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Upgrade to Dundas Public School – Biodiversity Flora and Fauna Assessment

Department of Education NSW

DOCUMENT TRACKING

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Abbreviations

Abbreviation	Description
BAM	Biodiversity Assessment Method 2020
BC Act	NSW <i>Biodiversity Conservation Act 2016</i>
BDAR	Biodiversity Development Assessment Report
BOS	Biodiversity Offsets Scheme
CEEC	Critically endangered ecological community
COLA	covered outdoor learning area
DAWE	Department of the Agriculture, Water and the Environment (now DCCEEW)
DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment, and Water (formerly DAWE)
DoE	NSW Department of Education
DPE	Department of Planning and Environment (formerly DPIE now NSW DCCEEW)
DP	Deposited Plan
DPIE	NSW Department of Planning, Industry and Environment (now NSW DCCEEW)
EEC	Endangered ecological community
ELA	Eco Logical Australia Pty Ltd
EP&A Act	NSW <i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	NSW <i>Environmental Planning and Assessment Regulations 2021</i>
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
FFA	Flora and Fauna Assessment
FM Act	NSW <i>Fisheries Management Act 1994</i>
KTP	Key Threatening Process
LGA	Local Government Area
MNES	Matters of National Environmental Significance
NSW	New South Wales
NSW DCCEEW	NSW Department of Climate Change, Energy, the Environment, and Water
NSW SC	NSW Scientific Committee
Paramatta LEP	<i>Paramatta Local Environmental Plan 2023</i>
Paramatta DCP	<i>Parramatta Development Control Plan 2023</i>
PCT	Plant Type Community
PMST	Protected Matters Search Tool
REF	Review of Environmental Factors
SEPP	State Environmental Planning Policy
SEPP TI	<i>State Environmental Planning Policy (Transport and Infrastructure) 2021</i>

Abbreviation	Description
SIS	Species Impact Statement
SPRAT	Species Profile and Threats
SVTM	State Vegetation Type Mapping
TEC	Threatened ecological community
WM Act	<i>NSW Water Management Act 2000</i>
WoNS	Weeds of National Significance

Executive Summary

Eco Logical Australia Pty Ltd (ELA) was engaged by RP Infrastructure on behalf of NSW Department of Education (DoE) to prepare a Flora and Fauna Assessment (FFA) report for the proposed upgrades to Dundas Public School at 85 Kissing Point Road, Dundas NSW (the 'study area'). The proposed activity includes construction of one new classroom building and a covered walkway. This ecological assessment will be used to support a Review of Environmental Factors (REF) under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This report has assessed the potential impacts of the proposed works on flora and fauna species listed under the NSW *Biodiversity Conservation Act 2016* (BC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

No field assessment was conducted by ELA. Instead, information provided in the Biodiversity Preliminary Review Report (prepared by Water Technology 2024), which included a field assessment, was utilised in this report. ELA also reviewed the Arboricultural Impact Assessment (Laurence and Co. 2025), Tree Removal Plan (Fulton Trotter 2025) and site plans to assess the biodiversity values present within the study area.

ELA undertook a database and literature review to determine the extent of native vegetation and to inform an assessment of potential impacts to threatened species, their habitat and ecological communities. The results of the literature review identified no mapped Plant Community Types (PCTs) within the study area. Planted native and exotic vegetation was identified with the study area as well as exotic groundcover vegetation (lawn). The native vegetation present within the study area did not conform to a PCT or remnant vegetation and was assumed to be planted for aesthetic purposes.

The impact assessment determined that proposed works will remove 0.12 ha of planted native vegetation (i.e. 12 canopy trees) in the study area for the proposed upgrades to Dundas Public School. There will also be direct impact to 0.08 ha of Exotic Grass.

No threatened fauna or flora species have previously been recorded from BioNet records occurring in the study area. The Biodiversity Preliminary Review Report (Water Technology 2024) and arborist report (Laurence & Co Consultancy 2025) noted the presence of *Eucalyptus nicholii* (Narrow-leaved black Peppermint). Although this species is listed as vulnerable under both the BC Act and EPBC Act it is also a commonly planted species in landscape gardens. The presence of *E. nicholii* is likely to represent planted specimen as the study area and not the threatened species entity, for the following reasons:

- This species does not naturally occur on the Cumberland Plain and is well outside of its natural range (New England Tablelands from Nundle to north Tenterfield).
- This species is not associated with any local PCTs and is a commonly planted urban species.

ELA's review of google street view imagery of the study area noted the presence of one medium sized hollow in a *Eucalyptus saligna* (Sydney Blue Gum) located in the southwestern corner of the study area. The entrance of this hollow contained markings which indicates that it may be utilised. Given the urbanised local and based on the literature review, this hollow is likely to be utilised by common urban birds or mammals. This hollow was not noted in the Biodiversity Preliminary Review Report (Water

Technology 2024) nor in the Arboricultural Report (Laurence and Co. 2025). The vegetation within the study area contains marginal foraging habitat resources for one threatened fauna, *Pteropus poliocephalus* (Grey-headed Flying-fox). Tests of Significance under the *NSW Biodiversity Conservation Act 2016* (BC Act) and Assessments of Significance under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) were applied to the Grey-headed Flying-fox which may be directly impacted or indirectly impacted on by the proposal. The assessments concluded that the proposal is considered unlikely to have a significant impact on this threatened entity, therefore a Species Impact Statement (SIS) or Biodiversity Assessment Development Report (BDAR) under the BC Act, or a referral under the EPBC Act, is not required.

Mitigation measures and recommendations have been provided to prevent indirect impacts to threatened species adjacent to the study area (Section 6).

1. Introduction

1.1. Purpose of this report

This Flora and Fauna Assessment (FFA) report has been prepared to support a Review of Environmental Factors (REF) for the Department of Education (DoE) for the upgrade of the Dundas Public School (DPS) (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, Section 3.37 of the T&I SEPP and in consideration of the stakeholder and community participation plan.

The proposed activity is for upgrades to the existing DPS at 85 Kissing Point Road, Dundas NSW 2117 hereafter referred to as the ‘study area’ (Figure 1).

This report assesses the potential impacts of the proposed work, on threatened species and ecological communities listed under the NSW *Biodiversity Conservation Act 2016* (BC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Eco Logical Australia Pty Ltd (ELA) was engaged to conduct a literature review to identify potential biodiversity values within the study area, with emphasis on the presence of threatened ecological communities (TECs), threatened flora and fauna species, populations, and their habitats.

1.2. Site description

DPS (the ‘study area’) is located at 85 Kissing Point Road, Dundas (Figure 1). The study area is bound by Kissing Point Road to the north and Calder Road to the south. Kenworthy Street is located parallel to the study area to the east as is Saint Andrews Street to the west. The study area has an area of 1.99 ha and comprises one allotment legally known as Lot 3 DP 610.

The study area currently contains an existing co-education primary (K-6) public school with nine permanent buildings, six demountable structures (one demountable includes two classrooms), interconnected covered walkways, play areas, on-grade parking, sports court and green spaces with mature trees.

The majority of the buildings are one storey with only one two-storey building being Building A (Admin/staff hub and amenities building). Buildings are clustered to the north of the study area, with the southern part comprising of a large play area/informal sports oval and a sports court.

The study area is zoned as R2 – Low Density Residential under the *Parramatta Local Environmental Plan 2023* (Parramatta LEP). Surrounding land zoning includes R2 – Low Density Residential to the east, R4 – High Density Residential to the west, R3 – Medium Density Residential to the south-west, and SP2 – Educational Establishment to the north. The closest suburb is Rydalmere, approximately 1 km to the south-east.



Figure 1: Study area

1.3. Proposed Activity Description

The proposed activity involves upgrades to the existing DPS, including the following:

- Creation of six (6) new teaching spaces and two (2) learning commons in a single-story building.
- Installation of covered walkways connecting the new building to the existing school network.
- Landscaping and external works around the new building and eastern entry.
- Upgrades to site infrastructure and services to support the new building.

The intent of the activity is to increase the number of permanent teaching spaces (PTS) from 9 to 15 and students from 331 to 391.

Figure 2 below shows the proposed site plans (by Fulton trotter Architects 2025a) and Figure 3 illustrates the demolition plans (by Fulton trotter Architects 2025b) of the proposed activity.

The activity will also result in the removal of planted vegetation (both native and exotic species) as seen in the Tree Removal Plan Figure 4 (by Fulton trotter Architects 2025c) and Figure 5.

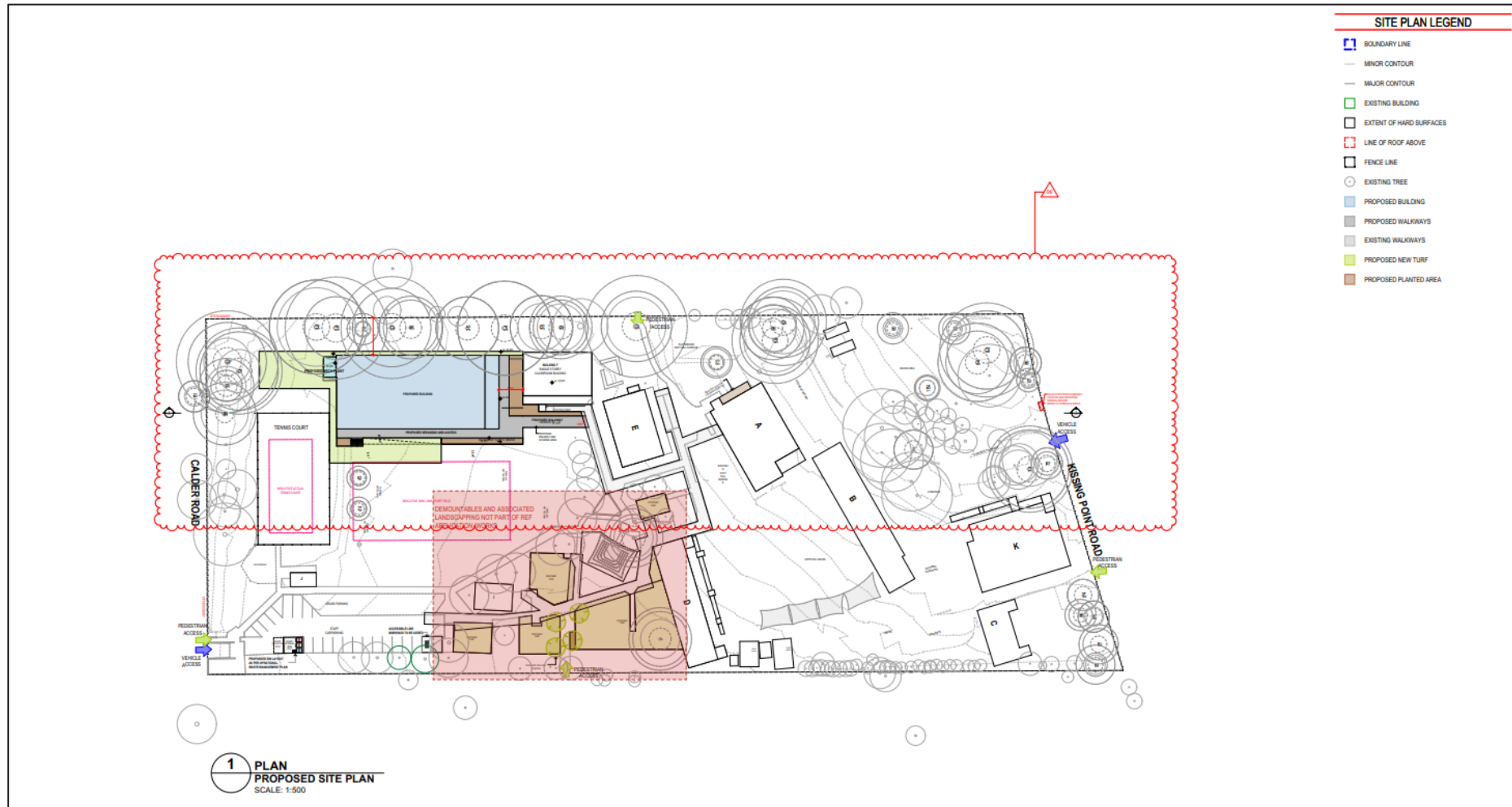


Figure 2: Proposed site plan prepared for Department of Education (Prepared by Fulton Trotter Architects 2025a)

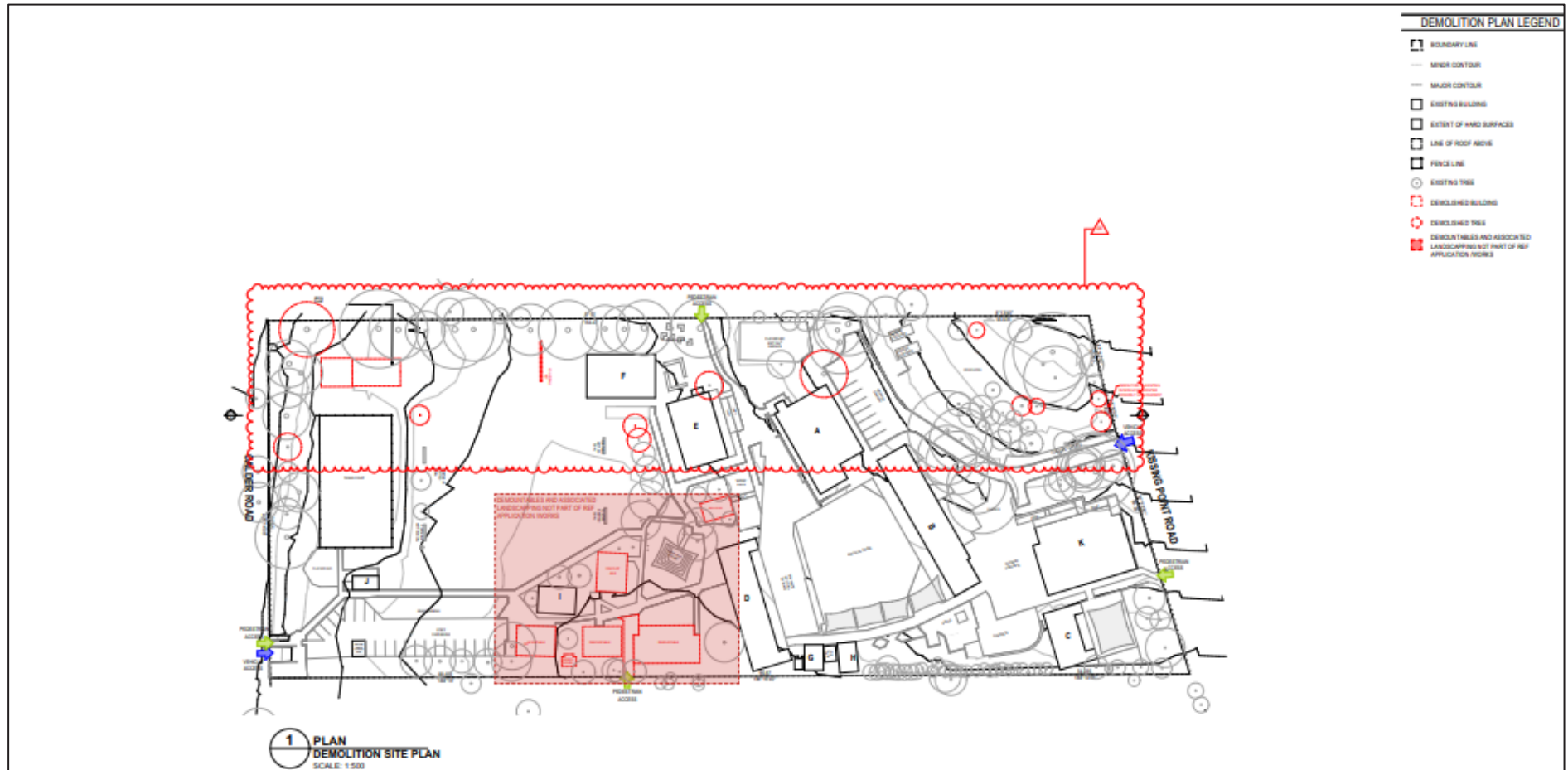


Figure 3: Demolition plan prepared for Department of Education (Prepared by Fulton Trotter Architects 2025b)

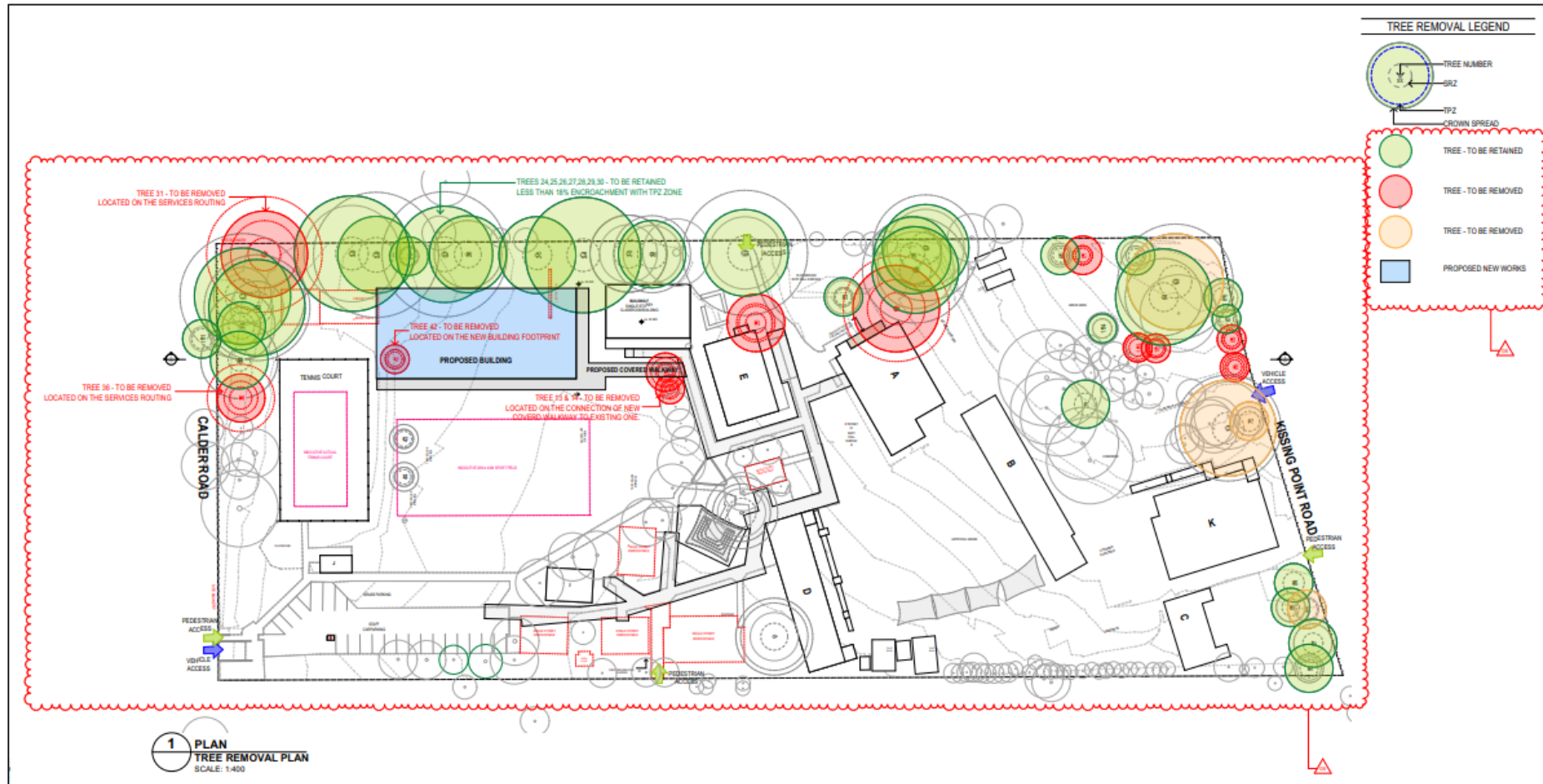


Figure 4: Tree removal plan prepared for Department of Education (Prepared by Fulton Trotter Architects 2025c)



Figure 5: Proposed works within the study area

1.4. Background

A preliminary report detailing the biodiversity constraints for the study area was previously developed for DoE (Water Technology 2024). A Final Arboricultural report was also conducted for the study area (Laurence and Co. 2025). This FFA has been prepared by ELA utilising data previously detailed in the biodiversity constraints report (Water Technology 2024), Final Arboricultural report (Laurence and Co. 2025), demolition, site plans and tree removal plans (Fulton Trotter Architects 2025) as well as that obtained from the literature review. This FFA will be used to support the preparation of a REF for the proposed works.

1.5. Key definitions

The following key terms and definitions are used in this FFA:

- Proposed works – works as described above in Section 1.3
- Study area – includes the area being assessed which is the entire Lot 3/-/DP610.
- Preliminary report – refers to the Biodiversity Preliminary Review Report prepared by Water Technology (2024).

2. Legislation

Table 1: Legislation relevant to the proposed works

Legislation	Relevance to the project	Report section
<i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act)	The Commonwealth EPBC Act aims to protect Matters of National Environmental Significance (MNES), including vegetation communities and species listed under the EPBC Act. If an activity is likely to have a significant impact on MNES, it is likely to be considered a 'Controlled Action' by the Commonwealth and requires assessment and approval by the Commonwealth to proceed. One MNES have the potential to occur within the study area: <i>Pteropus poliocephalus</i> (Grey-headed Flying-fox) The assessments concluded that the proposed activity is unlikely to result in a significant impact to any of the above entities. As such, a referral to the Commonwealth is unlikely to be required as a part of the proposed works.	Appendix C
<i>Environmental Planning and Assessment Act 1979</i> (EP&A Act)	The EP&A Act is the principal planning legislation for NSW, providing a framework for the overall environmental planning and assessment of development proposals. The EP&A Act places a duty on the determining authority to adequately address a range of environmental matters including maintenance of biodiversity and the likely impact to threatened species, populations, or ecological communities (under the BC Act– refer below). The project is being assessed under Part 5 of the EP&A Act.	Entire report
<i>Biodiversity Conservation Act 2016</i> (BC Act)	Impacts to threatened species and threatened ecological communities listed under the BC Act are required to be assessed in accordance with Section 7.3 of the BC Act, known as 'tests of significance'. For assessments under Part 5 of the EP&A Act, the Biodiversity Offsets Scheme threshold does not apply, as specified in section 7.2 (2). Declared areas of 'outstanding biodiversity value' under section 7.2(1c) must still be considered. For a Part 5 assessment, if the conclusion of the test of significance is that there is potential for a significant impact on a threatened species or ecological community, then the proponent has the option of preparing a Species Impact Statement (SIS), or a Biodiversity Development Assessment Report (BDAR). The proposed works is unlikely to result in a significant impact upon threatened species listed under the BC Act and therefore a SIS or BDAR is not required. The study area is not located within declared areas of outstanding biodiversity value.	Entire report Appendix B
<i>Fisheries Management Act 1994</i> (FM Act)	The FM Act governs the management of fish and their habitat in NSW. The FM Act regulates the provision of permits required in relation to the harm of protected marine vegetation (seagrass, macroalgae, mangroves and saltmarsh), dredging, reclamation or obstruction of fish passage on or adjacent to Key Fish Habitat. This includes direct or indirect impacts, whether temporary or permanent. The study area does not contain areas mapped as Key Fish Habitat. Vineyard Creek occurs approximately 500 m to the west of the study area and Ponds and Subiaco Creek is located approximately 380 m to the south of the study area. Ponds and Subiaco Creek is mapped as Key Fish Habitat. The proposed works <u>do not</u> involve harm to mangroves or other protected marine vegetation, dredging, reclamation or blocking of fish passage and therefore a permit under the FM Act is not required.	N/A

Legislation	Relevance to the project	Report section
<i>Water Management Act 2000</i> (WM Act)	The WM Act's main objective is to manage NSW water in a sustainable and integrated manner that will benefit current generations without compromising future generations' ability to meet their needs. The WM Act establishes an approval regime for activities within waterfront land, defined as the land 40 m from the highest bank of a river, lake, or estuary. The study area is not located on waterfront land. Therefore, Controlled Activity Approval under the WM Act is not required for the proposed works.	N/A
State and local planning instruments		
<i>State Environmental Planning Policy (Resilience and Hazards) 2021</i>	This SEPP applies to land in the coastal zone. The study area is not located within an area to which this SEPP applies	N/A
<i>State Environmental Planning Policy (Biodiversity and Conservation) 2021</i>	This new SEPP came into effect on 1 March 2022 and consolidates the following SEPPs of relevance to the study area: - Chapter 2 - The Vegetation in Non-Rural Areas 2017 - Chapter 3 - Koala Habitat Protection 2021 - Chapter 6 - Water Catchments. The Vegetation in Non-Rural Areas SEPP 2017 aims to protect the biodiversity values of trees and other vegetation in non-rural areas of the State, and to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation. The City of Parramatta Local Government Area (LGA) is listed as one of the LGAs to which this SEPP applies. However, as the proposed works require consent, this chapter does not apply. The City of Paramatta LGA is not listed as land to which Chapter 4 – Koala Habitat Protection 2021 applies. The study area is located within the Sydney Harbour Catchment in accordance with this SEPP. This SEPP applies to development which requires development consent (refer to Section 5.5.1 of this report).	Section 5.6.1
<i>Paramatta Local Environmental Plan 2023</i> (Paramatta LEP)	The study area is located on land zoned as R2 – Low Density Residential. The proposed works are consistent with the land zoning. The objective of this land zoning is: - 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 maintain the low-density residential character of the area. - To ensure non-residential land uses are carried out in a way that minimises impacts on the amenity of a low-density residential environment. - To provide a range of community facilities that serve the needs of people who live in, work in and visit the area. - To protect and enhance tree canopy, existing vegetation and other natural features.	All
<i>Parramatta Development Control</i>	The Parramatta DCP contains matters pertaining to the protection and conservation of biodiversity within the Parramatta LGA. Section 5.3.1 of the DCP contains objectives which are relevant to the proposal. 1. Minimise the impact of development on the City's biodiversity by:	All

Legislation	Relevance to the project	Report section
Plan 2023 (Parramatta DCP)	○ minimising the removal of native vegetation and naturally occurring soils; ○ conserving significant locally indigenous trees, particularly remnant and hollow bearing trees; and ○ establishing buffer zones and encouraging planting of locally indigenous plants, including trees on private property. 2. Retain and protect areas of existing biodiversity value, particularly key vegetation links, threatened ecological communities, and fauna corridors The proposal will result in the removal of a small (up to approximately 0.12 ha) amount of planted native and exotic vegetation (includes native canopy) which does not represent a native vegetation community. The proposal is therefore compliant with the objectives of the Parramatta DCP relating to the conservation of biodiversity.	

3. Methodology

3.1. Literature review and database search

A review of readily available databases pertaining to the ecology and environmental features of the entire extent of the study area and surrounding area (within a 5 km radius), was conducted to identify records of threatened species, populations and communities and their potential habitat.

Databases and vegetation mapping that were reviewed included:

- BioNet (NSW Atlas of Wildlife) database search (5 km) for threatened species, populations and ecological communities listed under the BC Act (NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) 2024a)
- EPBC Act Protected Matters Search Tool (PMST) for threatened and migratory species, populations and ecological communities listed under the Commonwealth EPBC Act (Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) 2024a)
- NSW Threatened Species Profile Database (NSW DCCEEW 2024b).
- Previous vegetation mapping under the State Vegetation Type Map (SVTM) (NSW DCCEEW 2024c)
- Plant Community Type (PCT) information under BioNet Vegetation Classification (NSW DCCEEW 2024d)
- National Flying-fox monitoring viewer for current known important Flying-fox camps (DCCEEW 2024b)
- Australian Government Species Profile and Threats (SPRAT) Database (DCCEEW 2024c)
- Relevant Geographic Information System (GIS) datasets including soils, geology and drainage (NSW DCCEEW 2024e).
- Review of relevant planning instruments, documentation, and information relating to biodiversity values (NSW DCCEEW 2024f) and potential threatened species habitat.
- Aerial photography (including Google Earth and Historical Imagery) of the study area and surrounds were also used to investigate the extent of vegetation cover and landscape features.
- Environmental Services Biodiversity Preliminary Review Report, prepared by Water Technology (2024)
- Final Arboricultural Report, prepared by Laurence and Co. (2025)
- Site plans Fulton Trotter Architects 2025.

Species searches from both the NSW BioNet Wildlife Atlas and EPBC Protected Matters search were combined to produce a list of threatened species, populations and communities that may occur within the study area. This list was also supplemented or amended based on local ecological knowledge of the area, including known species occurrences. A likelihood of occurrence table for threatened flora, fauna and ecological communities is given in Appendix A.

3.2. Limitations

A field survey was not completed by ELA ecologists and assessment has been based on results presented in the preliminary report and the Final Arboricultural report (Laurence and Co. 2025). Limited mapping

of validated vegetation was provided in the preliminary report by Water Technology (2024). Validated vegetation mapping in this FFA has been presented based on the text and mapping provided in the preliminary reports, taking a conservative approach.

4. Results

4.1. Data audit and literature review

4.1.1. Soils, topography and hydrology

The study area is entirely located on Blacktown soil landscapes. Blacktown soil landscapes are characterised by gently undulating rises on Wianamatta Group shales and Hawkesbury shale. Contrast soils including Red and Brown Podzolic Soils occur on the crests and grades to Yellow Podzolic Soils on the lower slopes and drainage lines (NSW DCCEEW 2024e). Vegetation associated with Blacktown landscapes includes extensively cleared tall, open forests and open woodlands (NSW DCCEEW 2024e).

There are no waterbodies mapped within the study area (Figure 1). The closest waterbody is Ponds and Subiaco Creeks which are located approximately 380 m to the south of the study area and is mapped as Key Fish Habitat. Vineyard Creek occurs approximately 500 m to the west of the study area. The study area does not flow directly into a waterbody, therefore, no additional assess of creeks have been conducted in this assessment.

4.1.2. Historic aerial imagery

The review of historical imagery accessed via the NSW Historical Imagery viewer (Spatial Services 2024) indicates that the study area had likely undergone clearing sometime in the past to create agricultural land. The earliest available historic aerial imagery shows that in 1943 the entire study area was cleared of native vegetation (Figure 6). The only vegetation present at this time within the study area is pasture. There are scattered canopy trees adjacent to the norther boundary of the study area and in the surrounding landscape.

Although the historical imagery quality is poor from 1970, Figure 7 demonstrates there were considerable changes to the study area between 1943 and 1970. Several buildings have been constructed, possibly farm sheds and residential dwellings, although difficult to confirm due to the poor imagery resolution. The majority of the southern portion of the study area is still cleared of vegetation, but some vegetation appears to have been planted at several locations within the study area, with a particularly noticeable line occurring along the western and southern boundaries.



Figure 6: 1943 aerial imagery (Spatial Services 2024)



Figure 7: 1970 Historical aerial imagery (Spatial Services 2024)

4.1.3. Previous Vegetation mapping

4.1.3.1. *Plant Community Types*

Previous vegetation mapping under the State Vegetation Type Map (SVTM) (NSW DCCEEW 2024a) was reviewed for vegetation occurring within the study area and surrounding land (Figure 8). No Plant Community Types (PCTs) have been mapped within the study area.

A review of the SVTM outside of the study area was conducted to identify additional potential PCTs that could be present within the study area if remnant vegetation was present. The closest patch of mapped native vegetation is PCT 3176 Sydney Enriched Sandstone Moist Forest approximately 170 m to the northwest of the study area, adjacent to Vineyard Creek (Figure 8). PCT 3262 Sydney Turpentine Ironbark Forest has also been mapped with PCT 3176 within the vicinity of the study area.



Figure 8: State Vegetation Type Mapping (NSW DCCEEW 2024c)

4.1.4. Threatened species

The search for threatened species using the PMST and BioNet (within a 5 km buffer around the study area) and the review of literature resulted in a list of 35 threatened flora species and 98 threatened or migratory fauna species, which are shown in Appendix A.

It should be noted that the result of the PMST, which has been included in Appendix A, is only a list of species based on habitat modelling. Therefore, not all species listed in Appendix A are shown on the maps in this report. BioNet database records for the study area of threatened flora and fauna are shown in Figure 9.

There are no threatened flora or fauna species BioNet records located within the study area Figure 9. There are numerous records of *Pteropus poliocephalus* (Grey-headed Flying-fox) within a 5 km radius of the study. The closest one record of this species is approximately located 40 m to the southeast of the study area (Figure 7).

This species is highly mobile and will regularly forage on native and planted vegetation in urban environments as it moves across the landscape (DCCEEW 2024c). The closest Grey-headed Flying-fox camp to the study area is located approximately 3.7 km to the southwest in Paramatta park. This is a Nationally Important Flying-fox Camp.

Additionally, due to the presence of intact native vegetation to the east of the study area, there is a potential that highly mobile threatened fauna species such as birds and bats may utilise the study area on occasion for foraging.

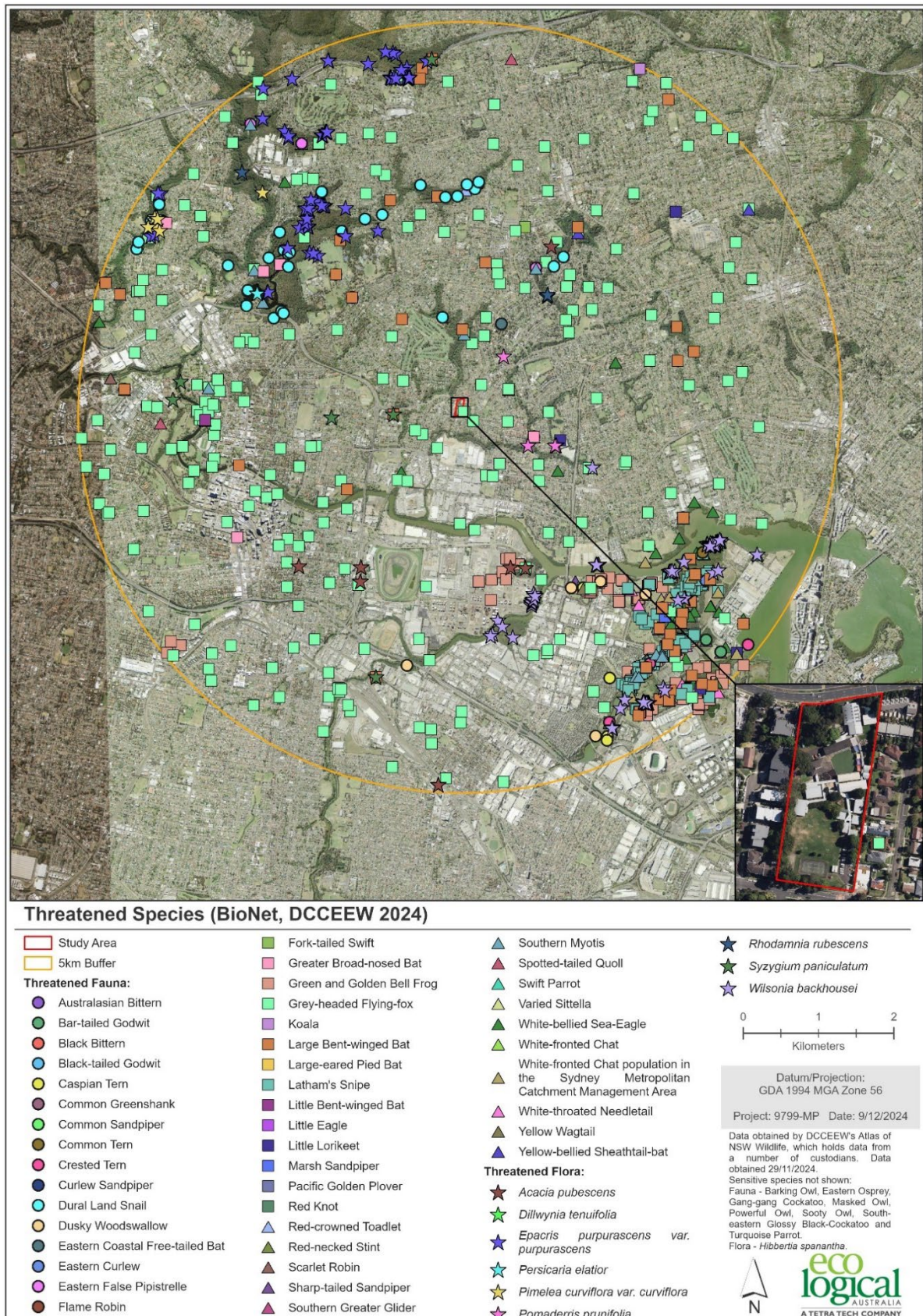


Figure 9: BioNet threatened flora and fauna species records within a 5 km radius of the study area (NSW DCCEEW 2024a)

4.2. Survey results

Survey results have been obtained from the preliminary report and the final Arboricultural report. No field surveys were conducted by ELA ecologists. A conservative approach has been taken when assessing the presence of vegetation communities due to an absence of information provided in the preliminary report and final Arboricultural report.

4.2.1. Vegetation communities

The preliminary report recorded the vegetation within the study area as being consistent with the existing SVTM. Therefore, no PCTs were recorded within the study area and the native vegetation was assumed to be planted for aesthetic reasons (NSW DCCEEW 2024c). The majority of the study area comprises landscaped gardens with a mixture of planted native and exotic vegetation as well as areas of exotic groundcover vegetation.

A review of areal imagery of the study area indicates that the vegetation also occurs in close proximity and in distinct rows, particularly along the western and southern boundaries. A review of historical imagery shows that the entire study area was cleared in 1943 and that the vegetation present today may have been planted sometime between 1955 and 1970 (Figure 6 and Figure 7). The arborist report also notes that the indigenous and non-indigenous canopy species were of similar height and diameter at breast height (Laurence & Co 2025). This suggests that the canopy trees are of similar age classes and were planted at the same time. It is unlikely given the historical clearing and disturbance of the soil profile that remnant vegetation which may represent a PCT is present within the study area.

4.2.1.1. Planted Native and Exotic

Planted native species were prevalent throughout the study area, occurring along the northern, western and southern boundaries, as well as in patches through the centre of the study area. Approximately 0.71 ha of planted native and exotic vegetation was recorded within the study area.

A mixture of planted native canopy species were identified in the preliminary report and the final arborist report across the study area. Mature canopy species were identified within the northern and southern portion of the study area and included *Eucalyptus microcorys* (Tallow wood), *E. saligna* (Sydney Blue Gum), *E. tereticornis* (Forest red gum), *E. fibrosa* (Borad-leaved Red Ironbark), *Lophostemon confertus* (Brush Box), *E. robusta* (Swamp Mahogany) *Corymbia maculata* (Spotted Gum), *C. citriodora* (Lemon-scented Gum), *Casuarina glauca* (Swamp Shea Oak) and *Allocasuarina torulosa* (Forest Oak). Other canopy species recorded within the northern portion of the study area *Melaleuca styphelioides* (Prickly Leaved Paperbark), *Elaeocarpus reticulatus* (Blueberry Ash), *Elaeocarpus eumundii* (Quandong), *Corymbia maculata* (Spotted Gum), *Toona australis* (Red Cedar), *Araucaria cunninghamii* (Hoop Pine), *Corymbia ficifolia* (Red Flowering Gum), *Stenocarpus sinuatus* (Firewheel Tree), and *Brachychiton discolor* (Lacebark Kurrajong). The western boundary of the study area consisted of *Eucalyptus nicholii* (Narrow-leaved Black Peppermint), *E. robusta* (Swamp mahogany) and *E. microcorys*. *E. nicholii* is listed as a threatened species in its natural geographic region which does not include the study area (see Section 4.2.2). *Lophostemon confertus* was also recorded along the eastern boundary of the study area.

The presence of a native midstory was limited across the study area and midstory species were recorded occurring as hedges or without a canopy present. The preliminary report and final arborist report recorded a greater number of midstorey species in the northern portion of the study area and species included *Callistemon salignus* (Willow Bottlebrush), *Callistemon viminalis* (Weeping Bottlebrush),

Macadamia integrifolia (Macadamia), *Pittosporum undulatum* (Native Daphne), *Leptospermum* ssp. (Teatree) and *Syzygium wilsonii* (Plum Satinash). A hedge of *Syzygium leuhmannii* (Small Leaved Lilly Pilly) was identified along the eastern boundary of the study area. Other midstorey species recorded within the central, southern and western portions of the study area included *Banksia ericifolia* (Heath Banksia), *Syzygium australe* (Brush Cherry Lilly Pilly), *Syzygium hemilamprum* (Broad-leaved lilly pilly), *Syzygium smithii* (Lilly Pilly), *Melaleuca quinquenervia* (Broad leaved paperbark) and *Grevillea* spp. Most of areas featured no native groundcover, predominantly consisting of, exotic lawn, bare soil and woodchip mulch. Where present, native groundcover species included *Alocasia* spp., *Alpinia caerulea* (Native ginger), *Lomandra longifolia* (Spiny-head mat-rush), *Westringia fruticosa* (Coastal Rosemary).

Exotic canopy species were dominant in the central portion of the study area, around the existing buildings. The preliminary report and final arborist report recorded deciduous tree species such as *Acer negundo* (Boxelder), *Acer palmatum* (Japanese Maple), *Fraxinus* spp. (Ash) and *Liquidambar styraciflua* (Sweetgum). Other exotic canopy trees found across the study area included *Citrus* spp. (Citrus Tree), *Hapullia* sp. (Tulipwood), *Magnolia grandiflora* (Southern magnolia) and *Plumeria* spp. Heges of *Ligustrum lucidum* (Broad-leaf privet) and *Murraya paniculata* (Mock orange) were recorded along the eastern boundary of the study area. Other exotic midstory species included *Olea europaea* var. *europaea* (European Olive), *Camellia japonica* (Camellia), *Ficus* spp., and *Raphiolepis* spp. Common exotic landscape species including *Clivia miniata* (Clivia), *Lavandula angustifolia* (Lavender), *Strelitzia reginae* (Bird of paradise) and *Dietes irioides* (Fortnight lily) were also recorded.

4.2.1.2. Exotic groundcover vegetation

Cleared areas occurring across the study area were identified as being dominated by exotic groundcover species. These areas had regular maintenance through mowing and was dominated by exotic grasses such as *Cenchrus clandestinus* (Kikuyu Grass) and other common weeds such as *Taraxacum* spp., (Dandelion), *Trifolium repens* (White clover) and *Plantago* spp. (Plantain) (Figure 10). Approximately 0.46 ha of exotic groundcover vegetation was mapped within the study area (Water Technology 2024).

4.2.1.3. Threatened ecological communities

The desktop review did not identify any previously mapped PCTs or threatened ecological communities (TEC) listed under the NSW BC Act and/or the Commonwealth EPBC Act within the study area (NSW DCCEEW 2024c).



Figure 10: Validated vegetation based on background literature review, the preliminary report and final arborist report

4.2.2. Flora species

The final arborist assessment (Laurence and Co. 2025) recorded the presence of one *Eucalyptus nicholii* (Narrow-leaved Black Peppermint) within the study area. *Eucalyptus nicholii* is listed as vulnerable under both the BC Act and EPBC Act, however, it is also a commonly planted street tree. This species does not naturally occur in the study area (i.e. on the Cumberland Plain) and is well outside of its natural range. *Eucalyptus nicholii* naturally occurs on the New England Tablelands from Nundle to north Tenterfield and grows in dry grassy woodlands on granite soils (DPE 2020). This species can also occur as planted urban trees which does not represent the threatened species entity (DPE 2020). No other threatened flora species were recorded within the study area. Due to the high levels of disturbance and regular maintenance occurring within the study area, it is considered highly unlikely that threatened species would occur within any of the present vegetation.

4.2.3. Fauna species and their habitat

The Biodiversity Preliminary Review Report (Water Technology 2024) provided a list of fauna species observed during the field survey. No threatened fauna species were identified during the field survey. A likelihood of occurrence table has been prepared for threatened species likely to occur within a 5 km radius of the study area and has been collected in Appendix A.

The vegetation within the study area was not recorded to contain any important habitat features such as significant hollows, and limited leaf litter and debris was recorded within the study area (Water Technology 2024). However, ELA's review of google street view imagery of the study area noted the presence of a medium sized hollow (approximately 15 cm wide) in a *Eucalyptus saligna* (Sydney Blue Gum) located in the southwestern corner of the study area (Figure 11). The entrance of this hollow contained markings which indicates that it may be utilised. Given the lack of recent or historic BioNet records for threatened fauna species and the urbanised landscape, it is likely this hollow is utilised by common urban birds or mammals. The hollow was not noted in the preliminary reports.

One bird nest was identified adjacent to the northern entry of the study area. Survey of this habitat was undertaken, however, no bird activity was recorded during the survey and this nest was assumed to be abandoned (Water Technology 2024). Based on the habitat present within the study area it is likely that this nest was utilised by a non-threatened species. No watercourses or other waterbodies were identified within the study area (Water Technology 2024).

Native canopy species present may provide foraging habitat for highly mobile bird species or bat species such as *Pteropus poliocephalus* (Grey-headed Flying-fox). The vegetation contains nectar flowering myrtaceous species such as *Eucalyptus*, *Corymbia*, *Melaleuca* and *Banksia* which are preferred foraging resources for Grey-headed Flying Foxes (NSW DCCEEW 2024b). Due to the disturbed environment and limited potential foraging vegetation present, these trees may only be used on occasion by highly mobile threatened species as they move across the landscape. No other potential threatened fauna habitat (such as hollow-bearing trees or waterbodies) were identified within the study area.



Figure 11: View of the southwestern corner of the study area from Calder Road, showing the hollow in *Eucalyptus saligna* (Sydney Blue Gum) in red

5. Impact assessment

5.1. Introduction

The potential impact of the proposal to threatened species and communities listed under the BC Act and EPBC Act was assessed by undertaking an assessment of likelihood of occurrence for threatened ecological communities and threatened and migratory species identified from the database search (Appendix A).

Assessments were conducted for those communities and species listed under the BC Act considered likely or known to use habitat within the study area, after considering both the desktop review and results from the field survey, including:

Species

- *Pteropus poliocephalus* (Grey-headed Flying Fox).

Other highly mobile threatened species which are wide-ranging and dispersive may still utilise the study area on occasion for foraging. The proposal would not affect any habitat that is important to the survival of these species and therefore no BC Act Test of Significance or EPBC Act Significant Impact Criteria were applied.

A Significance Assessment under the EPBC Act was required threatened species under the EPBC Act, (Grey-headed Flying Fox) and concluded that the proposed works are unlikely to result in a significant impact.

No PCT nor TEC were present within the study area, therefore an Assessment of Significance under the EPBC Act and a Test of Significance under the BC Act was not required for any vegetation present within the study area.

5.2. Direct impacts

Direct impacts during the construction phase and long-term impacts post construction have been considered for the impact assessment.

A summary of the potential impacts has been provided in Table 2.

Table 2: Summary of potential impacts to vegetation communities in study area

Vegetation Community	Total area in study area (ha)	Direct impact (ha)
Planted native/exotic vegetation	0.71	0.12
Exotic groundcover vegetation	0.46	0.08
TOTAL	1.17	

Direct impacts are those impacts that directly affect habitat and individuals. Direct impacts considered for this assessment are vegetation and habitat removal. The proposed development has the potential to result in the following direct impacts:

- direct - removal of planted native and exotic vegetation which does not confirm to a PCT
- direct- loss of nesting habitat (one hollow in *Eucalyptus saligna*) for urban species
- direct - loss of habitat for threatened species
 - potential foraging habitat for threatened fauna (Grey-headed Flying Fox).

5.2.1. Removal of native vegetation

The proposed works will affect up to 0.12 ha of planted native vegetation within the study area. This may include trimming of branches in the canopy that are mapped overhanging within the proposed development footprint and also includes the removal of 12 canopy species including *Eucalyptus saligna* (Sydney Blue Gum) and *Lophostemon confertus* (Brush Box) along Calder Road.

5.2.2. Loss of hollow bearing tree

ELA's desktop assessment identified the presence of one hollow bearing tree within a *Eucalyptus saligna* along Calder Road. The final arborist report has identified that this tree may be removed for the proposed activity. As such, the activity will result in the loss of one hollow-bearing tree which may provide roosting or breeding habitat for hollow-dependent species. Given the urban environment and the fact threatened hollow-dependent species are unlikely to utilise the study area for breeding/roosting, the activity is unlikely to result in a significant impact upon threatened species. However, the loss of a tree hollow may impact upon non-threatened species which are still considered a protected species in Australia. As such mitigation measures have been included in Section 6 to minimise impacts to protected native species during tree removal.

5.2.3. Removal of potential habitat for threatened fauna species

Approximately 0.12 ha of marginal foraging habitat (i.e. planted native) for *Pteropus poliocephalus* (Grey-headed Flying-fox) would be removed. There was no other habitat for threatened species identified (i.e. hollows, caves or culverts) within the study area which would be impacted by the proposed works.

It is noted that some other threatened fauna species may utilise the study area intermittently as marginal foraging habitat. However, due to the highly mobile nature of these species and availability of foraging habitat in the adjacent landscape, no Tests of Significance were considered necessary for these species.

5.3. Biodiversity Conservation Act 2016

Impacts to threatened species and threatened ecological communities listed under the BC Act are required to be assessed in accordance with Section 7.3 of the BC Act, known as 'Test of Significance' (also known as a 5-part test).

For assessments under Part 5 of the EP&A Act the biodiversity offsets scheme threshold is not required to be applied, as specified in section 7.2 (2). Declared areas of 'outstanding biodiversity value' under section 7.2(1c) must still be considered.

For a Part 5 assessment, if the conclusion of the assessments of significance is that there is potential for a significant impact on a threatened species or ecological community, then the proponent has the option of preparing a Species Impact Statement, or a Biodiversity Development Assessment Report.

The test of significance is used to determine if the development is likely to have a significant impact on any threatened species, population or ecological community. If a significant impact is indicated by the test of significance, then the proposal would trigger the Biodiversity Offsets Scheme (BOS), and a Biodiversity Assessment Method 2020 (BAM) assessment is required. A Test of significance was conducted for *Pteropus poliocephalus* (Grey-headed Flying-fox) listed under the BC Act (Appendix B). The outcome of the tests concluded that the works are unlikely to result in a significant impact upon threatened species.

5.3.1. Key Threatening Processes

Key Threatening Processes (KTPs) listed under the BC Act or EPBC Act are relevant to the proposed works, including clearing of native vegetation (including planted native vegetation) under the BC Act and Land clearance under the EPBC Act.

5.4. EPBC Act – Assessment of Significance

The EPBC Act establishes a process for assessing the environmental impact of activities and developments where 'Matters of National Environmental Significance' (MNES) may be affected. Under the Act any action which "has, will have, or is likely to have a significant impact on a Matter of National Environmental Significance" is defined as a "controlled action", and requires approval from the Commonwealth DCCEW which is responsible for administering the EPBC Act.

One nationally threatened fauna species, *Pteropus poliocephalus* (Grey-headed Flying-fox) may utilise the planted native canopy vegetation within the study area for foraging. An Assessment of Significances under the EPBC Act was prepared for Grey-headed Flying-fox (Appendix C). The outcome of the test concluded that the works are unlikely to result in a significant impact upon threatened species therefore a Species Impact Statement and a referral is not required.

5.5. State Environmental Planning Policy (Biodiversity and Conservation) 2021

5.5.1. Paramatta Development Control Plan 2023

The study area is subject to Parramatta Development Control Plan 2023, section 5.3.1 and 5.3.4, which contain objectives in relation to the preservation of trees or vegetation and biodiversity (Table 3).

Table 3: Parramatta Development Control Plan 2023 relevant biodiversity and vegetation clauses

Section number	Relevant content of clause
5.3.1	O.1 To minimise the impact of development on the City's biodiversity by: • minimising the removal of indigenous vegetation and naturally occurring soils; • conserving existing significant indigenous and native trees; and • establishing buffer zones and encouraging planting of indigenous and native plants and trees on private property. O.2 Retention and protection of areas of existing biodiversity value, particularly key vegetation links and fauna corridors.
5.3.4	O.1 To maintain and enhance the amenity of Parramatta Local Government Area through the preservation of appropriate trees and vegetation. O.2 To retain Parramatta Local Government Area's urban forest cover particularly its street

Section number	Relevant content of clause
	tree and parkland tree population to alleviate urban heat impact.
	O.3 To appropriately manage trees and vegetation in order to ensure their health and long term retention.
	O.4 To conserve trees of ecological, heritage, aesthetic and cultural significance.
	O.5 To protect and manage individual trees as an important community asset.
	O.6 To establish the procedural framework and requirements governing the pruning, removal and subsequent replacement of trees within the City.
	O.7 To ensure all new development considers and protects existing trees on development sites and provides opportunity for the healthy growth of large trees.
	O.8 To protect native fauna habitat

Regarding section 5.3.1 the proposal will result in the removal of a small amount (up to 0.12 ha) of planted vegetation which does not represent native vegetation community. The study area does not contain any areas mapped as containing high biodiversity value. The proposal is compliant with the objectives of this section in the Parramatta DCP.

Regarding section 5.3.4, the proposed works will result in the removal of up to 0.12 ha of planted native vegetation. It may also result in the removal of one hollow bearing tree (*Eucalyptus saligna*).

5.5.2. Parramatta Local Environmental Plan 2023

The study area is subject to Parramatta Local Environmental Plan 2023, Parts 2 and 6.3, which contains considerations for biodiversity and zoning (Table 4).

Table 4: Parramatta Local Environmental Plan 2023 relevant biodiversity and zoning clauses

Part number	Relevant content of clause
Part 2	Zone R2 – Low Density Residential
	1 Objectives of zone
	- 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 maintain the low-density residential character of the area. - To ensure non-residential land uses are carried out in a way that minimises impacts on the amenity of a low-density residential environment. - To provide a range of community facilities that serve the needs of people who live in, work in and visit the area. - To protect and enhance tree canopy, existing vegetation and other natural features.
	2 Permitted without consent
	Home occupations
	3 Permitted with consent
	Bed and breakfast accommodation; Building identification signs; Business identification signs; Centre-based child care facilities; Community facilities; Dual occupancies; Dwelling houses; Educational establishments; Emergency services facilities; Environmental protection works;

Part number	Relevant content of clause
	Exhibition homes; Exhibition villages; Flood mitigation works; Group homes; Home-based child care; Home businesses; Home industries; Hostels; Neighbourhood shops; Oyster aquaculture; Pond-based aquaculture; Public administration buildings; Recreation areas; Recreation facilities (outdoor); Respite day care centres; Roads; School-based child care ; Seniors housing; Tank-based aquaculture; Water recycling facilities.
Part 6.3	(1) The objective of this clause is to maintain terrestrial and aquatic biodiversity, including the following— (a) protecting native fauna and flora, (b) protecting the ecological processes necessary for their continued existence, (c) encouraging the recovery of native fauna and flora and their habitats.

In relation to Part 2, the study area is zoned R2 Low Density Residential under the Parramatta LEP. Under the LEP, school infrastructure is permissible in R2 zoning. The study area does not contain mapped areas on the Natural Resources Biodiversity Map overlay under the Parramatta LEP.

In relation to Part 6.3, up to 0.12 ha of planted native vegetation will potentially be removed as part of the proposed works. The native trees present are planted, and do not form part of a naturally occurring plant community type.

Therefore, the proposal is compliant with the Parramatta LEP.

5.5.3. Chapter 6 Water Catchments

The study area occurs within the Sydney Harbour Catchment under the Biodiversity and Conservation SEPP. Clause 6.7 of this SEPP outlines the requirements for development consent in a regulated catchment, stating that the consent authority must consider the following:

- (a) whether the development will have a direct, indirect or cumulative adverse impact on terrestrial, aquatic or migratory animals or vegetation,*
- (b) whether the development involves the clearing of riparian vegetation and, if so, whether the development will require—*
 - (i) a controlled activity approval under the Water Management Act 2000, or*
 - (ii) a permit under the Fisheries Management Act 1994,*
- (c) whether the development will minimise or avoid—*
 - (i) the erosion of land abutting a natural waterbody, or*
 - (ii) the sedimentation of a natural waterbody,*
- (d) whether the development will have an adverse impact on wetlands that are not in the coastal wetlands and littoral rainforests area*
- (e) whether the development includes adequate safeguards and rehabilitation measures to protect aquatic ecology,*

(f) if the development site adjoins a natural waterbody—whether additional measures are required to ensure a neutral or beneficial effect on the water quality of the waterbody.

The works does not involve the removal of aquatic vegetation. The study area is not located near a natural waterbody. Mitigation measures provided in Section 6 below will provide affective sediment and erosion control. No additional consideration under the SEPP is required.

6. Mitigation measures

To prevent direct and indirect impacts from the proposal on adjacent vegetation communities and potential habitat for threatened species, the following general mitigation measures are recommended, and additional specific controls are provided in Table 5:

- Tree protection fencing is established around any proposed trees to be retained within the vicinity of the proposed buildings to be constructed and / or demolished.
- Ecologist to perform a pre-clearance of the hollow-bearing tree within the study area (*Eucalyptus saligna*) should be conducted to ensure no fauna is utilising the tree. Where possible, removal of the hollow should occur outside the breeding season (i.e. not within early Spring-Summer).
- Installing artificial habitats (nest box of similar entrance diameter) for fauna in adjacent retained vegetation within the study area.
- Reinstate the loss of native canopy species and fragmentation of vegetation through revegetation works within the study area. Species should include locally indigenous species which are consistent with PCT 3176 or PCT 3262 which provides suitable habitat for local fauna species.

Table 5: Recommendations for mitigation measures

Mitigation number / name	Aspect/Section	Mitigation measure	Reason for mitigation measure
1. Native vegetation	Before and during construction phase.	- Pre-works briefings are to be undertaken by staff advising contractors or workers of areas of vegetation which will be retained. - Install temporary barrier fencing to prevent entry into vegetation to be retained and appropriate 'no-go zone' signage - The extent of works must be clearly pegged or marked out by a surveyor prior to vegetation removal. - Tree protection fencing is established around any proposed trees to be retained within the vicinity of the proposed buildings to be constructed and / or demolished.	- Prevent accidental impacts to native vegetation proposed for retention / outside of development footprint. - Compaction of soil
2. Potential threatened fauna habitat	Before and during construction phase.	- Pre-works briefings are to be undertaken by staff advising contractors or workers of sensitive areas and the relevant safeguards for each. - The extent of works must be clearly pegged or marked out by a surveyor prior to vegetation removal.	Prevent accidental impacts to threatened species.
3. Loss of nesting habitat	Before and during construction phase	- An ecologist must undertake a pre-clearance survey to inspect the hollow and be present during the removal of the <i>Eucalyptus Saligna</i>. - This tree should be removed using qualified tree climbers. Small sections of the tree and branches are to be cut in 2-3 m lengths and lowered for the ecologist to inspect. - Following the pre-clearance survey, nest boxes should be installed in the adjacent retained vegetation to replace hollows removed at a minimum ratio of 1:1 (i.e. one nest box for each hollow removed). - Boxes should be chosen to match the likely target species of each hollow. Boxes should be installed prior to construction to allow fauna to move/be relocated to nest boxes prior to removal of hollow-bearing trees and be maintained and monitored for 5 years.	Provide fauna with compensatory roosting/nesting habitat to replace removed hollow-bearing trees and encourage animals to move from the impacted area.
4. Sediments and erosion control	Before and during construction phase.	- Avoid conducting works after or before any forecasted significant rainfall. - Soil and erosion control measures such as sediment fencing may be required prior to on-ground works. These are to be inspected regularly (weekly), and more frequently during rain periods to ensure structures are in proper working order.	Prevent potential indirect impacts to retained vegetation or potential threatened species habitat within the study area caused by run-off.

Mitigation number / name	Aspect/Section	Mitigation measure	Reason for mitigation measure
4. Spread of weeds and disease	During construction phase, particularly during the movement of machinery to and from the study area.	- All equipment must be thoroughly cleaned of soil and weed propagules prior to entry into the study area and adjacent areas. - Any priority weeds potentially present within the study area should be removed using best management practices (including appropriate controls to prevent impacts to threatened species) prior to removal of native vegetation. Weed propagules are to be removed off site - The use of chemical should be limited due to the indirect impacts to threatened fauna and native vegetation.	- Requirement under the NSW <i>Biosecurity Act 2015</i>. - Prevent further spread of weeds or diseases
5. Revegetation	Following construction	- Landscaping should include revegetation of native species which are consistent with local PCTs and provide flower foraging resources. This should include canopy and midstorey species - Reinstating connectivity features across the study area to facilitate movement of fauna species through the landscape.	Mitigate the loss of foraging habitat for fauna species including threatened species.

Conclusion

Eco Logical Australia Pty Ltd (ELA) was engaged by RP Infrastructure on behalf of NSW Department of Education (DoE) to prepare a Flora and Fauna Assessment (FFA) report for the upgrades to Dundas Public School. This report has assessed the potential impacts of the proposed works on flora and fauna species listed under the NSW *Biodiversity Conservation Act 2016* (BC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Two preliminary reports had previously been prepared for DoE, a Biodiversity Preliminary Review Report (Water Technology 2024), a final Arboricultural Report (Laurence and Co. 2025) and architect plans. These reports have been utilised in this FFA report to determine biodiversity values present within the study area. No field survey was conducted by ELA.

No Plant Community Type (PCT) have previously been mapped within the study area according the SVTM. Planted native and exotic vegetation was identified with the study area as well as exotic groundcover vegetation (lawn). A review of historical aerial photography clearly shows that the entire study area has been cleared of vegetation and utilised for agricultural purposes. The native vegetation present within the study area did not conform to a PCT or remnant vegetation and was assumed to be planted for aesthetic purposes.

The impact assessment determined that the proposed works would remove approximately 0.12 ha of planted native and exotic vegetation within the study area. This represents the removal of 12 canopy species scattered throughout the study area. There will also be direct impact to 0.08 ha of Exotic Grass.

No threatened fauna or flora have previously been recorded occurring in the study area. The previous Biodiversity Preliminary Review Report (Water Technology 2024) and arborist report (Laurence & Co 2025) confirmed the presence of *Eucalyptus nicholii* (Narrow-leaved black Peppermint) which is listed as vulnerable under both the BC Act and EPBC Act. *E. nicholii* are likely to have been planted and do not represent the threatened species entity, which was determined through:

- This species does not naturally occur on the Cumberland Plain and is well outside of its natural range (New England Tablelands from Nundle to north Tenterfield).
- This species is not associated with any local PCTs and is a commonly planted urban species.

ELA's review of google street view imagery of the study area noted the presence of one medium sized hollow in a *Eucalyptus saligna* (Sydney Blue Gum) located in the southwestern corner of the study area. The entrance of this hollow contained markings which indicates that it may be utilised, likely by common urban birds or mammals. This hollow was not noted in the preliminary reports. Mitigation measures have been provided in this report, such as using a climbing arborist under the supervision of a wildlife ecologist during the removal of this hollow.

The vegetation within the study area contains marginal foraging habitat resources for one threatened fauna, *Pteropus poliocephalus* (Grey-headed Flying-fox). Tests of Significance under the NSW *Biodiversity Conservation Act 2016* (BC Act) and Assessment of Significance under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) were applied to the Grey-headed Flying-fox which may be directly impacted or indirectly impacted on by the proposal. The

assessments concluded that the proposal is considered unlikely to have a significant impact on this threatened entity, therefore a referral under the EPBC Act is not required.

Mitigation measures and recommendations have been provided to prevent indirect impacts to threatened species and ecological communities adjacent to the study area (Section 6).

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Appendix A Likelihood of occurrence

The table below provides the collated results from the 5 km database searches (buffered around the study site) of the NSW BioNet and the EPBC Protected Matters Search Tool. An assessment of likelihood of occurrence was made for threatened and migratory species identified from the database searches. Five terms for the likelihood of occurrence of species are used in this report. This assessment was based on database or other records, presence or absence of suitable habitat and features of the proposal site as presented within the results of the preliminary reports, and professional judgement. The terms for likelihood of occurrence are defined below:

- “yes” the species was or has been observed on the site
- “likely” a medium to high probability that a species uses the site
- “potential” suitable habitat for a species occurs on the site, but there is insufficient information to categorise the species as likely to occur, or unlikely to occur
- “unlikely” a very low to low probability that a species uses the site
- “no” habitat on site and in the vicinity is unsuitable for the species.

The likelihood of occurrence was only one factor among other factors, which was used to determine whether to apply the Assessment of Significance’ (5-part test) and/or EPBC Significant Impact Criteria assessments to threatened species, populations, communities or migratory species.

Table 6: Likelihood of occurrence for ecological communities

BC Act name	BC Act status	EPBC Act name	EPBC Act status	Distribution and habitat	Likelihood of occurrence	Impact required	assessment
<i>Agnes Banks woodland in the Sydney Basin Bioregion</i>	E	<i>Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion</i>	E	Dominated by <i>Eucalyptus parramattensis</i> subsp. <i>parramattensis</i> , <i>Angophora bakeri</i> and <i>E. sclerophylla</i> . A small tree stratum of <i>Melaleuca decora</i> is sometimes present, generally in areas with poorer drainage. It has a well-developed shrub stratum consisting of sclerophyllous species such as <i>Banksia spinulosa</i> var. <i>spinulosa</i> , <i>Melaleuca nodosa</i> , <i>Hakea sericea</i> and <i>H. dactyloides</i> (multi-stemmed form). The ground stratum consists of a diverse range of forbs including <i>Themeda australis</i> , <i>Entolasia stricta</i> , <i>Cyathochaeta diandra</i> , <i>Dianella revoluta</i> subsp. <i>revoluta</i> , <i>Stylidium graminifolium</i> , <i>Platysace ericoides</i> , <i>Laxmannia gracilis</i> and <i>Aristida warburgii</i> . Occurs within the local government areas of Bankstown, Blacktown, Campbelltown, Hawkesbury, Liverpool and Penrith. Mainly found in the Castlereagh area of the Cumberland Plain, with small patches occurring at Kemps Creek and Longneck Lagoon; also present around Holsworthy.	No	No, these communities were not recorded occurring within the study area.	
<i>Castlereagh Scribbly Gum Woodland in the Sydney Basin Bioregion</i>	V						
<i>Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions</i>	E	<i>Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community</i>	E	This ecological community is associated with grey-black clay-loams and sandy loams, where the groundwater is saline or sub-saline, on waterlogged or periodically inundated flats, drainage lines, lake margins and estuarine fringes associated with coastal floodplains. Floodplains are level landform patterns on which there may be active erosion and aggradation by channelled and overbank stream flow with an average recurrence interval of 100 years or less. Swamp Oak Floodplain Forest generally occurs below 20 m (rarely above 10 m) elevation in the NSW North Coast, Sydney Basin and South East Corner bioregions. The structure of the community may vary from open forests to low woodlands, scrubs or reedlands with scattered trees. Typically, these forests, woodlands, scrubs	No	No, these communities were not recorded occurring within the study area.	

BC Act name	BC Act status	EPBC Act name	EPBC Act status	Distribution and habitat	Likelihood of occurrence	Impact required	assessment
				and reedlands form mosaics with other floodplain forest communities and treeless wetlands, and often they fringe treeless floodplain lagoons or wetlands with semi-permanent standing water.			
<i>Cooks River/Castlereagh Ironbark Forest in the Sydney Basin Bioregion</i>	E	<i>Cooks River/Castlereagh Ironbark Forest of the Sydney Basin Bioregion</i>	CE	Ranges from open forest to low woodland, with a canopy dominated by <i>Eucalyptus fibrosa</i> (Broad-leaved Ironbark) and <i>Melaleuca decora</i> (Paperbark). The canopy may also include other eucalypts such as <i>E. longifolia</i> (Woolybutt). The dense shrubby understorey consists of <i>Melaleuca nodosa</i> (Prickly-leaved Paperbark) and <i>Lissanthe strigosa</i> (Peach Heath), with a range of 'pea' flower shrubs, such as <i>Dillwynia tenuifolia</i> , <i>Pultenaea villosa</i> (Hairy Bush-pea) and <i>Daviesia ulicifolia</i> (Gorse Bitter Pea). The sparse ground layer contains a range of grasses and herbs. Occurs in western Sydney, with the most extensive stands occurring in the Castlereagh and Holsworthy areas. Smaller remnants occur in the Kemps Creek area and in the eastern section of the Cumberland Plain.	No	No, these communities were not recorded occurring within the study area.	
<i>River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions</i>	E	<i>River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales and eastern Victoria</i>	CE	Found on the river flats of the coastal floodplains. Known from parts of the Local Government Areas of Port Stephens, Maitland, Singleton, Cessnock, Lake Macquarie, Wyong, Gosford, Hawkesbury, Baulkham Hills, Blacktown, Parramatta, Penrith, Blue Mountains, Fairfield, Holroyd, Liverpool, Bankstown, Wollondilly, Camden, Campbelltown, Sutherland, Wollongong, Shellharbour, Kiama, Shoalhaven, Palerang, Eurobodalla and Bega Valley. Associated with silts, clay-loams and sandy loams, on periodically inundated alluvial flats, drainage lines and river terraces associated with coastal floodplains.	No	No, these communities were not recorded occurring within the study area.	

BC Act name	BC Act status	EPBC Act name	EPBC Act status	Distribution and habitat	Likelihood of occurrence	Impact required	assessment
<i>Shale Sandstone Transition Forest in the Sydney Basin Bioregion</i>	CE	<i>Shale Sandstone Transition Forest of the Sydney Basin Bioregion</i>	CE	Occurs on areas transitional between the clay soils derived from Wianamatta Shale and the sandy soils derived from Hawkesbury Sandstone on the margins of the Cumberland Plain. Occurs or has occurred in the Bankstown, Baulkham Hills, Blue Mountains, Campbelltown, Hawkesbury, Liverpool, Parramatta, Penrith, and Wollondilly Local Government Areas (LGAs). The floristic composition of the community includes species otherwise characteristic of, or occurring in, either sandstone or shale habitats. The structure of the community is forest or woodland.	No	No, these communities were not recorded occurring within the study area.	
<i>Moist Shale Woodland in the Sydney Basin Bioregion</i>	E	<i>Western Sydney Dry Rainforest and Moist Woodland on Shale</i>	CE	Typically, a low closed forest, slightly more open in the moist woodland form, with emergent trees up to 25 m high and a lower tree layer. In sheltered gullies and on lower slopes the canopy layer is typically dominated by <i>Melaleuca styphelioides</i> (prickly-leaved paperbark). Other diagnostic tree species include <i>Acacia implexa</i> (hickory wattle), <i>Alectryon subcinereus</i> (native quince), <i>Brachychiton populneus</i> (kurrajong), <i>Corymbia maculata</i> (spotted gum), <i>Melicope micrococca</i> (white euodia) and <i>Streblus pendulinus</i> (whalebone tree). Generally, on upper slopes to undulating terrain, or at more disturbed sites, the ecological community exhibits its moist	No	No, these communities were not recorded occurring within the study area.	

BC Act name	BC Act status	EPBC Act name	EPBC Act status	Distribution and habitat	Likelihood of occurrence	Impact required	assessment
Western Sydney Dry Rainforest in the Sydney Basin Bioregion	E			woodland form with the canopy dominated by <i>Eucalyptus moluccana</i> , <i>Eucalyptus tereticornis</i> , <i>Eucalyptus crebra</i> and/or <i>Corymbia maculata</i> . Characteristic shrub species include <i>Breynia oblongifolia</i> (false coffee bush), <i>Clerodendrum tomentosum</i> (hairy clerodendrum) and <i>Notelaea longifolia f. longifolia</i> (large mock-olive). Vines and other climber species are typically common. The ground layer is variable and generally sparse with a diverse mix of forbs, ferns and shade-tolerant grasses. Cumberland Plain Sub-region of the Sydney Basin Bioregion.			
Coastal saltmarsh in the NSW North Coast, Sydney Basin and South East Corner bioregions	E	Subtropical and Temperate Coastal Saltmarsh	V	Occurs within a relatively narrow margin of the Australian coastline, within the subtropical and temperate climatic zones south of the South-east Queensland IBRA bioregion. Typically restricted to the upper intertidal environment; mainly associated with the soft substrate shores of estuaries and embayments (sandy and/or muddy) and on some open, low wave energy coasts). Consists mainly of salt-tolerant vegetation (halophytes) including: grasses, herbs, sedges, rushes and shrubs. Succulent herbs, shrubs and grasses generally dominate, and vegetation is generally of less than 0.5 m height. Many species of non-vascular plants are also found in saltmarsh, including epiphytic algae, diatoms and cyanobacterial mats.	No	No, these communities were not recorded occurring within the study area.	

BC Act name	BC Act status	EPBC Act name	EPBC Act status	Distribution and habitat	Likelihood of occurrence	Impact required	assessment
<i>Blue Gum High Forest in the Sydney Basin Bioregion</i>	CE	<i>Blue Gum High Forest of the Sydney Basin Bioregion</i>	CE	A moist, tall open forest community occurring on ridgelines in areas where rainfall is high (above 1100 mm per year), and the soils are relatively fertile and derived from Wianamatta shale. Also occurs on soils associated with localised volcanic intrusions. Remnants mainly occur in the Lane Cove, Willoughby, Ku-ring-gai, Hornsby, Baulkham Hills, Ryde and Parramatta local government areas. Dominant canopy trees include <i>Eucalyptus saligna</i> (Sydney Blue Gum) and <i>E. pilularis</i> (Blackbutt). <i>Allocasuarina torulosa</i> (Forest Oak) and <i>Angophora costata</i> (Sydney Red Gum) also occur. Species adapted to moist habitat such as <i>Acmena smithii</i> (Lilly Pilly), <i>Ficus coronata</i> (Sandpaper Fig), <i>Calochlaena dubia</i> (Rainbow Fern) and <i>Adiantum aethiopicum</i> (Common Maidenhair) may also occur.	No	No, these communities were not recorded occurring within the study area.	
<i>Coastal Upland Swamps in the Sydney Basin Bioregion</i>	E	<i>Coastal Upland Swamps in the Sydney Basin Bioregion</i>	E	Endemic to NSW and confined to the Sydney Basin Bioregion. It occurs in the eastern Sydney Basin from the Somersby district in the north (Somersby-Hornsby plateaux) to the Robertson district in the south (n the Woronora plateau). Occur primarily on impermeable sandstone plateaux with shallow groundwater aquifers in the headwaters and impeded drainage lines of streams, and on sandstone benches with abundant seepage moisture. Generally associated with acidic soils. Species composition may include tall open scrubs, tall closed scrubs, closed heaths, open graminoid heaths, sedgelands and fernlands. Larger examples may include a complex of these structural forms.	No	No, these communities were not recorded occurring within the study area.	

BC Act name	BC Act status	EPBC Act name	EPBC Act status	Distribution and habitat	Likelihood of occurrence	Impact required	assessment
<i>Turpentine-Ironbark Forest in the Sydney Basin Bioregion</i>	E	<i>Turpentine-Ironbark Forest of the Sydney Basin Bioregion</i>	CE	Occur on the Cumberland Lowlands, with remnants also occurring to the west on shale-capped ridges in the Blue Mountains. Restricted to areas with clay soil derived from Wianamatta Shale in an area that generally has an annual rainfall of more than 950 mm. It is a medium-height open forest with a lower tree layer, an open low shrub layer and a prominent ground layer. The canopy is dominated by <i>Syncarpia glomulifera</i> (Turpentine), with <i>Eucalyptus paniculata</i> (Grey Ironbark) and <i>E. eugenioides</i> (Thin-leaved Stringybark) occurring less frequently. On the margin of the Cumberland Plain, the vegetation is dominated by <i>Eucalyptus punctata</i> (Grey Gum) and <i>Syncarpia glomulifera</i> , with species such as <i>Corymbia gummifera</i> (Red Bloodwood) and <i>Eucalyptus globoidea</i> (White Stringybark) occurring sporadically.	No	No, these communities were not recorded occurring within the study area.	

BC ACT STATUS: CE = CRITICALLY ENDANGERED; E = ENDANGERED; EPBC ACT STATUS: CE = CRITICALLY ENDANGERED, E = ENDANGERED

Table 7: Likelihood of occurrence assessment for threatened fauna and flora species

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution/Habitat	Records within 5 km of the study area (BioNet)	Likelihood of Occurrence	Impact Assessment Required
Amphibians							
<i>Heleioporus australiacus</i>	Giant Burrowing Frog	V	V	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. When breeding, frogs will call from open spaces, under vegetation or rocks or from within burrows in the creek bank. Males show strong territoriality at breeding sites. This species breeds mainly in autumn but has been recorded calling throughout the year. Breeding habitat of this species is generally soaks or pools within first or second order streams.	0	No	No, no potential breeding habitat recorded within study area. Study area does not meet conditions for non-breeding habitat. No local records.
<i>Litoria aurea</i>	Green and Golden Bell Frog	E1	V	Recorded from ~ 50 scattered sites within its former range in NSW, from the north coast near Brunswick Heads, south along the coast to Victoria. Records exist west to Bathurst, Tumut and the ACT region. Marshes, dams and stream-sides, particularly those containing <i>Typha spp.</i> (bullrushes) or <i>Eleocharis spp.</i> (spikerushes). Some populations occur in highly disturbed areas.	7948	No	No, there are no suitable habitat in the form of marshes, dams or streams in the study area. The majority of these records likely come from the known population at Sydney Olympic Park. Most previous records of this species are a long distance away from the study area and this species is not highly mobile.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution/Habitat	Records within 5 km of the study area (BioNet)	Likelihood of Occurrence	Impact Assessment Required
<i>Mixophyes balbus</i>	Stuttering Frog	E1	V	Occur along the east coast of Australia from southern Queensland to north-eastern Victoria. Considered to have disappeared from Victoria and to have undergone considerable range contraction in NSW, particularly in south-east NSW. Occur in rainforest and wet, tall open forest in the foothills and escarpment on the eastern side of the Great Dividing Range. Outside breeding seasons adults live in deep leaf litter and thick understorey vegetation on the ground.	0	No	No, no potential breeding habitat recorded within study area. Study area does not meet conditions for non-breeding habitat. No local records.

Aves

<i>Actitis hypoleucos</i>	Common Sandpiper	-	M	Summer migrant. In NSW, widespread along coastline and occurs in many areas inland. Coastal wetlands and some inland wetlands, especially muddy margins, or rocky shores. Also, estuaries and deltas, lakes, pools, billabongs, reservoirs, dams and claypans, mangroves.	50	No	No, no preferred habitat recorded within the study area. No local records.
<i>Anthochaera phrygia</i>	Regent Honeyeater	CE	CE	Inland slopes of south-east Australia, and less frequently in coastal areas. In NSW, most records are from the North-West Plains, North-West and South-West Slopes, Northern Tablelands, Central Tablelands and Southern Tablelands regions; also recorded in the Central Coast and Hunter Valley regions. Eucalypt woodland and open forest, wooded farmland and urban areas with mature eucalypts, and riparian forests of <i>Casuarina cunninghamiana</i> (River Oak).	0	Unlikely	No, very limited foraging habitat recorded within the study area. No local records.
<i>Aphelocephala leucopsis</i>	Southern Whiteface	V	V	Inhabits drier open forests, woodlands and shrublands with an understorey of grasses or shrubs, where it often forages on the ground in small flocks. Breeds between	0	Unlikely	No, limited potential habitat recorded within the study area. No local records.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution/Habitat	Records within 5 km of the study area (BioNet)	Likelihood of Occurrence	Impact Assessment Required
				July to October, with inland breeding time influenced by rainfall. Builds dome nest in hollow limbs or foliage as well as man-made infrastructure such as stumps, fence posts or in sheds.			
<i>Apus pacificus</i>	Fork-tailed Swift	-	M	Non-breeding visitor to Australia, arriving in October and departing in April. Occur over riparian woodland, swamps, low scrub, heathland, saltmarsh, grassland, Spinifex sandplains, open farmland and inland and coastal sand-dunes.	2	Unlikely	No, the species may potentially forage aerially above the development footprint. However, the species spends the majority of its life in the air.
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V	-	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.	18	Unlikely	No, there is no preferred habitat in the form of dry, open eucalypt forests and woodlands within the study area which only contains planted native and exotic vegetation. Alos unlikely given the urban location and high level of disturbance within the study area.
<i>Ardenna grisea</i>	Sooty Shearwater	-	M	Marine species. Occurs in the southern hemisphere during summer when its breeding. In Australian territory, the sooty shearwater breeds on offshore islands off New South Wales and Tasmania. During non-breeding seasons, most birds move to the North Pacific Ocean, some to the North Atlantic Ocean or remain in the southern hemisphere. The sooty shearwater forages in cold water zones with upwellings, especially around the subtropical, subantarctic and polar fronts.	0	No	No, the study area is outside the known breeding range for this species. This marine species spends most of its time out at seas foraging on pelagic prey.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution/Habitat	Records within 5 km of the study area (BioNet)	Likelihood of Occurrence	Impact Assessment Required
<i>Arenaria interpres</i>	Ruddy Turnstone	-	M	During the austral summer non-breeding season, the ruddy turnstone is widespread within Australia. The species is found in most coastal regions, with occasional records of inland populations. It strongly prefers rocky shores or beaches where there are large deposits of rotting seaweed. The species is also found on Lord Howe Island, Norfolk Island, Christmas Island, Cocos-Keeling Island, and Macquarie Island.	0	No	No, there is no preferred roosting habitat in the form of rocky shores or beaches within the study area for this shore bird. This species also forages for insect within the tidal zone of beaches.
<i>Botaurus poiciloptilus</i>	Australasian Bittern	E1	E	Found over most of NSW except for the far north-west. Permanent freshwater wetlands with tall, dense vegetation, particularly <i>Typha</i> spp. (bullrushes) and <i>Eleocharis</i> spp. (spikerushes).	3	No	No, unsuitable habitat was recorded within the study area nor within close proximity of the study area (no wetlands).
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	-	V, M	Summer migrant. Widespread in most regions of NSW, especially in coastal areas, but sparse in the south-central Western Plain and east Lower Western Regions. Shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation.	163	Unlikely	No, the study area does not contain any suitable habitat such as wetlands.
<i>Calidris canutus</i>	Red Knot	-	E	A non-breeding migratory visitor from Arctic regions of Siberia. In NSW it is recorded in small numbers along some of the major river estuaries and sheltered embayments of the coastline, in particular the Hunter River estuary. The Red Knot is a rare visitor to wetlands away from the coast with a few records (mostly during southward migration) as far west as Lake Menindee and the Riverina. Occurs on intertidal mudflats, estuaries, bays, inlets, lagoons, harbours and sandflats and sandy beaches of sheltered coasts.	1	No	No, no preferred habitat recorded within the study area. Only one single local record.
<i>Calidris ferruginea</i>	Curlew Sandpiper	CE	CE, M	Occurs along the entire coast of NSW, and sometimes in freshwater wetlands in the Murray-Darling Basin. Littoral	14	No	No, this species forage for invertebrates on mudflats, edges

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution/Habitat	Records within 5 km of the study area (BioNet)	Likelihood of Occurrence	Impact Assessment Required
				and estuarine habitats, including intertidal mudflats, non-tidal swamps, lakes and lagoons on the coast and sometimes inland.			of shallow pools and drains of intertidal mudflats and sandy shores, and saltmarshes. No such habitat is present for this species within the study area, which is comprised of planted native/exotic vegetation.
<i>Calidris melanotos</i>	Pectoral Sandpiper	-	M	Summer migrant to Australia. Widespread but scattered in NSW. East of the Great Divide, recorded from Casino and Ballina, south to Ulladulla. West of the Great Divide, widespread in the Riverina and Lower Western regions. Shallow fresh to saline wetlands, including coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.	0	No	No, potential habitat not recorded within the study area. No local records.
<i>Calidris tenuirostris</i>	Great Knot	V	V, M	Summer migrant. In NSW, this species is recorded at scattered sites along the coast down to about Narooma. It has also been observed inland at Tullakool, Armidale, Gilgandra and Griffith. Preferred habitat consists of intertidal mudflats or sandflats, including inlets, bays, harbours, estuaries and lagoons.	0	No	No, potential habitat not recorded within the study area. No local records.
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	E1	E	In NSW, distributed from the south-east coast to the Hunter region, and inland to the Central Tablelands and south-west slopes. Isolated records known from as far north as Coffs Harbour and as far west as Mudgee. Mature, tall mountain forests and woodlands with dense, shrubby understorey in summer; in winter, may occur at lower altitudes in open eucalypt forests and woodlands, occasionally in more urban areas. Critical habitat are	1	Unlikely	No, limited potential foraging habitat recorded within the study area. No breeding habitat recorded within the study area. Only one local record.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution/Habitat	Records within 5 km of the study area (BioNet)	Likelihood of Occurrence	Impact Assessment Required
				HBTs occurring within stands of trees, dominated by Eucalypt species.			
<i>Calonectris leucomelas</i>	Streaked Shearwater		M	Pelagic species occurring in the Pacific Ocean. Breeds on offshore islands in Japan and the Korean Peninsula. Forages on fish and squid.	0	No	This is a pelagic species that spends most of its time out at seas.
<i>Calyptorhynchus lathami lathami</i>	South-eastern Glossy Black-Cockatoo	V	V	In NSW, widespread along coast and inland to the southern tablelands and central western plains, with a small population in the Riverina. Open forest and woodlands of the coast and the Great Dividing Range where stands of she-oak occur, with the species normally relying on one or two species within a region. The species relies on HBTs as breeding habitat, with hollows most often occurring more than 8 m above ground, in branches > 30 cm in diameter and no more than 45° from vertical.	1	Unlikely	No, limited potential foraging habitat recorded within the study area (<i>Casuarina glauca</i> and <i>Allocasuarina torulosa</i>). No breeding habitat recorded within the study area and only one local record.
<i>Charadrius leschenaultii</i>	Greater Sand Plover	V	V, M	In NSW, recorded between the northern rivers and the Illawarra, with most records coming from the Clarence and Richmond estuaries. Almost entirely restricted to coastal areas in NSW, mainly on sheltered sandy, shelly or muddy beaches or estuaries with large intertidal mudflats or sandbanks.	0	No	No, the preferred habitat in the form of sheltered sandy, shelly or muddy beaches or estuaries is not present within the study area and no local records.
<i>Charadrius mongolus</i>	Lesser Sand-plover	V	E	In Australia the species is found around the entire coast but is most common in the Gulf of Carpentaria, and along the east coast of Queensland and northern NSW. Individuals are rarely recorded south of the Shoalhaven estuary, and there are few inland records. Almost entirely coastal in NSW, favouring the beaches of sheltered bays, harbours and estuaries with large intertidal sandflats or mudflats; occasionally occurs on sandy beaches, coral reefs and rock platforms.	0	No	No, the preferred habitat in the form of sheltered sandy, shelly or muddy beaches or estuaries is not present within the study area and no local records.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution/Habitat	Records within 5 km of the study area (BioNet)	Likelihood of Occurrence	Impact Assessment Required
<i>Climacteris picumnus victoricae</i>	Brown Treecreeper (eastern subspecies)	V	V	From eastern through central NSW, west to Corowa, Wagga Wagga, Temora, Forbes, Dubbo and Inverell. Eucalypt woodlands and dry open forest. Hollows in standing dead or live trees, and tree stumps are essential for nesting. Critical habitat includes areas with relatively undisturbed grassy woodland with a native understorey containing large living and dead trees for roosting and nesting and fallen timber which provides essential foraging habitat.	0	No	No, preferred undisturbed habitat in the form of grassy woodlands and dry forests was not recorded within the study area. No local records.
<i>Cuculus optatus</i>	Oriental Cuckoo	-	M	Summer migrant to Australia. Mainly seen in northern Australia, occasionally they are sighted as far south as Sydney. They are more widespread in the Top End and coastal Queensland with the odd vagrant records south to the Pilbara. Oriental Cuckoos are found in more humid habitats such as monsoon forest, wet eucalypt forest, river margins and near mangroves.	0	No	No, preferred habitat not recorded within the study area. No local records.
<i>Dasyornis brachypterus</i>	Eastern Bristlebird	E1	E	There are three main populations: Northern -southern Qld/northern NSW, Central - Barren Ground NR, Budderoo NR, Woronora Plateau, Jervis Bay NP, Booderee NP and Beecroft Peninsula and Southern - Nadgee NR and Croajingalong NP in the vicinity of the NSW/Victorian border. Central and southern populations inhabit heath and open woodland with a heathy understorey. In northern NSW, habitat comprises open forest with dense tussocky grass understorey.	0	No	No, the preferred habitat in the form of sedgeland, heathland, swampland, shrubland, sclerophyll forest and woodland, and open woodlands containing dense low vegetation was not identified within the study area. No local records.
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V	-	The Varied Sittella is sedentary and inhabits most of mainland Australia except the treeless deserts and open grasslands. Distribution in NSW is nearly continuous from the coast to the far west. Inhabits eucalypt forests and woodlands, especially those containing rough-barked	2	No	No, there are a couple of records of species within 5km, but unsuitable habitat (no woodland or forest).

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution/Habitat	Records within 5 km of the study area (BioNet)	Likelihood of Occurrence	Impact Assessment Required
				species and mature smooth-barked gums with dead branches, mallee and <i>Acacia</i> woodland. Builds a cup-shaped nest of plant fibres and cobwebs in an upright tree fork high in the living tree canopy, and often re-uses the same fork or tree in successive years.			
<i>Diomedea antipodensis</i>	Antipodean Albatross	V	V	Pelagic species. Regularly occurs off the NSW south coast from Green Cape to Newcastle during winter. Breeds on islands off the coast of New Zealand. The majority of birds breed on Antipodes Island, with a small number of pairs breeding on Campbell Island.	0	No	No, this species feeds pelagically on squid, fish and crustaceans. The study area does not contain any waterbody that would provide suitable foraging habitat and there are no records of this species within a 5 km radius of the study area.
<i>Diomedea gibsoni</i>	Gibson's Albatross	V	V	Pelagic species. Regularly occurs off the NSW south coast from Green Cape to Newcastle during winter. Breeds on islands off the coast of New Zealand. Known to only breed on the Adams, Disappointment and Auckland islands.	0	No	No, the study area is outside the known breeding range of this species, and it does not contain any suitable foraging habitat for this pelagic species that feeds on squid, fish and crustaceans. There are no records of this species within a 5 km radius of the study area.
<i>Diomedea epomophora</i>	Southern Royal Albatross	-	V	Pelagic species. May occasionally be observed off the south-east coast of mainland Australia. The species is migratory, and possibly circumpolar, occurring in all sectors of the Southern Ocean. Breeds biennially on Campbell Island and in the Auckland Islands south of New Zealand. It feeds primarily on squid and fish	0	No	No, the study area is outside the species breeding range, there is no suitable foraging habitat present in the form of a waterbody within the study area, and there are no local records

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<i>Diomedea exulans</i>	Wandering Albatross	E1	V	Pelagic species. Has been recorded along the length of the NSW coast. This species spends the majority of their time in flight, soaring over the southern oceans. They breed on South Georgia Island, Prince Edward and Marion Islands, Crozet and Kerguelen Islands and Macquarie Island.	0	No	No, the study area is outside the species breeding range. This species feed in pelagic, offshore and inshore waters, taking fish and cephalopods such as squid, crustaceans and carrion. There is no suitable foraging habitat present within the study area, and there are no local records.
<i>Diomedea sanfordi</i>	Northern Royal Albatross	-	E	Visits Australian waters extending from Fremantle, Western Australia, across the southern water to the Whitsunday Islands in Queensland between June and September. It has been recorded along the length of the NSW coast. The Northern Royal Albatross breeds biennially on Chatham Island and Taiaroa Head on the South Island of New Zealand.	0	No	No, the study area is outside the species breeding range and there is no suitable foraging habitat present in the study area for this species that primarily on cephalopods, fish, crustaceans and slaps. There are no records of this species within a 5 km radius of the study area.
<i>Erythrorhynchus radiatus</i>	Red Goshawk	E1	E	In NSW, range extends to approximately 30°S. Open woodland and forest, often along or near watercourses or wetlands. In NSW, preferred habitats include mixed subtropical rainforest, <i>Melaleuca</i> swamp forest and coastal riparian <i>Eucalyptus</i> forest.	0	No	No, suitable habitat no recorded within the study area. Study area outside of species typical distribution. No local records.
<i>Ephianura albifrons</i>	White-fronted chat	V	-	In NSW, it occurs mostly in the southern half of the state, in damp open habitats along the coast, and near waterways in the western part of the state. Along the coastline, it is found predominantly in saltmarsh vegetation but also in open grasslands and sometimes in low shrubs bordering wetland areas. This species is found foraging on bare or grassy ground in wetland areas.	233	Unlikely	No, the preferred habitat in the form of saltmarsh, open grasslands and wetlands was not identified within the study area. The study area contains exotic grass vegetation (law), and it is unlikely that the species would

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							forage within the study area given the lack of nearby wetlands, and high level of disturbance.
<i>Falco hypoleucos</i>	Grey Falcon	V	V	Arid and semi-arid zones. In NSW, found chiefly throughout the Murray-Darling Basin, with the occasional vagrant east of the Great Dividing Range. Shrubland, grassland and wooded watercourses, occasionally in open woodlands near the coast, and near wetlands.	0	No	No, suitable habitat no recorded within the study area. Study area outside of species typical distribution. No local records.
<i>Fregata ariel</i>	Lesser Frigatebird	-	M	A seabird occurring in the Pacific and Indian Ocean. This species nests on Christmas Island and forage on fish from the ocean's surface.	0		No, the study area is outside the known breeding range of this species, and it does not contain any suitable foraging habitat for this pelagic species that feeds on fish. There are no records of this species within a 5 km radius of the study area.
<i>Gallinago hardwickii</i>	Latham's Snipe	V	V, M	Migrant to east coast of Australia, extending inland west of the Great Dividing Range in NSW. Freshwater, saline or brackish wetlands up to 2000 m above sea-level; usually freshwater swamps, flooded grasslands or heathlands.	774	Unlikely	No, preferred habitat (wetlands, swamps, flooded grasslands or headlands) was not recorded within the study area. The study area contains planted native and exotic vegetation as well as exotic groundcover vegetation (lawn).
<i>Gallinago megala</i>	Swinhoe's Snipe	-	M	Few definite records exist in Australia. The species has been recorded in the north between the Kimberley Divide and Cape York Peninsula. In Queensland specimens have been taken at Normanton. Habitat includes dense clumps of grass and rushes round the edges of fresh and brackish	0	No	No, the preferred habitat in the form of swamps, billabongs, river pools, small streams and sewage

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				wetlands. This includes swamps, billabongs, river pools, small streams and sewage ponds. They are also found in drying claypans and inundated plains pitted with crab holes.			ponds is not present within the study area and no local records.
<i>Glossopsitta pusilla</i>	Little Lorikeet	V	-	The Little Lorikeet is distributed widely across the coastal and Great Divide regions of eastern Australia from Cape York to South Australia. NSW provides a large portion of the species' core habitat, with lorikeets found westward as far as Dubbo and Albury. Nomadic movements are common, influenced by season and food availability, although some areas retain residents for much of the year and 'locally nomadic' movements are suspected of breeding pairs. Forages primarily in the canopy of open <i>Eucalyptus</i> forest and woodland, yet also finds food in <i>Angophora</i> , <i>Melaleuca</i> and other tree species. Riparian habitats are particularly used, due to higher soil fertility and hence greater productivity. Feeds mostly on nectar and pollen, occasionally on native fruits such as mistletoe, and only rarely in orchards. Roosts in treetops, often distant from feeding areas. Nests in proximity to feeding areas, if possible, most typically selecting hollows in the limb or trunk of smooth-barked <i>Eucalypts</i> . These nest sites are often used repeatedly for decades, suggesting that preferred sites are limited. Riparian trees often chosen, including species like <i>Allocasuarina</i> .	6	Unlikely	No, only very marginal foraging habitat recorded within the study area. However, the species is unlikely to occur within the study area given the urban context of the study area, lacking connective habitat and major surrounding roads.
<i>Grantiella picta</i>	Painted Honeyeater	V	V	Widely distributed in NSW, predominantly on the inland side of the Great Dividing Range but avoiding arid areas. Boree, Brigalow and Box-Gum Woodlands and Box-Ironbark Forests. Specialist feeder on the fruits of mistletoes growing on woodland eucalypts and acacias.	0	No	No, potential habitat not recorded within the study area. No local records.

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<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V	-	Freshwater swamps, rivers, lakes, reservoirs, billabongs, saltmarsh and sewage ponds and coastal waters. Terrestrial habitats include coastal dunes, tidal flats, grassland, heathland, woodland, forest and urban areas. 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'.	246	Unlikely	No, limited potential habitat recorded within the study area. More suitable habitat in the form of riparian vegetation (PCT 3176) associated with Vineyard Creek located to the north of the study area.
<i>Hieraaetus morphnoides</i>	Little Eagle	V	-	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.	4	Unlikely	No, suitable breeding habitat not recorded within the study area. May occasionally fly over the study area on foraging forays however, unlikely to utilize for extended periods of time.
<i>Hirundapus caudacutus</i>	White-throated Needletail	V	V, M	Non-breeding visitor to Australia. All coastal regions of NSW, inland to the western slopes and inland plains of the Great Divide. Occur most often over open forest and rainforest, as well as heathland, and remnant vegetation in farmland.	20	Unlikely	No, the species may potentially forage aerially above the study area. However, the species spends the majority of its life in the air.
<i>Hydroprogne caspia</i>	Caspian tern	-	M	Widespread east of the Great Divide, mainly in coastal regions, and also in the Riverina and Lower and Upper Western Regions, with occasional records elsewhere. It is mostly found in sheltered coastal embayments (harbours, lagoons, inlets, bays, estuaries and river deltas) and those with sandy or muddy margins are preferred. They also occur on near-coastal or inland terrestrial wetlands that are either fresh or saline, especially lakes (including ephemeral lakes), waterholes, reservoirs, rivers and	5	No	No, preferred habitat (sheltered embayments and wetlands) not recorded within the study area. Only a few local records.

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				creeks. They also use artificial wetlands, including reservoirs, sewage ponds and saltworks. In offshore areas the species prefers sheltered situations, particularly near islands, and is rarely seen beyond reefs			
<i>Ixobrychus flavicollis</i>	Black Bittern	V	-	Inhabits both terrestrial and estuarine wetlands, generally in areas of permanent water and dense vegetation. Where permanent water is present, the species may occur in flooded grassland, forest, woodland, rainforest and mangroves (DPIE 2020b).	3	No	No, no preferred habitat in the form of wetlands, flooded grassland, forest, woodland, rainforest or mangroves with permanent water was identified within the study area. Only a few local records.
<i>Lathamus discolor</i>	Swift Parrot	E1	CE	Migrates from Tasmania to mainland in Autumn-Winter. In NSW, the species mostly occurs on the coast and southwest slopes. Box-ironbark forests and woodlands. Favoured feed trees include winter flowering species such as <i>Eucalyptus robusta</i> , <i>E. tereticornis</i> , <i>Corymbia maculata</i> , <i>C. gummifera</i> , <i>E. sideroxylon</i> and <i>E. albens</i> .	2	Unlikely	No, very marginal foraging habitat recorded (planted native canopy trees of <i>Eucalyptus</i> and <i>Corymbia</i>) within the study area.
<i>Limosa lapponica baueri</i>	Bar-tailed godwit	-	E	Summer migrant. The subspecies is widespread in the Torres Strait and along the east and south-east coasts of Queensland, New South Wales, and Victoria. Occurs on intertidal mud flats and sand flats, beaches, estuaries and harbours. This species does not breed in Australia, rather, in the northern hemisphere.	18	Unlikely	No, this species rarely forages in vegetated or grassy areas. It predominately forages in shallow water in tidal estuaries and harbours, where they prefer exposed sandy substrates, soft mud with beds of seagrasses. No such habitat is present within the study area.
<i>Limosa limosa</i>	Black-tailed Godwit	V	E	Summer migrant. Arrives in August and leaves in March. In NSW, most frequently recorded at Kooragang Island, with occasional records elsewhere along the coast, and	1	Unlikely	No, the study area contains no large intertidal mudflats or sandflats. This species forages

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				inland in the Murray-Darling Basin, on the western slopes of the Northern Tablelands and in the far north-western corner of the state. Commonly found in sheltered bays, estuaries and lagoons with large intertidal mudflats or sandflats			for insects, crustaceans, molluscs, worms, larvae, spiders, fish eggs, frog eggs and tadpoles in soft mud or shallow water, and roosts and loafs on low banks of mud, sand and shell bars.
<i>Macronectes halli</i>	Northern giant petrel	V	V	Breeds in the sub-Antarctic, and visits areas off the Australian mainland mainly during the winter months. Commonly seen during this period in offshore and inshore waters from around Fremantle (WA) to around Sydney (NSW).	0	No	No, the study area is outside the known breeding range of this species, and it does not contain any suitable foraging habitat for this pelagic species that feeds out at sea. There are no records of this species within a 5 km radius of the study area.
<i>Melanodryas cucullata cucullata</i>	South-eastern Hooded Robin	E1	E	Found throughout much of inland NSW, with the exception of the extreme north-west, where it is replaced by subspecies <i>picata</i> . Dry eucalypt woodland, acacia scrub and mallee with an open understorey. Rocks and fallen timber form essential foraging habitat.	0	No	No, preferred habitat (eucalypt woodland, acacia scrub and mallee) not recorded within the study area. There was also no fallen timber within the study area. Given the urban context of the study area and high level of disturbance on the ground it is not likely to occur. No local records
<i>Motacilla flava</i>	Yellow Wagtail	-	M	Regular summer migrant to mostly coastal Australia. In NSW recorded Sydney to Newcastle, the Hawkesbury and inland in the Bogan LGA. Swamp margins, sewage ponds, saltmarshes form preferred habitat, with the species also recorded from adjacent playing fields, airfields, ploughed land, lawns.	1	Unlikely	No, habitat is marginal (lawns), and it is unlikely to occur given the high level of activity and disturbance within the study area. Only a single record of this species within a 5 km radius of

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							the study area. No suitable breeding habitat is present within the study area and there is only a single record of this species within a 5 km radius of the study area.
<i>Neophema pulchella</i>	Turquoise Parrot	V	-	Occurs along the length of NSW from the coastal plains to the western slopes of the Great Dividing	1	Unlikely	No, the lawns within the study area may provide very marginal foraging habitat for this species that forage on grass seeds on the ground.
<i>Neophema chrysostoma</i>	Blue-winged Parrot	V	V	Inhabits a range of habitats from coastal, sub-coastal and inland areas, right through to semi-arid zones. Favours grasslands, grassy woodlands and wetland habitats. Often found near wetlands both near the coast and in semi-arid zones. Blue-winged Parrots can also be seen in altered environments such as airfields, golf courses and paddocks.	0	Unlikely	No, grass within study area may provide very marginal foraging habitat however the study area is also outside of the species typical distribution. No local records.
<i>Ninox strenua</i>	Powerful Owl	V	-	The Powerful Owl is endemic to eastern and south-eastern Australia, mainly on the coastal side of the Great Dividing Range from Mackay to south-western Victoria. In NSW, it is widely distributed throughout the eastern forests from the coast inland to tablelands, with scattered records on the western slopes and plains suggesting occupancy prior to land clearing. 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. It roosts by day in dense vegetation	162	Unlikely	No, preferred roosting / breeding habitat not recorded within the study area. May occasionally fly over the study area on foraging forays however, unlikely to utilize for extended periods of time.

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				comprising species such as <i>Syncarpia glomulifera</i> (Turpentine), <i>Allocasuarina littoralis</i> (Black She-oak), <i>Acacia melanoxylon</i> (Blackwood), <i>Angophora floribunda</i> (Rough-barked Apple), <i>Exocarpus cupressiformis</i> (Cherry Ballart) and a number of eucalypt species. The main prey items are medium-sized arboreal marsupials, with most prey species requiring hollows and a shrub layer, which are important habitat components for the owl. Pairs of Powerful Owls demonstrate high fidelity to a large territory, the size of which varies with habitat quality and thus prey densities. Where hollow trees and prey have been depleted, the owls need up to 4000 ha. Powerful Owls nest in large tree hollows (at least 0.5 m deep), in large eucalypts (diameter at breast height of 80-240 cm) that are at least 150 years old.			
<i>Ninox connivens</i>	Barking Owl	V	-	Wide but sparse distribution in NSW, avoiding the most central arid regions. Core populations exist on the western slopes and plains and in some northeast coastal and escarpment forests. Woodland and open forest, including fragmented remnants and partly cleared farmland, wetland and riverine forest.	3	No	No, records of species within 5 km, but unsuitable habitat (no woodland, forest or remnant vegetation).
<i>Numenius minutus</i>	Little Curlew	-	M	Migratory species that arrive during the wet season. Mostly occur in northern Australia in areas of short grass including floodplains, wans and fields close to a water source. Sometimes this species occurs along swamps, coast and in woodlands.	0	No	No, grass within study area may provide very marginal foraging habitat however the study area contains no nearby watercourse. Study area is also outside of the species typical distribution. No local records.

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<i>Numenius phaeopus</i>	Whimbrel	-	M	Migratory species that arrive in the wet season. Occur along the coast, within mudflats, mangroves and beaches. This species occasionally occurs inland along rivers.	0	No	No, potential habitat not recorded within the study area. No local records.
<i>Numenius madagascariensis</i>	Eastern Curlew	-	CE, M	Summer migrant to Australia. Primarily coastal distribution in NSW, with some scattered inland records. Estuaries, bays, harbours, inlets and coastal lagoons, intertidal mudflats or sandflats, ocean beaches, coral reefs, rock platforms, saltmarsh, mangroves, freshwater/brackish lakes, saltworks and sewage farms.	22	Unlikely	No, the preferred foraging habitat in the form of sheltered intertidal sandflats, rockpools, coral reefs and beaches is not present. within the study area. Nor is the preferred roosting habitat for this species which comprises of sandy spits and islets among saltmarsh or mangroves, on reef-fats in the shallow water near-coastal wetlands, and occasionally in trees.
<i>Pandion cristatus</i>	Eastern Osprey	V	-	Common around the northern coast, especially on rocky shorelines, islands and reefs. The species is uncommon to rare or absent from closely settled parts of south-eastern Australia. There are a handful of records from inland areas. Prefers coastal areas, near mouths of large rivers, lagoons and lakes.	5	Unlikely	No, suitable breeding and foraging habitat not recorded within the study area. This species feeds on fish over open water. There are only a few local records.
<i>Petroica boodang</i>	Scarlet Robin	V	-	The Scarlet Robin is found from south east Queensland to south east South Australia and also in Tasmania and south west Western Australia. In NSW, it occurs from the coast to the inland slopes. After breeding, some Scarlet Robins disperse to the lower valleys and plains of the tablelands and slopes. Some birds may appear as far west as the eastern edges of the inland plains in autumn and winter. The Scarlet Robin lives in dry eucalypt forests and	1	Unlikely	No, the preferred habitat in the form of dry eucalypt forests and woodlands, mallee, wet forest, wetlands and tea-tree swamps was not identified within the study area which comprises hardstand surfaces, exotic grass, and planted native and exotic

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				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. Scarlet Robin habitat usually contains abundant logs and fallen timber: these are important components of its habitat. This species' nest is an open cup made of plant fibres and cobwebs and is built in the fork of tree usually more than 2 metres above the ground; nests are often found in a dead branch in a live tree, or in a dead tree or shrub. Birds usually occur singly or in pairs, occasionally in small family parties; pairs stay together year-round.			vegetation. There is only one record of this species within a 5 km radius of the study area.
<i>Petroica phoenicea</i>	Flame Robin	V	-	The Flame Robin is endemic to south eastern Australia. In NSW, it breeds in upland tall moist eucalypt forests and woodlands, often on ridges and slopes. Prefers habitat with clearings or areas with open understoreys. The groundlayer of the breeding habitat is dominated by native grasses and the shrub layer may be either sparse or dense. In winter, birds migrate to drier more open habitats in the lowlands (i.e. valleys below the ranges, and to the western slopes and plains). Occur singly, in pairs, or in flocks of up to 40 birds or more; in the non-breeding season they will join up with other insectivorous birds in mixed feeding flocks. Nests are often near the ground and are built in sheltered sites, such as shallow cavities in trees, stumps or banks.	1	Unlikely	No, preferred breeding habitat not recorded within the study area. Marginal foraging habitat present within the study area.
<i>Pycnoptilus floccosus</i>	Pilotbird	V	V	The pilotbird is found from the Wollemi National Park and Blue Mountains National Park in New South Wales through to the Dandenong Ranges, near Melbourne in Victoria. Its natural habitat is temperate wet sclerophyll	0	No	No, preferred habitat containing dense undergrowth not

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				forests and occasionally temperate rainforest, where there is dense undergrowth with abundant debris. It is sedentary and common.			recorded within the study area. No local records.
<i>Pluvialis fulva</i>	Pacific Golden Plover	-	M	Migratory species. Occurs along coastal shorelines including tidal reefs, mudflats, estuaries, salt marshes and sewerage ponds. Forage in intertidal areas and swamp margins for small insects, shellfish, crabs, worms and even small fish.	13	Unlikely	No, the preferred habitat in the form of coastal shorelines including tidal reefs, mudflats, estuaries, salt marshes and sewerage ponds was not identified within the study area which comprises hardstand surfaces, exotic grass, and planted native and exotic vegetation.
<i>Rostratula australis</i>	Australian Painted Snipe	E1	E	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.	0	No	No, preferred habitat not recorded within the study area. No local records.
<i>Stagonopleura guttata</i>	Diamond Firetail	V	V	Grassy eucalypt woodlands, open forest, mallee, Natural Temperate Grassland, secondary derived grassland, riparian areas and lightly wooded farmland. Critical habitat is areas that have not had historical clearing, and are neither fragmented or degraded.	0	No	No, no preferred habitat in the form of grassy eucalypt woodlands, open forest, mallee, Natural Temperate Grassland, secondary derived grassland, riparian areas and lightly wooded farmland was identified

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							within development footprint. No local records of this species.
<i>Sternula nereis</i>	Fairy Tern	-	V	Known from NSW in the past, but it is unknown if it persists. Fairy Terns utilise embayments of a variety of habitats including offshore, estuarine or lake islands, wetlands and mainland coastline. Nests on sheltered sandy beaches, spits and banks above the high tide line and below vegetation.	0	No	Unlikely – this species forage on small fish, crustaceans, and molluscs in shallow water in embayments offshore, estuarine or lake, wetlands and mainland coastline. No such preferred foraging habitat, nor suitable breeding habitat in the form of sandy beaches, spits and banks was identified within the study area. There are no local records within a 5 km radius of the study area.
<i>Sterna hirundo</i>	Common Tern	-	M	Marine species with a circumpolar distribution. Breeding habitats includes any flat, poorly vegetated surface close to water, including beaches and islands.	1	No	No, suitable breeding and foraging habitat not recorded within the study area. This species forage over open water. There is only one single local records.
<i>Tringa nebularia</i>	Common Greenshank	E1	E, M	Summer migrant to Australia. Recorded in most coastal regions of NSW; also, widespread west of the Great Dividing Range, especially between the Lachlan and Murray Rivers and the Darling River drainage basin, including the Macquarie Marshes, and north-west regions. Terrestrial wetlands (swamps, lakes, dams, rivers, creeks, billabongs, waterholes and inundated floodplains, claypans, saltflats, sewage farms and	138	Unlikely	No, the preferred habitat was not identified within the study area which comprises built structures, hardstands, exotic groundcover vegetation (lawn), planted native and exotic vegetation.

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				saltworks dams, inundated rice crops and bores) and sheltered coastal habitats (mudflats, saltmarsh, mangroves, embayment's, harbours, river estuaries, deltas, lagoons, tidal pools, rock-flats and rock platforms).			
<i>Thalasseus bergii</i>	Crested Tern	-	M	Marine species. Occurs on coastlines and islands around the Indian Ocean, central Pacific and Australia.	5	No	No, the study area is outside the known breeding range of this species and there is no suitable foraging habitat for this species which forage pelagically.
<i>Thalassarche bulleri</i>	Buller's Albatross	-	V	Marine, pelagic species. Breeds on subtropical and subantarctic islands off New Zealand. Occasional visitor to Australian coastline.	0	No	No, the study area is outside the species breeding range and there is no preferred foraging habitat present in the study area for this pelagic species that mainly forage on squid, as well as fish, krill and tunicates. There are also no records of this species within a 5 km radius of the study area.
<i>Thalassarche bulleri platei</i>	Northern Buller's Albatross	-	V	Marine, pelagic species. The Northern Buller's Albatross is mostly limited to Pacific Ocean and Tasman Sea but is an occasional visitor to east coast of mainland Australia. The species occurs over inshore, offshore and pelagic waters however habitat preferences are poorly known. Breeds on islands off New Zealand.	0	No	No, rare to the east coast of Australia. The study area is also outside the species breeding range and there is no preferred foraging habitat present in the study area for this pelagic species that mainly forage on squid and fish. There are also no records of this species within a 5 km radius.

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<i>Thalassarche cauta</i>	Shy Albatross	E1	E	Pelagic species. Occurs along the east coast south from Stradbroke Island and across the south coast to Carnarvon in WA. It is commonly recorded off southeast NSW, though rarely north of Sydney.	0	No	No, this species spends most of its time at seas and only occasionally occurs in bays and harbours where it forages on fish, crustaceans, offal and squid. The study area is outside the species breeding range, contain no suitable foraging habitat and there are no records within a 5 km radius.
<i>Thalassarche eremita</i>	Chatham Albatross	-	E	Pelagic species. Occurs in subantarctic and subtropical waters. It occurs both onshore and offshore and enters harbours and bays. This species breeds on islands off New Zealand and is a rare visitor to the east coast of mainland Australia.	0	No	No, this species is rare to the east coast of Australia, it forages pelagically, and the study area is outside the species breeding range. There are no records of this species within a 5 km radius of the study area.
<i>Thalassarche impavida</i>	Campbell Albatross	-	V	Pelagic species. Rare vagrant to southeast Australian waters. It inhabits subantarctic and subtropical waters. It occurs both onshore and offshore and enters harbours and bays. Campbell Albatross nests on ledges and steep slopes covered in low native grasses, tussocks and mud on Campbell Island, south of New Zealand.	0	No	No, this species is rare to the east coast of Australia, it forages pelagically, and the study area is outside the species breeding range. There are no records of this species within a 5 km radius of the study area.
<i>Thalassarche melanophris</i>	Black-browed Albatross	V	V	Marine species. Regularly recorded off the NSW coast during May-November. This species nests annually on Antarctic and subantarctic islands.	0	No	No, this species forage pelagically, the study area is outside the species breeding range, and there are no records

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							of this species within a 5 km radius of the study area.
<i>Thalassarche salvini</i>	Salvin's Albatross	-	V	Marine species occurring in subantarctic and subtropical waters, reaching the tropics in the cool Humboldt Current, off South America. A non-breeding visitor to Australian waters. During the non-breeding season, the species occurs over continental shelves around continents.	0	No	No, this species forage pelagically, the study area is outside the species breeding range, and there are no records of this species within a 5 km radius of the study area.
<i>Thalassarche steadi</i>	White-capped Albatross	-	V	Pelagic species. Likely common off the coast of south-east Australia throughout the year, although limited information is known for the species. It occurs both inshore and offshore and enters harbours and bays. Breeds on islands off New Zealand.	0	No	No, this species is believed to forage on squid and fish in shelf waters, the study area is outside the species breeding range, and there are no records of this species within a 5 km radius of the study area.
<i>Tringa stagnatilis</i>	Marsh Sandpiper	-	M	Migratory wader. The majority of birds winter over in Africa and India, and some migrating to Southeast Asia and Australia. Occurs in wetlands, swamps and lakes.	14	Unlikely	No, suitable breeding and foraging habitat not recorded within the study area. This species forage over open water.
<i>Tringa brevipes</i>	Grey-tailed Tattler	-	M	A migratory shore bird. Breeds in northeast Siberia and migrate to Australia after breeding. Prefers muddy and sandy areas of the coast. This species forage on the ground or water for insects.	0	No	No, the study area is outside the known breeding range and there is no suitable foraging habitat present within the study area and no local records.
<i>Tyto novaehollandiae</i>	Masked Owl	V	-	Recorded over approximately 90% of NSW, excluding the most arid north-western corner. Most abundant on the coast but extends to the western plains. Dry eucalypt forests and woodlands from sea level to 1100 m.	3	Unlikely	No, records of species within 5 km, but unsuitable habitat (no forest or woodland).

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<i>Tyto tenebricosa</i>	Sooty Owl	V	-	Occupies the easternmost one-eighth of NSW, occurring on the coast, coastal escarpment and eastern tablelands. Dry rainforest, subtropical and warm temperate rainforest, as well as moist eucalypt forests.	1		No, records of species within 5 km, but unsuitable habitat (no forest or woodland).	
Insect								
<i>Pommerhelix duralensis</i>	Dural Snail	Land	E	E	Occurs in low densities along the northwest fringes of the Cumberland Plain on shale-sandstone transitional landscapes. The majority of confirmed records are from intact remnant bushland and the species is considered unlikely to be tolerant of highly disturbed or weedy habitats.	39	No	There is no suitable habitat present within the study area, no remnant bushland nor leaf litter.
Mammals (excluding bats)								
<i>Dasyurus maculatus maculatus</i> (SE mainland population)	Spotted-tailed Quoll	V	E	E	Found on the east coast of NSW, Tasmania, eastern Victoria and north-eastern Qld. Rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline. Solitary animals that occur in low densities. Rely on fallen logs, boulder piles, burrows and hollows for shelter.	2	No	No, unsuitable habitat (no rainforest, forest, woodland or heath) present within the study area. Additionally, preferred habitat containing features used for shelter were not recorded to be limited within the study area. Limited connectivity between the study area and other areas of vegetation.
<i>Notamacropus parma</i>	Parma Wallaby	V	V	V	The Queensland boarder to the Bega area in the southeast. Their range is now confined to the coast and ranges of central and northern NSW from the Gosford district to south of the Bruxner Highway between Tenterfield and Casino. Wet sclerophyll forest with a thick, shrubby understorey and nearby grassy patches, or dry sclerophyll forests with a dense understorey.	0	No	No, the preferred habitat in the form of wet sclerophyll forest with a thick, shrubby understorey and nearby grassy patches, or dry sclerophyll forests with a dense understorey

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							was not identified within the study area. There are also no records of this species within a 5
<i>Petauroides volans</i>	Greater Glider	E1	E	Eastern Australia, from the Windsor Tableland in north Queensland through to central Victoria (Wombat State Forest). Eucalypt forests and woodlands. It is typically found in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows. Arboreal, nocturnal species.	1	No	No, preferred old growth forest habitat not recorded within the study area. No local records.
<i>Petaurus australis australis</i>	Yellow-bellied Glider (south-eastern)	V	V	Along the eastern coast to the western slopes of the Great Dividing Range, from southern Qld to Victoria. Tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. Live in small family groups in which a den tree is often shared. Arboreal, nocturnal species.	0	No	No, preferred mature forest habitat not recorded within the study area. No shelter habitat recorded within the study area.
<i>Phascolarctos cinereus</i>	Koala	E1	E	In NSW it mainly occurs on the central and north coasts with some populations in the west of the Great Dividing Range. There are sparse and possibly disjunct populations in the Bega District, and at several sites on the southern tablelands. Inhabits eucalypt woodlands and forests.	1	No	No, one record of species within 5 km, but unsuitable habitat (no forest or woodland. Limited connectivity between the study area and other areas of vegetation.
<i>Pseudomys novaehollandiae</i>	New Holland Mouse	-	V	Fragmented distribution across eastern NSW. Known to inhabit open heathlands, woodlands and forests with a heathland understorey and vegetated sand dunes. It is a social animal, living predominantly in burrows shared with other individuals.	0	No	No, preferred heath understorey habitat not recorded within the study area. No local records.

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<i>Isoodon obesulus obesulus</i>	Southern Brown Bandicoot (eastern)	E1	E	Found in south-eastern NSW, east of the Great Dividing Range south from the Hawkesbury River. Heath or open forest with a heathy understorey on sandy or friable soils.	0	No	No, preferred habitat in the form of heath or open forest was not identified within the study area. The plated native vegetation within the study area lacks an intact understorey. There are no records within a 5 km radius of the study area.
Mammals (bats)							
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	E1	E	Recorded from Rockhampton in Qld south to Ulladulla in NSW. Largest concentrations of populations occur in the sandstone escarpments of the Sydney basin and the NSW north-west slopes. Roosting habitat includes areas featuring cliffs, escarpments or rocky outcrops. Wet and dry sclerophyll forests, Cyprus Pine dominated forest, woodland, sub-alpine woodland, edges of rainforests and sandstone outcrop country.	3	Unlikely	No, roosting habitat not recorded within the study area. May occasionally fly through the study area on foraging forays however, this is unlikely given the urban context of the study area and lacking connective habitat and major surrounding roads.
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V	-	The Eastern False Pipistrelle is found on the south-east coast and ranges of Australia, from southern Queensland to Victoria and Tasmania. 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. Hunts beetles, moths, weevils and other flying insects above or just below the tree canopy. Hibernates in winter.	8	Unlikely	No, may occasionally fly through the study area on foraging forays however, this is unlikely given the urban context of the study area, lacking connective habitat and major surrounding roads.
<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tail Bat	V	-	The Eastern Freetail-bat is found along the east coast from south Queensland to southern NSW. Occur in dry sclerophyll forest, woodland, swamp forests and	10	Unlikely	No, may occasionally fly through the study area on foraging forays however, this is unlikely given

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				mangrove forests east of the Great Dividing Range. Roost mainly in tree hollows but will also roost under bark or in man-made structures. Usually solitary but also recorded roosting communally, probably insectivorous.			the urban context of the study area, lacking connective habitat and major surrounding roads.
<i>Miniopterus australis</i>	Little Bent-winged bat	V	-	East coast and ranges south to Wollongong in NSW. Moist eucalypt forest, rainforest, vine thicket, wet and dry sclerophyll forest, Melaleuca swamps, dense coastal forests and banksia scrub.	10	Unlikely	No, may occasionally fly through the study area on foraging forays however, this is unlikely given the urban context of the study area, lacking connective habitat and major surrounding roads.
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	V	-	Eastern Bent-winged Bats occur along the east and north-west coasts of Australia. Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures. Form discrete populations centred on a maternity cave that is used annually in spring and summer for the birth and rearing of young. At other times of the year, populations disperse within about 300 km range of maternity caves. Hunt in forested areas, catching moths and other flying insects above the tree tops.	80	Unlikely	No, roosting habitat not recorded within the study area. his species has been found to forage in open areas and may occasionally fly through the study area on foraging forays however, unlikely to utilize for extended periods of time. Given the lack of connective habitat and better quality habitat in the surrounding landscape it is unlikely that this species would utilise the study area.
<i>Myotis macropus</i>	Southern Myotis	V	-	The Southern Myotis is found in the coastal band from the north-west of Australia, across the top-end and south to western Victoria. It is rarely found more than 100 km inland, except along major rivers. 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. Forage over streams	45	Unlikely	No, foraging habitat not recorded within the study area and the preferred roosting habitat adjacent to water is nor present within the study area. The closest watercourse is Ponds and Subiaco Creek which is

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				and pools catching insects and small fish by raking their feet across the water surface.			located approximately 380 m to the south of the study area.
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	Along the eastern coast of Australia, from Bundaberg in Qld to Melbourne in Victoria. Subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops.	681	Likely	Yes, habitat suitable (Eucalypts in the study area could be used for foraging) and species known to occur within 5 km.
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheathtail-bat	V	-	The Yellow-bellied Sheathtail-bat is a wide-ranging species found across northern and eastern Australia. In the most southerly part of its range - most of Victoria, south-western NSW and adjacent South Australia - it is a rare visitor in late summer and autumn. There are scattered records of this species across the New England Tablelands and North West Slopes. 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.	10	Unlikely	No, may occasionally fly through the study area on foraging forays however, this is unlikely given the urban context of the study area, lacking connective habitat and major surrounding roads.
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V	-	The Greater Broad-nosed Bat is found mainly in the gullies and river systems that drain the Great Dividing Range, from north-eastern Victoria to the Atherton Tableland. It extends to the coast over much of its range. In NSW it is widespread on the New England Tablelands, however, does not occur at altitudes above 500 m. 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	6	Unlikely	No, may occasionally fly through the study area on foraging forays however, this is unlikely given the urban context of the study area, lacking connective habitat and major surrounding roads.

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				buildings. Forages after sunset, flying slowly and directly along creek and river corridors at an altitude of 3 - 6 m. 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. Little is known of its reproductive cycle, however a single young is born in January; prior to birth, females congregate at maternity sites located in suitable trees, where they appear to exclude males during the birth and raising of the single young.			
Reptiles							
<i>Hoplocephalus bungaroides</i>	Broad-headed Snake	E1	E	Restricted to sandstone ranges within a 200 km radius of Sydney. Often found in rocky outcrops and adjacent sclerophyll forest and woodland, most suitable habitat occurring in sandstone ridgetops.	0	No	No, the preferred habitat in the form of rocky outcrops with adjacent sclerophyll forest and woodland was not identified within the study area. There are no records of this species within a 5 km radius.
FLORA							
<i>Acacia bynoeana</i>	Bynoe's Wattle	E1	V	Found in central eastern NSW, from the Hunter District (Morisset) south to the Southern Highlands and west to the Blue Mountains. Heath or dry sclerophyll forest on sandy soils. Seems to prefer open, sometimes slightly disturbed sites such as trail margins, edges of roadside spoil mounds and in recently burnt patches. Associated overstorey species include Red Bloodwood, Scribbly Gum, Parramatta Red Gum, Saw Banksia and Narrow-leaved Apple.	0	Unlikely	No, the study area is mapped as occurring on shale soils (NSW DCCEEW 2024e). The species was not recorded within the study area. No local records.

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<i>Acacia pubescens</i>	Downy Wattle	V	V	Restricted to Sydney region, most commonly observed around Bankstown-Fairfield-Rookwood and Pitt Town areas. Occurs in open woodland and forest including Coos River/Castlereagh Ironbark Forest, Shale/Gravel Transition Forest and Cumberland Plain Woodland. Occurs on alluviums, shales and at the intergrade between shales and sandstones.	7	Unlikely	No, no potential habitat is present. There are no open woodland and forest, including Coos River/Castlereagh Ironbark Forest, Shale/Gravel Transition Forest and Cumberland Plain Woodland present. The study area is regularly disturbed. The species was not recorded within the study area.
<i>Acacia terminalis</i> subsp. <i>Eastern Sydney</i>	Sunshine Wattle	E	E	Limited mainly to near-coastal areas from the northern shores of Sydney Harbour south to Botany Bay. Coastal scrub and dry sclerophyll woodland on sandy soils.	0	No	No, no potential habitat is present. The study area is mapped as occurring on shale soils. There is no coastal scrub or dry sclerophyll woodland present within the study area.
<i>Allocasuarina glareicola</i>	-	E1	E	Primarily restricted to the Richmond (NW Cumberland Plain) district, but with an outlier population found at Voyager Point, Liverpool. Castlereagh woodland on lateritic soil. Found in open woodland with <i>Eucalyptus parramattensis</i> , <i>Eucalyptus fibrosa</i> , <i>Angophora bakeri</i> , <i>Eucalyptus sclerophylla</i> and <i>Melaleuca decora</i> .	0	No	No, the study area is regularly disturbed. The species was not recorded within the study area.
<i>Asterolasia elegans</i>	-	E	E	Occurs north of Sydney, in the Baulkham Hills, Hawkesbury and Hornsby local government areas. Also likely to occur in the western part of Gosford local government area. It occurs on Hawkesbury sandstone found in sheltered forests on mid- to lower slopes and valleys. The canopy at known sites includes <i>Syncarpia glomulifera</i> subsp. <i>glomulifera</i> (Turpentine), <i>Angophora</i>	0	No	No, no records of species within 5 km and unsuitable habitat (no forest).

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				<i>costata</i> (Smooth-barked Apple), <i>Eucalyptus piperita</i> (Sydney Peppermint), <i>Allocasuarina torulosa</i> (Forest Oak) and <i>Ceratopetalum gummiferum</i> (Christmas Bush).			
<i>Caladenia tessellata</i>	Thick Lip Spider Orchid	V	V	Currently known from two disjunct areas; one population near Braidwood on the Southern Tablelands and three populations in the Wyong area on the Central Coast. Prefers grassy sclerophyll woodland on clay loam or sandy soils, or low woodland with stony soil.	0	No	No, no potential habitat present and study area is outside the known distribution range. The study area is comprised of exotic groundcover vegetation, planted native and exotic vegetation and hardstand surfaces. There are no areas of grassy sclerophyll woodland or low woodland present and there are no records of this species within a 5 km radius of the study area. The study area is also regularly disturbed.
<i>Cryptostylis hunteriana</i>	Leafless Tongue Orchid	V	V	In NSW, recorded mainly on coastal and near coastal ranges north from Victoria to near Forster, with two isolated occurrences inland north-west of Grafton. This species occurs on coastal heathlands, margins of coastal swamps and sedgelands, coastal forest, dry woodland, and lowland forest. The larger populations typically occur in woodland dominated by <i>Eucalyptus sclerophylla</i> (Scribbly Gum), <i>E. sieberi</i> (Silvertop Ash), <i>Corymbia gummifera</i> (Red Bloodwood) and <i>Allocasuarina littoralis</i> (Black Sheoak); appears to prefer open areas in the understorey of this community. Being leafless it is expected to have limited photosynthetic capability and probably depends upon a fungal associate to meet its	0	No	No, no potential habitat present. The study area is comprised of exotic groundcover vegetation, planted native and exotic vegetation and hardstand surfaces. There are no areas of coastal heathlands, margins of coastal swamps and sedgelands, coastal forest, dry woodland, and lowland forest present and there are no records of this species within a 5 km radius of

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution/Habitat	Records within 5 km of the study area (BioNet)	Likelihood of Occurrence	Impact Assessment Required
				nutritional requirements from either living or dead organic material.			the study area. The study area is also regularly disturbed.
<i>Dillwynia tenuifolia</i>	-	V	-	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. In western Sydney, may be locally abundant particularly within scrubby/dry heath areas within Castlereagh Ironbark Forest and Shale Gravel Transition Forest on tertiary alluvium or laterised clays. May also be common in transitional areas where these communities adjoin Castlereagh Scribbly Gum Woodland	2	Unlikely	No, the study area is regularly disturbed and there is no suitable habitat present within the study area. The species was not recorded within the study area.
<i>Darwinia biflora</i>	-	V	V	Recorded in Ku-ring-gai, Hornsby, Baulkham Hills and Ryde local government areas, in an area bounded by Maroota, North Ryde, Cowan and Kellyville. Occurs in woodland, open forest or scrub-heath on the edges of weathered shale-capped ridges, where these intergrade with Hawkesbury Sandstone. Associated overstorey species include <i>Eucalyptus haemastoma</i> , <i>Corymbia gummifera</i> and/or <i>E. squamosa</i> .	0	No	No, the study area is regularly disturbed and there is no suitable habitat present within the study area. The species was not recorded within the study area and there are no previous records of this species within a 5 km radius of the study area.
<i>Epacris purpurascens</i> var. <i>purpurascens</i>	-	V	-	Recorded from Gosford in the north, to Narrabeen in the east, Silverdale in the west and Avon Dam vicinity in the South. Occur in sclerophyll forest, scrubs and swamps. Most habitats have a strong shale soil influence.	79	Unlikely	No, records of species within 5 km, but unsuitable habitat (no forest, scrub or swamp).

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<i>Eucalyptus camfieldii</i>	Camfield's Stringybark	V	V	Narrow band from the Raymond Terrace area south to Waterfall. Coastal heath on shallow sandy soils overlying Hawkesbury sandstone, mostly on exposed sandy ridges. Associated species frequently include stunted species of <i>Eucalyptus oblonga</i> (Narrow-leaved Stringybark), <i>E. capitellata</i> (Brown Stringybark) and <i>E. haemastoma</i> (Scribbly Gum).	0	No	No, preferred habitat not recorded within the study area No local records.
<i>Genoplesium baueri</i>	Bauer's Midge Orchid	E1	E	Has been recorded from locations between Nowra and Pittwater and may occur as far north as Port Stephens. Dry sclerophyll forest and moss gardens over sandstone.	0	No	No, preferred sandstone habitat not recorded within the study area. No local records.
<i>Haloragodendron lucasii</i>	-	E4	E	Confined to a very narrow distribution on the north shore of Sydney. Occurs in dry sclerophyll forest and low open woodland on sheltered slopes near creeks, in moist sandy loam soils.	0	No	No, dry sclerophyll forest and low open woodland not recorded within the study area.
<i>Hibbertia spanantha</i>	Julian's Hibbertia (Hibbertia spanantha)	CE	CE	This species is endemic to NSW and the Sydney Basin bioregion. Grows in forest with canopy species including <i>Eucalyptus pilularis</i> , <i>E. resinifera</i> , <i>Corymbia gummifera</i> and <i>Angophora costata</i> . The understorey is open with species of <i>Poaceae</i> , <i>Orchidaceae</i> , <i>Fabaceae</i> and <i>Liliaceae</i> . Soil identifies as light clay occurring on shale sandstone soil transition.	2	Unlikely	No, the preferred habitat in the form of forest with the associated species was not recorded within the study area.
<i>Kunzea rupestris</i>	-	V	V	Mostly in the Maroota - Sackville - Glenorie area and one outlier in Ku-ring-gai Chase National Park. Shrubland or heathland, in shallow depressions on large flat sandstone rock outcrops.	0	No	No, the study area is outside the known distribution for this species and there is no suitable habitat present.
<i>Melaleuca deanei</i>	Deane's Melaleuca	V	V	Ku-ring-gai/Berowra area, Holsworthy/Wedderburn area, Springwood (in the Blue Mountains), Wollemi National Park, Yalwal (west of Nowra) and Central Coast (Hawkesbury River) areas. Heath on sandstone.	0	No	No, the study area is mapped as occurring on shale soils (NSW DCCEEW 2024e). Heathland

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							habitat not recorded within the study area.
<i>Melaleuca biconvexa</i>	Biconvex Paperbark	V	V	Only found in NSW, populations found in the Jervis Bay area in the south and the Gosford-Wyong area in the north. Occur in damp places, often near streams or low-lying areas on alluvial soils.	0	No	No, preferred habitat not recorded within the study area. No local records.
<i>Micromyrtus blakelyi</i>	-	V	V	Restricted to areas near the Hawkesbury River, north of Sydney. Distribution extends from north of Maroota in the north, to Cowan in the south. Heathlands in shallow sandy soil, on sandstone rock platforms.	0	No	No, preferred habitat not recorded within the study area. No local records.
<i>Persicaria elatior</i>	Tall Knotweed	V	V	In south-eastern NSW recorded from Mt Dromedary, Moruya State Forest near Turlinjah, the Upper Avon River catchment north of Robertson, Bermagui, and Picton Lakes. In northern NSW known from Raymond Terrace (near Newcastle) and the Grafton area (Cherry Tree and Gibberagee State Forests). Beside streams and lakes, swamp forest or disturbed areas.	1	No	No, preferred riparian habitat not recorded within study area.
<i>Persoonia hirsuta</i>	Hairy Geebung	E	E	Scattered distribution around Sydney, from Singleton in the north, along the east coast to Bargo in the south and the Blue Mountains to the west. Occur on sandy soils in dry sclerophyll open forest, woodland and heath on sandstone.	0	No	No, preferred habitat (sclerophyll open forest, woodland and heath on sandstone) not recorded within the study area. The study area is mapped as occurring on shale soils and is regularly disturbed (NSW DCCEEW 2024e). No local records of the species.
<i>Persoonia nutans</i>	Nodding Geebung	E1	E	Restricted to the Cumberland Plain in western Sydney, between Richmond in the north and Macquarie Fields in the south. Northern populations: sclerophyll forest and	0	No	No, the preferred habitat was not recorded within the study area. The study area is regularly

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution/Habitat	Records within 5 km of the study area (BioNet)	Likelihood of Occurrence	Impact Assessment Required
				woodland (Agnes Banks Woodland, Castlereagh Scribbly Gum Woodland and Cooks River / Castlereagh Ironbark Forest) on aeolian and alluvial sediments. Southern populations: tertiary alluvium, shale sandstone transition communities and Cooks River / Castlereagh Ironbark Forest.			disturbed. The species was not recorded within the study area and there are no previous local records.
<i>Pimelea curviflora</i> var. <i>curviflora</i>	-	V	V	Confined to the coastal area of the Sydney and Illawarra regions between northern Sydney and Maroota in the north-west and Croom Reserve near Albion Park in the south. Occurs in woodland, mostly on shaley/lateritic soils over sandstone and shale/sandstone transition soils on ridgetops and upper slopes.	9	Unlikely	No, the preferred habitat was not identified within the study area and the study area is regularly disturbed. The species was not recorded within the study area.
<i>Pimelea spicata</i>	Spiked-Rice-flower	E1	E	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). Well-structured clay soils. <i>Eucalyptus moluccana</i> (Grey Box) communities and in areas of ironbark on the Cumberland Plain. Coast Banksia open woodland or coastal grassland in the Illawarra.	0	No	No, the preferred habitat was not identified within the study area and the study area is regularly disturbed. The species was not recorded within the study area and there are no previous local records.
<i>Pomaderris brunnea</i>	Brown Pomaderris	E1	V	In NSW, found around the Colo, Nepean and Hawkesbury Rivers, including the Bargo area and near Camden. It also occurs near Walcha on the New England tablelands. Moist woodland or forest on clay and alluvial soils of flood plains and creek lines.	0	No	No, preferred moist / riparian habitat not recorded within the study area. No local records.
<i>Pomaderris prunifolia</i>	P. prunifolia in the Parramatta, Auburn, Strathfield	E	-	Population is known from only three sites: at Rydalmere, within Rookwood Cemetery and at The Crest of Bankstown. At Rydalmere it occurs among grass species on sandstone near a creek. At Rookwood Cemetery it	4	Unlikely	No – records of species within 5 km, but unsuitable habitat (no creek or forest) and outside geographic range.

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution/Habitat	Records within 5 km of the study area (BioNet)	Likelihood of Occurrence	Impact Assessment Required
	and Bankstown Local Government Areas			occurs in a small gully of degraded Cooks River / Castlereagh Ironbark Forest on shale soils.			
<i>Pterostylis saxicola</i>	Sydney Plains Greenhood	E1	E	Restricted to western Sydney between Freemans Reach in the north and Picton in the south. Small pockets of shallow soil in depressions on sandstone rock shelves above cliff lines, adjacent to sclerophyll forest or woodland on shale/sandstone transition soils or shale soils.	0	No	No, preferred sandstone rock shelf habitat not recorded within the study area. No local records.
<i>Rhizanthella slateri</i>	Eastern Underground Orchid	V	E	In NSW, currently known from fewer than 10 locations, including near Bulahdelah, the Watagan Mountains, the Blue Mountains, Wiseman's Ferry area, Agnes Banks and near Nowra. Sclerophyll forest in shallow to deep loams.	0	Unlikely	No, the study area is regularly disturbed. The species was not recorded within the study area. No local records.
<i>Rhodamnia rubescens</i>	Scrub Turpentine	CE	CE	Occurs in coastal districts north from Batemans Bay in New South Wales, approximately 280 km south of Sydney, to areas inland of Bundaberg in Queensland. Populations of <i>R. rubescens</i> typically occur in coastal regions and occasionally extend inland onto escarpments up to 600 m a.s.l. in areas with rainfall of 1,000-1,600 mm. Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils.	3	No	No, rainforest or wet sclerophyll forest habitat not recorded within the study area.
<i>Rhodomyrtus psidioides</i>	Native Guava	CE	CE	Occurs from Broken Bay, approximately 90 km north of Sydney, New South Wales, to Maryborough in Queensland. Populations are typically restricted to coastal and sub-coastal areas of low elevation however the species does occur up to c. 120 km inland in the Hunter and Clarence River catchments and along the	0	No	No, no potential habitat present. There are no areas of littoral, warm temperate or subtropical rainforest present and there are

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Distribution/Habitat	Records within 5 km of the study area (BioNet)	Likelihood of Occurrence	Impact Assessment Required
				Border Ranges in NSW. Preferred habitat include littoral, warm temperate and subtropical rainforest and wet sclerophyll forest often near creeks and drainage lines.			no records within a 5 km radius of the study area.
<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	E1	V	Only in NSW, in a narrow, linear coastal strip from Upper Lansdowne to Conjola State Forest. Subtropical and littoral rainforest on gravels, sands, silts and clays.	6	No	No, rainforest habitat not recorded within the study area. No local records.
<i>Thesium australe</i>	Austral Toadflax	V	V	In eastern NSW it is found in very small populations scattered along the coast, and from the Northern to Southern Tablelands. Grassland on coastal headlands or grassland and grassy woodland away from the coast.	0	No	No, the study area is regularly disturbed and there is no suitable habitat present. The species was not recorded within the study area. No local records.
<i>Wilsonia backhousei</i>	Narrow-leafed Wilsonia	V	-	In NSW, found on the coast between Mimosa Rocks National Park and Wamberal north of Sydney (Nelson's Lake, Potato Point, Sussex Inlet, Wowly Gully, Parramatta River at Ermington, Clovelly, Voyager Point, Wollongong and Royal National Park). Occur along margins of salt marshes and lakes.	84	Unlikely	No, no potential habitat present. There are no areas of intertidal saltmarshes or lakes present within the study area. This species was not recorded within the study area,

BC ACT STATUS: CE = CRITICALLY ENDANGERED; E1 = ENDANGERED; E2 = ENDANGERED POPULATION; EPBC ACT STATUS: CE = CRITICALLY ENDANGERED, E = ENDANGERED, V = VULNERABLE, M = MIGRATORY

Appendix B - Test of Significance (BC Act)

The 'Test of significance' (5-part test) is applied to species, populations and ecological communities listed on Schedules 1 and 2 of the BC Act and Schedules 4, 4A and 5 of the FM Act. The assessment sets out five factors, which when considered, allow proponents to undertake a qualitative analysis of the likely impacts of an action and to determine whether a significant impact is likely. All factors must be considered, and an overall conclusion made based on all factors in combination.

Tests of Significance have been undertaken for the following threatened entities:

- *Pteropus poliocephalus* (Grey-headed Flying-fox)

1.1 *Pteropus poliocephalus* (Grey-headed Flying-fox)

The Grey-headed Flying-fox (GHFF) is listed as vulnerable under the BC Act and has previously been recorded within 5 km of the study area (NSW DCCEE 2024a). The description and habitat associations of this species are presented in Appendix D. The proposed action will potentially affect up to 0.12 ha of marginal foraging habitat (Planted Native vegetation) for this species.

No known GHFF camps are present within the study area and no camps will be affected by the proposed development. GHFF present in camps within a 20 km radius of the study area may use the foraging resources available within the study area. The potential foraging habitat within the study area is marginal and would not be relied upon as a sole foraging resource for this species. The closest Nationally Important Camp is located approximately 3.7 km southwest of the study area, in Paramatta Park.

Table 8: BC Act Test of Significance for Grey-headed Flying-fox

BC Act	Question	Response
7.3.1 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	There are no known flying fox camps within the study area (DAWE 2022). The nearest camp is located at Parramatta Park approximately 3.7 km southwest of the study area. The proposed works will result in the removal of up to approximately 0.12 ha of planted native vegetation which may provide foraging habitat for the Grey-headed Flying-fox. The works will not result in impacts to breeding habitat in the form of camps. It is considered unlikely that the proposed works would place a viable population of the species at risk of extinction given that the area of potential habitat is small in extent and would only be used occasionally, as part of a mosaic of foraging resources.
7.3.1 b) i	In the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity: Is likely to have an adverse effect on the extent of the ecological community such that its local	Not applicable.

BC Act	Question	Response
	occurrence is likely to be placed at risk of extinction, or	
7.3.1 b) ii	In the case of an endangered ecological community or critically endangered ecological community: Whether the proposed development or activity 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.	Not applicable.
7.3.1 c) i	In relation to the habitat of a threatened species or ecological community: The extent to which habitat is likely to be removed or modified as a result of the proposed development or activity	Impacts to potential foraging habitat for this species would be minimal. Approximately up to 0.12 ha of planted native vegetation will potentially be removed. This will result in a minor reduction in the expanse of canopy available for foraging within the study area. For a highly mobile species, this impact is considered to be minor. This species will be able to continue to utilise the planted native vegetation within the study area as foraging habitat. As such, the extent to which the potential foraging habitat will be removed is unlikely to impact upon this species.
7.3.1 c) ii	In relation to the habitat of a threatened species or ecological community: 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	The proposed works will involve the removal of up to approximately 0.12 ha of planted native vegetation. These trees are located adjacent to the proposed development along the eastern boundary of the study area as well as within the southwestern corner of the study area, and form part of larger patch of planted native vegetation. The adjacent canopy trees along the southern and western boundary of the study area will remain. A larger patch of planted native vegetation within the northern portion of the study area is also present and will remain intact. Therefore, the proposed works are unlikely to increase fragmentation. This highly mobile species would access similar vegetation within the broader landscape.
7.3.1 c) iii	In relation to the habitat of a threatened species or ecological community: The importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality.	The proposed works would potentially remove up to approximately 0.12 ha of planted native vegetation which are considered marginal foraging habitat for Grey-headed Flying-fox. This is a highly mobile species (travelling an average of 20 km per night to forage) and there is an abundance of foraging habitat available within a 20 km radius of the study area, as well as better quality foraging habitat available in the form of native vegetation approximately 200 m to the northwest of the study area (PCT 3176). The small area of habitat to be impacted within the is not considered vital to the long-term survival of this species within the locality because the species is highly mobile and would be able to continue foraging in better condition vegetation within the broader landscape.

BC Act	Question	Response
7.3.1 d)	Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).	The proposed works would not impact any declared area of outstanding biodiversity value.
7.3.1 e)	Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	One key threatening process is relevant to the proposed works: - Clearing of native vegetation. However, with respect to this species, the proposed works involve the removal of up to three planted native trees which represents potential foraging habitat. The proposed works are unlikely to contribute significantly to these processes given that only up to three planted trees are proposed to be removed and that adjacent canopy trees along the southern and western boundary of the study area will remain. A larger patch of planted native vegetation within the northern portion of the study area is also present and will remain intact. Foraging habitat for this mobile species is available in areas surrounding the study area. The species is highly mobile and would be able to continue foraging in similar vegetation adjacent to the study area.
Conclusion	Is there likely to be a significant impact?	The proposed works are unlikely to have a significant impact on Grey-headed Flying-fox for the following reasons: • the extent of foraging habitat to be impacted is minimal (potentially up to approximately 0.12 ha) • similar habitat for the Grey-headed Flying-fox will remain within the study area and is available within proximity of the study area. • the proposed works would not result in fragmentation of habitat for the species • no breeding habitat (camps) would be impacted by the proposed works.

Appendix C - Assessment of Significance (EPBC Act)

The EPBC Act establishes a process for assessing the environmental impact of activities and developments where Matters of National Environmental Significance (MNES) may be affected. Under the Act, any action which 'has, will have, or is likely to have a significant impact on a matter of MNES' is defined as a controlled action, and requires approval from the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW), which is responsible for administering the EPBC Act. The process includes undertaking an Assessment of Significance for listed threatened species and ecological communities that represent a matter of MNES that will be affected as a result of the proposed action. Significant impact guidelines that outline a number of criteria have been developed by the Commonwealth of Australia (2013), to provide assistance in conducting the Assessment of Significance and help decide whether or not a referral to the Commonwealth is required.

The following MNES has been assessed as part of this assessment:

- *Pteropus poliocephalus* (Grey-headed Flying-fox)

C1 *Pteropus poliocephalus* (Grey-headed Flying-fox)

The Grey-headed Flying-fox is listed as vulnerable under the EPBC Act and has been previously recorded within a 5 km radius of the action area (OEH 2022a). The proposed action will potentially affect up to 0.12 ha of marginal foraging habitat (Planted Native vegetation) for this species.

Grey-headed Flying-fox present in camps within a 20 km radius of the action area may use the foraging resources available within the action area (i.e. the study area). The potential foraging habitat within the action area is marginal (planted native vegetation) and would not be relied upon as a sole foraging resource for this species. There are no known camps within the study area. The nearest permanent camps within 20 km radius are approximately (DCCEEW, 2022b):

- 3.7 km southwest at Parramatta Park (nationally important), 2,500-9,999 individuals in 2021
- 4.2 km south at Clyde (not nationally important), 500-2,499 individuals in 2021
- 9.7 km southeast at Gladesville (not nationally important), 2,500-9,999 individuals in 2021.
- 11.7 km southwest at Wetherill Park (not nationally important), 1-499 individuals in 2020. This camp is not currently occupied by Grey-headed Flying-fox.
- 13.8 km northeast at Gordon (nationally important), 500-2,499 individuals in 2021.
- 14 km southwest at Cabramatta (not nationally important), 2,500-9,999 individuals in 2020. This camp is not currently occupied by Grey-headed Flying-fox.

Considering that Grey-headed Flying-fox is likely to forage on the planted native vegetation within the study area on an occasional basis, a significance assessment has been undertaken in accordance with Significant impact guidelines 1.1 under the EPBC Act (CoA, 2013) (Table 9).

Table 9: EPBC Act Assessment for *Pteropus poliocephalus* (Grey-headed Flying-fox)

Criterion	Assessment
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:	
Criterion a: lead to a long-term decrease in the size of an important population of a species	The Matters of National Environmental Significance Impact Guidelines 1.1 (CoA 2013) defines an important population as a population that is necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are: 1. Key source populations either for breeding or dispersal 2. Populations that are necessary for maintaining genetic diversity, and/or 3. Populations that are near the limit of the species range The Grey-headed Flying-fox is considered one population due to the constant exchange of genetic material between individuals and its movement between camps throughout its entire geographic range (DCCEEW 2022c). Maternity or other roosting habitat is considered important habitat for this species. According to the National Flying-fox Monitoring Program, no Grey-headed Flying-fox camps currently occur or have ever been recorded within the action area (DCCEEW 2022b). The nearest active Grey-headed Flying-fox camp occurs at Parramatta Park approximately 3.7 km southwest of the study area. The proposed action would potentially remove up to 0.12 ha of foraging habitat (Planted Native vegetation) for this species. The Grey-headed Flying-fox is recorded as travelling long distances (up to 40 km) on feeding forays. Given that that adjacent foraging habitat (planted native vegetation) present within the study area will remain intact and the proximity of abundant habitat outside the study area, the removal of this potential foraging habitat would not lead to the long-term decrease in the size of an important population of Grey-headed Flying-fox.
Criterion b: reduce the area of occupancy of an important population	The proposed action will reduce the extent of available foraging habitat for the Grey-headed Flying-fox. Up to approximately 0.12 ha of potential foraging habitat will potentially be removed from the action area. The planted canopy species may provide supplementary foraging habitat for this species. The action area does not contain breeding or sheltering habitat (i.e., bat camps). The Grey-headed Flying-fox is known to fly long distances (up to 40 km per night) and move between bat camps. As such this species is likely to utilise a large extent of habitat around the Parramatta Park camp which may include some habitat within the action area and a large amount of habitat in adjacent lands. Due to the extent of habitat within a 40 km radius of the known bat camp at Parramatta Park, the removal of this planted native vegetation is unlikely to significantly reduce the extent of occupancy for this species.
Criterion c: fragment an existing important population into two or more populations	The proposed action will potentially remove 0.12 ha of planted native vegetation suitable as foraging habitat for the Grey-headed Flying-fox. No camps will be affected, and other areas of foraging habitat are present in the study area. The species is highly mobile, and the proposed action will not fragment an existing important population into two or more populations. Whilst the potential foraging habitat may contribute as a 'stepping stone' for this highly mobile species to other more substantial foraging habitat sites, this function is unlikely to be significantly inhibited by the proposed action. Furthermore, this species has been recorded in urban environments and is likely to continue to forage adjacent to the action area and across the broader locality. Therefore, the proposed action is unlikely to fragment an existing important population into two or more populations.
Criterion d: adversely affect habitat critical to the survival of a species	The National Recovery Plan for the Grey-headed Flying-fox 2021 identifies a number of myrtaceous plants, including Important winter and spring vegetation communities are those that contain <i>Eucalyptus tereticornis</i>, <i>E. albens</i>, <i>E. crebra</i>, <i>E. fibrosa</i>, <i>E. melliodora</i>, <i>E. paniculata</i>, <i>E. pilularis</i>, <i>E. robusta</i>, <i>E. seeana</i>, <i>E. sideroxylon</i>, <i>E. siderophloia</i>, <i>Banksia integrifolia</i>, <i>Castanospermum australe</i>, <i>Corymbia citriodora</i>, <i>C. eximia</i>, <i>C. maculata</i>,

Criterion	Assessment
	<i>Grevillea robusta</i> , <i>Melaleuca quinquenervia</i> or <i>Syncarpia glomulifera</i> as important foraging resources for the Grey-headed Flying Fox. The plan also identifies habitat which contain native species used for foraging and occur within 20 km of a nationally important camp and native or exotic species used for roosting at the site of a nationally important Grey-Headed Flying-Fox camp as critical habitat important to the survival of the species. The action area contains native species used for foraging and is within 20 km of a nationally important camp, so is considered critical habitat. No nationally important camps will be directly affected by the proposed action. The proposed action will potentially remove up to approximately 0.12 ha of suitable foraging habitat (Planted Native vegetation) for the Grey-headed Flying-fox. However, given that this species is highly mobile (traveling up to 40 km to forage) and the abundant habitat resources within the locality, it is considered unlikely that the development would adversely affect habitat critical to the survival of this species.
Criterion e: disrupt the breeding cycle of an important population	The proposed action will potentially remove up to 0.12 ha of planted native vegetation identified as suitable foraging habitat for the Grey-headed Flying-fox. The proposed action will not disrupt the breeding cycle of the Grey-headed Flying-fox given that no camps will be impacted by the proposed action and suitable foraging habitat is likely to be available outside of the action area.
Criterion f: modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposed action would potentially remove up to approximately 0.12 ha of potential foraging habitat for the Grey-headed Flying-fox. Given the small amount of foraging habitat to be removed, that habitat is likely to be available outside of the action area and that this species is highly mobile, it is unlikely that the habitat to be removed would cause the species to decline. Further, according to the National Flying-fox Monitoring Program, no Grey-headed Flying-fox camps currently occur or have ever been recorded within the action area (DCCEEW 2022b). The nearest active Grey-headed Flying-fox camps occur approximately 3.7 km to the southwest at Parramatta Park. Therefore, no known Grey-headed Flying-fox roosting camps for this species will be impacted by the proposed action.
Criterion g: Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	The proposed action is unlikely to result in the establishment of an invasive species that is harmful to the Grey-headed Flying-fox.
Criterion h: Introduce disease that may cause the species to decline	Grey-headed Flying-fox are reservoirs for the Australian bat lyssavirus which can cause clinical disease and mortality in Grey-headed Flying-fox. The species also carries and Hendra virus, although it does not cause evident clinical disease in flying-foxes. Lyssavirus infection is higher when individuals are under stress. The proposed action would not increase the incidence of Lyssavirus, as no camps would be directly impacted, and there is other foraging habitat surrounding each nearby camp.
Criterion i: Interfere substantially with the recovery of the species	Considering the above factors, the proposed action will not interfere substantially with the recovery of the species.
Conclusion	In consideration of the above, the proposed action is considered unlikely to have a significant impact on the Grey-headed Flying-fox as: • No camp or habitat important to the lifecycle of this species will be impacted. • The proposed works will not result in fragmentation of habitats. • The works are small in scale (potentially up to 0.12 ha of Planted Native vegetation to be removed).

Criterion	Assessment
	• Similar foraging habitat would still be available within 20 km of the nearest Nationally Important camp, including within and immediately adjacent to the study area.

