CPCP, an assessment of biodiversity under the EPBC Act has been prepared within this section and considered throughout this Biodiversity Assessment Report.

The process includes undertaking an Assessment of Significance for listed threatened species and ecological communities that represent a matter of MNES that will be impacted as a result of the proposed action. The *Matters of National Environmental Significance – Significant Impact Guidelines 1.1* (DEWHA 2013) provide overarching guidance on determining whether an action is likely to have a significant impact on a MNES.

It must be noted that DPE is currently pursuing Commonwealth approval for the CPCP under Part 10 of the EPBC Act. In addition, it is understood that the Federal government were a key stakeholder in the preparation of the CPCP and all proposed impacts (1753.6 ha) to certified land and approach to avoiding, mitigating and offsetting was developed in partnership with the Federal government and approval is considered imminent.

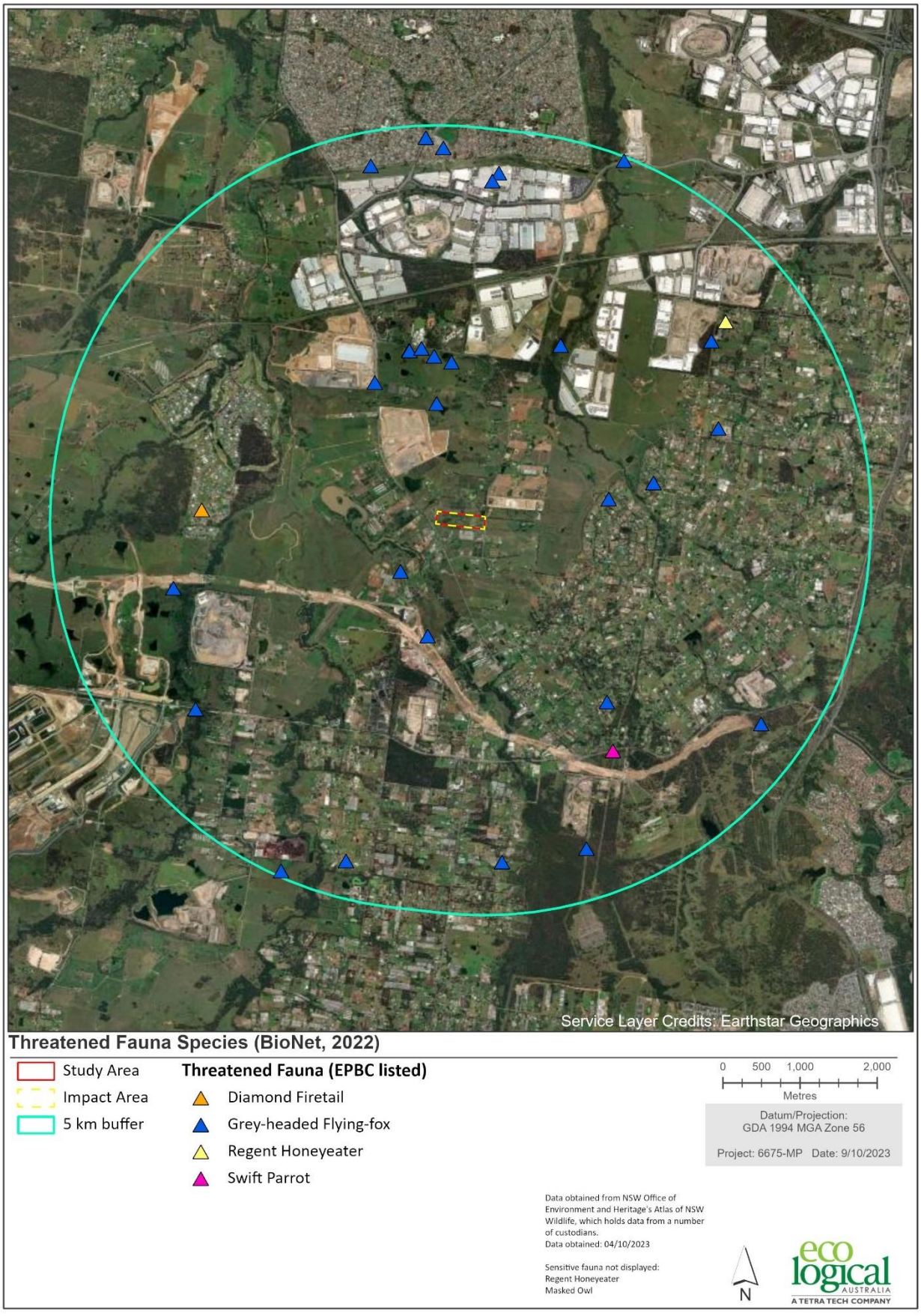

Figure 10: EPBC Threatened Fauna Species within 5 km radius of the study area

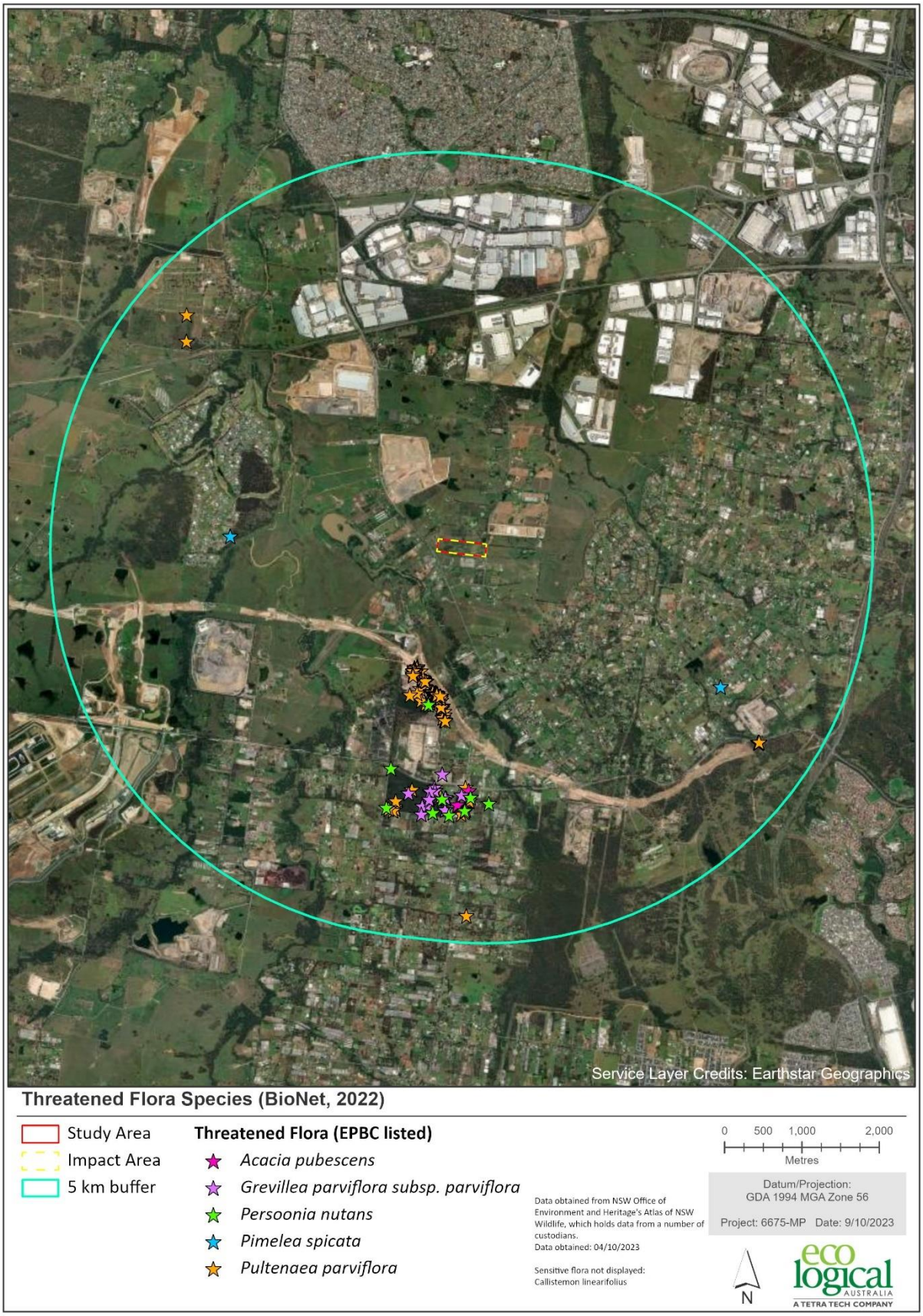

Figure 11: EPBC Threatened Flora Species within 5 km radius of the study area

5.1. Matters considered MNES

A habitat assessment and Likelihood of Occurrence table were completed and the following MNES were assessed in accordance with the *Significant Impact Guidelines 1.1* (DEWHA 2013):

- *Botaurus poiciloptilus* (Australasian Bittern)
- *Hirundapus caudacutus* (White-throated Needletail)
- *Pteropus poliocephalus* (Grey-headed Flying-fox)
- *Rostratula australis* (Australian Painted Snipe)

5.2. Assessments of Significance

The Assessments of Significance for species and communities considered MNES are provided below.

5.2.1. Wetland Birds

The following wetland birds were assessed:

- Australasian Bittern
- Australian Painted Snipe

None of the above species were recorded during survey, however foraging habitat was identified within the development site. The proposed development would remove foraging habitat for these species available within the development site. Given that the same habitat features were identified for the above species within the development site, and that the proposed action poses similar potential impacts to both species, a single Test of Significance was applied.

Table 5-1 Application of Significant Impact Criteria to wetland birds

Criterion	Question	Response
An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility of the following:		
1)	will the action lead to a long-term decrease in the size of a population	The proposed action would remove three farm dams which can provide foraging habitat for Australasian Bittern and Australian Painted Snipe. The bird species are highly mobile and would be able to access similar foraging habitat available within the assessment area. Breeding habitat would not be impacted. Therefore, it is unlikely that the action would lead to a long-term decrease in the size of a population.
2)	will the action reduce the area of occupancy of the species	The proposed action would reduce the area of foraging habitat available for these species within the development site. None of the species are known to occupy the development site.
3)	will the action fragment an existing population into two or more populations	A 'population of a species' refers to a population, or collection of local populations, that occurs within a particular bioregion. The Australasian Bittern and Australian Painted Snipe are highly mobile and/or migratory species which may use the farm dams within the development site seasonally and sporadically and are not known to occupy the development site as a particular

Criterion	Question	Response
		population. Subsequently, the proposed action would not fragment populations of any of these species.
4)	will the action adversely affect habitat critical to the survival of a species	The proposed action would remove foraging habitat for this species. However, this habitat is not considered critical for their survival.
5)	will the action disrupt the breeding cycle of a population	The proposed action would not remove breeding habitat for these species. Foraging behaviour may be impacted but only to a small extent which would not disrupt the breeding cycle of populations of any of the species.
6) i	will the action modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Bird habitat within and around the development site has been significantly modified over time and is already degraded. The proposed action would remove foraging habitat, no habitat would be fragmented or isolated.
6) ii	will the action result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	The proposed action is unlikely to result in the establishment of an invasive species that is harmful to the threatened birds.
7)	will the action introduce disease that may cause the species to decline	The proposed action is unlikely to introduce disease that may cause the Australasian Bittern or Australian Painted Snipe to decline.
8)	will the action interfere with the recovery of the species	The proposed action would remove foraging habitat. However, similar habitat is available for the highly mobile species within the assessment area. Therefore, the action is unlikely to interfere with the recovery of the species.
Conclusion	**Is there likely to be a significant impact?**	**No. The proposed action is unlikely to have a significant impact on the Australasian Bittern or Australian Painted** Snipe **for the following reasons:** • The proposed action would not remove breeding habitat for these species. • The species are highly mobile and could continue to forage within the assessment area and beyond.

5.2.2. White-throated Needletail

This species was not recorded during survey, however foraging habitat was identified within the development site. The proposed development would remove foraging habitat for this species available within the development site. No breeding habitat would be affected.

Table 5-2 Application of Significant Impact Criteria to White-throated Needletail

Criterion	Question	Response
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:		
1)	lead to a long-term decrease in the size of an important population of a species	An 'important population' is a population that is necessary for a species' long-term survival and recovery. The proposed action would remove foraging habitat for White-throated Needletail. The species is highly mobile and would be able to access similar foraging habitat available within the assessment area. Breeding habitat would not be

Criterion	Question	Response
		impacted. Therefore, it is unlikely that the action would lead to a long-term decrease in the size of an important population.
2)	reduce the area of occupancy of an important population	The proposed action would reduce the area of foraging habitat available for the White-throated Needletail within the development site. The species is not known to occupy the development site.
3)	fragment an existing important population into two or more populations	The White-throated Needletails is a highly mobile and migratory species which may use the farm dams within the development site seasonally and sporadically and is not known to occupy the development site as a particular population. Subsequently, the proposed action would not fragment an important population of this species.
4)	adversely affect habitat critical to the survival of a species	The proposed action would remove foraging habitat for this species. However, this habitat is not considered critical for their survival.
5)	disrupt the breeding cycle of an important population	The proposed action would not remove breeding habitat for this species. Foraging behaviour may be impacted but only to a small extent which would not disrupt the breeding cycle of populations of the species.
6)	modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Habitat within and around the development site has been significantly modified over time and is already degraded. The proposed action would remove foraging habitat, no habitat would be fragmented or isolated.
7)	result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	The proposed action is unlikely to result in the establishment of an invasive species that is harmful to the White-throated Needletail.
8)	introduce disease that may cause the species to decline, or	The proposed action is unlikely to introduce disease that may cause the White-throated Needletail to decline.
9)	interfere substantially with the recovery of the species.	The proposed action would remove foraging habitat. However, similar habitat is available for the highly mobile species within the assessment area. Therefore, the action is unlikely to interfere with the recovery of the species.
Conclusion	**Is there likely to be a significant impact?**	**No. The proposed action is unlikely to have a significant impact on the White-throated Needletail for the following reasons:** • The proposed action would not remove breeding habitat for these species. • The species are highly mobile and could continue to forage within the assessment area and beyond.

5.2.3. Grey-headed Flying Fox

This species was not identified within the development site during surveys, however vegetation within the development site has the potential to provide seasonal foraging habitat. No camps were identified within the development site. The closest Grey-headed Flying-fox camp is located approximately 13 km to the east at Wetherill Park and had 1-499 individuals in February 2020 (DAWE 2021. The closest

Nationally Important Grey-headed Flying-fox camp is located approximately 30 km to the northeast at Parramatta Park and had 2,500-9,999 individuals in August 2020 (DAWE 2021)..

Table 5-3 Significant Impact Assessment on Grey-headed Flying Fox

Criterion	Question	Response
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:		
1)	lead to a long-term decrease in the size of an important population of a species	No roosting habitat (camps) will be affected by the proposed action. The proposed action would affect 0.03 ha of native vegetation, which comprises marginal foraging habitat for the Grey-headed Flying-fox. The Grey-headed Flying-fox is recorded as travelling long distances (up to 50 km) on feeding forays. Given the proximity of similar habitat within the assessment area, the removal of this potential foraging habitat would not lead to the long-term decrease in the size of an important population of Grey-headed Flying-fox.
2)	reduce the area of occupancy of an important population	Native vegetation in Sydney is important for the Grey-headed Flying-fox as individuals are known to move up to 20 km a night between camps to forage. This species is highly mobile and populations at each camp may change during seasonal fluctuations. Under the proposal approximately 0.03 ha of potential habitat would be removed, which may cause a temporary disturbance to the Grey-headed Flying-fox. However, these impacts are unlikely to reduce the area of occupancy this highly mobile species given that no camps will be impacted and only an extremely small area of foraging habitat is to be removed.
3)	fragment an existing important population into two or more populations	According to the National Recovery Plan for the Grey-headed Flying-fox 2021, "the Grey-headed Flying-fox is considered to be a single, mobile population with individuals distributed across Queensland, New South Wales, Victoria, South Australia, Tasmania and the ACT." The proposed action would not fragment an existing important population into two or more populations. No camps would be affected by the proposed action and other areas of foraging habitat are available for this highly mobile species within the region.
4)	adversely affect habitat critical to the survival of a species	The National Recovery Plan for the Grey-headed Flying-fox 2021 identifies 'a continuous temporal sequence of productive foraging habitats, linked by migration corridors or stopover habitats, and suitable roosting habitat within nightly commuting distance of foraging areas' as habitat critical to the survival of the species. The proposed action would affect 0.03 ha of native vegetation, some of which may represent habitat critical survival to this species. However, this impact is considered unlikely to have an adverse effect given that the species is recorded as travelling long distances (50 km) on feeding forays and similar habitat is available adjacent to the development site.
5)	disrupt the breeding cycle of an important population	As no breeding habitat would be removed or disturbed and no camps would be affected, it is unlikely the proposed work would disrupt the breeding cycle of the important population.
6)	modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposed action would remove 0.03 ha of vegetation, including marginal foraging habitat for the Grey-headed Flying-fox. It is unlikely that the extent of this vegetation removal would cause the species to decline because suitable habitat is available adjacent to the development site.

Criterion	Question	Response
7)	result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	The proposed action is unlikely to result in the establishment of an invasive species that is harmful to the Grey-headed Flying-fox.
8)	introduce disease that may cause the species to decline, or	Grey-headed Flying-fox are reservoirs for the Australian bat lyssavirus, Hendra Virus and Menangle virus which can cause clinical disease and mortality in Grey-headed Flying-fox. The proposed action would not increase the incidence of this disease.
9)	interfere substantially with the recovery of the species.	The proposed action would remove suitable foraging habitat for this species; however this would not interfere substantially with recovery objectives listed in the National Recovery Plan for the Grey-headed Flying-fox 2021. The proposed action would not affect any camps and suitable foraging habitat is available adjacent to the development site.
Conclusion	**Is there likely to be a significant impact?**	No. The proposed action is unlikely to have a significant impact on the Grey-headed Flying-Fox for the following reasons: • No camps would be removed by the proposed action; and • Similar foraging habitat for this highly mobile species is available adjacent to the development site and throughout the region.

6. Mitigating and Managing Impacts

Measures proposed to mitigate and manage impacts to the environment and MNES within the impact area before, during and after construction are provided below in Table 6-1.

Table 6-1 Recommended mitigation measures

Impact	Mitigation Measure	Timing	Responsibility
Direct Impacts			

Removal of native vegetation, loss of habitat (including hollows)	• Seed collection should be undertaken prior to cleating of native vegetation
	• Pre-clearance survey of trees to be removed and identification/location of active nests by a suitably qualified ecologist.
	• Native animals are to be relocated from development sites in accordance with the former Office of Environment and Heritage's *Policy on the Translocation of Threatened Fauna in NSW*.
	• Hollows to be removed should be retained and reused within the remaining vegetation within the adjacent riparian corridor.
	  ○ Following the pre-clearance survey, a nest box and retained hollow plan should be prepared. Nest boxes and retained hollows should be installed by a qualified arborist in the adjacent vegetation to replace hollows removed at a minimum ratio of 1:1 (i.e., 1 nest box/retained hollow for each hollow removed).
	  ○ Boxes should be chosen to match the likely target species of each hollow. Boxes should be installed prior to construction to allow fauna to move/be relocated to nest boxes prior to removal of hollow-bearing trees and be maintained and monitored for 5 years.
	• Install appropriate fencing and signage for the protection of trees to be retained in proximity to the impact area. This may comprise fencing and signage in accordance with Arborist recommendations to avoid unintended impacts to a tree protection zone (TPZ) or structural root zone (SRZ) which may compromise the viability of the tree.
		Before
		During
			PM
			ECO
			ARB

Breeding disruptions to native fauna	• Programming of works to avoid critical life cycle events such as breeding or nursing • Impacts to vegetation during the Spring/Summer breeding period should be minimised to avoid disrupting the breeding cycles of threatened species (i.e., microbat species threatened under the BC Act).	Before During	PM, in consultation with ECO
Impacts to adjacent vegetation, edge effects, inadvertent damage, soil disturbance	• Temporary fencing along the southern boundary in the vicinity of the trees on adjoining lots will be erected to ensure no impact to the Tree Protection Zone of those trees.	Before During	PM, in consultation with ECO

Impact	Mitigation Measure	Timing	Responsibility
Sedimentation, erosion	• Install permanent sediment barriers and erosion controls during and post construction to prevent runoff into vegetation outside of the impact area, including the riparian corridor. • Maintain controls throughout construction and undertake regular inspections (weekly). • Inspect controls following heavy rainfall. • Removal of native vegetation by chain-saw, rather than heavy machinery, is preferable where partial clearing is proposed to avoid impacts outside of the defined impact area.	Life of Project	PM, C
Noise impacts to fauna	• Daily timing of construction activities is recommended in accordance with the standard daytime hours.		PM, C
Light and dust disturbance to native fauna	• Conduct works during daylight hours • Dust management controls to be implemented during construction and operations. ○ If water is being used to manage dust, ensure contaminated water in managed appropriately on and off site in accordance with a water management plan or similar.	During	PM
Dam Dewatering	Dam Dewatering Plan to be prepared and implemented following consent conditions.	Before During	PM, AE
Understanding of environmental features and values	All staff working on the project will undertake an environmental induction as part of their site familiarisation. Site briefings should be updated based on phase of the work. This induction will include items such as: • Site environmental procedures (vegetation management, sediment and erosion control, exclusion fencing) • Threatened species habitat, TECs, riparian corridor • What to do in case of environmental emergency (chemical spills, fire, injured fauna) • Key contacts in case of environmental emergency • What to do in the case of finding a threatened species • What to do in the case of finding fauna on the site	Before During	PM, ALL
	Indirect Impacts		
Light spill impacts, disruptions to native fauna breeding and foraging habits	• No impacts expected during construction if works are carried out during daytime hours; • Lighting installed during construction, to be used for the operation phase of the Project, is to conform to Australian Standard AS 4282 to minimise light spill; and • Lighting should be suitable to a kind that does not attract insects, to deter microbats from the site.	Life of Project	PM
Reduced viability of adjacent habitat due to edge effects	• Boundaries of the impact area to be clearly delineated with heavy duty fencing, retained areas marked with “No Go” signage, in particular surrounding the riparian corridor located along the western boundary of the development site. • Temporary fencing and signage to be installed at the edge of the development site to prevent entry into the adjacent retained vegetation (i.e. riparian corridor).	Life of Project	PM
Reduced viability of adjacent	**Project Design:**	During	PM, C

Impact	Mitigation Measure	Timing	Responsibility
habitat due to noise, dust or light spill	• Lighting is in accordance with ASNZS 4282:2019 *Control of the obtrusive effects of outdoor lighting*. • Lighting should be of suitable kind that does not attract insects, to deter microbats from the site, specifically the use of warm toned lights. • Measures such as shielding and use of warm-toned lights in proximity to the riparian corridor will be utilised to ensure light impacts are minimised **During Construction:** • Daily timing of construction activities is recommended in accordance with the standard daytime hours to avoid noise impacts to wildlife during the evening and night. • Lighting used during construction is to conform to Australian Standard AS 4282 to minimise light spill.	Life of Project	
Transport of weeds and pathogens from the site to adjacent vegetation	• As above ('Spread of priority weeds or WoNS')	Life of Project	PM, ALL
Rubbish dumping	• All general contractor waste is to be disposed of using provided waste bins.	L	ALL

TIMING KEY: BEFORE = BEFORE CONSTRUCTION, DURING = DURING CONSTRUCTION, POST = POST-CONSTRUCTION
RESPONSIBILITY KEY: PM = PROJECT MANAGER, C = CONTRACTOR, ALL = ALL STAFF, ECO = PROJECT ECOLOGIST, ARB = PROJECT ARBORIST, AE = AQUATIC ECOLOGIST

7. Conclusion

The Biodiversity Assessment Report undertaken by ELA concludes that the proposed development of the Westgate industrial estate is consistent with the biodiversity related provisions of the planning framework and the site is therefore suitable for development within the footprint of 253-267 Aldington Road. Mitigation measures will minimise residual biodiversity impacts. It was assessed that the impacts to biodiversity values will be low, noting the entirety of the site is biodiversity certified, no Matters of National Environmental Significance were identified and the identified Plant Community Types do not meet the requirements of a threatened ecological communities under the EPBC Act.

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