WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS

Flora and Fauna Assessment

New high school for Schofields and Tallawong

School Infrastructure NSW

22 January 2025

School Name	New high school for Schofields and Tallawong	**Consultancy Name**	Water Technology
School ID Number	Brand new school	**Report Status**	Draft
School Address	201 Guntawong Road, Tallawong	**Report Date**	22 January 2025
School Region	City of Blacktown	**Contract Number**	DDWO05753/23

Document Status

Version	Doc type	Reviewed by	Approved by	Date issued
1.0	Draft	M. Aberton	M. Aberton	22 January 2025
2.0	Draft	M. Huxley	M. Aberton	12 December 2024
3.0	Draft	M. Huxley	M. Aberton	13 January 2025
3.0	Final	M. Huxley	M. Aberton	22 January 2025
4.0				

Project Details

Project Name	New high school for Schofields and Tallawong
Client	School Infrastructure NSW
Water Technology Project Manager	Caroline Khoo
Water Technology Project Director	Steven Molino
Authors	Marion Huxley
Document Number	3.0

Suite 3, Level 1, 20 Wentworth Street
Parramatta NSW 2150
Telephone (02) 8080 7346
ACN 093 377 283
ABN 60 093 377 283

ACKNOWLEDGEMENT OF COUNTRY

The Board and employees of Water Technology acknowledge and respect the Aboriginal and Torres Strait Islander Peoples as the Traditional Custodians of Country throughout Australia. We specifically acknowledge the Traditional Custodians of the land on which our offices reside and where we undertake our work.

We respect the knowledge, skills and lived experiences of Aboriginal and Torres Strait Islander Peoples, who we continue to learn from and collaborate with. We also extend our respect to all First Nations Peoples, their cultures and to their Elders, past and present.

Artwork by Maurice Goolagong 2023. This piece was commissioned by Water Technology and visualises the important connections we have to water, and the cultural significance of journeys taken by traditional custodians of our land to meeting places, where communities connect with each other around waterways.

The symbolism in the artwork includes:

- *Seven circles representing each of the States and Territories in Australia where we do our work*
- *Blue dots between each circle representing the waterways that connect us*
- *The animals that rely on healthy waterways for their home*
- *Black and white dots representing all the different communities that we visit in our work*
- *Hands that are for the people we help on our journey*

CONTENTS

APPENDICES

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND DEFINITIONS

Acronym	Definition
BC Act	*Biodiversity Conservation Act 2016*
BV	Biodiversity Values
DCP	Development Control Plan
DD	Due Diligence
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
FM Act	*Fisheries Management Act 1994*
LEP	Local Environment Plan
LGA	Local Government Area
MNES	Matter of National Environmental Significance
PCT	Plant Community Type
FFA	Flora and Fauna Assessment
SEARS	Secretary's Environmental Assessment Requirements
SINSW	Schools Infrastructure New South Wales
SSD	State Significant Development
TEC	Threatened Ecological Community
WM Act	*Water Management Act 2000*

1 EXECUTIVE SUMMARY

A Flora and Fauna Assessment has been conducted for the proposed new high school in Schofields and Tallawong to identify potential constraints under the NSW Biodiversity Conservation Act 2016, the Commonwealth Environment Protection and Biodiversity Conservation Act 1999, and the NSW Fisheries Management Act 1994. The site, located within the North-West Growth Area, is certified under biodiversity legislation, which exempts it from further biodiversity impact assessments.

Under the *Biodiversity Conservation Act 2016,* the effect of biodiversity certification is that development carried out under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) on certified land is exempt from requiring an impact assessment on biodiversity. Section 8.4 of the *Biodiversity Conservation Act 2016* states:

> *(4) Activities under Part 5 of the Planning Act: An activity to which Part 5 of the Environmental Planning and Assessment Act 1979 applies that is carried out or proposed to be carried out on biodiversity-certified land is taken, for the purposes of Part 5 of that Act, to be an activity that is not likely to significantly affect any threatened species or ecological community under this Act, or its habitat, in relation to that land."*

This provision means that if an activity falls under Part 5 of the EP&A Act and occurs on biodiversity-certified land, it is deemed, for the purposes of Part 5, not to have a significant impact on any threatened species, ecological communities, or their habitats on that land. Accordingly, no further assessments regarding biodiversity impacts are required as the certification process has already addressed these impacts.

Further, under Section 7.8 of the *Biodiversity Conservation Act 2016*, the following is outlined:

> **7.8 Biodiversity assessment for Part 5 activity**
>
> *(1) This section applies to environmental assessment under Part 5 of the Environmental Planning and Assessment Act 1979.*
>
> *(2) For the purposes of Part 5 of the Environmental Planning and Assessment Act 1979, an activity is to be regarded as an activity likely to significantly affect the environment if it is likely to significantly affect threatened species.*
>
> *(3) In that case, the environmental impact statement under Part 5 of the Environmental Planning and Assessment Act 1979 is to include or be accompanied by—*
>
> *(a) a species impact statement, or*
>
> *(b) if the proponent so elects—a biodiversity development assessment report.*

The report identifies significant biodiversity, including the Cumberland Plain Shale Woodlands and Shale Gravel Transition Forest (CPW), and potential habitat for threatened species, triggering a Test of Significance. However, as the development is within certified land, no biodiversity offset is required, and no further environmental assessment is necessary. The proposal also avoids the need for a Controlled Activity Approval under the Water Management Act 2000, as the Department of Education is exempt. The report underscores that the project does not trigger the Biodiversity Offset Scheme or require additional environmental assessments due to the site's certification.

2 INTRODUCTION

This has been prepared to support a Review of Environmental Factors (REF) for the Department of Education (DoE) for the construction and operation of the new Schofields - Tallawong High School (the activity).

The purpose of the REF is to assess the potential environmental impacts of the activity prescribed by State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&I SEPP) as “development permitted without consent” on land carried out by or on behalf of a public authority under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The activity is to be undertaken pursuant to Chapter 3, Part 3.4, of the T&I SEPP.

The Biodiversity Conservation Act 2016 outlines that ‘*an activity to which Part 5 of the Environmental Planning and Assessment Act 1979 applies which is carried out or proposed to be carried out on biodiversity certified land is taken, for the purposes of Part 5 of that Act, to be an activity that is not likely to significantly affect any threatened species or ecological community under this Act, or its habitat, in relation to that land*’ .

This document has been prepared in accordance with the Guidelines for Division 5.1 assessments (the Guidelines) by the Department of Planning, Housing and Infrastructure (DPHI). The purpose of this report is to assess the Flora and Fauna of the site.

The construction company will make sure the proposal is carried out as described in this FFA. If the scope of work or work methods, described in this FFA, change significantly following determination, an additional environmental impact assessment, or FFA Addendum, may be required.

3 SITE DESCRIPTION

The site is known as 201 Guntawong Road, Tallawong, NSW, 2762 (the site), and is legally described as part of Lot 1 in Deposited Plan 1283186. The site is located at the corner of Guntawong Road and Clarke Street, Tallawong and is approximately 4 hectares in area. The site has an approximately 100-metre-long frontage to Guntawong Road along its northern boundary. Nirmal Street provides a partial frontage along the eastern boundary of the site with plans to extend Nirmal Street to provide a future connection to Guntawong Road.

The site is predominantly cleared land and consists of grassland with several patches of remnant native vegetation particularly within the northern portion of the site. As a result of precinct wide rezonings, the surrounding locality is currently transitioning from a semi-rural residential area to a highly urbanised area with new low to medium density residential development with supporting services. The site is located approximately 1.5km to the north west of Tallawong Metro Station and is also serviced by an existing bus stop along Guntawong Road.

Figure 3-1 below provides an aerial image of the site.

Figure 3 2 shows the site within the North West Growth Area within the Sydney Region Growth Centres

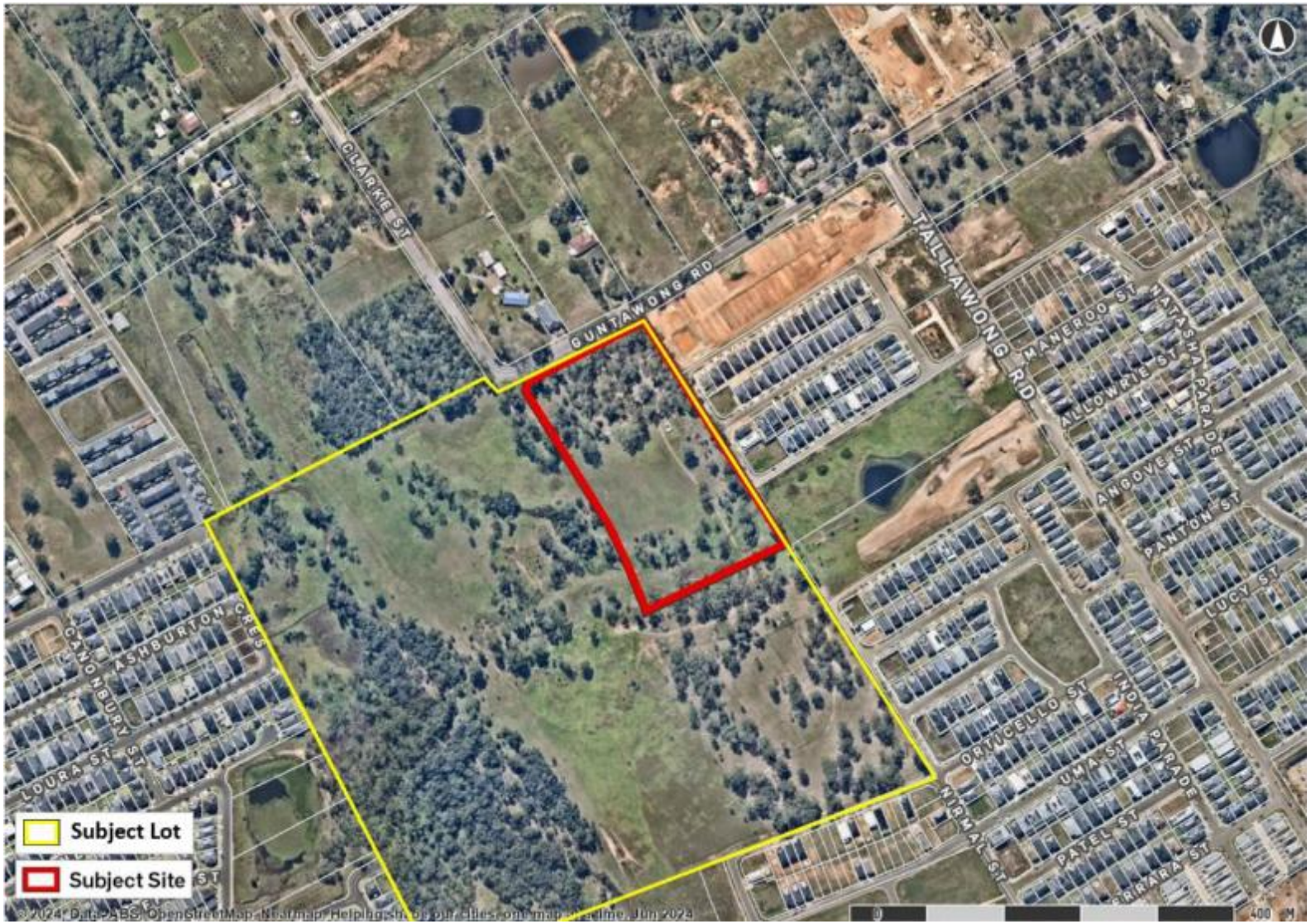
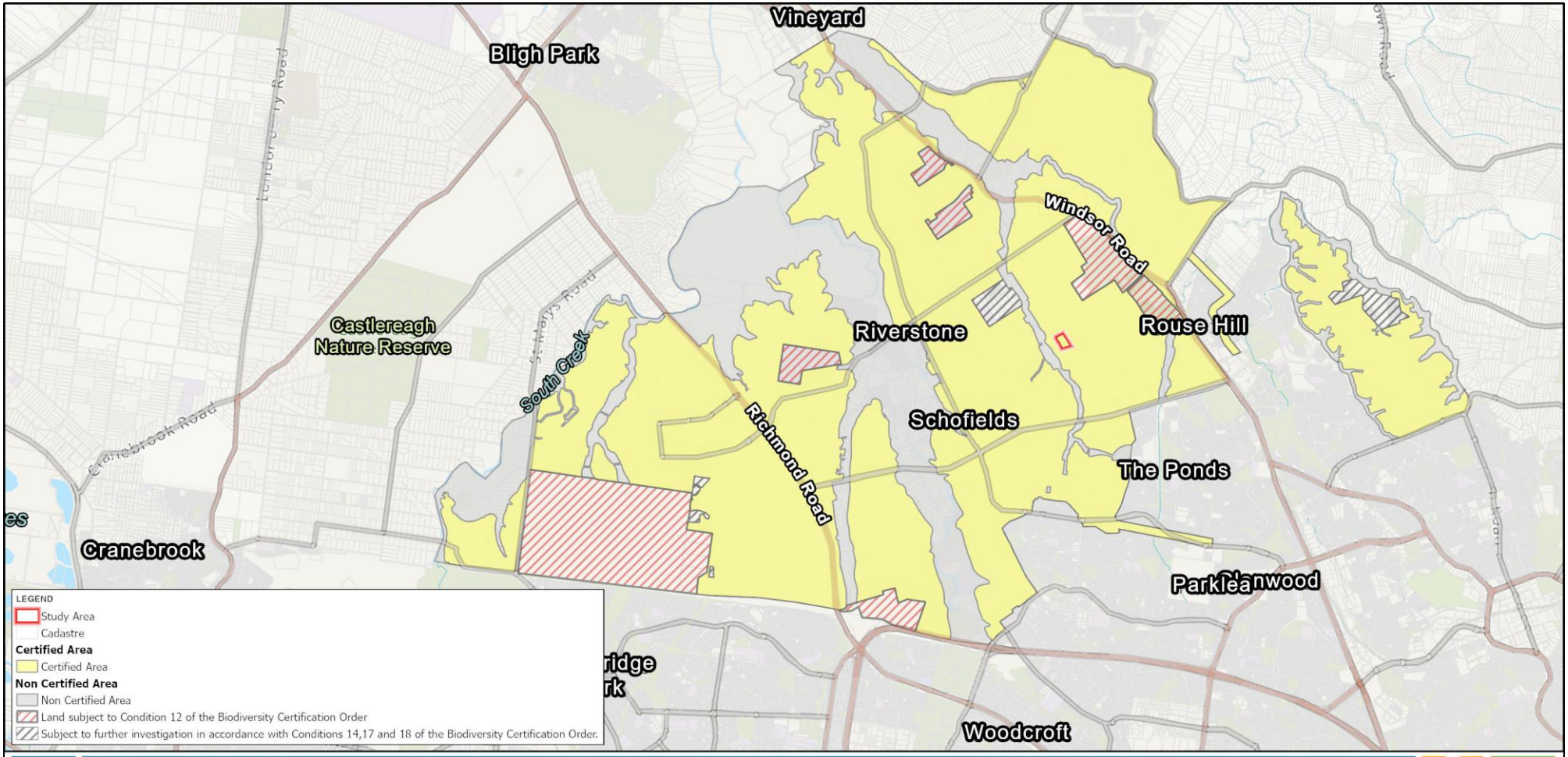


Figure 3-1 Aerial Photograph of Site *Source: Urbis, 2024*



N:\Jobs\24050111_SINSW Schofields Tallawong\Spatial\Workspaces\24050111_ReportFigures\24050111_ReportFigures.aprx 9/12/2024

4 PROPOSED ACTIVITY DESCRIPTION

The proposed activity is for the construction and operation of a new high school known as Schofields - Tallawong High School. The new high school will accommodate up to 1,000 students. The school will provide 49 permanent teaching spaces (PTS), and 3 support teaching spaces (STS) across three buildings.

The buildings will be three-storey in height and will include teaching spaces, specialist learning hubs, a library, administrative areas and a staff hub. Additional core facilities are also proposed including a standalone school hall, a carpark, a pick up and drop off zone along Nirmal Street, two sports courts and a sports field. Specifically, the proposal involves the following:

- Three learning hubs (three-storeys in height) accommodating 49 general teaching spaces and 3 support learning units (SLUs).
- Other core facilities including amenities, library, staff hub and administrative areas.
- Standalone school hall.
- Separate carpark with 72 spaces.
- Kiss and drop zone along Nirmal Street.
- Open play space including sports courts and sports field, including cricket nets.
- Public domain works.
- Food technology garden

The proposed site access arrangements are as follows:

- Main pedestrian entrance to be located off Nirmal Street.
- Kiss and drop zone proposed along Nirmal Street.
- Onsite parking access via Nirmal Street.

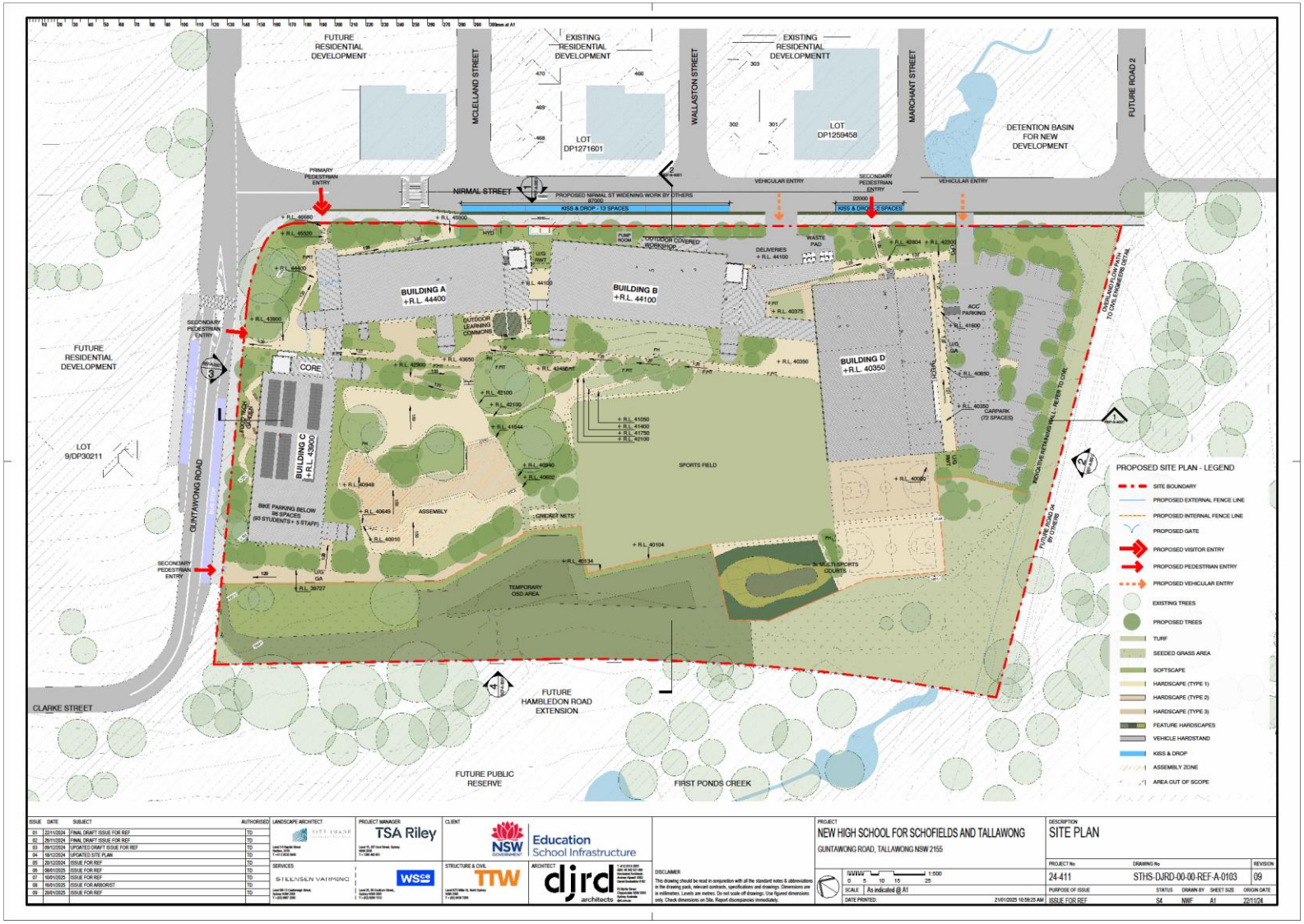


Figure 4-1 Proposed Site Plan

5 RELEVANT LEGISLATION

Legislation and policy relevant to the biodiversity component of works within the subject site are outlined below:

5.1 Environmental Planning, Assessment Act 1979 and Local Government Act 1993

Planning and development within NSW is regulated by the Environmental Planning & Assessment Act 1979 (EP&A Act).

The proposed works are permitted without consent under the State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP). Where works do not require development consent but require approval of a Government organisation under any legislation, then they are defined as an activity under Part 5 of the EP&A Act. Division 5.1 and Section 5.7 of the EP&A Act requires any such Government body to determine whether the impacts of the activity are likely to be significant. A FFA contributes to that determination.

A FFA is prepared, to inform a Review of Environmental Factors, to meet the requirements of Clause 171 of the *Environmental Planning and Assessment Regulation 2023*.

5.1.1 State Environmental Planning Policy (Transport and Infrastructure) 2021

The State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP) provides for the efficient provision of public infrastructure in NSW. The aim of this Policy is to facilitate the effective delivery of infrastructure across the State.

5.2 Water Management Act 2000

The Water Management Act 2000 (WM Act) provides for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations. The WM Act defines principles of water management, sets out water licensing laws and environmental water provisions.

Section 91 (2) states that: *waterfront land means—…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.*

5.3 Biodiversity Conservation Act 2016

The Biodiversity Conservation Act 2016 (BC Act) includes the Biodiversity Offsets Scheme (BOS) that governs how biodiversity offsets will be used to ensure they offset the loss due to development and deliver conservation outcomes. The Act and Regulations also govern the Biodiversity Assessment Method (BAM) as a scientific method that assesses biodiversity losses from impacts at development sites and gains from conserving land at stewardship sites.

Public authorities seeking to undertake an activity under Part 5 of the EP&A Act can voluntarily opt-in to the BOS and BAM scheme, or alternatively can elect to undertake an Assessment of Significance and proceed with a Part 5 approval. It will be required to:

- take serious and irreversible impacts into consideration; and
- determine if there are any additional and appropriate measures that will minimise the impact if the activity is to be carried out or approved.
- The potential ecological impacts of the proposal are discussed in this FFA.

The provisions of the Biodiversity Conservation Act 2016, which outlines that '*an activity to which Part 5 of the Environmental Planning and Assessment Act 1979 applies which is carried out or proposed to be carried out on biodiversity certified land is taken, for the purposes of Part 5 of that Act, to be an activity that is not likely to significantly affect any threatened species or ecological community under this Act, or its habitat, in relation to that land'* and that a SIS or a BDAR therefore is not required.

5.4 Environment Protection and Biodiversity Conservation Act 1999

Under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), Commonwealth approval is required for certain actions. Actions which have or may have or are likely to have a significant impact on Matters of National Environmental Significance (MNES). MNES include nationally threatened species or endangered ecological communities. Under the EPBC Act an assessment of the impact of a proposal on a MNES must be undertaken to determine whether there is likely to be a significant impact. If the assessment concludes there is a significant impact, then it will become a controlled action under the EPBC Act and the proposal must be referred to the Commonwealth. Approval from the relevant Federal Minister is also required for any actions that may have a significant impact on matters of National Environmental Significance, except in circumstances which are set out in the EPBC Act.

Approval from the Commonwealth is in addition to any approvals under NSW legislation.

The listing of an ecological community under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) has significant implications for land managers and potential developers. In areas where Threatened Ecological Communities (TECs) occur, it is crucial to ensure adequate protection and implement appropriate land use practices to maintain the ecological community for future generations.

National protection under the EPBC Act requires that any new or activities likely to have a significant impact on the listed ecological community be referred to the Australian Government Minister for the Environment for assessment. Certain exemptions may apply, but failing to refer a significant action can result in legal consequences such as financial penalties and remediation orders.

Activities that may require referral include:

- Clearing native vegetation adjacent to or upstream of the community, affecting its drainage regimes
- Significant changes in management regimes, including altered fire frequencies
- New weed management practices posing risks to the community, such as aerial spraying

It is also important to note that individual plant or animal species within the ecological community may also be protected under the EPBC Act. Activities impacting these species may require separate approvals. Additionally, some TECs may overlap with National Heritage List sites or Ramsar wetlands, necessitating further considerations.

As the subject is within certified land in the North-West Growth Area, the findings of this report do not necessitate further referral or approval from the Commonwealth Government.

5.5 Blacktown Local Environmental Plan 2015

The Blacktown Local Environmental Plan 2015 (LEP) current version came into effect on 26 May 2015. This Plan aims to make local environmental planning provisions for land in the Blacktown LGA in accordance with the relevant standard environmental planning instrument. The works are to be conducted R3 - Medium Density Residential and R2 - Low Density Residential as per LEP zoned land. The site is not zoned as Environment Conservation.

- The objectives for the R2 zoned land include:
  - To provide for the housing needs of the community within a low-density residential environment.
  - To enable other land uses that provide facilities or services to meet the day to day needs of residents.
  - To enable certain activities to be carried out within the zone that do not adversely affect the amenity of the neighbourhood.
- The objectives for the R3 zoned land include:

- To provide for the housing needs of the community within a medium density residential environment.
- To provide a variety of housing types within a medium density residential environment.
- To enable other land uses that provide facilities or services to meet the day to day needs of residents.
- To enable certain activities to be carried out within the zone that do not adversely affect the amenity of the neighbourhood.

5.6 Blacktown Development Control Plan 2010

The aim of the Blacktown Development Control Plan 2010 (DCP) is to allow detailed provisions to be made to control and guide development and subdivision within the Blacktown LGA, Schedule 8 Riverstone East Precinct. The Riverstone East Precinct Schedule is part of the Blacktown City Council Growth Centre Precincts Development Control Plan (DCP) and applies to all developments within the Riverstone East Precinct. It should be read in conjunction with the broader DCP. This schedule offers detailed guidance on subdivision planning, general precinct controls, and development within the Riverstone East Village Centre, including site-specific controls such as those for the heritage site Nu Welwyn and environmental management. The document prioritizes the creation of a diverse, well-connected community, featuring a variety of housing types, a village center, and the protection of natural and cultural heritage. It outlines guidelines for street networks, information technology infrastructure, riparian protection areas, and Aboriginal heritage conservation.

5.7 State Environmental Planning Policy (Precincts—Western Parkland City) 2021

The sources, excerpts from the "State Environmental Planning Policy (Precincts—Western Parkland City) 2021 [NSW]," highlight the Department for Education's involvement in infrastructure development within the Western Parkland City. The policy recognises the importance of educational infrastructure in supporting planned growth and development. Specifically, the Department for Education plays a critical role in acquiring land and ensuring the timely provision of educational facilities. For example, the policy states that for land zoned for a public purpose, such as an educational establishment, and where the relevant public authority may be required to acquire that land, the concurrence of that authority is required for development that is not otherwise permitted. This suggests that the Department for Education has a significant say in determining whether development on land earmarked for future educational establishments can proceed before acquisition.

Moreover, the policy underscores the Department's responsibility in ensuring adequate educational infrastructure within the growth centres. In certain zones, the policy allows development for educational establishments even if the land is not within a declared release area or lacks a specific precinct plan. This provision emphasises the priority placed on educational infrastructure development, granting the Department for Education the ability to proceed with projects even before detailed precinct plans are finalised. This flexibility allows for a proactive approach to educational infrastructure development, ensuring that facilities are in place to meet the needs of growing communities.

6 EXISTING ENVIRONMENT

The subject site encompasses an area of approximately 4 hectares, (Figure 3-1). New high school for Schofields and Tallawong is a lot with cleared mowed grass, no buildings, and patches of remnant vegetation.

6.1 Desktop search

Prior to undertaking the ecological field survey, desktop searches were conducted to provide a context of the surrounding environment.

6.1.1 Vegetation communities

A review of the vegetation mapping databases using the SEED portal (NSW Government's central resource for Sharing and Enabling Environmental Data in NSW) was undertaken to identify Plant Community Types (PCTs) present within the area. As indicated in Figure 6-1.

According to the NSW State Vegetation Type Mapping, one PCT is mapped as occurring within the subject site:

- PCT 3320 - Cumberland Shale Plains Woodland. This PCT is partially equivalent to the ecological community Cumberland Plain Woodland in the Sydney Basin Bioregion, which is listed as a Threatened ecological communities (TEC):
  - BC Act Listed Critically Endangered (Part) Cumberland Plain Woodland in the Sydney Basin Bioregion
  - BC Act Listed Endangered (Part) Shale Gravel Transition Forest in the Sydney Basin Bioregion
  - EPBC Act Listed Critically Endangered (Part) Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest

Additional PCTs occur in proximity to, but not within, the subject site. This includes PCT 4025 – Cumberland Red Gum Riverflat Forest. This PCT is associated with River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions which is listed as Endangered under the BC Act. It is also associated with River-flat Eucalypt Forest on coastal floodplains of southern New South Wales and eastern Victoria which is listed as Critically Endangered under the EPBC Act.

Analysis of high-resolution satellite imagery suggests that this patch of native vegetation is still present within the subject site. Historical imagery from 1947 indicated that this vegetation may be remnant vegetation (Figure 6-2).

An ecological site inspection was conducted to confirm the presence and condition of native vegetation on site and if it conforms to the listed associated TECs above.

6.1.2 Threatened Species

A search was conducted for records of threatened species using the NSW BioNet database. 1,600 records of 62 listed species were found within 10kms of the subject site. No threatened species were mapped on site.

Our desktop assessment using BioNet found four listed threatened species within proximity to the site (Figure 6-3). These included the:

- Little Lorikeet (*Hieraaetus morphnoides*) which is listed as Vulnerable under the NSW BC Act
- Varied Sittella (*Daphoensitta chrysoptera*) which is listed as Vulnerable under the NSW BC Act
- Little Eagle (*Hieraaetus morphnoides*) which is listed as Vulnerable under the NSW BC Act
- Juniper-leaved Grevillea (*Grevillea juniperina* subsp *juniperina*) which is listed as Vulnerable under the NSW BC Act

Figure 6-1 Plant Community Types

Figure 6-2 Historic Image 1947

Figure 6-3 Threatened species

Juniper-leaved Grevillea (*Grevillea juniperina subsp. juniperina*) had a moderate likelihood of occurrence on site. To determine the presence of this species a targeted species survey is recommended.

Due to the cryptic and nocturnal nature of many species, the fauna assessment primarily evaluated the site's potential as habitat. The precautionary principle was adopted, assuming the presence of threatened species if suitable habitat exists.

6.1.3 Biodiversity Values

Biodiversity Values were not mapped on the site but were in proximity to the site (Figure 6-4). Biodiversity values refer to the importance of the variety and variability of life forms (species, ecosystems, and genetic diversity) within a given area. These values can be categorised into different types based on their significance to ecosystems, human society, and the environment.

6.1.4 Previous Arboricultural Assessments:

A literature review of tree retention values and habitat features was conducted using the report by Arborsaw (2025) in Appendix A. This report focused on the site at Guntawong Road, Riverstone to determine their retention value and protection needs in accordance with Australian Standard 4970: 200912.

The arborist assessment had 267 trees recommended for removal, 32 trees to be retained. The report emphasised the significance of the site's Cumberland Plain Woodland, a Critically Endangered Ecological Community protected by state and federal legislation, and provided recommendations for the upcoming Arboricultural Impact Assessment report, including updating the 2022 survey data, incorporating tree data into construction plans, minimising Tree Protection Zones (TPZ) encroachments, and employing tree-sensitive design and construction techniques.

The report concludes with a detailed appendix containing the 2025 tree data and an explanation of the Significance of a Tree Assessment Rating System. While the reports consistently highlight the presence of habitat features, they do not provide a comprehensive list of all fauna species observed on the site.

6.1.5 Waterways

The subject site was not mapped as containing any Key Fish Habitat. The site is in proximity to a waterway yet is exempt as the proponent is a public authority and will not require a Controlled Activity Approval (Figure 6-5). The onsite assessments found a small drainage line starting at Guntawong Road heading down towards the First Ponds waterway. This drainage line was found to hold a significant amount of water after recent rain that occurred a few days previously.

Figure 6-4 Biodiversity Values

Figure 6-5 Waterways

6.2 Site Visits

On 29 July 2024 and 13 November 2024 ecologist Caroline Weller conducted a site assessment for New high school for Schofields and Tallawong. involving a walkthrough of all accessible vegetated areas to fulfil the due diligence requirements of the project. The site visit on 13 November 2024 was a targeted assessment focusing on the Plant Community Types and vegetation conditions across the whole site.

A floristic survey was undertaken to confirm the presence of 3320- Cumberland Shale Plains Woodland on site and to assess the native vegetation condition and weed infestations.

An opportunistic fauna survey included searches for proxy evidence of fauna activity such as tree scratches, scats, and bird nests. As many faunal species are cryptic and/or nocturnal, they are unlikely to be detected during a short survey. The fauna assessment is largely an assessment of the potential of the site as habitat for various fauna species. Apart from species recorded at the site there is no certainty as to the presence or absence of the species discussed. Therefore, it is important to adopt the precautionary principle, it is assumed that any threatened species are likely to occur at the site if suitable habitat exists.

An assessment of potential habitat features for threatened species, such as tree hollows or crevices in tree bark was also conducted.

6.2.1 Flora

The presence of the threatened ecological community PCT 3320 - Cumberland Shale Plains Woodland was confirmed and evaluated.

The survey found PCT 3320 in moderate condition with some weed incursion. Dominant canopy species included Forest Red Gum (*Eucalyptus tereticornis*) and Rough-barked Apple (*Angophora floribunda*), with shrub species like Native Hawthorn (*Bursaria spinosa*) and groundcovers such as Kidney Weed (*Dichondra repens*) and Weeping Rye Grass (*Microlaena stipoides*). These species collectively indicated the presence of PCT 3320 - Cumberland Plain Woodland.

Weeds such as African Boxthorn (*Lycium ferocissimum*), African Olive (*Olea europaea* subsp. *cuspidata*), Purpletop (*Verbena bonariensis*), and Bermuda Buttercup (*Oxalis pes-caprae*) were prevalent. Additionally, Weeds of National Significance (WONS) such as Lantana (*Lantana camara*), Blackberry (*Rubus fruticosus* species aggregate), Cactus (*Opuntia ficus-indica*), and Fireweed (*Senecio madagascariensis*) were identified.

A comprehensive list of flora species is provided in Table 6-1 and Table 6-2.

Contamination was observed on-site, including an asbestos-contained area, which was assessed from a safe distance. A rubbish dumping area was also evaluated from a distance.

Table 6-1 Native Flora

NATIVE SPECIES	
Scientific Name	**Common Name**
Canopy Species	
Acacia mearnsii	Black Wattle
Angophora floribunda	Rough-Barked Apple
Araucaria heterophylla	Norfolk Island Pine
Callitris endlicheri	Black Cypress Pine
Casuarina glauca	Swamp Oak, Guman (Cadigal)

NATIVE SPECIES	
Eucalyptus crebra	Narrow-leaved Ironbark, Muggago (D'harawal)
Eucalyptus moluccana	Grey Box, Terriyergro (D'harawal)
Eucalyptus tereticornis	Forest Red Gum
Midstorey species	
Bursaria spinosa	Blackthorn
Typha sp.	Cumbungi
Climbers/Scramblers	
Glycine clandestina	Glycine
Marsdenia flavescens	*Hairy Milk Vine*
Groundcover species	
Atriplex sp.	Saltbush
Dichondra repens	Kidney Weed
Juncus sp	Rush
Lobelia purpurescens	Pratia
Microlaena stipoides	Weeping Grass
Oplismenus imbecillis	Creeping Beard Grass
Oxalis exilis	Native Wood-sorrel
Sporobolus creber	Slender Rat's Tail Grass

Table 6-2 Exotic Flora

WEED SPECIES		
Scientific Name	**Common Name**	**WONS WEED (*)**
Canopy Species		
Jacaranda mimosifolia	Jacaranda	
Lagerstroemia sp.	Crepe Myrtle	
Lingustrum lucidium	Large-leaved Privet	
Midstorey species		
Lantana camara	Lantana	*
Lingustrum sinense	Small-leaved Privet	
Lycium ferocissimum	African Boxthorn	*
Nerium oleander	Oleander	
Olea europaea subsp. cuspidata	African Olive	
Opuntia ficus-indica	Indian Fig, Spineless Cactus	*
Phyllostachys aurea	Fishpole Bamboo	
Senna pendula var. glabrata	Senna	
Solanum pseudocapsicum	Winter Cherry	

WEED SPECIES		
Climbers/Scramblers		
Araujia sericifera	Moth Vine	
Asparagus asparagoides	Bridal Creeper	*
Rubus fruticosus species aggregate	Blackberry	*
Groundcover species		
Bidens pilosa	Cobbler's Peg, Farmer's Fiend	
Chloris gayana	Rhodes Grass	
Cirsium vulgare	Spear Thistle	
Conyza bonariensis	Fleabane	
Cynodon dactylon	Couch	
Ehrharta calycina	Veldt Grass	
Galium aparine	Sticky Weed	
Hypochaeris radicata	Cat's ear. Flat Weed	
Modiola caroliniana	American Mallow	
Oxalis pes-caprae	Bermuda Buttercup	
Pennisetum clandestinum	Kikuyu grass	
Rumex sp.	Dock	
Senecio madagascariensis	Fireweed	*
Solanum sisymbriifolium	Sticky Nightshade	
Soliva sessilis	Bindi Weed, Lawn Burweed	
Sonchus oleraceus	Common Sow Thistle	
Stellaria media	Chickweed	
Taraxacum officinale	Dandelion, Pissabed	
Verbena bonariensis	Purpletop	

6.2.2 Fauna

The fauna assessment was conducted alongside the flora survey. Opportunistic sightings of animal species encountered were recorded and compiled into a list, provided in Table 6-3 and Table 6-4.

Trees were assessed for habitat features such as stick nests, hollows, and scratch marks. Habitat trees encountered were photographed and their coordinates recorded (Figure 6-6). These locations will serve as focal points for pre-clearance checks during the construction phase. If any threatened fauna species were found, they were photographed (if possible) and their coordinates recorded to enforce protective measures during construction.

The fauna survey confirmed the presence of various species and signs of habitat on the site, including hollows, crevices, nests, burrows, scats, and large logs Table 6-5 and Figure 6-7. There were also indications of exotic fauna species, such as deer, evidenced by gnaw marks at the base of a tree. Most of the burrows found on site are believed to be inhabited by the introduced European Rabbit (*Oryctolagus cuniculus*).

A full list of the fauna species found on site is presented in Table 6-3 and Table 6-4. A list of the habitat features identified on site can be found in Table 6-5 and Figure 6-7.

Habitat related to trees is referenced by tree numbers from the Arboricultural Assessment Report (Arbosaw, 2025), which are included in Appendix A.

Table 6-3 Native Fauna List

Native Fauna		
Scientific Name	Common Name	Identification Method
Manorina melanocephala	Noisy Miner	Observed
Gymnorhina tibicen	Australian Magpie	Observed
Ardea alba	Great Egret	Observed
Macropus giganteus	Eastern Grey Kangaroo	Scat
Crinia signifera	Common Eastern Froglet	Heard Call

Table 6-4 Exotic Fauna Species List

Exotic Fauna		
Scientific Name	Common Name	Identification Method
Oryctolagus cuniculus	European Rabbit	Scats
Acridotheres tristis	Indian Myna	Observed
Exact species unknown	Deer	Teeth marks on tree bark

Table 6-5 Habitat Feature List

Habitat Feature Type	**Coordinates**
Abandoned shed (microbat habitat)	-33.683320, 150.890319
Burrow	-33.682869, 150.890350
Dead tree with crevices	-33682866, 150.888941
Gnawing at base of tree (Possibly Deer)	-33.683041, 150.889400
Hollow	-33.683192, 150.890064
Hollow Tree	-33.682878, 150.890148
Log	-33.682943, 150.888822
Log	-33.683036, 150.889771
Log and Burrow	-33.683004, 150.889950
Log and Burrow	-33682591, 150.889771
Nest	-33.683726, 150.890880
Nest	-33.684632, 150.890011
Small Hollow	-33.682690, 150.889816
Termite mound (for foraging)	-33.683853, 150.891089

Figure 6-6 Photo points

Figure 6-7 Habitat Features

7 EVALUATION OF ENVIRONMENTAL IMPACTS

- The extent and nature of potential impacts are moderate and will likely have an impact on the locality, community and/or the environment.
- Potential impacts can be appropriately mitigated or managed to ensure that there is reduced impact on the locality, community and/or the environment. This mitigation is a combination of avoidance of native vegetation and the waterway where possible, the recommended measures and controls required to relocate threatened species of flora and/or fauna.
- While the proposed activity is likely to affect threatened species or ecological communities, its location on biodiversity certified land, along with the outlined conservation commitments and mitigation measures, exempts it from requiring a Species Impact Statement (SIS) or a Biodiversity Development Assessment Report (BDAR).
- The report outlines a series of conservation commitments and undertakings aimed at mitigating the impact of urban development on matters of national environmental significance. These commitments are closely tied to the Biodiversity Certification granted for the State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Growth Centres SEPP) under the NSW Threatened Species Conservation Act 1995 (TSC Act).
- Cumberland Plain Shale Woodlands and Shale Gravel Transition Forest were found on-site and are listed as a TEC and Critically Endangered under both the BC and EPBC Acts. As a TEC was found, a Test of Significance was required (see Appendix D). Biodiversity values were identified on-site, and the Juniper-leaved Grevillea (*Grevillea juniperina subsp. juniperina*) had a moderate likelihood of occurrence. The terrestrial flora and fauna survey, however, was limited to less than one hour and restricted to the area of impact of the proposed works. Despite this limitation, faunal habitat within the site is prevalent. Relocation of this species (if found) may be a suitable mitigation process.
- Many faunal species likely to occur within the project area are cryptic and/or nocturnal, or may only visit the site occasionally, making detection unlikely even during seasonal surveys. Therefore, the fauna assessment largely evaluates the potential of the project site as habitat for various fauna species. It is crucial to adopt the precautionary principle, assuming that threatened species may be present if suitable habitat exists. If any trees and habitats are to be removed, a qualified ecologist or fauna specialist must be on-site to carry out pre-clearance assessments and fauna retrieval during vegetation clearance.

8 MITIGATION MEASURES

8.1 Construction Impacts

The following is a summary of the direct and indirect impacts to the biodiversity potentially persisting onsite.

8.1.1 Flora

The presence of the threatened ecological community PCT 3320 - Cumberland Shale Plains Woodland was confirmed and evaluated. The survey found PCT 3320 was in moderate condition and is less than 10 hectares so was not considered a High Management Viability PCT under the relevant biodiversity measures.

The proposal revealed that there are 267 trees scheduled for removal. For the remaining trees activities will take place outside the TPZs of these established native trees to prevent any damage. Refer to Appendix D for TPZs and for tree inventory.

The Arbosaw (2025) report provided detailed information about the habitat features present in trees on the site. 16 trees were observed to have important habitat features such as stick nests, cracks, and hollows, which are crucial for various animal species. The report emphasises the need for an ecologist to inspect and supervise the removal of any trees with these features. Additionally, the site contains many Eucalyptus trees, which are generally good habitat trees, especially when mature. Species like Eucalyptus tereticornis and Eucalyptus crebra commonly develop hollows as they age, further enhancing their habitat value.

The site's location within the Cumberland Plain Woodland (CPW) ecological community, a critically endangered area, suggests that the trees provide important habitat value. The presence of many trees in good condition, indicated by high retention value ratings, supports this conclusion. Overall, the combination of habitat features, the prevalence of Eucalyptus trees, and the site's ecological context within the CPW all indicate that the trees on the site are highly suitable for supporting diverse plant and animal species.

The sources highlight various Relevant Biodiversity Measures (RBMs) associated with the biodiversity certification of the Growth Centres SEPP. These measures aim to protect and manage biodiversity within and beyond the growth centres.

Juniper-leaved Grevillea (Grevillea juniperina subsp. juniperina) had a moderate likelihood of occurrence on site. A targeted survey for this species should be conducted by a qualified botanist. Topsoil should be collected and stored from areas rich in native vegetation. where practicable, provide for the appropriate re-use of native plants (including but not limited to seed collection) and the re-location of native animals from development sites, prior to development commencing; and top soil from development sites that contain known or potential native seed bank.

8.1.1.1 Habitat Trees

The arborist reports in 10Appendix A have more detailed information regarding the proposed tree removals. In summary tree removal and retention include:

- Soft felling techniques with ecologist guidance are recommended for removing trees with habitat features. This approach seeks to minimise disturbance to fauna and potentially salvage habitat elements.
- The assessment suggests exploring the reuse of habitat tree logs in ecologically sensitive areas or fauna exhibits.
- Retain any dead trees that may be providing habitat.
- Retain topsoil in areas rich in native vegetation.

Consider incorporating habitat features into new plantings. This could include using logs from felled trees, planting trees that are known to develop hollows, and creating other artificial habitat structures. The constraints map highlights 'no go zones' in red, areas which should not be impacted by construction (Figure 8-1).

8.1.2 Fauna

Relocating native fauna prior to construction is a critical step in minimising the impact on local wildlife and preserving biodiversity. This process involves identifying and carefully relocating species from construction zones to suitable, safe habitats nearby. The relocation plan typically includes assessing the types of fauna present, selecting appropriate release sites that mirror their natural environment, and ensuring that the relocation process is as stress-free as possible for the animals.

Spotter-catchers, trained professionals with expertise in identifying, capturing, and safely relocating wildlife, play a vital role in this process. They ensure that the fauna is handled with care and that the relocation occurs in compliance with environmental regulations. In some cases, temporary shelters may be provided until the animals can be safely moved to their new habitat. Effective relocation strategies, informed by ecological expertise and regulatory requirements, help prevent harm to native species and support the long-term health of ecosystems.

8.1.3 Tawny Frogmouth

The noise, light, and increased human presence from construction activities may disrupt the foraging behaviour of the Tawny Frogmouth (*Podargus strigoides*) and deter them from using the site. Additionally, any removal of native trees that provide essential food sources could reduce the availability of prey, affecting their feeding patterns and overall health.

8.1.4 Waterway

Mitigating the impact on a waterway during site development involves several strategies to protect water quality and maintain natural hydrology. Establishing vegetated buffer zones around the waterway can help filter out pollutants, reduce runoff, and provide habitat for wildlife. Using erosion and sediment control measures such as silt fences, sediment traps, and erosion control blankets can prevent soil erosion and sedimentation in the waterway. These techniques help maintain the site's pre-development hydrology and reduce the impact on the waterway. Conducting regular inspections and maintenance of erosion control measures ensures they function effectively throughout the construction period. This proactive approach helps identify and address potential issues before they cause significant impact.

By implementing these strategies, you can significantly mitigate the impact of development on nearby waterways, ensuring the protection of water quality and the surrounding ecosystem.

8.1.5 Contractors and Staff Inductions

Induction of all contractors and staff outlining the ecological sensitivity of the site, the need to minimise ecological impact, and all other required mitigation measures is to be undertaken.

8.1.6 Hygiene

Basic hygiene protocols would be implemented for construction personnel and machinery on site to reduce the potential for invasion by plant pathogens including *Phytopthora cinnamomi*, the fungus myrtle rust *Uredo rangelli* and amphibian chytrid fungus.

8.1.7 Relevant Biodiversity Measures

This report complies with the Assessment of Consistency between Relevant Biodiversity Measures of the Biodiversity Certification Order and Area 20 Precinct and details various measures to be implemented as part of the Biodiversity Certification process.

Within twelve months of the biodiversity certification order becoming effective, the GCC (in consultation with the DECC) must establish procedures to ensure that all future precinct plans (excluding any plans publicly exhibited before the certification order took effect) incorporate, where practicable, provisions for the appropriate re-use of: (a) native plants (including but not limited to seed collection) and the relocation of native animals from development sites prior to development commencement; and (b) topsoil from development sites containing known or potential native seed banks.

For the purposes of conditions 19a and 19b, appropriate uses may include, but are not limited to, application in revegetation or restoration works and landscaping within the Growth Centres.

These provisions will be integrated into the DCP for the precinct and align with the Relevant Biodiversity Measures and Schedule 7, Part 7 of the Threatened Species Conservation Act 1995, under which Biodiversity Certification was established." (page 12)

The subsequent DCP is the Blacktown City Council Growth Centre Precincts Development Control Plan 2010 (amended March 2022)..

Figure 8-1 Constraints Map

8.1.8 Mitigation Measures

Measures that will be implemented to address potential pre-construction and construction impacts are listed in Table 8-1. Detailed tree and habitat mitigation measures during pre-construction and construction should be adhered to.

Table 8-1 Mitigation measures for pre-construction impacts (PI) Mitigation measures for construction impacts (CI)

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
PI1	Juniper-leaved Grevillea	Targeted survey for Juniper-leaved Grevillea (Grevillea juniperina subsp. juniperina) to be undertaken.	To reduce harm to a threatened species.
PI2	Habitat Trees	Soft felling techniques with ecologist guidance are recommended for removing trees with habitat features to minimise disturbance to fauna and potentially salvage habitat elements.	To reduce harm to fauna and preserve habitat elements when removing trees with important ecological features.
PI3	Habitat Tree Reuse	Explore the reuse of habitat tree logs in ecologically sensitive areas or fauna exhibits.	To repurpose habitat trees and maintain ecological value within the development area.
PI4	Dead Tree Retention	Retain any dead trees that may be providing habitat.	To preserve habitat for wildlife
PI5	New Habitat Creation	Incorporate habitat features into new plantings by using logs from felled trees, planting species known to develop hollows, and creating artificial habitat structures.	To enhance the site's ecological value and provide alternative habitats for wildlife displaced by development.
PI6	Fauna Protection	Limit construction activities and human presence in areas identified as sensitive to fauna foraging, especially near trees observed to host roosting individuals.	To minimise disturbance to the fauna foraging behaviour and maintain food resource availability.
PI7	Tree Protection	Tree protection must be approved by a Consulting Arborist AQF Level 5. No materials, mixing, parking, disposal, repairs, refuelling, fires, stockpiling, or backfilling is allowed near remaining trees. Removal or lopping of trees needs written permission from the Superintendent.	To ensure tree protection and prevent damage to retained trees during construction.
PI8	Tree Protection (TPZ)	All trees to be protected shall be clearly identified and all TPZs surveyed.	To clearly define and preserve the Tree Protection Zones (TPZs) for retained trees.
PI9	Tree Protection Fencing	Protective fencing around existing trees and within TPZs must be installed before any site work begins. The fence must be 1800mm high chain wire mesh fixed to Galvanised steel posts, enclosing an area to prevent damage as defined in the Tree Protection Plan. No storage inside fenced area.	To physically protect trees and TPZs from construction activities.
PI10	Tree Protection mulch	Use AS 4454 leaf mulch with 90% recycled content for tree protection fencing. Chip trees marked for removal and use mulch 100mm deep. Avoid soil, weeds, sticks, and stones. Comply with AS 4454 (1999) and AS 4419 (1998).	To provide a sustainable method of tree protection that complies with standards.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
PI11	Tree Protection signage	Tree protection signage must be attached to tree protection zones before works begin. Signs should be displayed prominently and repeated at 10m intervals or closer when the fence changes direction. Signs must include information about the tree protection zone, access restrictions, developer's contact details, and Site Arborist information.	To clearly communicate protection requirements and restrictions to all workers and contractors.
PI12	Fauna Protection	Inspect all trees for hollows and nests. If fauna is discovered, an ecologist may be required to remove and relocate any fauna if the tree or vegetation is to be removed.	To protect any fauna and ensure the safe relocation of species prior to tree removal.
PI14	Tree Protection pruning	Outline protocols for any necessary pruning or removal of trees. All tree works must be performed by qualified tree workers (minimum AQF Level 2) under the supervision of the Consulting Arborist, adhering to the NSW Workcover Code of Practice for the Amenity Tree Industry (1998).	To ensure safe and qualified handling of tree works and compliance with legal standards.
PI15	Ecological Sensitivity	Induction of all contractors and staff outlining the ecological sensitivity of the site, no-go areas, the need to minimise ecological impact, and all other required mitigation measures is to be undertaken.	To raise awareness and ensure staff follow necessary ecological protection protocols.
PI16	Tree Protection	The Consulting Arborist will conduct regular site inspections to monitor the health and stability of retained trees, ensuring compliance with the TMP. Any signs of stress or damage will be promptly addressed with appropriate remedial actions.	To ensure the ongoing health and protection of trees throughout the construction process.
PI17	Buffer Zones	Establish vegetated buffer zones around the waterway	To filter out pollutants, reduce runoff, and provide habitat for wildlife
PI18	Erosion and Sediment Control	Use silt fences, sediment traps, and erosion control blankets	To prevent soil erosion and sedimentation in the waterway
PI19	Regular Monitoring and Maintenance	Conduct regular inspections and maintenance of erosion control measures	To ensure they function effectively and address potential issues before they cause significant impact
PI19	Topsoil collection	Collect and store topsoil from areas rich in native vegetation	To ensure the preservation and viability of native seed banks
PI20	Topsoil Management	Verify the presence and health of native seed banks in collected soil	To confirm the soil's potential to support native plant growth
PI13	New Habitat Creation	Incorporate habitat features into new plantings by using logs from felled trees, planting species known to develop hollows, and creating artificial habitat structures.	To enhance the site's ecological value and provide alternative habitats for wildlife displaced by development.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
CI1	Tree Protection	Tree Protection Zones (TPZs) will be maintained around vegetation to be retained. TPZs will be maintained in accordance with Australian Standard 4970 (2009) Protection of Trees on Development Sites (AS-4970). No activities are to take place within the Structural Root Zones (SRZs) of mature trees. No works, stockpiling of materials, excavation, parking or any other potentially harmful activities will be undertaken within TPZs unless a Level 5 Arborist has provided confirmation that the works will not impact the tree.	To prevent damage to mature trees and their root systems during construction.
CI2	Tree Protection	No pedestrian or plant access is permissible to the TPZ.	To avoid compaction or damage to the tree protection zones.
CI3	Tree Protection	Avoid storing bulk or harmful materials near trees. Keep spoil from excavations away from TPZs. Ensure wind-blown materials like cement do not harm trees. Contaminants stored properly with spill measures.	To prevent contamination or physical harm to trees within the protection zones.
CI4	Tree Protection	Protect the tree from harm. Avoid tying ropes, cables, or similar items to trees. No staff members. No plant, machinery, or materials can enter the tree protection fencing.	To prevent accidental damage or stress to the trees during construction activities.
CI5	Soil Protection	Do not fill or compact soil above tree roots enclosed by protection fencing during construction near trees. Guidelines must be followed to prevent soil compaction in these areas. Protection includes using elevated planks attached to scaffolding to prevent ground compression.	To protect tree roots from soil compaction and damage during construction.
CI6	Tree Protection	Trenching is not allowed in TPZs or tree protection fencing. Approval needed for trenching, must be done by hand with arborist supervision.	To avoid damaging tree roots through excavation within the protection zones.
CI7	Tree Care	Contractors are to maintain plants and water them at an appropriate rate suitable for the plant species during periods of little or no rainfall.	To ensure the health and survival of retained plants during construction.
CI8	Site Management	All site facilities must be located outside of TPZ. Chemicals and contaminants must be stored properly in an enclosed area with a spill bund to prevent runoff in case of accidents.	To prevent harmful substances from impacting trees and vegetation.
CI9	Biosecurity	Basic hygiene protocols would be implemented for construction personnel and machinery on site to reduce the potential for invasion by plant pathogens including Phytophthora cinnamomi, the fungus myrtle rust Uredo rangelli and amphibian chytrid fungus.	To reduce the risk of introducing harmful pathogens to the site's ecosystem.
CI10	Tree Protection	The Consulting Arborist will conduct regular site inspections to monitor the health and stability of retained trees, ensuring compliance with the TMP. Any signs of stress or damage will be promptly addressed with appropriate remedial actions.	To ensure that retained trees are properly cared for and any issues are addressed immediately.
CI11	Tree Protection	Upon completion of the construction activities, conduct a final health assessment of all retained trees to document any changes in condition. The Consulting Arborist will provide a detailed report with recommendations for any ongoing care or additional mitigation measures needed to support the long-term health of the trees.	To ensure long-term tree health post-construction and provide recommendations for future care.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
CI12	Waterway Protection	Establish vegetated buffer zones, use erosion and sediment control measures, and conduct regular monitoring and maintenance	To filter out pollutants, reduce runoff, provide habitat for wildlife, prevent soil erosion and sedimentation, enhance natural water infiltration, and ensure effective functioning of control measures
CI13	Site Preparation	Prepare new sites free from invasive species	To create a conducive environment for native vegetation
CI14	Topsoil Application	Spread topsoil evenly over prepared sites	To ensure proper soil contact and support plant germination
CI15	Landscaping	Revegetation or restoration works and landscaping within the Growth Centre	To ensure compliance with the biodiversity certification order

Please refer below to the mitigation measures and stage of development, Table 8-2.

Table 8-2 Project Stage Design (D) Construction (C) Operation (O)

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
D	Tree Management	A Tree Management Plan (TMP) must be developed and implemented. This plan should be prepared by a Consulting Arborist with a minimum qualification of AQF Level 5.	To ensure comprehensive management and protection of trees throughout the project lifecycle.
C	Fauna Protection	Inspect all trees for hollows and nests. If fauna is discovered, an ecologist may be required to remove and relocate any fauna if the tree or vegetation is to be removed.	To ensure the safe relocation of fauna prior to the removal of trees or vegetation.
C	Fauna Spotter Catcher	A fauna spotter catcher will identify, capture, and relocate wildlife that may be affected by development projects.	To ensure wildlife is safely relocated before construction activities.
C	Ecological Sensitivity	Induction of all contractors and staff outlining the ecological sensitivity of the site, no-go areas, the need to minimise ecological impact, and all other required measures.	To raise awareness and ensure that all personnel understand and follow ecological protection measures.
C	Tree Protection	Tree Protection Zones (TPZs) will be maintained around vegetation to be retained, in accordance with AS 4970 (2009). No activities are allowed within the SRZs of mature trees without Level 5 Arborist approval.	To ensure compliance with Australian Standards and protect tree health during construction.
C	Tree Protection	Clearly identify all trees to be protected and survey all TPZs.	To define protection areas to avoid damage during construction.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
C	Tree Protection	Tree protection must be approved by a Consulting Arborist AQF Level 5. No materials, mixing, parking, disposal, repairs, refuelling, fires, stockpiling, or backfilling near retained trees.	To prevent damage and ensure proper tree protection.
C	Tree Protection	Install protective fencing around existing trees and within TPZs before any site work begins. The fence must be 1800mm high chain wire mesh fixed to galvanized steel posts.	To physically safeguard trees from construction activities.
C	Tree Protection	Attach tree protection signage to TPZs before works begin. Signs should be displayed prominently and include contact information.	To clearly communicate the tree protection requirements and contact details to all personnel on-site.
C	Tree Protection	Outline protocols for any necessary pruning or removal of trees. All tree works must be performed by qualified tree workers (minimum AQF Level 2) under the supervision of the Consulting Arborist.	To ensure that tree works are conducted safely and in compliance with industry standards.
C	Tree Protection	Use AS 4454 leaf mulch with 90% recycled content for tree protection fencing. Chip trees marked for removal and use mulch 100mm deep. Comply with AS 4454 (1999) and AS 4419 (1998).	To use environmentally responsible materials for tree protection and ensure compliance with standards.
C	Tree Protection	No pedestrian or plant access is permissible to the TPZ.	To avoid compaction or damage to the trees' root systems within the TPZ.
C	Tree Protection	Avoid storing bulk or harmful materials near trees. Keep spoil from excavations away from TPZs. Ensure wind-blown materials like cement don't harm trees. Contaminants stored properly with spill measures.	To protect trees from potential contamination or physical harm from materials stored near the TPZ.
C	Tree Protection	Protect the tree from harm. Avoid tying ropes, cables, or similar items to trees. No staff members, plant, machinery, or materials can enter the tree protection fencing.	To prevent physical damage to trees during construction by restricting access to protection zones.
C	Soil Protection	Do not fill or compact soil above tree roots enclosed by protection fencing during construction near trees. Guidelines must be followed to prevent soil compaction in these areas.	To prevent damage to tree roots by avoiding soil compaction during construction activities.
C	Tree Protection	Trenching is not allowed in TPZs or tree protection fencing. Approval needed for trenching, must be done by hand with arborist supervision.	To prevent damage to tree roots through trenching activities within TPZs.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
C	Waterway Protection	Establish vegetated buffer zones, use erosion and sediment control measures, and conduct regular monitoring and maintenance	To filter out pollutants, reduce runoff, provide habitat for wildlife, prevent soil erosion and sedimentation, enhance natural water infiltration, and ensure effective functioning of control measures.
C	Topsoil Application	Prepare new sites free from invasive species. Spread topsoil evenly over prepared sites	To create a conducive environment for native vegetation. To ensure proper soil contact and support plant germination

9 CONCLUSION AND RECOMMENDATIONS

Subject to implementing the recommendations/mitigation measures set out below and in Section 8.1.8 of this report, the conclusion of this assessment is that the proposed activity is likely to affect the environment in relation to ecological matters. Mitigation measures are outlined below but it would be impossible to prevent harm on site so the recommendation is to mitigate the proposed clearing as much as possible.

As the site is within 40m of a waterway A Controlled Activity Approval is usually required under the Water Management Act 2000. However, as the DoE is a public authority it is exempt from a requiring a Controlled Activity Approval.

Activities within the TPZs will require precautions to avoid damage, with a qualified arborist overseeing the process and providing a Tree Protection Plan. Trees and vegetation will be inspected for hollows and nests, with an ecologist relocating any fauna found. Contractors and staff will be inducted on the site's ecological sensitivity, and basic hygiene protocols will be implemented to prevent plant pathogens and fungi. If these mitigation measures are followed, the ecological impact of the construction can be minimised but not prevented.

Juniper-leaved Grevillea (*Grevillea juniperina subsp. juniperina*) had a moderate likelihood of occurrence on site. The terrestrial flora and fauna survey was limited to less than one hour. The field survey was restricted to the area of impact of the proposed works.

As many faunal species likely to occur within the project area are cryptic and/or nocturnal, or may only visit the site on occasion, they are unlikely to be detected even during seasonal surveys. The fauna assessment is, accordingly, largely an assessment of the potential of the project site as habitat for various fauna species. Therefore, it is important to adopt the precautionary principle such that it is assumed that threatened species may be at the site if suitable habitat exists. If trees and habitat are to be removed then a qualified ecologist/fauna specialist is required to be onsite to carry out pre-clearance assessments and fauna retrieval during vegetation clearance.

The Sydney Growth Centres Program outlines commitments to protect three threatened ecological communities: Cumberland Plain Shale Woodlands and Shale Gravel Transition Forest (CPW), Shale Sandstone Transition Forest (SSTF), and Turpentine-Ironbark Forest in the Sydney Basin Bioregion (TIF). This program emphasises the retention and protection of areas within the Growth Centres and securing offsets outside these areas. It commits to retaining and protecting a minimum of 998 hectares of CPW within the Growth Centres using various mechanisms, such as vegetation clearing controls, zoning regulations, and funding for land acquisition. Additionally, the program ensures the protection of at least 2,400 hectares of either CPW or similar grassy woodland communities outside the Growth Centres, with a minimum of 205 hectares designated as High Management Viability CPW. These commitments are supported by a $530 million Conservation Fund, which will be used to acquire land and establish conservation agreements over the life of the program.

The site is within existing certified land as part of the North-West Growth Area, meaning the development proposal does not trigger the Biodiversity Offset Scheme (BOS). Therefore, there is no requirement to offset biodiversity from land clearing and development. This report outlines a series of conservation commitments and undertakings aimed at mitigating the impact of urban development on matters of national environmental significance. These commitments are closely tied to the Biodiversity Certification granted for the under the NSW Threatened Species Conservation Act 1995 (TSC Act).

This FFA for the new high school for Schofields and Tallawong has assessed the potential environmental impacts of the proposed development. The assessment, conducted by Water Technology, found biodiversity areas or threatened species on the site that cannot be fully mitigated. However the site complies with the Relevant Biodiversity Measures outlined in the Sydney Growth Centres Program.

In summary, the proposed development is on biodiversity certified land, exempting it from certain regulations of the Biodiversity Conservation Act 2016 and the Environmental Planning and Assessment Act of 1979 since:

- The subject sites are within existing certified land as part of the North-West Growth Area.
- The development proposal does not trigger the Biodiversity Offset Scheme (BOS).

There is no requirement to offset biodiversity from land clearing and development. The site, located within the North-West Growth Area, is certified under biodiversity legislation, which exempts it from further biodiversity impact assessments.

Under the *Biodiversity Conservation Act 2016,* the effect of biodiversity certification is that development carried out under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) on certified land is exempt from requiring an impact assessment on biodiversity. Section 8.4 of the *Biodiversity Conservation Act 2016* states:

> *(4) Activities under Part 5 of the Planning Act: An activity to which Part 5 of the Environmental Planning and Assessment Act 1979 applies that is carried out or proposed to be carried out on biodiversity-certified land is taken, for the purposes of Part 5 of that Act, to be an activity that is not likely to significantly affect any threatened species or ecological community under this Act, or its habitat, in relation to that land."*

This provision means that if an activity falls under Part 5 of the EP&A Act and occurs on biodiversity-certified land, it is deemed, for the purposes of Part 5, not to have a significant impact on any threatened species, ecological communities, or their habitats on that land. Accordingly, no further assessments regarding biodiversity impacts are required as the certification process has already addressed these impacts.

Further, under Section 7.8 of the *Biodiversity Conservation Act 2016*, the following is outlined:

> **7.8 Biodiversity assessment for Part 5 activity**
>
> *(1) This section applies to environmental assessment under Part 5 of the Environmental Planning and Assessment Act 1979.*
>
> *(2) For the purposes of Part 5 of the Environmental Planning and Assessment Act 1979, an activity is to be regarded as an activity likely to significantly affect the environment if it is likely to significantly affect threatened species.*
>
> *(3) In that case, the environmental impact statement under Part 5 of the Environmental Planning and Assessment Act 1979 is to include or be accompanied by—*
>
> *(a) a species impact statement, or*
>
> *(b) if the proponent so elects—a biodiversity development assessment report.*

10 REFERENCES

Austin, A. (2022). Guntawong Road - Tree survey Draft.

Austin, A. (2024). STHS - Project Pre Development - Tree Assessment October 2024 Draft01.

Austin, A. (2025). Arboricultural Impact Assessment: New High School for Schofields and Tallawong. *Arborsaw.*

DAWE (2023) EPBC Protected Matters Search Tool [Online tool] Accessed 7 November 2024. Available at: https://pmst.awe.gov.au/#/map?lng=131.52832031250003&lat=-28.6905876542507&zoom=5&baseLayers=Imagery

Department of Environment, Climate Change and Water NSW (2009) Commonwealth Advice -. [Online]. Accessed 7 November 2024. Available at: https://www.environment.gov.au/biodiversity/threatened/communities/pubs/112-listing-advice.pdf

Department of Environment, Climate Change and Water NSW (2010b). Sydney Growth Centres Strategic Assessment Program Report. Department of Environment, Climate Change and Water NSW, Sydney.

MetroMap (2023) Spatial satellite imagery dated 05/05/2022. [Online tool] Accessed 7 November 2024. Available at: https://web.metromap.com.au/map?lat=33.41671080587806&lng=149.6053356300763&z=17.459764213268205&layer_id=310

MetroMap (2023) Spatial satellite imagery. [Online tool] Accessed 7 November 2024. Available at: https://web.metromap.com.au/map?lat=-33.41671080587806&lng=149.6053356300763&z=17.459764213268205&layer_id=310

NSW DPE (2023) Biodiversity Values Map [Online tool] Accessed 7 November 2024. Available at: https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap

NSW DPE (2023) NSW Planning Portal. [Online tool] Accessed 7 November 2024. Available at: https://www.planningportal.nsw.gov.au/spatialviewer/#/find-a-property/address

NSW DPE (2023) State Vegetation Type Map [Online tool] Accessed 7 November 2024. Available at: https://datasets.seed.nsw.gov.au/dataset/nsw-state-vegetation-type-map

NSW DPE (Department of Planning and Environment) (2022) Register of biodiversity certification orders. [Online] Accessed 7 November 2024. Available at: https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/about-the-biodiversity-offsets-scheme/biodiversity-certification/biodiversity-certification-orders

NSW DPI (2023) Key Fish Habitat Mapping [Online tool] Accessed 7 November 2024. Available at: https://webmap.industry.nsw.gov.au/Html5Viewer/index.html?viewer=Fisheries_Data_Portal

NSW OEH (2023) BioNet Atlas of NSW Wildlife [Online tool] Accessed 7 November 2024. Available at: https://www.environment.nsw.gov.au/atlaspublicapp/UI_Modules/ATLAS_/AtlasSearch.aspx

NSW OEH (2023) BioNet Vegetation Classification [Online tool] Accessed 7 November 2024. Available at: https://www.environment.nsw.gov.au/NSWVCA20PRapp/LoginPR.aspx

NSW OEH (2023) NSW eSpade [Online tool] Accessed 7 November 2024. Available at: https://www.environment.nsw.gov.au/eSpade2Webapp/

NSW OEH (2023) Threatened biodiversity profile search [Online tool] Accessed 7 November 2024. Available at: https://www.environment.nsw.gov.au/threatenedspeciesapp/

NSW Sixmaps (2022) Spatial area tool. [Online tool] Accessed 7 November 2024. Available at: https://maps.six.nsw.gov.au/

NSW Sixmaps (2023) Spatial area tool . [Online tool] Accessed 7 November 2024. Available at: https://maps.six.nsw.gov.au/

Vertical Tree Management & Consultancy Pty Ltd, Arnaiz, D. (2024). Guntawong Rd, Tallawong - Arboricultural Assessment - V3 28-02-24 - Vertical Tree Management.

APPENDIX A
ARBORICULTURAL ASSESSMENT

APPENDIX B
PROTECTED MATTERS SEARCH

APPENDIX C
LIKELIHOOD OF OCCURRENCE TABLE

Recorded	The species was observed in the study area during the current survey.
High	It is highly likely that a species inhabits the study area and is dependent on identified suitable habitat (i.e., for breeding or important life cycle periods such as winter flowering resources), has been recorded recently in the locality (10km) and is known or likely to maintain resident populations in the study area. Also includes species known or likely to visit the study area during regular seasonal movements or migration.
Moderate	Potential habitat is present in the study area. Species unlikely to maintain sedentary populations, however, may seasonally use resources within the study area opportunistically or during migration. The species is unlikely to be dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitat within the study area, or habitat is in a modified or degraded state. Includes cryptic flowering flora species that were not seasonally targeted by surveys and that have not been recorded.
Low	It is unlikely that the species inhabits the study area and has not been recorded recently in the locality (10km). It may be an occasional visitor, but habitat similar to the study area is widely distributed in the local area, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on available habitat. Specific habitat is not present in the study area, or the species are a non-cryptic perennial flora species that were specifically targeted by surveys and not recorded.
None	Suitable habitat is absent from the study area.

Class	Family	Scientific Name	Common Name	NSW status	Comm. status	Records	Comment	Likelihood
Fauna								
Amphibia	Myobatrachidae	*Pseudophryne australis*	Red-crowned Toadlet	V,P		1	Occurs in open forests, mostly on Hawkesbury and Narrabeen Sandstones. Inhabits periodically wet drainage lines below sandstone ridges that often have shale lenses or capping. Shelters under rocks and amongst masses of dense vegetation or thick piles of leaf litter. Breeding congregations occur in dense vegetation and debris beside ephemeral creeks and gutters. Red-crowned Toadlets have not been recorded breeding in waters that are even mildly polluted or with a pH outside the range 5.5 to 6.5.	Low
Amphibia	Limnodynastidae	*Heleioporus australiacus*	Giant Burrowing Frog	V,P	V	1	The Giant Burrowing Frog is distributed in south eastern NSW and Victoria and appears to exist as two distinct populations: a northern population largely confined to the sandstone geology of the Sydney Basin and extending as far south as Ulladulla, and a southern population occurring from north of Narooma through to Walhalla, Victoria. Found in heath, woodland and open dry sclerophyll forest on a variety of soil types except those that are clay based. Spends more than 95% of its time in non-breeding habitat in areas up to 300 m from breeding sites. Whilst in non-breeding habitat it burrows below the soil surface or in the leaf litter. Individual frogs occupy a series of burrow sites, some of which are used repeatedly. The home ranges of both sexes appear to be non-overlapping suggesting exclusivity of non-breeding habitat. Home ranges are approximately 0.04 ha in size.	Low

Class	Family	Scientific Name	Common Name	NSW status	Comm. status	Records	Comment	Likelihood
Amphibia	Hylidae	*Litoria aurea*	Green and Golden Bell Frog	E1,P	V	7	Inhabits marshes, dams and stream-sides, particularly those containing bullrushes (*Typha spp*.) or spikerushes (*Eleocharis spp.*). Optimum habitat includes waterbodies that are unshaded, free of predatory fish such as Plague Minnow (*Gambusia holbrooki*), have a grassy area nearby and diurnal sheltering sites available. Some sites, particularly in the Greater Sydney region occur in highly disturbed areas. The species is active by day and usually breeds in summer when conditions are warm and wet.	Low
Aves	Apodidae	*Apus pacificus*	Fork-tailed Swift	P	C,J,K	2	The Fork-tailed Swift is almost exclusively aerial, flying from less than 1 m to at least 300 m above ground and probably much higher. In Australia, they mostly occur over inland plains but sometimes above foothills or in coastal areas. They often occur over cliffs and beaches and also over islands and sometimes well out to sea. They also occur over settled areas, including towns, urban areas and cities. They mostly occur over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh. They are also found at treeless grassland and sandplains covered with spinifex, open farmland and inland and coastal sand-dunes. The fork-tailed swift feeds on flying insects.	Low
Aves	Apodidae	*Hirundapus caudacutus*	White-throated Needletail	P	V,C,J,K	3	In eastern Australia, it is recorded in all coastal regions of Queensland and NSW, extending inland to the western slopes of the Great Divide and occasionally onto the adjacent inland plains.	Low
Aves	Ardeidae	*Botaurus poiciloptilus*	Australasian Bittern	E1,P	E	1	Australasian Bitterns are 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 (*Typha spp*.) and spikerushes (*Eleocharis spp*.)	Low
Aves	Accipitridae	*Circus assimilis*	Spotted Harrier	V,P		1	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 open habitats including edges of inland wetlands. Builds a stick nest in a tree and lays eggs in spring (or sometimes autumn), with young remaining in the nest for several months.	Low

Class	Family	Scientific Name	Common Name	NSW status	Comm. status	Records	Comment	Likelihood
Aves	Accipitridae	*Haliaeetus leucogaster*	White-bellied Sea-Eagle	V,P		4	In New South Wales it is widespread along the east coast, and along all major inland rivers and waterways. Habitats are characterised by the presence of large areas of open water including larger rivers, swamps, lakes, and the sea. Occurs at sites near the sea or seashore, such as around bays and inlets, beaches, reefs, lagoons, estuaries and mangroves; and at, or in the vicinity of freshwater swamps, lakes, reservoirs, billabongs and saltmarsh. Terrestrial habitats include coastal dunes, tidal flats, grassland, heathland, woodland, and forest (including rainforest). Breeding habitat consists of mature tall open forest, open forest, tall woodland, and swamp sclerophyll forest close to foraging habitat. Nest trees are typically large emergent eucalypts and often have emergent dead branches or large dead trees nearby which are used as 'guard roosts.' Nests are large structures built from sticks and lined with leaves or grass.	Low
Aves	Accipitridae	*Hieraaetus morphnoides*	Little Eagle	V,P		9	It occurs as a single population throughout NSW. Occupies open eucalypt forest, woodland or open woodland. Sheoak or Acacia woodlands and riparian woodlands of interior NSW are also used. Nests in tall living trees within a remnant patch, where pairs build a large stick nest in winter.	Moderate
Aves	Accipitridae	*Lophoictinia isura*	Square-tailed Kite	V,P,3		9	The Square-tailed Kite ranges along coastal and subcoastal areas from south-western to northern Australia, Queensland, NSW and Victoria. In NSW, scattered records of the species throughout the state indicate that the species is a regular resident in the north, north-east and along the major west-flowing river systems. It is a summer breeding migrant to the south-east, including the NSW south coast, arriving in September and leaving by March.	Low
Aves	Accipitridae	*Pandion cristatus*	Eastern Osprey	V,P,3		1	Favour coastal areas, especially the mouths of large rivers, lagoons and lakes. Feed on fish over clear, open water. Breed from July to September in NSW. Nests are made high up in dead trees or in dead crowns of live trees, usually within one kilometre of the sea.	Low
Aves	Charadriidae	*Pluvialis fulva*	Pacific Golden Plover	P	C,J,K	4	Usually occur on beaches, mudflats and sandflats (sometimes in vegetation such as mangroves, low saltmarsh such as *Sarcocornia*, or beds of seagrass) in sheltered areas including harbours, estuaries and lagoons, and also in evaporation ponds in saltworks. They are less often recorded in terrestrial habitats, usually wetlands such as fresh, brackish or saline lakes, billabongs, pools, swamps and wet claypans, especially those with muddy margins and often with submerged vegetation or short emergent grass	Low

Class	Family	Scientific Name	Common Name	NSW status	Comm. status	Records	Comment	Likelihood
Aves	Charadriidae	*Pluvialis squatarola*	Grey Plover	P	C,J,K	3	Grey Plovers occur almost entirely in coastal areas, where they usually inhabit sheltered embankments, estuaries and lagoons with mudflats and sandflats, and occasionally on rocky coasts with wave-cut platforms or reef-flats, or on reefs within muddy lagoons. They also occur around terrestrial wetlands such as near-coastal lakes and swamps, or salt-lakes. The species is also very occasionally recorded further inland, where they occur around wetlands or salt-lakes	Low
Aves	Rostratulidae	*Rostratula australis*	Australian Painted Snipe	E1,P	E	5	In NSW, many records are from the Murray-Darling Basin including the Paroo wetlands, Lake Cowal, Macquarie Marshes, Fivebough Swamp and more recently, swamps near Balldale and Wanganella. Other important locations with recent records include wetlands on the Hawkesbury River and the Clarence and lower Hunter Valleys. 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.	Low
Aves	Scolopacidae	*Calidris acuminata*	Sharp-tailed Sandpiper	P	C,J,K	12	In Australasia, the Sharp-tailed Sandpiper prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, Sheoaks, bore drains and bore swamps, saltpans and hypersaline salt lakes inland. They also occur in saltworks and sewage farms.	Low
Aves	Scolopacidae	*Calidris melanotos*	Pectoral Sandpiper	P	J,K	1	In New South Wales (NSW), the Pectoral Sandpiper is widespread, but scattered. Records exist east of the Great Divide, from Casino and Ballina, south to Ulladulla. West of the Great Divide, the species is widespread in the Riverina and Lower Western regions	Low
Aves	Scolopacidae	*Calidris ruficollis*	Red-necked Stint	P	C,J,K	3	It is distributed along most of the Australian coastline with large densities on the Victorian and Tasmanian coasts. The Red-necked Stint has been recorded in all coastal regions and found inland in all states when conditions are suitable.	Low
Aves	Scolopacidae	*Gallinago hardwickii*	Latham's Snipe	P	J,K	11	The distribution of Latham's Snipe is naturally fragmented (although, because of the mobility of the species, this is unlikely to have any effect on survival). The distribution is fragmented because the preferred habitat (i.e., freshwater wetlands) occurs in patches throughout the non-breeding grounds.	Low

Class	Family	Scientific Name	Common Name	NSW status	Comm. status	Records	Comment	Likelihood
Aves	Scolopacidae	*Tringa glareola*	Wood Sandpiper	P	C,J,K	4	The Wood Sandpiper uses well-vegetated, shallow, freshwater wetlands, such as swamps, billabongs, lakes, pools and waterholes. They are typically associated with emergent, aquatic plants or grass, and dominated by taller fringing vegetation, such as dense stands of rushes or reeds, shrubs, or dead or live trees, especially *Melaleuca* and River Red Gums (*Eucalyptus camaldulensis*) and often with fallen timber. They also frequent inundated grasslands, short herbage or wooded floodplains, where floodwaters are temporary or receding, and irrigated crops. They are also found at some small wetlands only when they are drying.	Low
Aves	Scolopacidae	*Tringa nebularia*	Common Greenshank	P	C,J,K	1	The Common Greenshank is found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity. It occurs in sheltered coastal habitats, typically with large mudflats and saltmarsh, mangroves or seagrass. Habitats include embayments, harbours, river estuaries, deltas and lagoons and are recorded less often in round tidal pools, rock-flats and rock platforms. The species uses both permanent and ephemeral terrestrial wetlands, including swamps, lakes, dams, rivers, creeks, billabongs, waterholes and inundated floodplains, claypans and salt flats. It will also use artificial wetlands, including sewage farms and saltworks dams, inundated rice crops and bores.	Low
Aves	Cacatuidae	*Callocephalon fimbriatum*	Gang-gang Cockatoo	V,P,3	E	1	In spring and summer, generally found in tall mountain forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests In autumn and winter, the species often moves to lower altitudes in drier more open eucalypt forests and woodlands, particularly box-gum and box-ironbark assemblages, or in dry forest in coastal areas and often found in urban areas. May also occur in sub-alpine Snow Gum (*Eucalyptus pauciflora*) woodland and occasionally in temperate rainforests.	Low
Aves	Cacatuidae	*Calyptorhynchus lathami lathami*	South-eastern Glossy Black-Cockatoo	V,P,2	V	5	Inhabits open forest and woodlands of the coast and the Great Dividing Range where stands of Sheoak occur. Black Sheoak (*Allocasuarina littoralis*) and Forest Sheoak (*A. torulosa*) are important foods. Inland populations feed on a wide range of Sheoaks, including Drooping Sheoak, *Allocasuaraina diminuta*, and A*. gymnathera*. Belah is also utilised and may be a critical food source for some populations. In the Riverina, birds are associated with hills and rocky rises supporting Drooping Sheoak, but also recorded in open woodlands dominated by Belah (*Casuarina cristata)*.	Low
Aves	Psittacidae	*Glossopsitta pusilla*	Little Lorikeet	V,P		8	Forages primarily in the canopy of open *Eucalyptus* Forest and woodland, yet also finds food in *Angophora*, *Melaleuca* and other tree species. Riparian habitats are particularly used, due to higher soil fertility and hence greater productivity. Isolated flowering trees in open country, e.g., paddocks, roadside remnants and urban trees also help sustain viable populations of the species. Feeds mostly on nectar and pollen, occasionally on native fruits such as mistletoe, and only rarely in orchards	Moderate

Class	Family	Scientific Name	Common Name	NSW status	Comm. status	Records	Comment	Likelihood
Aves	Psittacidae	*Lathamus discolor*	Swift Parrot	E1,P,3	CE	29	On the mainland they occur in areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations. Favoured feed trees include winter flowering species such as Swamp Mahogany *Eucalyptus robusta*, Spotted Gum *Corymbia maculata*, Red Bloodwood *C. gummifera*, Forest Red Gum *E. tereticornis*, Mugga Ironbark *E. sideroxylon*, and White Box *E. albens*. Commonly used lerp infested trees include Inland Grey Box *E. microcarpa*, Grey Box *E. moluccana*, Blackbutt *E. pilularis*, and Yellow Box *E. melliodora*. Return to some foraging sites on a cyclic basis depending on food availability.	Low
Aves	Psittacidae	*Neophema pulchella*	Turquoise Parrot	V,P,3		2	Lives on the edges of eucalypt woodland adjoining clearings, timbered ridges, and creeks in farmland. Prefers to feed in the shade of a tree and spends most of the day on the ground searching for the seeds or grasses and herbaceous plants or browsing on vegetable matter.	Low
Aves	Strigidae	*Ninox strenua*	Powerful Owl	V,P,3		15	The Powerful Owl inhabits a range of vegetation types, from woodland and open sclerophyll forest to tall open wet forest and rainforest. The Powerful Owl requires large tracts of forest or woodland habitat but can occur in fragmented landscapes as well. The species breeds and hunts in open or closed sclerophyll forest or woodlands and occasionally hunts in open habitats. It roosts by day in dense vegetation comprising species such as Turpentine *Syncarpia glomulifera*, Black She-oak *Allocasuarina littoralis*, Blackwood *Acacia melanoxylon*, Rough-barked Apple *Angophora floribunda*, Cherry Ballart *Exocarpus cupressiformis* and a number of *eucalypt* species.	Low
Aves	Tytonidae	*Tyto novaehollandiae*	Masked Owl	V,P,3	-	1	Lives in dry eucalypt forests and woodlands from sea level to 1100 m. A forest owl, but often hunts along the edges of forests, including roadsides.	Low
Aves	Acanthizidae	*Chthonicola sagittata*	Speckled Warbler	V,P		2	The Speckled Warbler has a patchy distribution throughout south-eastern Queensland, the eastern half of NSW and into Victoria, as far west as the Grampians. The species is most frequently reported from the hills and tablelands of the Great Dividing Range, and rarely from the coast. There has been a decline in population density throughout its range, with the decline exceeding 40% where no vegetation remnants larger than 100ha survive.	Low

Class	Family	Scientific Name	Common Name	NSW status	Comm. status	Records	Comment	Likelihood
Aves	Meliphagidae	*Melithreptus gularis gularis*	Black-chinned Honeyeater (eastern subspecies)	V,P		1	The Black-chinned Honeyeater has two subspecies, with only the nominate (*gularis*) occurring in NSW. The other subspecies *(laetior*) was formerly considered a separate species (Golden-backed Honeyeater) and is found in northern Australia between central Queensland west to the Pilbara in Western Australia. The eastern subspecies extends south from central Queensland, through NSW, Victoria into southeastern South Australia, though it is very rare in the last state. In NSW it is widespread, with records from the tablelands and western slopes of the Great Dividing Range to the north-west and central-west plains and the Riverina. It is rarely recorded east of the Great Dividing Range, although regularly observed from the Richmond and Clarence River areas. It has also been recorded at a few scattered sites in the Hunter, Central Coast and Illawarra regions, though it is very rare in the latter.	Low
Aves	Neosittidae	*Daphoenositta chrysoptera*	Varied Sittella	V,P		19	Inhabits eucalypt forests and woodlands, especially those containing rough-barked species and mature smooth-barked gums with dead branches, *Mallee,* and *Acacia* woodland.	Moderate
Aves	Artamidae	*Artamus cyanopterus cyanopterus*	Dusky Woodswallow	V,P		13	Primarily inhabit dry, open *Eucalypt* forests and woodlands, including mallee associations, with an open or sparse understorey of eucalypt saplings, acacias and other shrubs, and groundcover of grasses or sedges and fallen woody debris. It has also been recorded in shrublands, heathlands and very occasionally in moist forest or rainforest. Also found in farmland, usually at the edges of forest or woodland.	Low
Aves	Petroicidae	*Petroica boodang*	Scarlet Robin	V,P		2	The Scarlet Robin lives in dry eucalypt forests and woodlands. The understorey is usually open and grassy with few scattered shrubs. This species lives in both mature and regrowth vegetation. It occasionally occurs in mallee or wet forest communities, or in wetlands and tea-tree swamps. The Scarlet Robin is primarily a resident in forests and woodlands, but some adults and young birds disperse to more open habitats after breeding. In autumn and winter many Scarlet Robins live in open grassy woodlands, and grasslands or grazed paddocks with scattered trees.	Low
Mammalia	Phascolarctidae	*Phascolarctos cinereus*	Koala	E1,P	E	1	In New South Wales, koala populations are found on the central and north coasts, southern highlands, southern and northern tablelands, Blue Mountains, southern coastal forests, with some smaller populations on the plains west of the Great Dividing Range. Inhabit eucalypt woodlands and forests. Feed on the foliage of more than 70 eucalypt species and 30 non-eucalypt species, but in any one area will select preferred browse species.	Low
Mammalia	Petauridae	Petaurus australis	Yellow-bellied Glider	V,P	V	6	The Yellow-bellied Glider is found along the eastern coast to the western slopes of the Great Dividing Range, from southern Queensland to Victoria.	Low

Class	Family	Scientific Name	Common Name	NSW status	Comm. status	Records	Comment	Likelihood
Mammalia	Petauridae	*Petaurus norfolcensis*	Squirrel Glider	V,P	-	1	Inhabits mature or old growth Box, Box-Ironbark woodlands and River Red Gum Forest west of the Great Dividing Range and Blackbutt-Bloodwood Forest with heath understorey in coastal areas.	Low
Mammalia	Pteropodidae	*Pteropus poliocephalus*	Grey-headed Flying-fox	V,P	V	147	Occur in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths, and swamps as well as urban gardens and cultivated fruit crops. Roosting camps are generally located within 20 km of a regular food source and are commonly found in gullies, close to water, in vegetation with a dense canopy.	Low
Mammalia	Emballonuridae	*Saccolaimus flaviventris*	Yellow-bellied Sheathtail-bat	V,P		18	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.	Low
Mammalia	Molossidae	*Micronomus norfolkensis*	Eastern Coastal Free-tailed Bat	V,P		49	Occur in dry sclerophyll forest, woodland, swamp forests and mangrove forests east of the Great Dividing Range. Roost mainly in tree hollows but will also roost under bark or in man-made structures.	Low
Mammalia	Vespertilionidae	*Chalinolobus dwyeri*	Large-eared Pied Bat	V,P	V	7	Roosts in caves (near their entrances), crevices in cliffs, old mine workings and in the disused, bottle-shaped mud nests of the Fairy Martin (*Petrochelidon ariel*), frequenting low to mid-elevation dry open forest and woodland close to these features	Low
Mammalia	Vespertilionidae	*Falsistrellus tasmaniensis*	Eastern False Pipistrelle	V,P		23	Prefers moist habitats, with trees taller than 20 m. Generally, roosts in eucalypt hollows but has also been found under loose bark on trees or in buildings.	Low
Mammalia	Vespertilionidae	*Myotis macropus*	Southern Myotis	V,P		48	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.	Low
Mammalia	Vespertilionidae	*Scoteanax rueppellii*	Greater Broad-nosed Bat	V,P		36	Utilises a variety of habitats from woodland through to moist and dry eucalypt forest and rainforest, though it is most commonly found in tall wet forest. Although this species usually roosts in tree hollows, it has also been found in buildings. Open woodland habitat and dry open forest suits the direct flight of this species as it searches for beetles and other large, slow-flying insects; this species has been known to eat other bat species.	Low
Mammalia	Vespertilionidae	*Vespadelus troughtoni*	Eastern Cave Bat	V,P		2	A cave-roosting species that is usually found in dry open forest and woodland, near cliffs or rocky overhangs; has been recorded roosting in disused mine workings, occasionally in colonies of up to 500 individuals. Occasionally found along cliff-lines in wet eucalypt forest and rainforest.	Low

Class	Family	Scientific Name	Common Name	NSW status	Comm. status	Records	Comment	Likelihood
Mammalia	Miniopteridae	*Miniopterus australis*	Little Bent-winged Bat	V,P		18	Moist eucalypt forest, rainforest, vine thicket, wet and dry sclerophyll forest, *Melaleuca* swamps, dense coastal forests, and banksia scrub. Generally found in well-timbered areas. Little Bentwing-bats roost in caves, tunnels, tree hollows, abandoned mines, stormwater drains, culverts, bridges and sometimes buildings during the day, and at night forage for small insects beneath the canopy of densely vegetated habitats.	Low
Mammalia	Miniopteridae	*Miniopterus orianae oceanensis*	Large Bent-winged Bat	V,P		63	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. Maternity caves have very specific temperature and humidity regimes. At other times of the year, populations disperse within about 300 km range of maternity caves. Cold caves are used for hibernation in southern Australia. Breeding or roosting colonies can number from 100 to 150,000 individuals. Hunt in forested areas, catching moths and other flying insects above the treetops.	Low
Mollusca	Camaenidae	Meridolum corneovirens	Cumberland Plain Land Snail	E1		171	Lives in small areas on the Cumberland Plain west of Sydney, from Richmond and Windsor south to Picton and from Liverpool west to the Hawkesbury and Nepean Rivers at the base of the Blue Mountains. known from over 100 different locations, but not all are currently occupied, and they are usually isolated from each other as a result of land use patterns.	Low
Mollusca	Camelidae	*Pommerhelix duralensis*	Dural Land Snail	E1	E	20	The species has a strong affinity for communities in the interface region between shale-derived and sandstone-derived soils, with forested habitats that have good native cover and woody debris. It favours sheltering under rocks or inside curled-up bark. It does not burrow nor climb. The species has also been observed resting in exposed areas, such as on exposed rock or leaf litter, however it will also shelter beneath leaves, rocks, and light woody debris.	Low
Flora								
Flora	Campanulaceae	*Isotoma fluviatilis* subsp. *fluviatilis*		3	X	3	Currently 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. Known to grow in damp places, on the Cumberland Plain, including freshwater wetland, grassland/alluvial woodland and an alluvial woodland/shale plains woodland (Cumberland Plain Woodland) ecotone.	Low

Class	Family	Scientific Name	Common Name	NSW status	Comm. status	Records	Comment	Likelihood
Flora	Elaeocarpaceae	*Tetratheca glandulosa*		V		5	Restricted to the following Local Government Areas: Baulkham Hills, Gosford, Hawkesbury, Hornsby, Ku-ring-gai, Pittwater, Ryde, Warringah, and Wyong. There are approximately 150 populations of this plant ranging from Sampons Pass (Yengo NP) in the north to West Pymble (Lane Cove NP) in the south. The eastern limit is at Ingleside (Pittwater LGA) and the western limit is at East Kurrajong (Wollemi NP). There are historical collections of this species south to Manly, Willoughby and Mosman, however these populations are now extinct. Associated with shale-sandstone transition habitat where shale-capping's occur over sandstone, with associated soil landscapes such as Lucas Heights, Gymea, Lambert and Faulconbridge. Topographically, the plant occupies ridgetops, upper-slopes and to a lesser extent mid-slope sandstone benches. Vegetation structure varies from heaths and scrub to woodlands/open woodlands, and open forest. Vegetation communities correspond broadly to Benson & Howell's Sydney Sandstone Ridgetop Woodland. Common woodland tree species include: *Corymbia gummifera, C. eximia, Eucalyptus haemastoma, E. punctata, E. racemosa*, and/or *E. sparsifolia,* with an understorey dominated by species from the families Proteaceae, Fabaceae, and Epacridaceae.	Low
Flora	Ericaceae	*Epacris purpurascens var. purpurascens*		V		4	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.	Low
Flora	Ericaceae	*Leucopogon fletcheri* subsp. *fletcheri*		E1		1	Restricted to north-western Sydney between St Albans in the north and Annangrove in the south, within the local government areas of Hawkesbury, Baulkham Hills and Blue Mountains. Occurs in dry eucalypt woodland or in shrubland on clayey lateritic soils, generally on flat to gently sloping terrain along ridges and spurs.	Low
Flora	Fabaceae (Faboideae)	*Dillwynia tenuifolia*		V		72	The core distribution is the Cumberland Plain from Windsor and Penrith east to Dean Park near Colebee. Other populations in western Sydney are 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 outside the Cumberland Plain include the Bulga Mountains at Yengo in the north, and Kurrajong Heights and Woodford in the Lower Blue Mountains.	Low
Flora	Fabaceae (Faboideae)	*Pultenaea parviflora*		E1	V	72	Endemic to the Cumberland Plain. Core distribution is from Windsor to Penrith and east to Dean Park. Outlier populations are recorded from Kemps Creek and Wilberforce. 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.	Low

Class	Family	Scientific Name	Common Name	NSW status	Comm. status	Records	Comment	Likelihood
Flora	Myrtaceae	*Darwinia biflora*		V	Vs	3	Recorded in Ku-ring-gai, Hornsby, Baulkham Hills and Ryde local government areas. The northern, southern, eastern and western limits of the range are at Maroota, North Ryde, Cowan and Kellyville, respectively. Occurs on the edges of weathered shale-capped ridges, where these intergrade with Hawkesbury Sandstone.	Low
Flora	Myrtaceae	*Eucalyptus nicholii*	Narrow-leaved Black Peppermint	V	V	2	This species is sparsely distributed but widespread on the New England Tablelands from Nundle to north of Tenterfield, being most common in central portions of its range. Found largely on private property and roadsides, and occasionally in conservation reserves. Planted as urban trees, windbreaks and corridors. Typically grows in dry grassy woodland, on shallow soils of slopes and ridges. Found primarily on infertile soils derived from granite or metasedimentary rock. Tends to grow on lower slopes in the landscape.	Low
Flora	Myrtaceae	*Eucalyptus* sp. *Cattai*		E4A	CE	1	Occurs in The Hills Local Government Area, with known populations occurring within the area bounded by Kellyville - Maraylya - Glenorie. Occurs as a rare emergent tree in scrub, heath and low woodland on sandy soils, usually as isolated individuals or occasionally in small, clustered groups. The sites at which it occurs are generally flat and on ridge tops. Associated soils are laterised clays overlying sandstone.	Low
Flora	Myrtaceae	*Micromyrtus minutiflora*		E1	V	5	Restricted to the general area between Richmond and Penrith, western Sydney. Grows in Castlereagh Scribbly Gum Woodland, Ironbark Forest, Shale/Gravel Transition Forest, open forest on tertiary alluvium and consolidated river sediments.	Low
Flora	Myrtaceae	*Syzygium paniculatum*	Magenta Lilly Pilly	E1	V	3	The Magenta Lilly Pilly is found only in NSW, in a narrow, linear coastal strip from Upper Lansdowne to Conjola State Forest. On the south coast the Magenta Lilly Pilly occurs on grey soils over sandstone, restricted mainly to remnant stands of littoral (coastal) rainforest. On the central coast Magenta Lilly Pilly occurs on gravels, sands, silts and clays in riverside gallery rainforests and remnant littoral rainforest communities.	Low
Flora	Proteaceae	*Grevillea juniperina* subsp. *juniperina*	Juniper-leaved Grevillea	V		566	Endemic to Western Sydney, centred on an area bounded by Blacktown, Erskine Park, Londonderry and Windsor with outlier populations at Kemps Creek and Pitt Town. Grows on reddish clay to sandy soils derived from Wianamatta Shale and Tertiary alluvium (often with shale influence), typically containing lateritic gravels. Recorded from Cumberland Plain Woodland, Castlereagh Ironbark Woodland, Castlereagh Scribbly Gum Woodland and Shale/Gravel Transition Forest.	Moderate

Class	Family	Scientific Name	Common Name	NSW status	Comm. status	Records	Comment	Likelihood
Flora	Proteaceae	*Persoonia hirsuta*	Hairy Geebung	E1,P,3	E	1	Persoonia hirsuta has a scattered distribution around Sydney. The species is distributed from Singleton in the north, along the east coast to Bargo in the south and the Blue Mountains to the west. Persoonia hirsuta has a large area of occurrence, but occurs in small populations, increasing the species' fragmentation in the landscape. The Hairy Geebung is found in sandy soils in dry sclerophyll open forest, woodland and heath on sandstone.	Low
Flora	Thymelaeaceae	*Pimelea curviflora var. curviflora*		V	V	4	Confined to the coastal area of the Sydney and Illawarra regions. Populations are known between northern Sydney and Maroota in the north-west. New population discovered at Croom Reserve near Albion Park in Shellharbour LGA in August 2011. Formerly recorded around 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.	Low
Flora	Thymelaeaceae	*Pimelea spicata*	Spiked Rice-flower	E1	E	67	Once widespread on the Cumberland Plain, the Spiked Rice-flower occurs in two disjunct areas; the Cumberland Plain (Marayong and Prospect Reservoir south to Narellan and Douglas Park) and the Illawarra (Landsdowne to Shellharbour to northern Kiama).	Low

APPENDIX D
TEST OF SIGNIFICANCE

11 TEST OF SIGNIFICANCE

The following section assesses whether the proposal (as discussed and reviewed in this assessment) is likely to have a significant effect on threatened biodiversity by addressing the Parts (a), (b) and (c) of the test of significance applied to species and ecological communities listed in Schedules 1 and 2 to the BC Act and under s.111 of the EP&A Act.

It is important to note that under the Biodiversity Conservation Act 2016 and the Environmental Planning and Assessment Act 1979 no 203 (2018) s. 111; the factors to be considered when determining whether an action, development or activity is likely to significantly affect threatened species, populations or ecological communities, or their habitats (known previously as the '7-part test'), have been revised under the BC Act. The revised factors maintain the same intent under the new ('5 part test) but better focus consideration of likely impacts in the context of the local rather than the regional environment as the long-term loss of biodiversity at all levels arises primarily from the accumulation of losses and depletions of populations at a local level. It also requires the identification on the potential impacts to/or on any areas declared to be of outstanding biodiversity value under Part 3 of the BC Act. When applying each factor, the following sections have considered all perceived likely direct and indirect impacts of the Proposal as outlined by previous sections of this document.

Direct impacts are those that directly affect the habitat of species and ecological communities and of individuals using the study area. They include, but are not limited to, death through predation, trampling, poisoning of the animal/plant itself and the removal of suitable habitat. When applying each factor, consideration must be given to all the likely direct impacts of the proposed activity or development. When applying each factor, both long-term and short-term impacts are to be considered.

Indirect impacts occur when project-related activities affect species or ecological communities in a manner other than direct loss within the subject site. Indirect impacts may sterilise or reduce the habitability of adjacent or connected habitats. Indirect impacts can include loss of individuals through starvation, exposure, predation by domestic and/or feral animals, loss of breeding opportunities, loss of shade/shelter, reduction in viability of adjacent habitat due to edge effects, deleterious hydrological changes, increased soil salinity, erosion, inhibition of nitrogen fixation, weed invasion, noise, light spill, fertiliser drift, or increased human activity within or directly adjacent to sensitive habitat areas. As with direct impacts, consideration must be given, when applying each factor, to all of the likely indirect impacts of the proposed activity or development. When applying each factor, both long-term and short-term impacts are to be considered.

(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.

Yes. In the case of a threatened species such as the Juniper-leaved Grevillea (*Grevillea juniperina subsp. juniperina*), the proposed development or activity could potentially have an adverse effect on its life cycle. The removal or disturbance of habitat, particularly areas containing this species, may reduce the available resources and disrupt key processes such as pollination or seed dispersal. If the habitat is critical for the species' survival and no suitable alternatives are provided, this could threaten the viability of the local population. Should these impacts be significant, the local population of the Juniper-leaved Grevillea may be placed at risk of extinction, particularly if it is already vulnerable due to its limited distribution or other environmental pressures. Therefore, mitigation measures should be implemented to avoid or minimise such risks to ensure the species' survival on site.

(b) In the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity: (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 (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.

The proposed development is likely to impact the critically endangered ecological community (PCT 3320 – Cumberland Shale Plains Woodland), which is already at high risk of extinction within the next decade due to its limited extent and ongoing threats.

Regarding section (b)(i), the proposed activity would adversely affect the extent of this ecological community by directly reducing its already fragmented and limited distribution. Such an impact is likely to accelerate the loss of its local occurrence, pushing it closer to extinction.

For section (b)(ii), the development is also expected to substantially and adversely modify the composition of the ecological community. The removal of native vegetation, increased edge effects, and potential introduction of invasive species will degrade habitat quality, further diminishing the community's resilience. This degradation would place the local occurrence of PCT 3320 at a significantly increased risk of extinction.

Given the precarious status of PCT 3320 and its critical ecological value, it is imperative to reconsider or modify the proposed development to avoid exacerbating the risks to this already imperilled community.

(b) 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 (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 (iii) the importance of the habitat to be removed, modified, fragmented or isolated to the longterm survival of the species or ecological community in the locality

Extent of Habitat Removal or Modification (c)(i):The development would result in the removal or modification of a substantial portion of the remaining PCT 3320 habitat within the locality. This loss would reduce the already limited extent of this critically endangered ecological community, further compromising its ecological integrity and ability to support associated flora and fauna species.

Fragmentation or Isolation of Habitat (c)(ii):The proposed activity is likely to fragment the remaining patches of PCT 3320, isolating areas of habitat that are currently interconnected. This fragmentation increases edge effects, reduces gene flow, and limits species movement, further weakening the community’s resilience and capacity for recovery.

Importance of the Habitat to the Long-term Survival of the Ecological Community (c)(iii):The habitat to be removed or modified is critical to the long-term survival of PCT 3320 in the locality. As this ecological community is critically endangered and predicted to face extinction within 10 years without intervention, every remaining patch plays an essential role in maintaining its viability. The removal or degradation of this habitat would accelerate the decline of PCT 3320, significantly undermining conservation efforts.

Given these factors, the proposed development poses a threat to the habitat of PCT 3320.

(c) 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) No. The development will not impact ‘Declared Area of Outstanding Biodiversity Value’ or ‘Biodiversity Value’ mapped area.

No, The proposed development is not likely to have an adverse effect on a declared area of outstanding biodiversity value, either directly or indirectly. The site is adjacent to a mapped and formally recognised area of outstanding biodiversity value, highlighting the ecological significance of this location.

This area includes critically endangered PCT 3320 – Cumberland Shale Plains Woodland, which is integral to the declared biodiversity value. The development poses a risk of habitat removal, fragmentation, and degradation, which could negatively impact the ecological integrity and conservation value of this area. These potential impacts underscore the need for a comprehensive assessment and mitigation measures to ensure the long-term preservation of the site's outstanding biodiversity value.

(d) 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

A threatening process is something that adversely affects threatened species, populations of a species, ecological communities or could cause species, populations of a species or ecological communities to become threatened. A threat can be listed under Schedule 4 of the BC Act as a 'Key Threatening Process' if it adversely affects threatened species, populations or ecological communities or if it could cause species, populations or ecological communities that are not threatened to become threatened. There are currently 38 listed threatening process recognized by the BC Act and a further 19 by the EPBC Act. No key threatening processes from the EPBC Act (Federal) are considered to be relevant to the proposal. However, the following key threatening processes from the BC Act (NSW) are considered relevant.

Key threatening processes from the EPBC Act (Federal) and the BC Act (NSW) are considered relevant.

Key Threatening Process	Is the proposal of a class of activity that is recognised as a threatening process?		
	Likely	Possible	Unlikely
Clearing of native vegetation	**X**		
Demolition of habitat	**X**		

The development will impact a ‘Declared Area of Outstanding Biodiversity Value’ or ‘Biodiversity Value’ mapped area.

11.1 Conclusion

We are of the opinion that the activities as proposed will have an impact on the identified ecological communities and their conservation as noted within this report.

Melbourne

15 Business Park Drive
Notting Hill VIC 3168
Telephone (03) 8526 0800

Sydney

Suite 3, Level 1, 20 Wentworth Street
Parramatta NSW 2150
Telephone (02) 9354 0300

Brisbane

Level 5, 43 Peel Street
South Brisbane QLD 4101
Telephone (07) 3105 1460

Adelaide

1/198 Greenhill Road
Eastwood SA 5063
Telephone (08) 8378 8000

Perth

Level 1, 21 Adelaide Street
Fremantle WA 6160
Telephone (08) 6555 0105

New Zealand

7/3 Empire Street
Cambridge New Zealand 3434
Telephone +64 27 777 0989

Wangaratta

First Floor, 40 Rowan Street
Wangaratta VIC 3677
Telephone (03) 5721 2650

Geelong

51 Little Fyans Street
Geelong VIC 3220
Telephone (03) 8526 0800

Wimmera

597 Joel South Road
Stawell VIC 3380
Telephone 0438 510 240

Gold Coast

Suite 37, Level 4, 194 Varsity Parade
Varsity Lakes QLD 4227
Telephone (07) 5676 7602

watertech.com.au