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Ecological Consultants
ABN 56 066 448 879

ECOLOGICAL ASSESSMENT
ORMISTON COLLEGE – MASTER PLAN

Lots 1 - 5 on RP109238, Lot 1 on RP122772, Lot 1 on RP127130,
Lot 100 - 102 on SP306734, Lot 1 and 2 on RP110831
and Lot 3 on RP49638

97 Dundas Street West, Ormiston

A Report Prepared for
Ormiston College

JUNE 2025

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Client Issue

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RW4	18/06/25	Adam McArthur / Belinda Whyburn	AM / BW	Adam McArthur	AM

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Background

JWA Pty Ltd has been engaged by Ormiston College to complete an Ecological Assessment (EA) for the proposed Ormiston College Master Plan. This EA has been prepared as part of a Ministerial Infrastructure Designation (MID) Submission to the State government to facilitate a Master Plan for Ormiston College. Ormiston College is located at 97 Dundas Street, Ormiston, QLD 4160. The land is formally described as Lots 1 - 5 on RP109238, Lot 1 on RP122772, Lot 1 on RP127130, Lot 100 - 102 on SP306734, Lot 1 and 2 on RP110831 and Lot 3 on RP49638 and is hereafter referred to as the subject site.

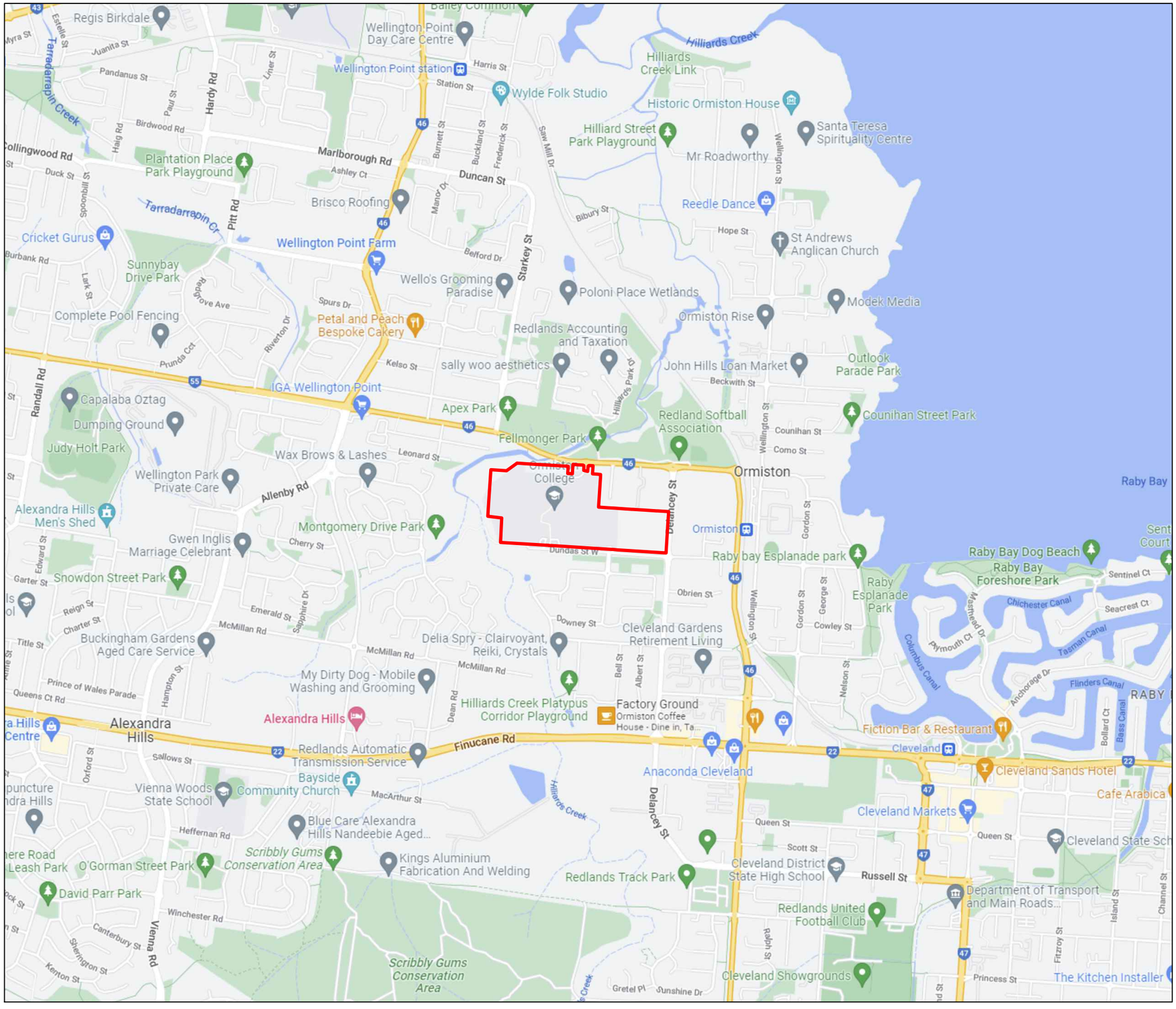
The Ecological Assessment involved a two-stage approach to ensure an appropriate level of assessment was undertaken. Firstly, a desktop review was undertaken to highlight any potential conservation significant vegetation communities, any potential habitat for threatened flora or fauna, and any ecologically sensitive areas on site. Secondly, using the results from the desktop review a field survey of flora, fauna, and habitat was completed. In particular the assessment has involved the following:

- determining the suite of Commonwealth and State listed threatened and regionally or locally significant flora and fauna species that occur in the locality from literature and database records;
- ground truthing vegetation communities and determining their conservation status in accordance with the Queensland Department of Natural Resources and Mines (DNRM) Regional Ecosystem Framework (*Vegetation Management Act 1999* [*VM Act]*);
- assessing the likelihood of occurrence of threatened flora and fauna species on the subject site;
- searching for and recording threatened and regionally or locally significant flora and fauna species;
- assessing habitat provided by the site in the context of the surrounding area;
- assessing the corridor values of the site at a local and regional scale;
- assessing the potential impacts of the proposed development and determining appropriate mitigation measures;
- addressing statutory requirements regarding impacts to flora and fauna; and
- addressing relevant development assessment codes and policies.

1.2 The Subject Site

The site is located at 97 Dundas Street, Ormiston, QLD 4160 and is formally described as Lots 1 - 5 on RP109238, Lot 1 on RP122772, Lot 1 on RP127130, Lot 100 - 102 on SP306734, Lot 1 and 2 on RP110831 and Lot 3 on RP49638 (**FIGURE 1**). It covers approximately 26.87 ha in area. An aerial photograph of the site is shown in **FIGURE 2**.

The site is occupied by Ormiston College and is comprised of buildings, carparks, sports fields and associated infrastructure. The site is partially vegetated by native forest and



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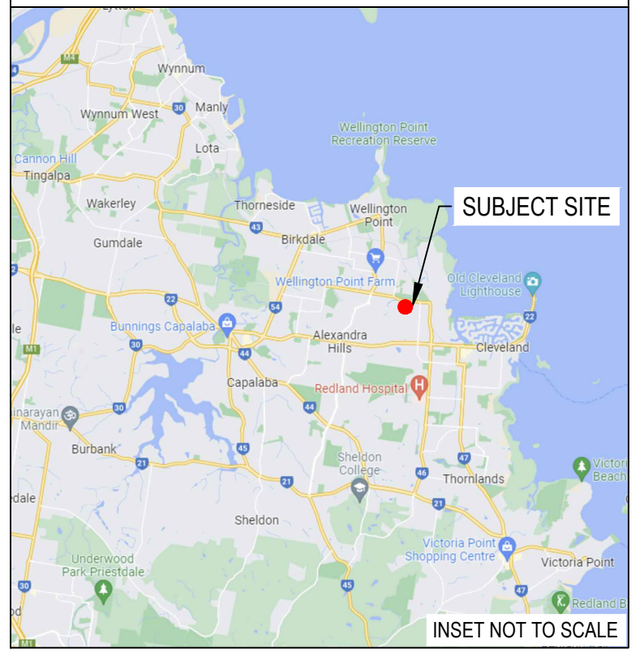
LEGEND

Subject site

REGIONAL CONTEXT



INSET NOT TO SCALE

SOURCE: Google Maps

SCALE: 1 : 20 000 @ A3

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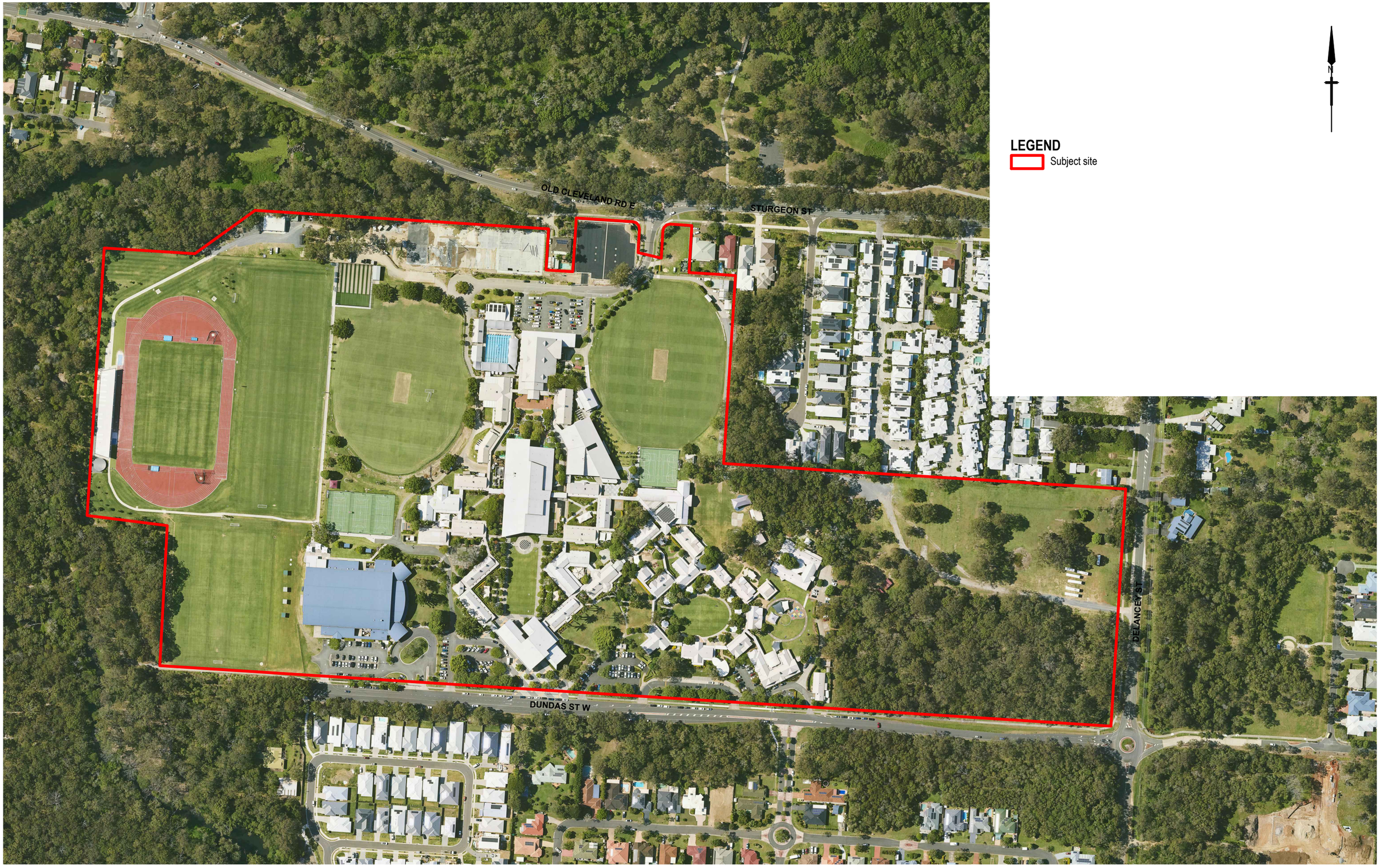
Redland City Council LGA

FIGURE 1

PREPARED: BW
DATE: 5 March 2025
FILE: Q15018_MP_20250305.dwg

TITLE

LOCALITY PLAN



LEGEND

Subject site

Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: Metro Map Aerial dated 06/11/24

SCALE: 1 : 3000 @ A3

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FIGURE 2

PREPARED: BW
DATE: 5 March 2025
FILE: Q15018_MP_20250305.dwg

TITLE

AERIAL PHOTOGRAPH

scattered trees and gardens. To the west lies Hilliards Creek, and to the north are residential properties and native vegetation, while the eastern and southern boundaries are marked by Delancey Street and Dundas Street West respectively.

1.3 Planning Context

The subject site is located within the Redland City Council LGA, and future applications will be assessed under the Redlands City Plan (2018). Under this plan the subject site is mapped as (**FIGURE 3**):

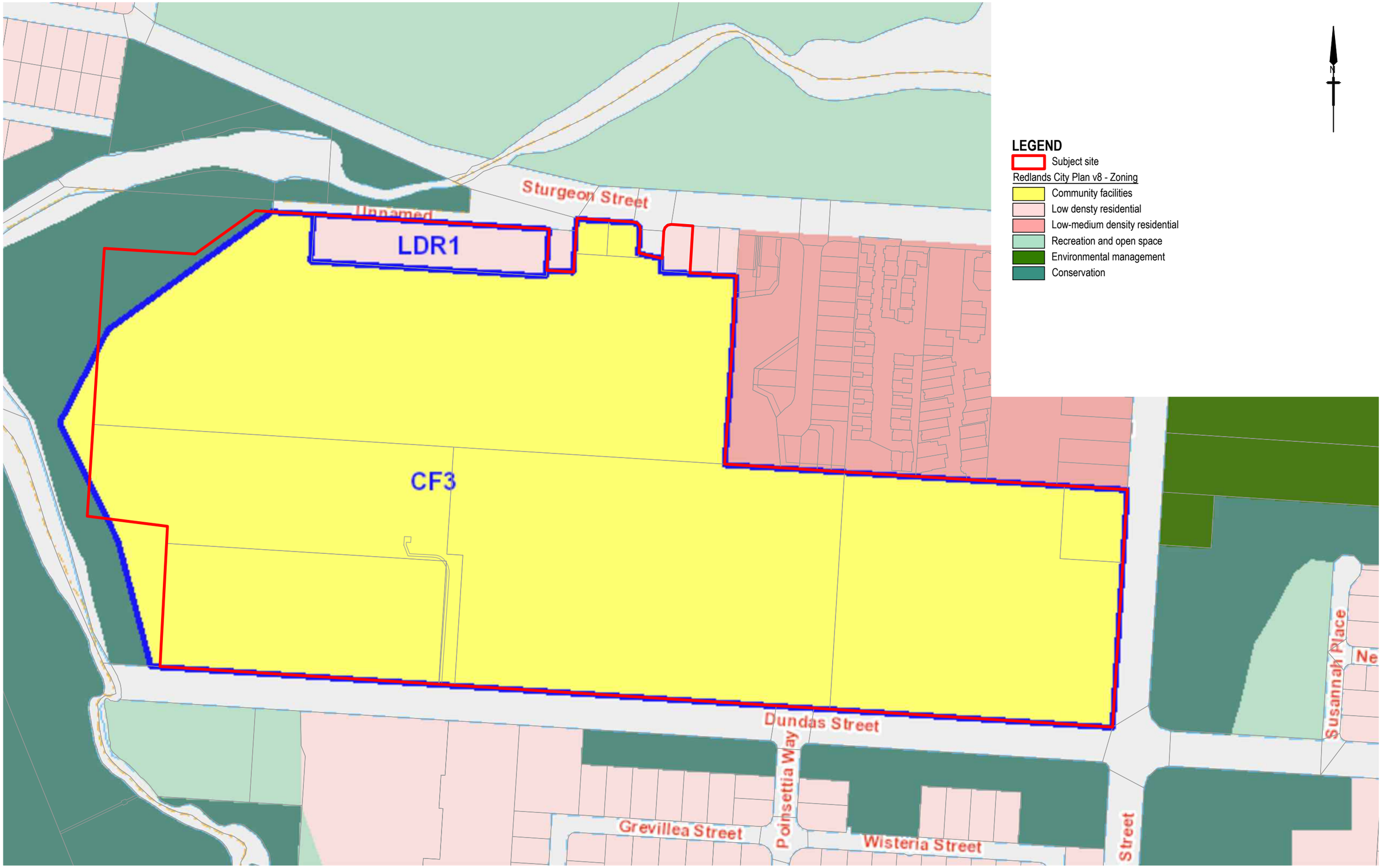
- Community Facilities – Precinct CF3;
- Low Density Residential – Precinct LDR1; and
- Conservation.

1.4 The Proposed Development

The MID Proposal facilitates a Master Plan for Ormiston College. Proposed works include the refurbishment and extensions of existing buildings and construction of multiple new buildings for general and specialised learning, a boarding facility and early learning centre. Other works include an aquatic centre, indoor and outdoor courts, sports ovals, cricket pitch and nets, grandstand, car parking, landscaping, a perimeter security fence and associated infrastructure. The proposed layout is provided in **FIGURE 4**.

A Bushfire Hazard Assessment Report (BHAR) has been prepared for the proposed Master Plan by Rob Friend and Associates (Rob Friend 2025). Of relevance to the Ecological Assessment report, the BHAR identifies the need for a Bushfire groundcover mitigation buffer area around the proposed Building J08 - New early learning centre and connected carpark (1 storey) **(FIGURE 4**) in order to reduce unacceptable bushfire risk from low intensity fire in this location. Groundcover vegetation in this area is currently already managed, and this requirement will be a continuation of the existing management regime. No new impacts are required to comply with this requirement. No non-juvenile koala habitat trees within the Bushfire groundcover mitigation buffer area will be removed for bushfire purposes.

In addition, proposed rehabilitation works (refer to **SECTION 6.3.1**) in the Koala corridor located near proposed Building J08 have been limited to less than 100m in order to avoid increasing the exposure and/or severity of bushfire hazard and to comply with Bushfire guidelines (Rob Friend 2025).



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SOURCE: Redlands City Council Red-e-map (accessed 16/01/23)

SCALE: 1 : 3000 @ A3

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FIGURE 3

PREPARED: BW
DATE: 5 March 2025
FILE: Q15018_MP_20250305.dwg

TITLE

ZONING PLAN

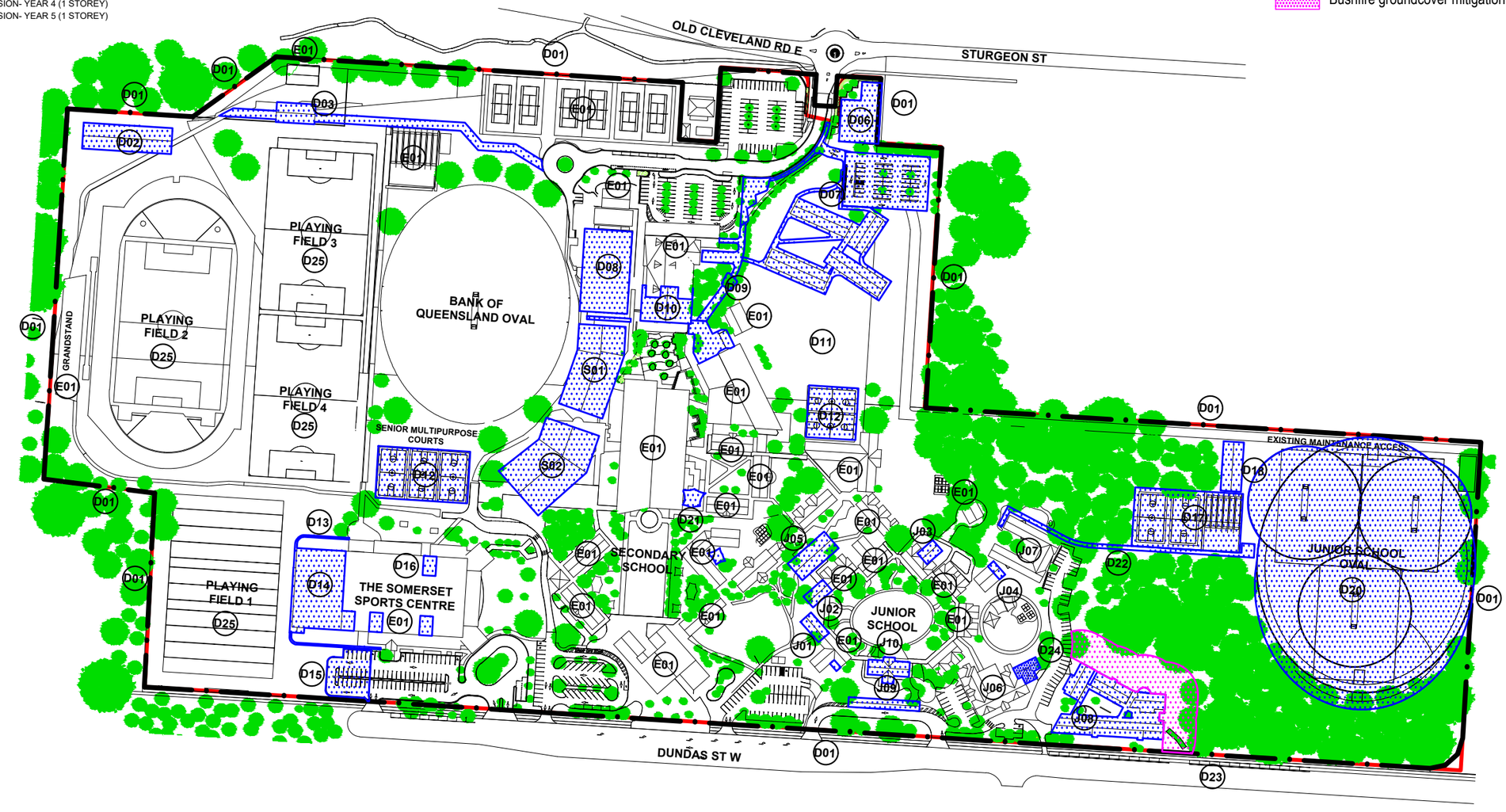
D01	NEW FULL PERIMETER BOUNDARY SECURITY FENCE WITH AUTOMATIC VEHICULAR SLIDING GATES, PEDESTRIAN ACCESS GATES AND KOALA CROSSING AS REQUIRED
D02	NEW MULTI USE BUILDING- EDUCATIONAL TEACHING SPACES AND STORAGE (2 STOREY)
D03	NEW MULTI USE BUILDING- UTILITIES, MAINTENANCE AND ARCHIVE (2 STOREY)
D06	NEW GROUNDS/GREEN KEEPERS' SHEDS
D07	NEW BOARDING FACILITY (3 STOREY) AND ASSOCIATED CARPAKING/DROP OFF ZONE
D08	NEW AQUATIC CENTRE (50m POOL) & MULTI-USE EDUCATIONAL BUILDING (2 STOREY)
D09	NEW STURGEON STREET CONNECTION PATH AND LANDSCAPE
D10	LINGO LIN PERFORMING ARTS THEATRE EXTENSION
D11	NEW OUTDOOR PLAY AREA
D12	COVERED AREA TO EXISTING MULTIPURPOSE COURTS
D13	NEW CONCRETE CONNECTION PATHWAY
D14	SPORTS COURT EXTENSION AND NEW GRANDSTAND (2 STOREY)
D15	CARPARK EXTENSION TO DUNDAS ST W CARPARK
D16	SOMERSET SPORTS CENTRE COVERED ENTRIES
D17	NEW INDOOR MULTI PURPOSE COURTS WITH ENCLOSED CRICKET PITCH AND NETS
D18	NEW STORAGE SHED INC NEW CHANGE ROOMS / AMENITIES (1 STOREY)
D20	NEW JUNIOR SCHOOL SPORTS FIELDS WITH EXTERNAL SPORTS LIGHTING
D21	NEW EXTERNAL SHADED SEATING
D22	NEW CONCRETE COVERED CONNECTION PATHWAY FOR BRANCH FALL PROTECTION
D23	NEW COUNCIL STREET PARALLEL PARKING
D24	EXTENSION TO EXISTING CARPARK
D25	NEW FIELD LIGHTING TO EXISTING FIELD
J01	BUILDING EXTENSION- YEAR 4 (1 STOREY)
J02	BUILDING EXTENSION- YEAR 5 (1 STOREY)
J03	NEW CHANGEROOM/AMENITIES (1 STOREY)
J04	EXTENSION TO AMENITIES (1 STOREY)
J05	EXTENSION TO CHANGEROOM/AMENITIES (1 STOREY)
J06	REPURPOSE AND EXTEND EXISTING PREP FOR GRADE 1 GLAS (1 STOREY)
J07	REPURPOSE EXISTING ELC FOR PREP PRECINCT (1 STOREY)
J08	NEW EARLY LEARNING CENTRE AND CONNECTED CARPARK (1 STOREY)
J09	NEW COVERED JUNIOR SCHOOL DROP OFF ZONE
J10	NEW ADMINISTRATION BUILDING (2 STOREY)
S01	NEW BUSINESS STUDIES AND ARTS PRECINCT (3 STOREY)
S02	NEW MULTI-USE BUILDING- EDUCATIONAL TEACHING SPACES WITH AMENITIES (2 STOREY)
E01	EXISTING BUILDINGS, STRUCTURES AND EMBELLISHMENTS

EXISTING CARPARKING

ADMINISTRATION CARPARKING	48
BUS STOP	1
EXISTING STREET PARKING	9
JUNIOR SCHOOL CARPARKING	51
LINGO LIN PERFORMING ARTS CENTRE CARPARKING	73
PREP SCHOOL CARPARKING	41
SPORTS CENTRE CARPARKING	43
STURGEON STREET CARPARKING	72
	338

NEW CARPARKING

EARLY LEARNING CARPARKING (D24)	18
NEW CARPARKING (D07)	39
NEW COUNCIL STREET PARALLEL PARKING (D23)	24
SOMERSET SPORTS CENTRE ADDITIONAL CARPARKING (D15)	26
	107



LEGEND

- Subject site

Proposed Master Plan

- New development works
- DXX New general school development
- JXX New junior school development
- SXX New secondary school development
- Bushfire groundcover mitigation buffer area

Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: Rohig - Proposed Master Plan Rev X 24/03/25 (Ref: A-01-0001[X] PROPOSED MASTER PLAN.dwg): Rob Friend & Associates

SCALE: 1 : 3000 @ A3

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FIGURE 4

PREPARED: BW
DATE: 2 April 2025
FILE: Q15018_MP_20250401.dwg

TITLE
PROPOSED MASTER PLAN

2 DESKTOP ASSESSMENT

2.1 Introduction

A desktop assessment was completed to highlight any potential conservation significant vegetation communities, any potential habitat for threatened flora and fauna, and any ecologically sensitive areas on the subject site. The desktop assessment included a review of:

- State and Commonwealth databases;
- State environmental mapping;
- Local government plans, policies and mapping; and
- literature review of scientific journal articles and botanical literature to assist with habitat suitability assessments.

2.2 Methods

2.2.1 Database Searches

2.2.1.1 Background

The following databases were reviewed as part of the desktop assessment:

- the Commonwealth *Environment Protection Biodiversity and Conservation Act 1999* (EPBC Act) Protected Matters Search Tool (PMST); and
- the Queensland Department of Environment and Science (DES) Wildlife Online database.

2.2.1.2 Commonwealth EPBC Act PMST

The Commonwealth PMST generates a list of protected matters under the Commonwealth *EPBC Act* that may occur in or near the subject area including:

- world heritage and national heritage areas;
- wetlands of international significance (Ramsar Wetlands);
- Commonwealth marine areas;
- threatened ecological communities;
- threatened species; and
- migratory species.

The PMST database incorporates information from a range of sources including government, research and community organisations. It should be noted that there are limitations on the accuracy of some matters reported by the PMST. In particular, database records of threatened and migratory species are based on their current known distribution and do not necessarily correlate to an actual observation. Database records are an indicator of potential presence only and do not take into account if suitable vegetation, geology, soil, climate or habitat types are actually present to support the occurrence of a significant species or community.

The Commonwealth PMST was used to determine the suite of threatened flora and fauna, migratory species and threatened ecological communities that were likely to be present within a 5 km radius of the subject site.

2.2.1.3 QLD DES Wildlife Online

The Wildlife Online database contains recorded wildlife sightings and listings of plants, fungi, protists, mammals, birds, reptiles, amphibians, freshwater fish, marine cartilaginous fish and butterflies in Queensland. The database is based on collated species lists and wildlife records acquired by the Queensland government through a range of sources including specimen collections, research and monitoring programs and community wildlife recording programs.

The Wildlife Online database was consulted to determine the variety of threatened flora and fauna species known to occur within a 5 km radius of the subject site.

2.2.2 State Government Mapping

2.2.2.1 Background

The following relevant State environmental mapping was reviewed as part of the desktop assessment:

- Regulated vegetation management mapping;
- Regional ecosystem (RE), remnant and High Value Regrowth (HVR) mapping;
- Essential habitat mapping;
- Koala priority and habitat areas;
- QLD wetland environmental values map;
- Protected plants flora survey trigger map;
- Coastal hazard mapping; and
- Matters of State Environmental Significance (MSES).

State environmental mapping was obtained from the relevant Queensland Government website using the Lot and Plan numbers of the subject site.

2.2.2.2 Regulated Vegetation Management Mapping

Regulated vegetation management maps are used to determine the requirements that apply under the State Development Assessment Provisions (VM Act). The vegetation categories on the map are:

- category A (red) - areas subject to compliance notices, offsets and voluntary declarations;
- category B (dark blue) – remnant RE vegetation;
- category C (light blue) - HVR vegetation;

- category R (yellow) - regrowth vegetation within 50 m of watercourses in priority reef catchment areas; and
- category X (white) - areas not regulated under the VM Act.

2.2.2.3 Regional Ecosystems, Remnant and HVR Mapping

REs are vegetation communities that are consistently associated with a particular combination of geology, landform and soil in a bioregion. Each RE has been assigned a conservation status which is based on its current extent in a bioregion as a proportion of its pre-clearing extent. RE maps show the extent and conservation status of REs at a property level. On a RE map, remnant and HVR vegetation is shown as either an endangered, of concern, or least concern RE.

The Queensland Herbarium has mapped the extent of RE's across Queensland, however it should be noted that mapping was completed at a scale of 1:100,000 and as such there are inaccuracies at a property scale. As a result, RE maps should be considered to indicative only and should not be relied upon as an inherently correct source of vegetation mapping. Site ground truthing is required to confirm the presence of RE types and their extent, verify floristics and structure and confirm conservation status.

2.2.2.4 Essential Habitat Mapping

Essential Habitat are areas identified as essential habitat for a species of wildlife listed as endangered, vulnerable, near threatened or rare under the *Nature Conservation Act 1992* (NC Act). These areas are shown on RE maps and Essential Habitat maps.

2.2.2.5 Koala Priority and Habitat Areas

The QLD *Nature Conservation and Other Legislation (Koala Protection) Amendment Regulation* mapping identifies Koala Priority Areas and Koala Habitat Areas in South East Queensland (SEQ). Koala habitat maps are produced by spatial modelling using REs and HVR mapping provided by the QLD Herbarium to identify the following areas/values for koalas:

- **Koala priority areas** - large, connected areas that focus habitat protection, habitat restoration and threat mitigation to areas that have the highest likelihood of safeguarding koala populations in SEQ.
- **Core koala habitat areas** - represent the best quality koala habitat areas, based on modelling of biophysical measures including climate, suitable vegetation for both food and shelter, and koala sightings.
- **Locally refined koala habitat areas** - include areas of mature vegetation that might not meet the QLD Government's criteria for core koala habitat areas. However, these areas may contain locally important vegetation for koalas, including some areas previously protected under local government planning schemes.
- **Koala habitat restoration areas** – areas that could be restored and established as koala habitat areas. These areas feature low threats or constraints, and high conservation opportunities.

2.2.2.6 QLD Wetland Environmental Values Mapping

The Map of QLD wetland environmental values is a state-wide statutory map under the QLD *Environmental Protection (Water and Wetland Biodiversity) Policy 2019*. It identifies wetlands of high ecological significance (HES) and general ecological significance (GES) across the state. The ecological significance score is assigned based on information obtained through the Aquatic Biodiversity Assessment and Mapping Method (AquaBAMM). HES wetlands are identified as MSES under the QLD *Environmental Offsets Regulation 2014*.

2.2.2.7 Protected Plants Flora Survey Trigger Map

The protected plants flora survey trigger map identifies high-risk areas for endangered, vulnerable or near threatened (EVNT) plants. These are areas where EVNT plants are known to exist or are likely to exist based on the habitat present. Particular provisions of the QLD NCA Act apply to the clearing of protected plants within high-risk areas.

2.2.2.8 Coastal Hazard Mapping

Queensland coastal hazard areas maps show areas within the Coastal Management District that are vulnerable to coastal erosion or storm tide inundation.

2.2.2.9 Matters of State Environmental Significance

MSES are a component of the biodiversity state interest that is defined under the State Planning Policy (SPP). MSES include certain environmental values that are protected under Queensland legislation including the:

- *Nature Conservation Act 1992*;
- *Marine Parks Act 2004*;
- *Fisheries Act 1994*;
- *Environmental Protection Act 1994*;
- *Wild Rivers Act 2005*;
- *Vegetation Management Act 1999*; and
- legally secured offset areas protected by a registered covenant or similar statutory mechanism.

This includes areas such as wildlife habitats, regulated vegetation, Wild Rivers preservation areas, riverine wetlands, high ecological value waters (watercourses and wetlands) and legally secured offset areas.

2.2.3 Local Government Mapping

Version 12 of the Redland City Plan 2018 was adopted by Council on 17th October 2024 and came into effect on the 14th November 2024. The City Plan has been prepared in accordance with the *Planning Act 2016*.

The following relevant Redland City Plan environmental mapping layers were reviewed as part of the desktop assessment:

- Environmental Significance Overlay Map; and
- Waterway Corridors and Wetlands Overlay Map.

In addition, environmental mapping produced by Redlands City Council was also reviewed.

2.3 Results

2.3.1 Database Searches

2.3.1.1 Threatened Flora Species and Ecological Communities

Threatened flora species detected in the database searches are listed in **TABLE 1**. The conservation status of each species listed in **TABLE 1** is shown in accordance with the Commonwealth EPBC Act and QLD Nature Conservation (Plants) Regulation (NCPR 2020).

TABLE 1
DATABASE RECORDS OF THREATENED FLORA SPECIES WITHIN 5 KM OF THE SITE

Scientific Name	Common Name	NCPR*	EPBC Act#
Acronychia littoralis	Scented Acronychia	E	E
Arthraxon hispidus	Hairy joint grass	V	V
Baloghia marmorata	Marbled Baloghia	V	V
Bosistoa transversa	Yellow satinheart	-	V
Corchorus cunninghamii	Native Jute	E	E
Cryptocarya foetida	Stinking Cryptocarya	V	V
Cryptostylis hunteriana	Leafless Tongue-orchid	-	V
Cupaniopsis shirleyana	Wedge-leaf tuckeroo	V	V
Endiandra floydii	Floyd's Walnut	E	E
Macadamia integrifolia	Macadamia nut	V	V
Macadamia tetraphylla	Rough-shelled bush nut	V	V
Notelaea lloydii	Lloyd's Olive	V	V
Persicaria elatior	Knotweed, Tall Knotweed	V	V
Phaius australis	Lesser Swamp-orchid	E	E
Planchonella eerwah	Shiny-leaved Condoo	E	E
Rhodamnia rubescens	Scrub turpentine	CE	CE
Rhodomyrtus psidioides	Native guava	CE	CE
Samadera bidwillii	Quassia	V	V
Thesium australe	Austral toadflax	V	V

** QLD Nature Conservation (Plants) Regulation (NCPR 2020)*

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

CE - Critically Endangered, E – Endangered and V - Vulnerable

Database searches using the Commonwealth PMST also revealed that five (5) threatened Ecological Communities may occur within 5 km of the subject site:

- Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland ecological community - Endangered;
- Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland – Endangered;

- Lowland Rainforest of Subtropical Australia – Critically Endangered;
- Subtropical Eucalypt Floodplain Forest and Woodland of the New South Wales North Coast and South East Queensland Bioregions – Endangered; and
- Subtropical and Temperate Coastal Saltmarsh – Vulnerable.

2.3.1.2 Threatened Fauna Species

Threatened fauna species detected in the database searches are listed in **TABLE 2**. The conservation status of each species listed in **TABLE 2** is shown in accordance with the Commonwealth EPBC Act and the QLD Nature Conservation (Animals) Regulation (NCAR 2020). Marine species that will clearly not occur on the site (e.g. cetaceans, sea turtles, wading birds and albatross) have been omitted.

TABLE 2
DATABASE RECORDS OF THREATENED FAUNA SPECIES WITHIN 5 KM OF THE SITE

Scientific Name	Common Name	NCAR*	EPBC Act#
Mammals			
Macroderma gigas	Ghost Bat	**E**	V
Petaurus australis	Yellow-bellied glider	V	V
Phascolarctos cinereus	Koala	E	E
Petauroides volans volans	Southern Greater glider	E	E
Potorous tridactylus tridactylus	Long-nosed potoroo (SE Mainland)	V	V
Pteropus poliocephalus	Grey-headed flying-fox	-	V
Xeromys myoides	Water mouse	V	V
Reptiles			
Coeranoscincus reticulatus	Three-toed snake-tooth skink	-	V
Delma torquata	Adorned Delma, Collared Delma	V	V
Hemiaspis damelii	Grey Snake	E	E
Birds			
Arenaria interpres	Ruddy Turnstone	V	V
Anthochaera phrygia	Regent honeyeater	CE	CE
Botaurus poiciloptilus	Australasian Bittern	E	E
Calidris acuminata	Sharp-tailed Sandpiper	V	V
Calidris canutus	Red Knot	V	V
Calidris ferruginea	Curlew Sandpiper	CE	CE
Calidris tenuirostris	Great Knot	V	V
Calyptorhynchus lathami	Glossy black-cockatoo	V	V
Calyptorhynchus lathami lathami	glossy black-cockatoo (eastern)	V	V
Charadrius leschenaultii	Greater Sand Plover	V	V
Charadrius mongolus	Lesser Sand Plover	E	E
Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)	V	V
Cyclopsitta diophthalma coxeni	Coxen's fig-parrot	CE	CE
Erythrotriorchis radiatus	Red goshawk	E	V
Falco hypoleucos	Grey falcon	V	V
Gallinago hardwickii	Latham's Snipe, Japanese Snipe	V	V
Geophaps scripta scripta	Squatter Pigeon (southern)	V	V
Grantiella picta	Painted Honeyeater	V	V
Hirundapus caudacutus	White-throated needletail	V	V

Scientific Name	Common Name	NCAR*	EPBC Act#
Lathamus discolor	Swift parrot	E	CE
Limnodromus semipalmatus	*Asian Dowitcher*	*V*	*V*
Limosa lapponica baueri	Nunivak Bar-tailed Godwit	E	E
Limosa limosa	Black-tailed Godwit	E	E
Ninox strenua	Powerful Owl	V	-
Numenius madagascariensis	Eastern Curlew	CE	CE
Pluvialis squatarola	Grey Plover	V	V
Rostratula australis	Australian painted snipe	E	E
Stagonopleura guttata	Diamond Firetail	V	V
Tringa nebularia	Common Greenshank, Greenshank	E	E
Turnix melanogaster	Black-breasted button-quail	V	V
Xenus cinereus	Terek Sandpiper	V	V
Frogs			
Adelotus brevis	Tusked frog	V	-
Crinia tinnula	Wallum Froglet	V	-
Litoria olongburensis	Wallum Sedge Frog	V	V
Insects/Invertebrates			
Argynnis hyperbius inconstans	Australian Fritillary	E	CE
* *QLD Nature Conservation (Animals) Regulation (NCAR 2020)*			
# Commonwealth *Environment Protection and Biodiversity Conservation Act 1999 (*EPBC Act)			
CE – Critically Endangered, E – Endangered, V – Vulnerable			

2.3.1.3 Migratory Species

Migratory species identified in database searches are listed in **TABLE 3**. Species that are heavily reliant on marine environments and will clearly not occur on the subject site have been omitted (e.g. cetaceans, sea turtles, coastal birds).

TABLE 3
DATABASE RECORDS OF MIGRATORY SPECIES WITHIN 5 KM OF THE SITE

Scientific Name	Common Name	Status#
Actitis hypoleucos	Common Sandpiper	M
Apus pacificus	Fork-tailed Swift	M
Arenaria interpres	Ruddy Turnstone	V, M
Calidris acuminata	Sharp-tailed Sandpiper	V, M
Calidris alba	Sanderling	M
Calidris canutus	Red Knot, Knot	V, M
Calidris ferruginea	Curlew Sandpiper	CE, M
Calidris melanotos	Pectoral Sandpiper	M
Calidris pugnax	Ruff	M
Calidris ruficollis	Red-necked Stint	M
Calidris tenuirostris	Great Knot	V, M
Charadrius bicinctus	Double-banded Plover	M
Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover	V, M
Charadrius mongolus	Lesser Sand Plover, Mongolian Plover	E, M
Charadrius veredus	Oriental Plover, Oriental Dotterel	M
Cuculus optatus	Oriental Cuckoo, Horsfield's Cuckoo	M
Gallinago hardwickii	Latham's Snipe, Japanese Snipe	V, M
Gallinago megala	Swinhoe's Snipe	M

Scientific Name	Common Name	Status#
Gallinago stenura	Pin-tailed Snipe	M
Hirundapus caudacutus	White-throated Needletail	V, M
Limicola falcinellus	Broad-billed Sandpiper	M
Limnodromus semipalmatus	Asian Dowitcher	V, M
Limosa lapponica	Bar-tailed Godwit	M
Limosa limosa	Black-tailed Godwit	E, M
Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew	CE, M
Numenius minutus	Little Curlew, Little Whimbrel	M
Numenius phaeopus	Whimbrel	M
Pandion haliaetus	Osprey	M
Pluvialis fulva	Pacific Golden Plover	M
Pluvialis squatarola	Grey Plover	V, M
Sternula albifrons	Little Tern	V, M
Tringa brevipes	Grey-tailed Tattler	M
Tringa glareola	Wood Sandpiper	M
Tringa incana	Wandering Tattler	M
Tringa nebularia	Common Greenshank, Greenshank	E, M
Tringa stagnatilis	Marsh Sandpiper, Little Greenshank	M
Xenus cinereus	Terek Sandpiper	V, M
# Commonwealth *Environment Protection and Biodiversity Conservation Act 1999 (*EPBC Act) CE – Critically Endangered, E – Endangered, V – Vulnerable, M - Migratory		

2.3.2 State Government Mapping

2.3.2.1 Regulated Vegetation Management and RE Mapping

The current regulated vegetation management map of the subject site includes Category X (vegetation not regulated under the VM Act) areas over the majority of the site (**FIGURE 5**). Patches of Category B (remnant vegetation) and a small patch of Category C (HVR vegetation) also occur across the site (**FIGURE 5**). Remnant and regrowth vegetation on the subject site is mapped as Regional Ecosystem (RE) 12.3.6 (Least Concern):

- RE 12.3.6: *Melaleuca quinquenervia +/- Eucalyptus tereticornis, Lophostemon suaveolens, Corymbia intermedia* open forest on coastal alluvial plains.

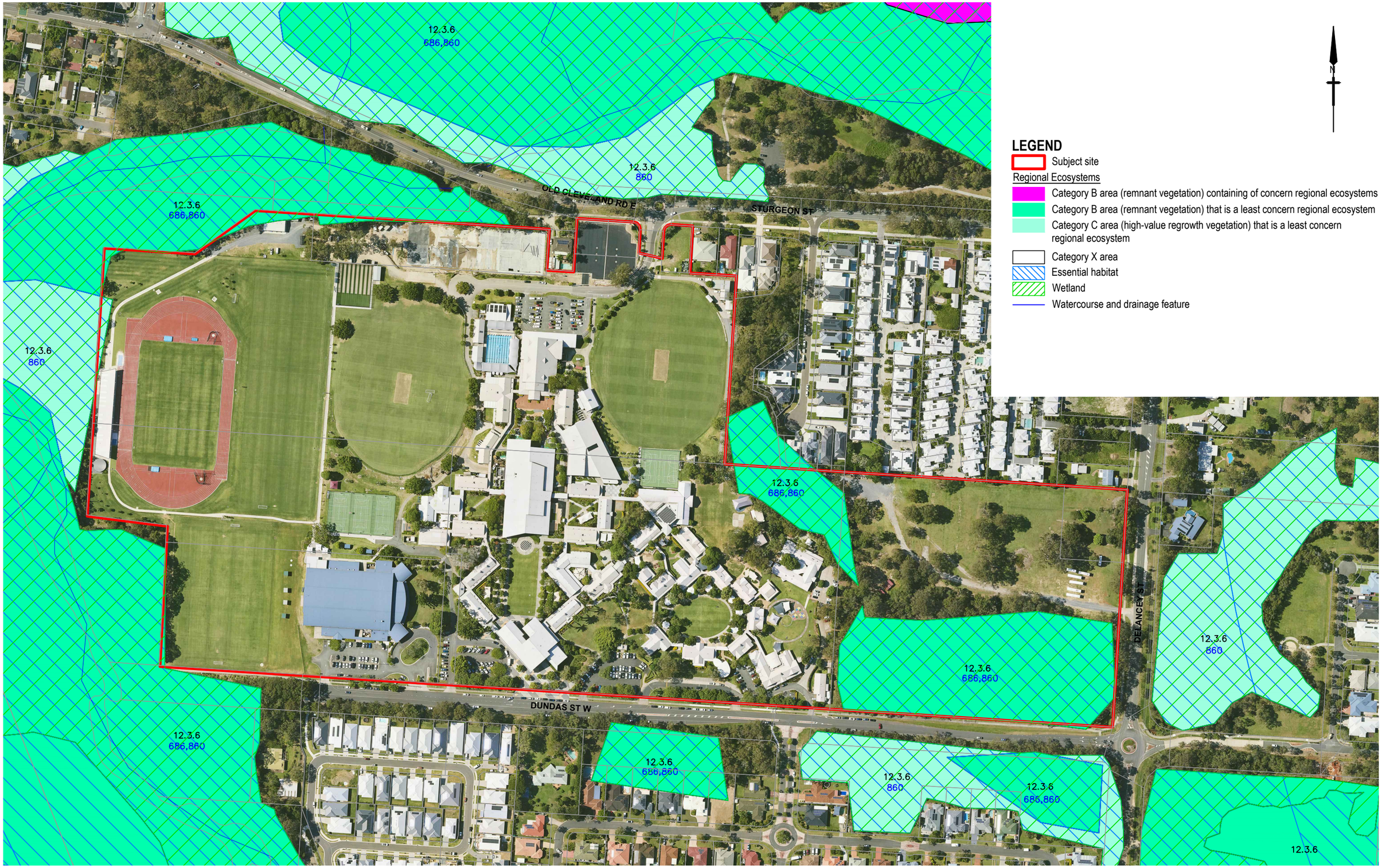
RE 12.3.6 is also identified as a Wetland on the vegetation management wetlands map. Current RE mapping is shown in **FIGURE 5**.

2.3.2.2 Essential Habitat Mapping

Regional Ecosystem (RE) mapping shows that remnant vegetation occurring on the site is Essential Habitat for the Wallum froglet (*Crinia tinnula*) and the Koala (*Phascolarctos cinereus*) (**FIGURE 5**). The Essential Habitat continues onto the neighbouring property to the west.

2.3.2.3 Koala Priority and Habitat Areas

The site is within a Koala Priority Area (KPA). The mapping shows approximately 2.58 ha of the subject site as 'Core Koala Habitat Area' (**FIGURE 6**).



LEGEND

- Subject site

Regional Ecosystems

- Category B area (remnant vegetation) containing of concern regional ecosystems
- Category B area (remnant vegetation) that is a least concern regional ecosystem
- Category C area (high-value regrowth vegetation) that is a least concern regional ecosystem
- Category X area
- Essential habitat
- Wetland
- Watercourse and drainage feature

Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: DoR Vegetation Management Act GIS datasets; Metro Map Aerial dated 06/11/25

SCALE: 1 : 3000 @ A3

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FIGURE 5

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TITLE

REGIONAL ECOSYSTEMS

LEGEND

- Subject site

Koala Priority Areas and Koala Habitat Areas

- Koala priority area
- Koala habitat area (core)

Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: QLD DES SEQ Koala Conservation Strategy 2019-2024 v3 GIS dataset; Metro Map Aerial dated 06/11/24

SCALE: 1 : 3000 @ A3

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FIGURE 6

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DATE: 5 March 2025
FILE: Q15018_MP_20250305.dwg

TITLE

KOALA PRIORITY AREAS & KOALA HABITAT AREAS

2.3.2.4 QLD Wetland Environmental Values Mapping

A Wetland of HES under Section 7 of the *Environmental Protection (Wetland and Water Biodiversity) Policy 2019* is mapped onsite (**FIGURE 7**).

It is noted that the mapped Wetland of HES areas onsite appear to be incorrect. The mapped Wetland of HES in the western portions of the site occur over areas of existing sporting fields and maintained grass areas. The mapped Wetland of HES in the eastern portion of the site is characterised by Broad-leaved paperbark forest (*M. quinquenervia*) but does not contain obligate hydrophytes. Any wetland values in this are therefore likely to be ephemeral in nature.

FRC Environmental were engaged by Ormiston College to complete an aquatic ecological assessment (FRC 2020) of the mapped Wetland of HES in the eastern portion of the site. The objective of the assessment was to determine the aquatic ecological values of the mapped wetland using a range of approaches, including the AquaBAMM assessment framework, and use a risk-based assessment to determine if proposed development would likely result in a Significant Residual Impact to aquatic ecological values. The assessment determined that the mapped wetland has low aquatic ecological values.

With consideration of the above, it is considered that the State wetland mapping on the vegetation management wetlands map is not accurate.

2.3.2.5 Protected Plants Flora Survey Trigger Map

The Protected Plants Flora Survey Trigger Map identified that the site is not located within a 'High Risk Area' prescribed under the QLD NCPR (2020).

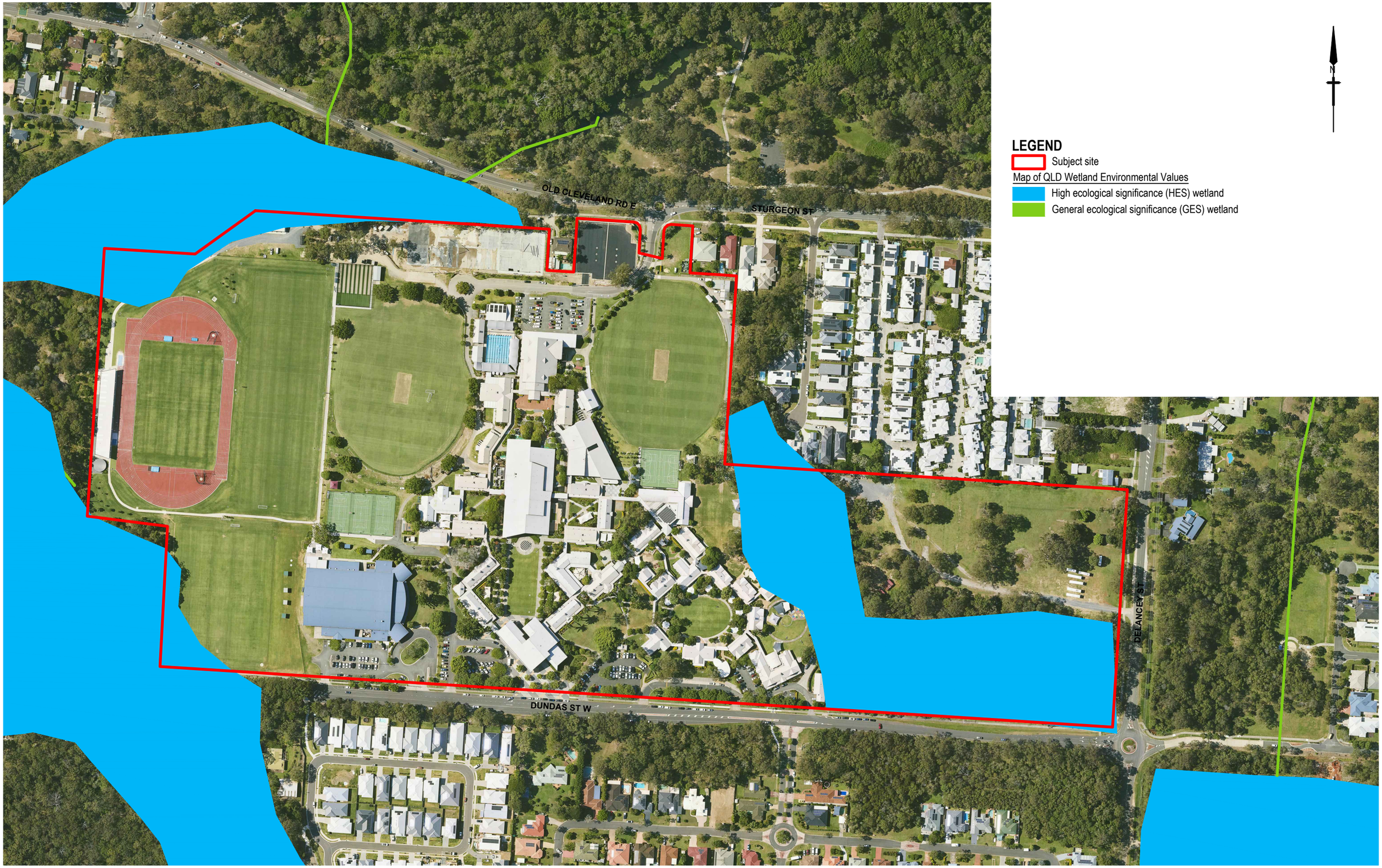
2.3.2.6 Coastal Hazard Mapping

The subject site is not mapped as occurring with the Coastal Management District.

2.3.2.7 Matters of State Environmental Significance

Several areas of the subject site are mapped as containing MSES (**FIGURES 8A** and **8B**). These MSES include the following:

- Wildlife habitat (endangered or vulnerable);
- Wildlife habitat (special least concern animal);
- Wildlife habitat (koala habitat area - core);
- Regulated vegetation (essential habitat);
- Regulated vegetation (100m from wetland); and
- High ecological significance wetlands.



LEGEND

Subject site

Map of QLD Wetland Environmental Values

High ecological significance (HES) wetland

General ecological significance (GES) wetland

Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: QLD DES Map of QLD Wetland Environmental Values GIS dataset; Metro Map Aerial dated 06/11/24

SCALE: 1 : 3000 @ A3

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FIGURE 7

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TITLE

MAP OF QLD WETLAND ENVIRONMENTAL VALUES

LEGEND

Subject site

Matters of State Environmental Significance

Wildlife habitat (endangered or vulnerable)

Wildlife habitat (special least concern)

Koala habitat (core)

Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: QLD DES Matters of state environmental significance GIS datasets
Metro Map Aerial dated 06/11/24

SCALE: 1 : 3000 @ A3

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FIGURE 8A

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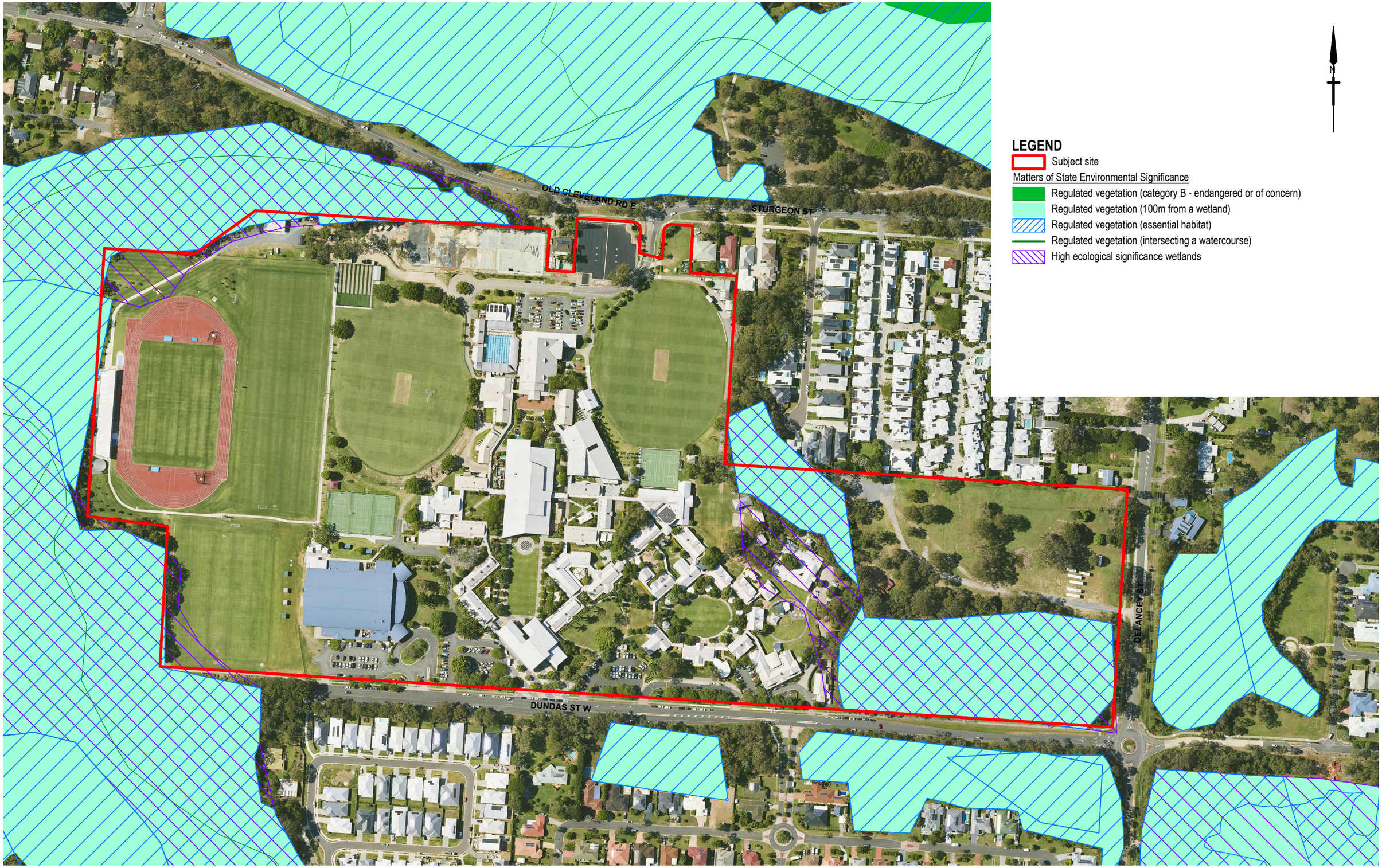
TITLE
MATTERS OF STATE ENVIRONMENTAL SIGNIFICANCE



LEGEND

- Subject site

Matters of State Environmental Significance

- Regulated vegetation (category B - endangered or of concern)
- Regulated vegetation (100m from a wetland)
- Regulated vegetation (essential habitat)
- Regulated vegetation (intersecting a watercourse)
- High ecological significance wetlands

Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: QLD DES Matters of state environmental significance GIS datasets
Metro Map Aerial dated 06/11/24

SCALE: 1 : 3000 @ A3

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FIGURE 8B

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TITLE
MATTERS OF STATE ENVIRONMENTAL SIGNIFICANCE

2.3.3 Local Government Mapping

2.3.3.1 Environmental Significance Overlay Map

The Environmental Significance Overlay maps areas of the site as containing MSES and Matters of Local Ecological Significance (MLES) (**FIGURE 9**).

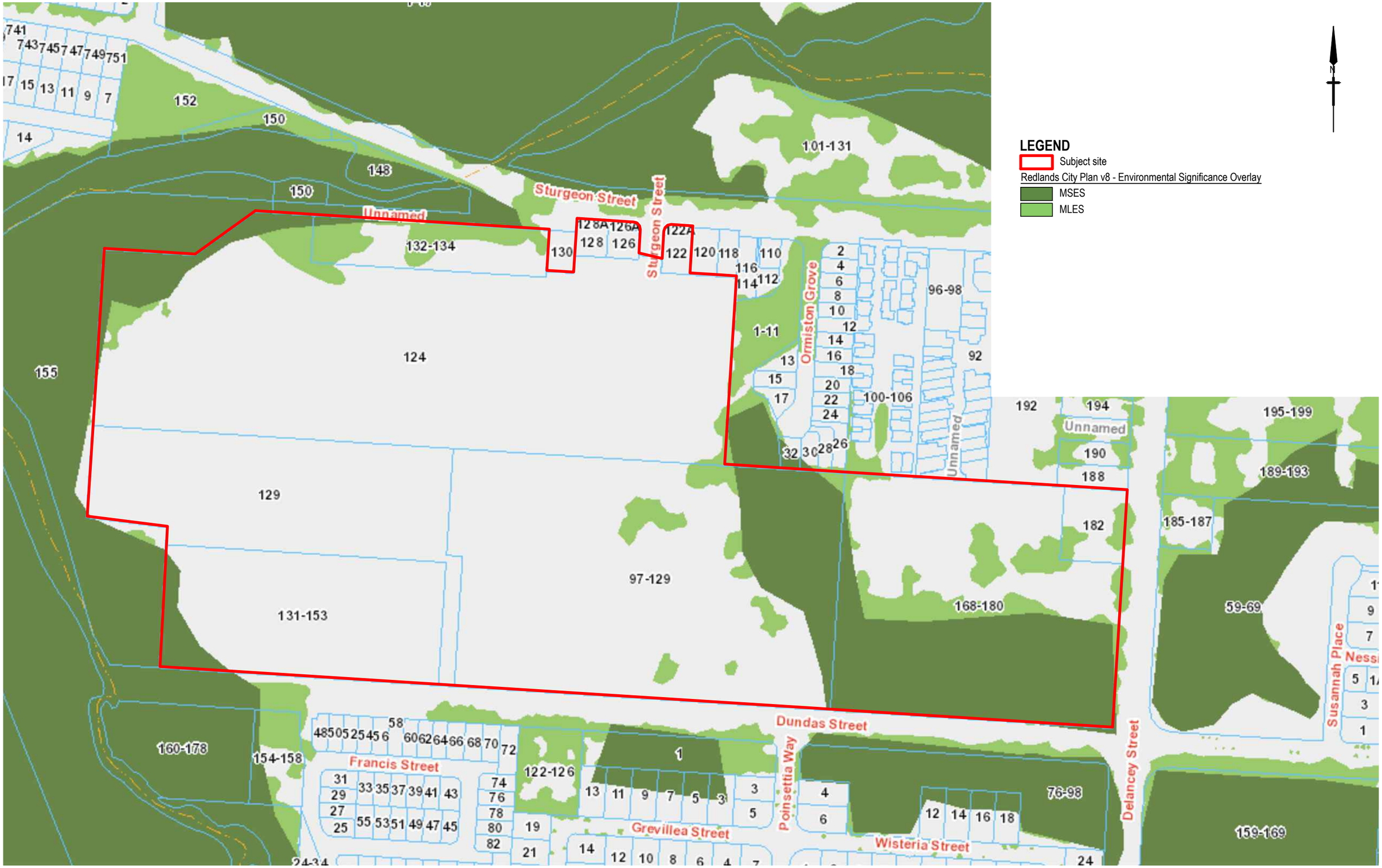
2.3.3.2 Waterway Corridors and Wetlands Overlay Map

The Waterway Corridors and Wetlands Overlay covers portions of the site (**FIGURE 10**). It is worth noting that no waterways were observed on the site, and no areas are considered to be representative of a wetland occur on site (FRC 2020).

2.3.3.3 Redlands City Council Environmental Mapping

The following local environmental layers are mapped on site:

- RCC Koala habitat (**FIGURE 11**);
- RCC Regional Ecosystems (**FIGURE 12**); and
- RCC Non-Regional Ecosystem Habitat (**FIGURE 12**).



SOURCE: Redlands City Council Red-e-map (accessed 05/03/25)

SCALE: 1 : 3000 @ A3

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FIGURE 9

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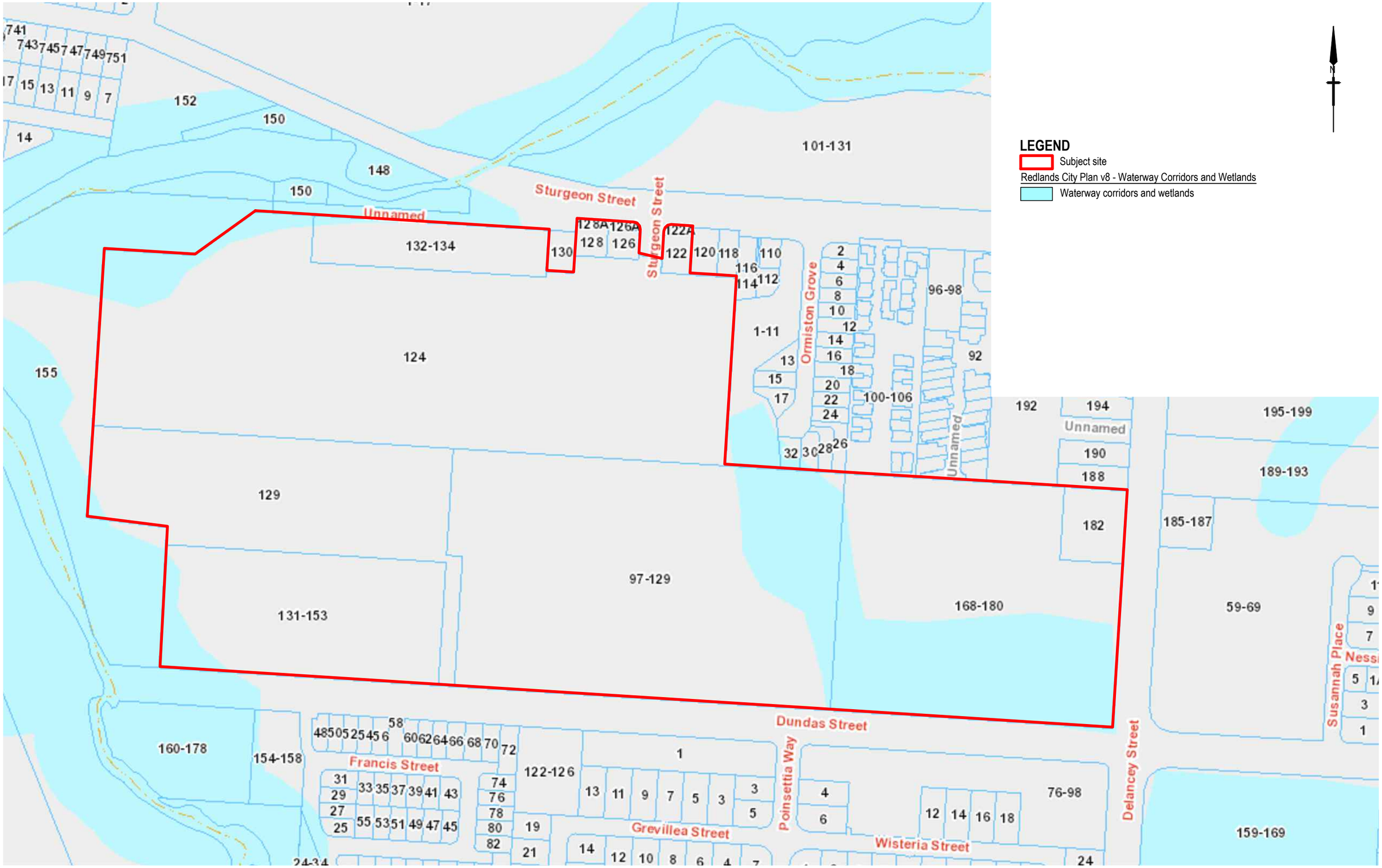
TITLE
ENVIRONMENTAL SIGNIFICANCE OVERLAY



Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: Redlands City Council Red-e-map (accessed 05/03/25)

SCALE: 1 : 3000 @ A3

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FIGURE 10

PREPARED: BW
DATE: 5 March 2025
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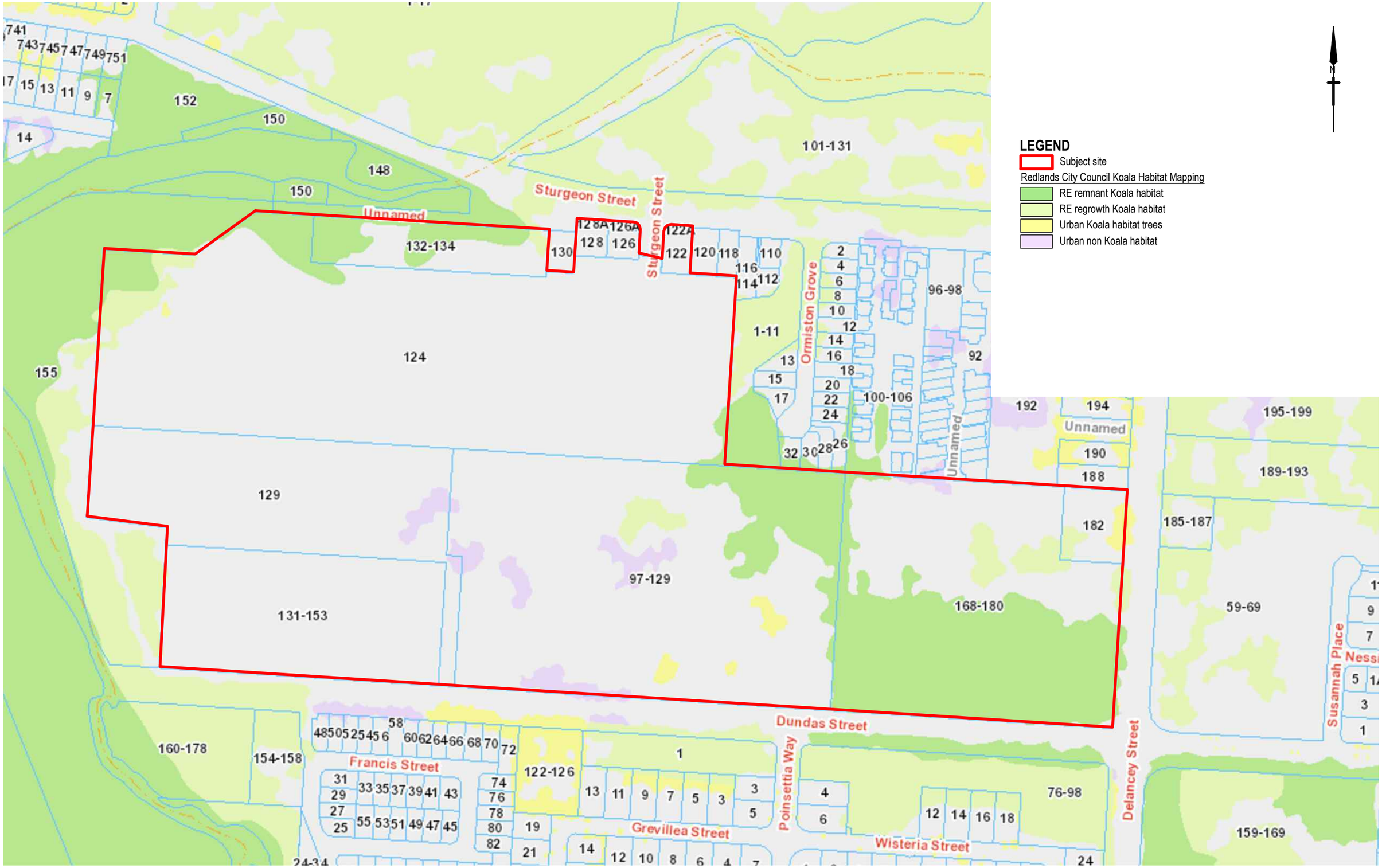
TITLE
WATERWAY CORRIDORS & WETLANDS



Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: Redlands City Council Red-e-map (accessed 05/03/25)

SCALE: 1 : 3000 @ A3

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FIGURE 11

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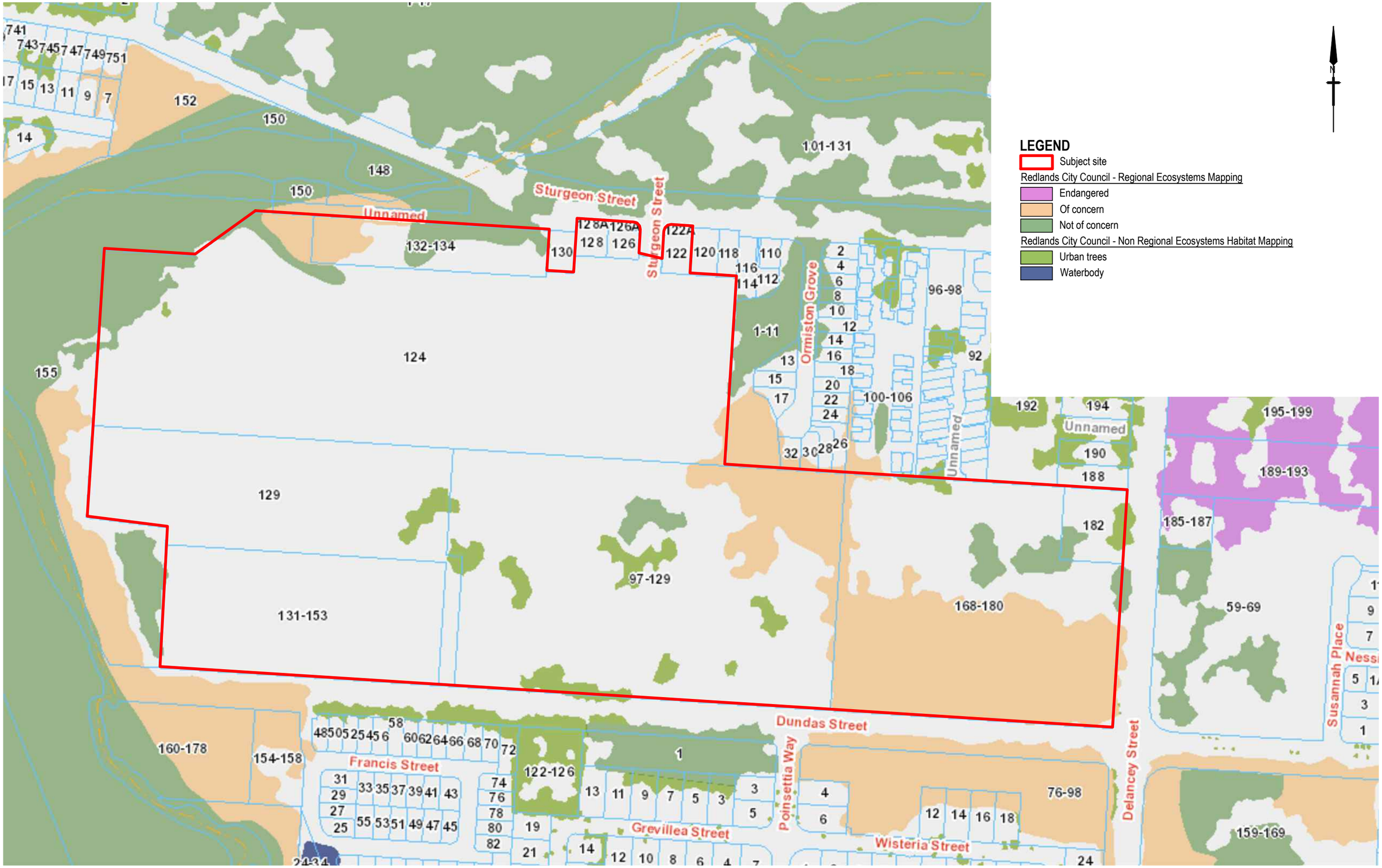
TITLE
RCC
KOALA HABITAT
MAPPING



Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: Redlands City Council Red-e-map (accessed 05/03/25)

SCALE: 1 : 3000 @ A3

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FIGURE 12

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TITLE
RCC
RE & NON-RE HABITAT MAPPING

3 FLORA ASSESSMENT

3.1 Introduction

This section discusses the methods used in the flora assessment and presents the results of the assessment.

3.2 Methods

3.2.1 Background

A number of flora surveys and vegetation mapping/ground-truthing exercises have been completed over the subject site and have included:

- a general flora survey and vegetating mapping/ground-truthing was completed by one (1) JWA ecologist on the 2nd and 3rd of June 2016;
- a detailed tree survey was completed in the eastern portion of the site by two (2) JWA ecologists on the 20th November 2019;
- a general flora survey and confirmation of previous vegetating mapping/ground-truthing was completed by two (2) JWA ecologists on the 6th and 7th July 2020;
- a tree survey was completed in the north-western portion of the site by two (2) JWA ecologists on the 27th October 2020; and
- a tree survey was completed within the remainder of the school grounds by two (2) JWA ecologists on the 12th January 2023.

Techniques utilised during the flora surveys are described below.

3.2.2 Desktop Assessment

Preliminary identification of the vegetation communities was undertaken prior to the commencement of fieldwork via interpretation of current RE mapping and aerial photographs. To validate current mapping and determine the likely presence of threatened flora, vegetation communities were assessed and recorded across the subject site.

3.2.3 Flora Surveys

The flora surveys employed an assessment of floral taxa and vegetation communities in keeping with the methodology employed by the Queensland Herbarium for the survey of Regional Ecosystems and vegetation communities (Neldner *et al*. 2019). Preliminary identification of the vegetation communities was conducted prior to the commencement of fieldwork via interpretation of current RE mapping and aerial photographs.

The surveys used the methodology described in the NC Act Flora Survey Guidelines - Protected Plants (DES 2020a) as timed random meander searches. The random meander technique original described by Cropper (1993) and adapted by the Flora Survey Guidelines was used to search for threatened flora species. The meander technique was used to discover and record all the vascular flora observed on the site. After 30 minutes of no new plant species being observed and recorded, the meander was concluded.

Vegetation communities were mapped and described using the technique contained in Walker and Hopkins (1998). Vegetation structural formation classes were assessed according to Neldner *et al.* (2019). RE classification of vegetation communities were determined as per Sattler and Williams (1999), and in accordance with the Regional Ecosystems Description Database (REDD) (Queensland Herbarium 2024).

3.2.4 Tree Surveys

In November 2020, all native trees equal to or greater than 30 cm diameter at breast height (DBH) in the western portion of the site were marked with an ID tag and identified to species level. DBH, canopy spread, and height were recorded. Potential fauna habitat trees (i.e. mature trees with hollows, fissures and/or other suitable roosting/nesting places for arboreal marsupials, hollow-nesting bird species or microchiropteran bats) were noted. These trees were subsequently located by a suitably qualified surveyor.

Within the dense patch of vegetation in the southeast corner of the site, three (3) 20 m x 20 m plots were set up across the vegetated area of the site to allow an estimation of the number of non-juvenile Koala habitat trees (NJKHTs) smaller than 30 cm DBH. Each species within the plots were counted and placed in one of three (3) DBH size categories: 0-10 cm, 11-20 cm and 21-30 cm. Averages were then calculated and used to estimate the number and size of each species across the vegetated area.

NJKHTs are defined in schedule 2, section 6(6) of the *Environmental Offsets Regulation 2014* as follows:

A **koala habitat tree** is defined as:

> *a tree of any of the following genera—*
>
> *a) Angophora;*
>
> *b) Corymbia;*
>
> *c) Eucalyptus;*
>
> *d) Lophostemon;*
>
> *e) Melaleuca.*

Non-juvenile koala habitat tree is a koala habitat tree that—

> *a) is more than 4 m high; or*
>
> *b) has a trunk with a circumference of more than 31.5 cm at 1.3 m above the ground.*

In October 2020, all native trees equal to or greater than 20 cm DBH in the north-western portion of the site were marked with an ID tag and identified to species level. DBH, canopy spread, and height were recorded. Potential fauna habitat trees (i.e. mature trees with hollows, fissures and/or other suitable roosting/nesting places for arboreal marsupials, hollow-nesting bird species or microchiropteran bats) were noted. It was also determined if each of these trees were NJKHTs. These trees were subsequently located by a suitably qualified surveyor.

Finally, in January 2023, all native trees equal to or greater than 20 cm DBH over the remainder of the school grounds were located by hand-held GPS, marked with an ID tag and identified to species level. DBH, canopy spread, and height were recorded. Potential fauna habitat trees (i.e. mature trees with hollows, fissures and/or other suitable roosting/nesting places for arboreal marsupials, hollow-nesting bird species or microchiropteran bats) were noted. It was also determined if each of these trees were NJKHTs.

3.2.5 Habitat Suitability Assessment

The suitability of the habitats on the site for listed threatened flora species identified in database searches was assessed to determine which of those species could potentially occur on the site. Assessments were based on the following:

- desktop research of scientific journal articles and botanical literature;
- consultations with specialist academic staff; and
- targeted field surveys within the subject site and surrounds.

The impacts associated with current land uses, vegetation clearing, land and waterway erosion/degradation, weed and feral invasion and previous fire regimes were all considered when completing habitat suitability assessments. Furthermore, the assessment determined whether it was likely for habitat features that typically support threatened flora species to be present on the subject site.

Potential occurrences of threatened flora species are discussed as *unlikely*, *possible* or *likely* to occur in habitats on the site. Possible occurrences are species which may occur sporadically or are provided with small areas of potentially suitable habitat. Likely occurrences are provided with habitat of high quality on the subject site.

3.3 Results

3.3.1 Site Vegetation Survey

A total of fifty-seven (57) flora species were recorded on the site. No threatened flora species were located on site. A full species list is provided in **APPENDIX 1**.

Two (2) broad vegetation communities were identified on the subject site. These vegetation communities were found to generally follow the current regulated vegetation management map of the subject site (**FIGURE 5**) which shows Category X (vegetation not regulated under the VM Act) areas, and remnant vegetation RE 12.3.6 (Least Concern). Areas mapped as RE 12.3.6 on the subject site are generally comprised of Broad-leaved paperbark (*Melaleuca quinquenervia*) up to 18 m in height with an emergent layer of Qld blue gum (*Eucalyptus tereticornis*) up to 23 m in height. The midstorey is disturbed and comprised of regrowth canopy species with scattered occurrences of *Acacia* spp. and Red ash (*Alphitonia excelsa*). There are also patches of Lantana* (*Lantana camara*), Broad-leaved pepper tree* (*Schinus terebinthifolius*), Easter cassia (*Senna pendula* var. *glabrata*) and other woody weeds. The groundcover is generally comprised of a mixture of Blady grass (*Imperata cylindrica*), and various pasture grasses and common agricultural weeds.

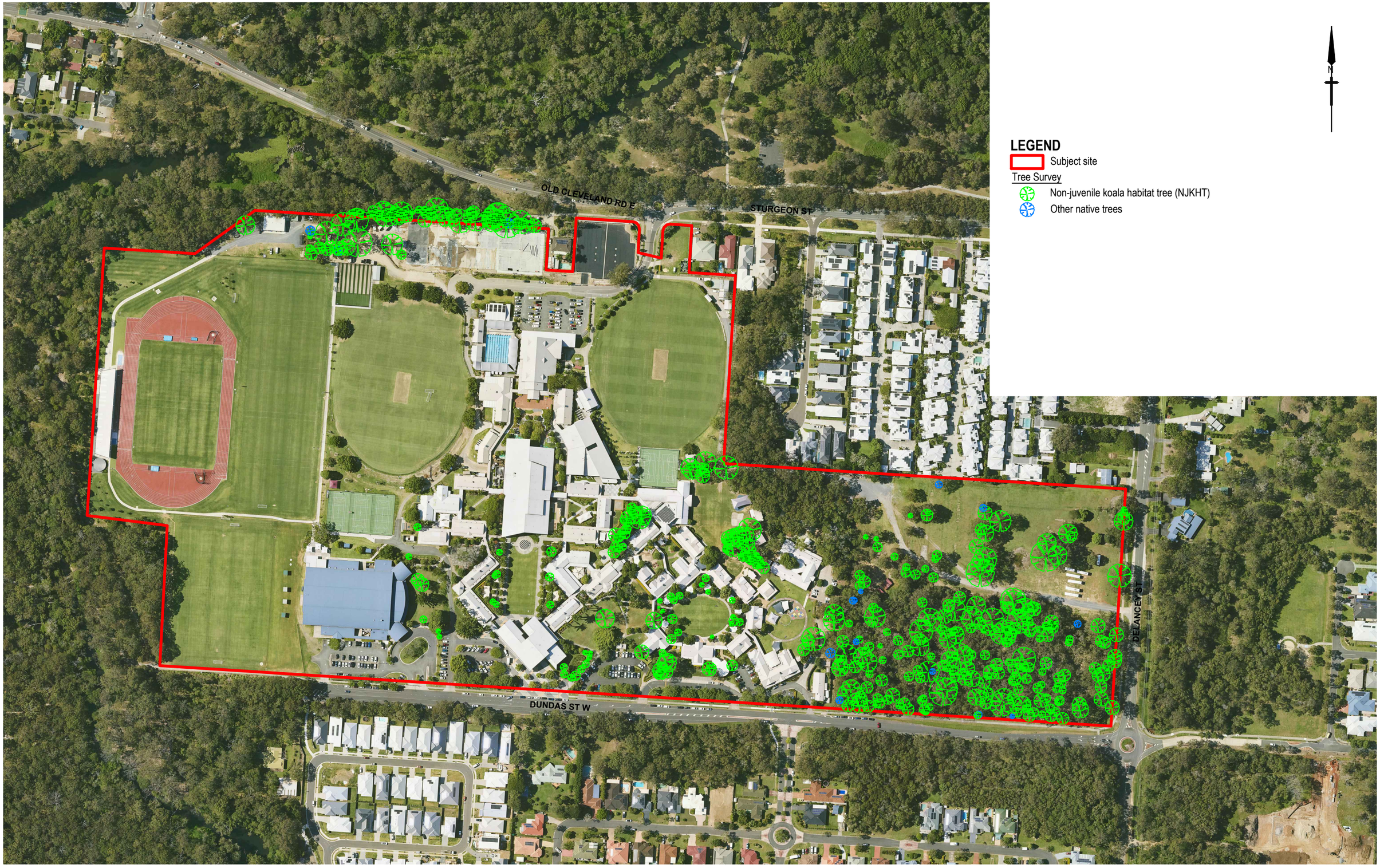
Non-remnant portions of the subject site comprise scattered or clumped mature native trees with some smaller areas containing emergent regrowth and/or mid-storey species. Ground cover is typically disturbed and/or void of native vegetation in these areas.

It is noted that the area along the north, north-western boundary of the subject site mapped as containing waterway corridors and wetlands (**FIGURE 7**) has a highly disturbed ground cover and contains four (4) trees. No waterways were observed on the subject site. Furthermore, no areas considered to be representative of a wetland occur on the subject site (FRC 2020).

3.3.2 Tree Survey

The results of tree surveys completed on the site are shown in **FIGURE 13**. Tree details are provided in **APPENDIX 2**. A total of 522 native trees were identified, including 507 NJKHTs and 18 habitat trees.

The average number of NJKHTs less than 30 cm DBH and the estimated number of these trees across the vegetated area in the southeast corner of the site is provided in **TABLE 4**. **APPENDIX 3** provides the raw plot data. It is estimated that, in addition to the surveyed NJKHTs ≥30cm DBH, a total of 1,350 non-juvenile koala habitat trees less than 30 cm DBH occur within the vegetated southern portion of the subject site.



N

LEGEND

Subject site

Tree Survey

Non-juvenile koala habitat tree (NJKHT)

Other native trees

Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: JWA Site Investigations; Metro Map Aerial dated 06/11/24

SCALE: 1 : 3000 @ A3

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FIGURE 13

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TITLE

TREE SURVEY

TABLE 4
AVERAGE AND ESTIMATED TOTAL NUMBER OF NON-JUVENILE KOALA HABITAT TREES <30 CM DBH

Species	Average Number of Trees (< 30 cm DBH) per 400 m^2 plot by Size Class			Estimated Number of Trees (< 30 cm DBH) Across Vegetated Area by Size Class			Estimated Total Number of Trees (< 30 cm DBH) Across Vegetated Area
	0-10cm	11-20cm	21-30cm	0-10cm	11-20cm	21-30cm	
Eucalyptus tereticornis	0	0	0.67	0	0	41	41
Melaleuca quinquenervia	1.33	3	5.67	81	184	348	613
Corymbia intermedia	2.67	0.33	0.67	164	20	41	225
Lophostemon suaveolens	6	0.67	1	369	41	61	471
						TOTAL	**1,350**

3.3.3 Habitat Suitability Assessment for Threatened Flora Species

The site is not located within a 'High Risk Area' on the Protected Plants Flora Survey Trigger Mapping and surveys of the site recorded no threatened flora species. Furthermore, habitat suitability assessments were completed for the threatened flora species that are known to occur or considered possible occurrences in the locality (**APPENDIX 4**) and determined that none of these species are likely to occur within the subject site.

4 FAUNA ASSESSMENT

4.1 Introduction

This section discusses the methods used in the fauna assessment and presents the results of the assessment.

4.2 Methods

4.2.1 Background

A number of general and targeted fauna surveys have been completed over the subject site and have included:

- a diurnal fauna survey in conjunction with the flora survey and targeted nocturnal surveys for the Wallum froglet and arboreal mammals were completed by one (1) JWA ecologist on the 2nd and 3rd of June 2016;
- a diurnal fauna survey was also completed in conjunction with the tree survey by two (2) JWA ecologists on the 20th November 2019;
- a diurnal fauna survey, targeted koala activity assessment and spotlighting surveys were completed by two (2) JWA ecologists on the 7th and 8th July 2020;
- a diurnal fauna survey in conjunction with the flora survey by two (2) JWA ecologist on the 12th January 2023; and
- targeted nocturnal surveys for arboreal mammals were completed by one (1) JWA ecologist on the 11th and 13th January 2023 throughout the school grounds.

As the site is mapped as containing core koala habitat the assessment of the subject site included targeted surveys for koalas and evidence of koala activity. There is also known to be a population of Squirrel gliders (*Petaurus norfolcensis*) on adjoining lands, and Council requested an assessment of their use of the subject site and potential impacts of the development on this population. With consideration of the above, the survey area was extended beyond the subject site into adjoining lands.

A portion of the site is also mapped as essential habitat for the Wallum froglet. Targeted surveys were therefore completed for this species.

Techniques utilised during the fauna surveys are described below.

4.2.2 Targeted Surveys

4.2.2.1 Wallum froglet (*Crinia tinnula*)

As potential Wallum froglet habitat was identified on the site (**FIGURE 5**), two (2) nights of targeted spotlighting and call playback surveys were completed in these areas during appropriate weather conditions on the 2nd and 3rd June 2016. On commencement of each playback session, pre-recorded calls of targeted fauna species were broadcast from a CD player through a speaker at locations in habitat suitable for the target species. The calls were played for five (5) minutes, followed by a five (5) minute listening period.

4.2.2.2 Squirrel glider (*Petaurus norfolcensis*)

Spotlighting surveys targeting the Squirrel glider were completed:

- by one (1) JWA ecologists over two (2) nights on the 2nd and 3rd June 2016 for three (3) hours per night, giving a total of six (6) hours spotlighting;
- by two (2) JWA ecologists over two (2) nights on the 7th and 8th July 2020 for three (3) hours per night, giving a total of twelve (12) person hours of spotlighting; and
- by one (1) JWA ecologist over two (2) nights on the 11th and 13th January 2023 for two (2) hours per night, giving a total of four (4) hours spotlighting.

The site and surrounding areas were traversed on foot with a large spotlight used to detect 'eye-shine' from nocturnal fauna. The observer walked at approximately 1km/h, allowing intensive listening as an adjunct to visual detection.

4.2.2.3 Koala (*Phascolarctos cinereus*)

The Regularised Grid-based Spot Assessment Technique (RG-bSAT) (Phillips and Hopkins 2007, Allen *et al*. 2010, Tweed Shire Council 2014) was utilised as the primary assessment method to determine the current levels of Koala activity/usage within the mapped Koala habitat in the eastern portion of the site (i.e. Lots 1 and 2 on RP110831 and part of Lot 3 on RP49638). RG-bSAT is a tree-based sampling method which provides presence/absence data for koalas as well as data regarding habitat usage/preference. It is a variation of the standard Spot Assessment Technique (SAT) (Phillips and Callaghan 2011) that utilises grid intersect points to identify the center of each SAT plot.

RG-bSAT is recognised as an appropriate technique for surveying for koala across a range of habitat types and is endorsed by the EPBC Act referral guidelines for the vulnerable koala: combined populations of Queensland, New South Wales and the Australian Capital Territory (Australian Government 2014).

Site surveys were completed on the 7th and 8th July 2020 by two (2) JWA ecologists. The following sections describe the RG-bSAT methodology in detail and how it was employed on the subject site.

Determining Appropriate Sampling Intervals

The RG-bSAT requires a grid to be superimposed over the survey area enabling the systematic yet random selection of sites to be assessed using the SAT approach. Tweed Shire Council (2020) have developed appropriate sampling intervals for assessment of Koala activity across sites (**TABLE 5**).

TABLE 5
SAMPLING INTERVALS FOR KOALA ACTIVITY ASSESSMENT
(EXTRACT FROM TWEED COAST COMPREHENSIVE KOALA PLAN OF MANAGEMENT – APPENDIX E)

Area of Land Subject of Development Proposal	Sampling Interval A	Sampling Interval B
< 15 ha	150 m	75 m
15 – 50 ha	250 m	125 m
> 50 ha	350 m	175 m

Determining appropriate sampling intervals essentially involves a desktop exercise utilising GIS software and recent aerial photography whereby:

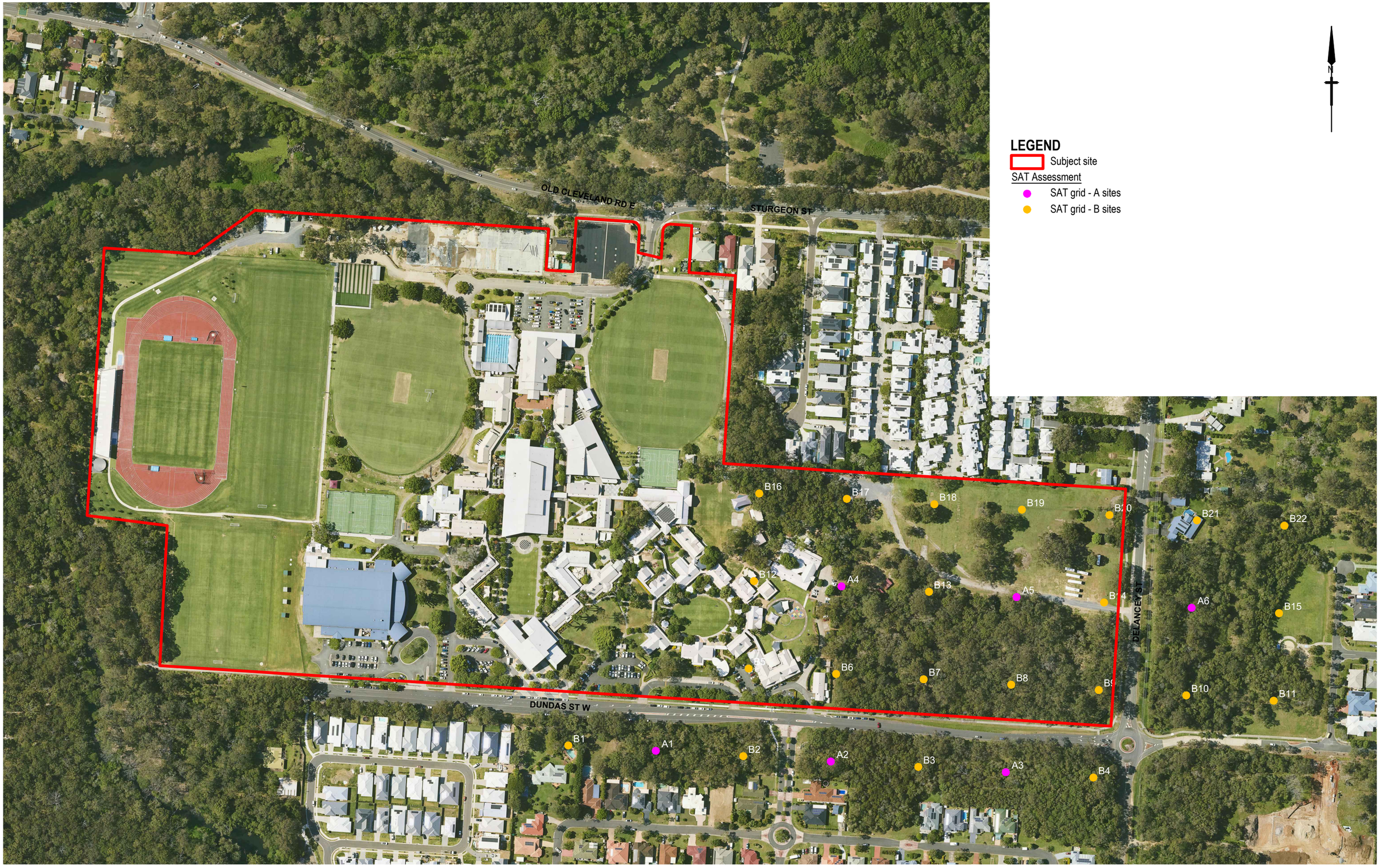
1. The subject site is overlaid with a square grid with dimensions according to "sampling interval B" specified in the **TABLE 5** above. When overlaying the grid, ensure that adjoining areas of land are included to the extent that an overlap consistent with the relevant sampling interval B has been achieved (i.e. provision is made to sample adjoining areas of habitat and so place the site into a broader koala management context).
2. The resulting grid-cell intersections are used to identify potential "A" and "B" sampling sites. A potential sampling site is any point that is located where 30 trees could theoretically be sampled within a reasonable distance. A reasonable distance is considered approximately half of the distance between sampling points (e.g. 38 m when the sampling interval is 75 m; 73 m when the sampling interval is 125 m etc.).
3. Each potential sampling site is identified with a unique number for future reference purposes.

The RG-bSAT survey area (i.e. Lots 1 and 2 on RP110831 and part of Lot 3 on RP49638) covers a total area of 7.0 ha, a sampling interval A of 150 m and a sampling interval B of 75 m was applicable to the site. The sampling grid was overlaid on a recent aerial photograph in a manner that ensured an overlap onto adjoining areas of habitat consistent with the relevant sampling interval B was achieved (**FIGURE 14**).

Applying the RG-bSAT

The RG-bSAT involves a radial assessment of Koala "activity" within the immediate area surrounding a SAT site. In the field, the technique is applied as follows:

1. Locate the SAT "A" site.
2. Identify and uniquely mark the thirty (30) nearest trees to the SAT site.
3. Undertake a search for Koala faecal pellets beneath each of the thirty (30) marked trees based on a cursory inspection of the undisturbed ground surface within a distance of 100 centimetres around the base of each tree, followed (if no faecal pellets are initially detected) by a more thorough inspection involving disturbance of the leaf litter and ground cover within the prescribed search area.
4. In the event that koala activity is recorded at any of the "A" sampling sites, sampling is to be undertaken at each "B" site adjacent to any "A" site in which koala activity was recorded.



LEGEND

Subject site

SAT Assessment

SAT grid - A sites

SAT grid - B sites

Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: JWA Site Investigations 2020; Metro Map Aerial dated 06/11/24

SCALE: 1 : 3000 @ A3

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FIGURE 14A

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DATE: 5 March 2025
FILE: Q15018_MP_20250305.dwg

TITLE

SAT GRID

LEGEND

Subject site

SAT Assessment

- Low use
- Nil result
- Site not assessed

N

Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: JWA Site Investigations 2020; Metro Map Aerial dated 06/11/24

SCALE: 1 : 3000 @ A3

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FIGURE 14B

PREPARED: BW
DATE: 5 March 2025
FILE: Q15018_MP_20250305.dwg

TITLE

SAT RESULTS

For assessment purposes, a tree is defined as "a live woody stem of any plant species (excepting palms, cycads, tree ferns and grass trees) which has a diameter at breast height (dbh) of 100 mm or greater" (Phillips *et al*. 2000). In the case of multi-stemmed trees, at least one of the live stems must have a DBH of 100 mm or greater in order to qualify.

Strict adherence to the 100 cm search area is a fundamental component of the SAT methodology. It is this distance that both optimises the probability of success in terms of actually finding faecal pellets, while at the same defining a workable search area (Phillips and Callaghan 2011). In terms of search effort, an average of approximately two (2) person minutes per tree should be dedicated to the faecal pellet search. For assessment purposes, the search should be concluded once a single faecal pellet has been detected or when the maximum search time has expired, whichever happens first. This process should be repeated until each of the 30 trees in the site has been assessed. Where the location of faecal pellets falls within overlapping search areas due to two (2) or more trees growing in close proximity to each other, both should be scored for pellet(s).

Calculation and Interpretation of Koala Activity Levels

The activity level for a SAT site is simply expressed as the percentage equivalent of the proportion of surveyed trees within the site that had a Koala faecal pellet recorded within the prescribed search area. For example, given a sample of 30 trees, 12 of which had one (1) or more faecal pellets recorded – the resulting activity level would be determined as 12/30 = 0.4 = 40 per cent. Phillips and Callaghan (2011) opted for a precautionary approach by proposing use of mean activity levels ± 99 per cent confidence intervals to define the limits of "normal" Koala activity. Based on the threshold values that result, three (3) categories of activity – "low", "medium (normal)" and "high" can thus be determined for each of the three (3) area/population density categories detailed in Phillips and Callaghan (2011), as indicated in **TABLE 6**.

For the purposes of this assessment, the subject site is considered to occur within the East Coast (med-high) Activity Category Area.

TABLE 6
CATEGORISATION OF KOALA ACTIVITY
(EXTRACT FROM PHILLIPS AND CALLAGHAN 2011)

Activity Category Area (Density)	Low Use	Medium (Normal) Use	High Use
East Coast (low)[1]	-	≥ 3.33% but ≤ 12.59%	>12.59%
East Coast (med-high)[2]	<22.52%	≥ 22.52% but ≤ 32.84%	>32.84%
Western Plains (med-high)	<35.84%	≥ 35.84% but ≤ 46.72%	>46.72%

[1] Pooled from South-east forests and Campbelltown data and defined as ≤ 0.1 Koalas/ha
[2] Pooled from Port Stephens and Noosa data and considered to be representative of med-high density populations of the tablelands and areas east of the Great Dividing Range.

Where the results of a SAT site return an activity level within the low use range, the level of use by the Koala is likely to be transitory. Conversely, where a given SAT site returns an activity level within the prescribed range for medium (normal) to high use - the level of

use is indicative of more sedentary ranging patterns and is thus within an area of major activity (Phillips and Callaghan 2011).

Spotlighting Surveys

In addition to the assessment of koala activity levels utilising the RG-bSAT method, spotlighting surveys targeting the Koala were completed:

- by one (1) JWA ecologists over two (2) nights on the 2nd and 3rd June 2016 for three (3) hours per night, giving a total of six (6) hours spotlighting; and
- by two (2) JWA ecologists over two (2) nights on the 7th and 8th July 2020 for three (3) hours per night, giving a total of twelve (12) person hours of spotlighting.
- by one (1) JWA ecologist over two (2) nights on the 11th and 13th January 2023 for two (2) hours per night, giving a total of four (4) hours spotlighting.

The site and surrounding areas were traversed on foot with a large spotlight used to detect 'eye-shine' from nocturnal fauna. The observer walked at approximately 1km/h, allowing intensive listening as an adjunct to visual detection.

4.2.3 Opportunistic Sightings

The random meander technique (Cropper 1993) was used to traverse the site. All incidental records of fauna utilising the study area were recorded. Discoveries of scratch marks on trees, scats, footprints, diggings, bones and other animal traces were noted.

4.2.4 Active Searching

Any logs, sheets of tin, cardboard, bark and leaves were overturned in search of reptiles and amphibians while traversing the site. Searches were undertaken for diggings, scats, and bones. Eucalypt trees were inspected for signs of Koala activity such as scratch marks and scats. Active observation of bird and amphibian activity, both aurally and visually, was undertaken during the site visit.

4.2.5 Habitat Suitability Assessment

The suitability of the habitats on the site for listed threatened and migratory species identified in database searches was assessed to determine which of those species could potentially occur on the site. Assessments were based on the following:

- desktop research of scientific journal articles and botanical literature;
- consultations with specialist academic staff; and
- targeted field surveys within the subject site and surrounds.

The impacts associated with current land uses, vegetation clearing, land and waterway erosion/degradation, weed and feral invasion and previous fire regimes were all considered when completing habitat suitability assessments. Furthermore, the assessment determined

whether it was likely for habitat features that typically support threatened species to be present on the subject site. Particular attention was paid to habitat features such as:

- the presence of mature trees with hollows, fissures and/or other suitable roosting/nesting places;
- the presence of Koala food trees;
- the presence of preferred glossy black cockatoo feed trees (forest oak and/or black she-oak);
- the presence of characteristic signs of foraging (e.g. chewed cones or glider feeding scars);
- condition, flow and water quality of drainage lines and bodies of water;
- areas of dense vegetation;
- presence of hollow logs/debris and areas of dense leaf litter;
- presence of fruiting flora species;
- presence of blossoming flora species, particularly winter-flowering species;
- vegetation connectivity and proximity to neighbouring areas of intact vegetation; and
- presence of caves and man-made structures suitable as microchiropteran bat roost sites.

Potential occurrences of threatened fauna species and migratory species are discussed as *unlikely*, *possible* or *likely* to occur in habitats on the site. Possible occurrences are species which may occur sporadically or are provided with small areas of potentially suitable habitat. Likely occurrences are provided with habitat of high quality on the subject site.

4.3 Results

4.3.1 Fauna Survey

4.3.1.1 Amphibians

Vegetation on the site contains suitable foraging habitat for a range of native frog species. Two (2) native and one (1) introduced amphibian species were observed on site during the 2016, 2019 and 2020 diurnal and targeted nocturnal surveys:

- Copper backed brood frog (*Pseudophryne coriacea*);
- Green tree frog (*Litoria caerulea*); and
- Cane toad (*Rhinella marinus*).

No threatened amphibian species were recorded.

Targeted spotlighting and call playback surveys failed to record the Wallum froglet within the survey area. It is worth noting that the nearest record of this species to the subject site occurred in 2007 at Coolnwynpin Nature Refuge, approximately 5.6 km to the south-

west. Due to the lack of local records and the failure of the targeted surveys within suitable habitat to record this species, it is considered unlikely that this species occurs on the subject site.

4.3.1.2 Reptiles

Suitable habitat for a range of native reptile species occurs on the site. Fallen logs and areas of leaf litter, particularly in the southern portion of the site, provide good quality habitat for reptiles.

Four (4) native reptile species were observed on site during the 2016, 2019 and 2020 diurnal surveys:

- Eastern water dragon (*Intellagama lesueurii*);
- Elegant snake-eyed skink (*Cryptoblepharus pulcher pulcher*);
- Friendly sunskink (*Lampropholis amicula*); and
- Garden skink (*Lampropholis delicata*).

No threatened reptile species were observed during the diurnal surveys.

4.3.1.3 Birds

The subject site provides suitable habitat for a range of native forest and woodland bird species. A total of forty (40) native bird species were observed during the 2016, 2019 and 2020 diurnal surveys (**TABLE 7**). No threatened bird species were observed.

TABLE 7
BIRD SPECIES RECORDED FROM THE SUBJECT SITE

Common Name	Scientific Name
Little lorikeet	*Glossopsitta pusilla*
Rainbow lorikeet	*Trichoglossus moluccanus*
Scaly-breasted lorikeet	*Trichoglossus chlorolepidotus*
Australian white ibis	*Threskiornis molucca*
White-throated honeyeater	*Melithreptus albogularis*
Torresian crow	*Corvus orru*
Fairy martin	*Petrochelidon ariel*
Welcome swallow	*Hirundo neoxena*
Laughing kookaburra	*Dacelo novaeguineae*
Pied butcherbird	*Cracticus nigrogularis*
Little friarbird	*Philemon citreogularis*
Noisy friarbird	*Philemon corniculatus*
Black-faced cuckoo-shrike	*Coracina novaehollandiae*
Variegated fairy wren	*Malurus lamberti*
Striated pardalote	*Pardalotus striatus*
Brown honeyeater	*Lichmera indistincta*
Blue-faced honeyeater	*Entomyzon cyanotis*
Little corella	*Cacatua sanguinea*
Australian magpie	*Cracticus tibicen*

Common Name	Scientific Name
Forest kingfisher	*Todiramphus macleayii*
White-browed scrubwren	*Sericornis frontalis*
White-throated gerygone	*Gerygone olivacea*
Brown thornbill	*Acanthiza pusilla*
Galah	*Eolophus roseicapilla*
Masked lapwing	*Vanellus miles*
Crested pigeon	*Ocyphaps lophotes*
Bar-shouldered dove	*Geopelia humeralis*
Spangled drongo	*Dicrurus bracteatus*
Red-browed finch	*Neochmia temporalis*
Lewin's honeyeater	*Meliphaga lewinii*
Magpie lark	*Grallina cyanoleuca*
Mistletoebird	*Dicaeum hirundinaceum*
Grey shrike-thrush	*Colluricincla harmonica*
Rufous whistler	*Pachycephala rufiventris*
Eastern yellow robin	*Eopsaltria australis*
Pale-headed rosella	*Platycercus adscitus*
Grey fantail	*Rhipidura albiscapa*
Silvereye	*Zosterops lateralis*
Willie wagtail	*Rhipidura leucophrys*
Noisy miner	*Manorina melanocephala*

4.3.1.4 Mammals

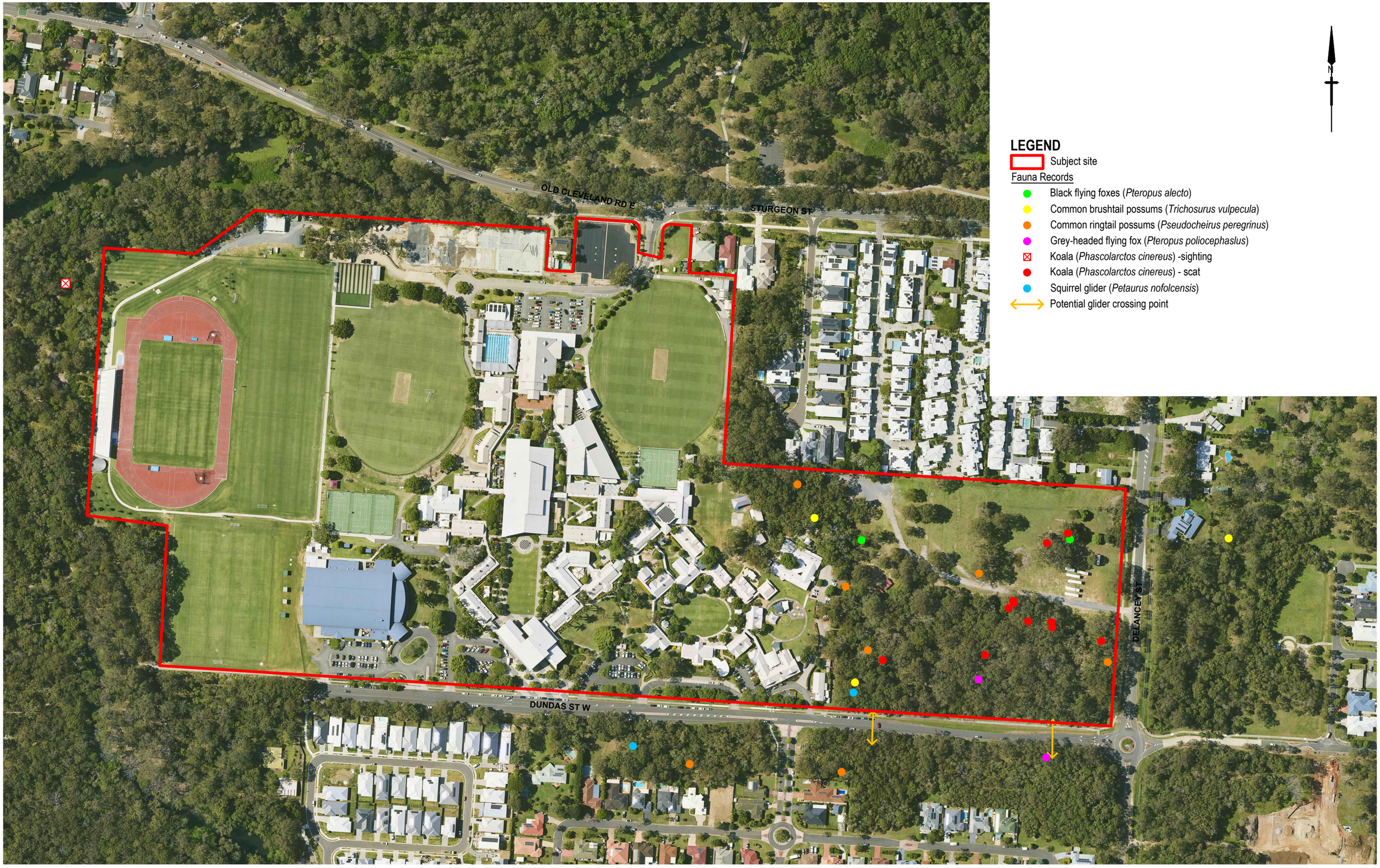
The subject site may provide suitable habitat for disturbance adapted ground-dwelling and arboreal mammals. Due to the urbanised locality of the subject site the introduced Black rat (*Rattus rattus*) and House mouse (*Mus musculus*) are likely to be present.

The following six (6) native species were observed during the 2016, 2019 and 2020 diurnal and targeted nocturnal surveys (**FIGURE 15**):

- Grey-headed flying fox (*Pteropus poliocephalus*);
- Black flying fox (*Pteropus alecto*);
- Koala (*Phascolarctos cinereus*);
- Squirrel glider (*Petaurus norfolcensis*);
- Common brushtail possum (*Trichosurus vulpecula*); and
- Common ringtail possum (*Pseudocheirus peregrinus*).

The Grey-headed flying fox is listed as Endangered under the Commonwealth EPBC Act (1999). The Koala is listed as Endangered under the Commonwealth EPBC Act (1999) and QLD NCA (1992).

Evidence of Koala activity (i.e. scratches or scats) was observed at a number of locations throughout the site during the site assessments and preferred Koala food tree (PKFT) species were relatively common within site vegetation communities (i.e. *Eucalyptus tereticornis, E. seeana, E. microcorys*). The results of the SAT at each survey site are shown



LEGEND

- Subject site

Fauna Records

- Black flying foxes (*Pteropus alecto*)
- Common brushtail possums (*Trichosurus vulpecula*)
- Common ringtail possums (*Pseudocheirus peregrinus*)
- Grey-headed flying fox (*Pteropus poliocephaslus*)
- Koala (*Phascolarctos cinereus*) -sighting
- Koala (*Phascolarctos cinereus*) - scat
- Squirrel glider (*Petaurus nofolcensis*)
- Potential glider crossing point

Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: JWA Site Investigations 2020; Metro Map Aerial dated 06/11/24

SCALE: 1 : 3000 @ A3

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FIGURE 15

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TITLE

FAUNA RECORDS

in **FIGURE 14** and summarized in **TABLE 8** below. Complete data sheets are provided in **APPENDIX 5.**

TABLE 8
SUMMARY OF SAT RESULTS

Survey Site	SAT Results	Usage	Notes
A1	**2/30 = 7%**	**Low use**	**Small number of old faecal pellets found under two (2) trees.**
A2	**2/30 = 7%**	**Low use**	**Small number of old faecal pellets found under two (2) trees.**
A3	**1/30 = 3%**	**Low use**	**Small number of old faecal pellets found under one (1) tree.**
A4	**2/30 = 7%**	**Low use**	**Small number of old faecal pellets found under two (2) trees.**
A5	**4/30 = 13%**	**Low use**	**Small number of old faecal pellets found under four (4) trees.**
A6	**3/30 = 10%**	**Low use**	**Small number of old faecal pellets found under three (3) trees.**
B1	n/a	n/a	Not surveyed as located on private property
B2	**1/30 = 3%**	**Low use**	**Small number of old faecal pellets found under one (1) tree.**
B3	**1/30 = 3%**	**Low use**	**Small number of old faecal pellets found under one (1) tree.**
B4	Nil	Nil	
B5	n/a	n/a	Not surveyed as 30 trees could not be sampled within a reasonable distance.
B6	**2/30 = 7%**	**Low use**	**Small number of old faecal pellets found under two (2) trees.**
B7	Nil	Nil	
B8	**2/30 = 7%**	**Low use**	**Small number of old faecal pellets found under two (2) trees.**
B9	**4/30 = 13%**	**Low use**	**Small number of old faecal pellets found under four (4) trees.**
B10	**2/30 = 7%**	**Low use**	**Small number of old faecal pellets found under two (2) trees.**
B11	**1/30 = 3%**	**Low use**	**Small number of old faecal pellets found under one (1) tree.**
B12	n/a	n/a	Not surveyed as 30 trees could not be sampled within a reasonable distance.
B13	**1/30 = 3%**	**Low use**	**Small number of old faecal pellets found under one (1) tree.**
B14	**3/30 = 10%**	**Low use**	**Small number of old faecal pellets found under three (3) trees.**
B15	Nil	Nil	
B16	Nil	Nil	
B17	**2/30 = 7%**	**Low use**	**Small number of old faecal pellets found under two (2) trees.**
B18	n/a	n/a	Not surveyed as 30 trees could not be sampled within a reasonable distance.

Survey Site	SAT Results	Usage	Notes
B19	n/a	n/a	Not surveyed as 30 trees could not be sampled within a reasonable distance.
B20	n/a	n/a	Not surveyed as 30 trees could not be sampled within a reasonable distance.
B21	Nil	Nil	Not surveyed as 30 trees could not be sampled within a reasonable distance.
B22	**1/30 = 3%**	**Low use**	**Small number of old faecal pellets found under one (1) tree.**

The assessment of current levels of Koala activity/usage over the site utilising the RG-bSAT has identified areas of "low" level usage throughout the vegetated portions of the site and surrounding land. As noted by Phillips and Callaghan (2011), where the results of a SAT site return an activity level within the low use range, the level of use by the Koala is likely to be transitory.

It is also noted that none of the faecal pellets recorded were considered to be fresh. Fresh pellets have a strong eucalypt smell, a moist or dry shiny mucus coating, are bright green or yellow inside and are solid to the touch. Fresh pellets would suggest that a Koala may still be nearby or has been present within the last two (2) to four (4) weeks (weather depending) (Sullivan *et al*. 2004). Conversely, older faecal pellets typically have a dull surface, do not have much color contrast between the surface and the inside, and feel crumbly to the touch (OWAD Environment 2017). Research has shown that pellets can be detectable anywhere from 75 to 1,650 days depending on a variety of factors including humidity, temperature and rainfall, and that this has the potential to result in false-positive errors because faecal pellets remain present at sites that are no longer occupied (Rhodes *et al*. 2011).

Based on the results of this assessment it is considered that the subject site and surrounding vegetated lands may be utilised occasionally by Koalas as they traverse the locality. The results indicate that a resident/sedentary population is not currently present on the site and that less disturbed surrounding vegetation (e.g. west in the vicinity of Hilliards Creek) is likely to form more important habitat for the local koala population.

With regards to the targeted Squirrel glider surveys, this species was recorded from the subject site and adjoining lands. Suitable forage habitat was considered to occur throughout the vegetated portions of the site, however denning opportunities were limited and there is potentially high competition for available hollows due to the large number of possums observed.

4.3.2 Habitat Suitability Assessment for Threatened Fauna Species

Habitat suitability assessments were completed for the threatened fauna species and migratory fauna species that are known to occur or considered possible occurrences in the locality (**APPENDIX 4**). Two (2) of these species are known to utilise the vegetated portions of the site as forage habitat and a further two (2) of these species are considered to be possible occurrences on the subject site. These species are:

Threatened Fauna

- Grey-headed flying-fox (*Pteropus poliocephalus*) (KNOWN);
- Koala (*Phascolarctos cinereus*) (KNOWN); and
- White-throated needletail (*Hirundapus caudacutus*).

Migratory Species

- Fork-tailed Swift (*Apus pacificus*); and
- White-throated needletail (*Hirundapus caudacutus*).

5 CORRIDORS AND CONNECTIVITY

5.1 Background

The term 'connectivity' is used to describe the degree to which the landscape facilitates or impedes the movement of species among habitat areas (Bélisle 2005). The level of connectivity between habitat areas in the landscape can be described along a continuum from high, to medium, to low and isolated.

Landscapes with high levels of connectivity form an unbroken expanse of habitat through which a wide range of the inhabitant species are able to easily move and select high quality habitats. Landscapes with low levels of connectivity are characterised by habitat areas that are separated by wide gaps and where the quality and quantity of remaining habitat is reduced (habitat fragmentation). Habitat fragmentation impedes the movement of species among remaining suitable habitat areas (Andrén 1994; Fahrig 2003) and generally restricts movement to all but the most mobile of species.

At a broad landscape scale, maintaining habitat connectivity is necessary to maintain the viability of species populations in the long term (Beier and Noss 1998). In fragmented landscapes, corridors of native vegetation (ecological corridors) connect larger habitat areas and can enhance landscape connectivity by:

- providing habitat for fauna and flora species; and
- facilitating the movement and dispersal of fauna and flora species between larger and/or more suitable habitat areas in the landscape.

The following sections provide an assessment of the corridor and connectivity values of native vegetation on the site and surrounding areas.

5.2 Recognition of Corridor Values On or Near the Subject Site

State and regional corridors in South-east Queensland have been identified in the Biodiversity Planning Assessment (BPA): South East Queensland South Landscape Expert Panel Report (EPA 2006). No state or regional corridors are mapped on the site. No regional or state corridors are mapped on or in the vicinity of the site.

5.3 Site Assessment

The relatively intact remnant vegetation in the southern portion of the site is likely to provide movement opportunities for a range of native fauna species. In the context of the locality, it provides connections between reserves to the east and south and a corridor occurring to the north of the site (**FIGURE 16**). These movement opportunities are likely to be of most benefit to highly mobile and disturbance adapted species of native wildlife. Offsite intact vegetation (e.g. along Hilliard's Creek to the west in particular) is likely to form an important movement corridor for a range of native fauna species, including species less adapted to disturbance.

LEGEND

- Contiguous habitat
- Subject site

N

Scale 1 : 30 000

0 250m 500m 750m 1km

SOURCE: Metro Map Aerial dated 15/10/22

SCALE: 1 : 30 000 @ A3

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FIGURE 16

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TITLE

CORRIDORS IN LOCALITY

The assessment of current levels of Koala activity/usage over the site utilising the RG-bSAT has identified areas of "low" level usage throughout the vegetated portions of the site and surrounding land (**FIGURE 14**). As noted by Phillips and Callaghan (2011), where the results of a SAT site return an activity level within the low use range, the level of use by the Koala is likely to be transitory. Based on the results of this assessment it is considered that the subject site and surrounding vegetated lands may be utilised occasionally by Koalas as a movement corridor as they traverse the locality.

As discussed previously, Squirrel gliders were recorded from the subject site and suitable forage habitat was considered to occur. Denning opportunities on the other hand were limited and there is potentially high competition for available hollows due to the large number of possums observed. An assessment of potential movement corridors found that Gliders may be capable of accessing the site from Council Reserves to the immediate south of the site (**FIGURE 15**).

6 IMPACTS AND AMELIORATION

6.1 Introduction

The following sections examine the likely direct and indirect impacts of the proposed works and recommends amelioration measures to minimise and mitigate impacts on the biodiversity and habitat values of the site.

6.2 Potential Impacts of the Proposed Works

6.2.1 Habitat Loss / Vegetation Clearing

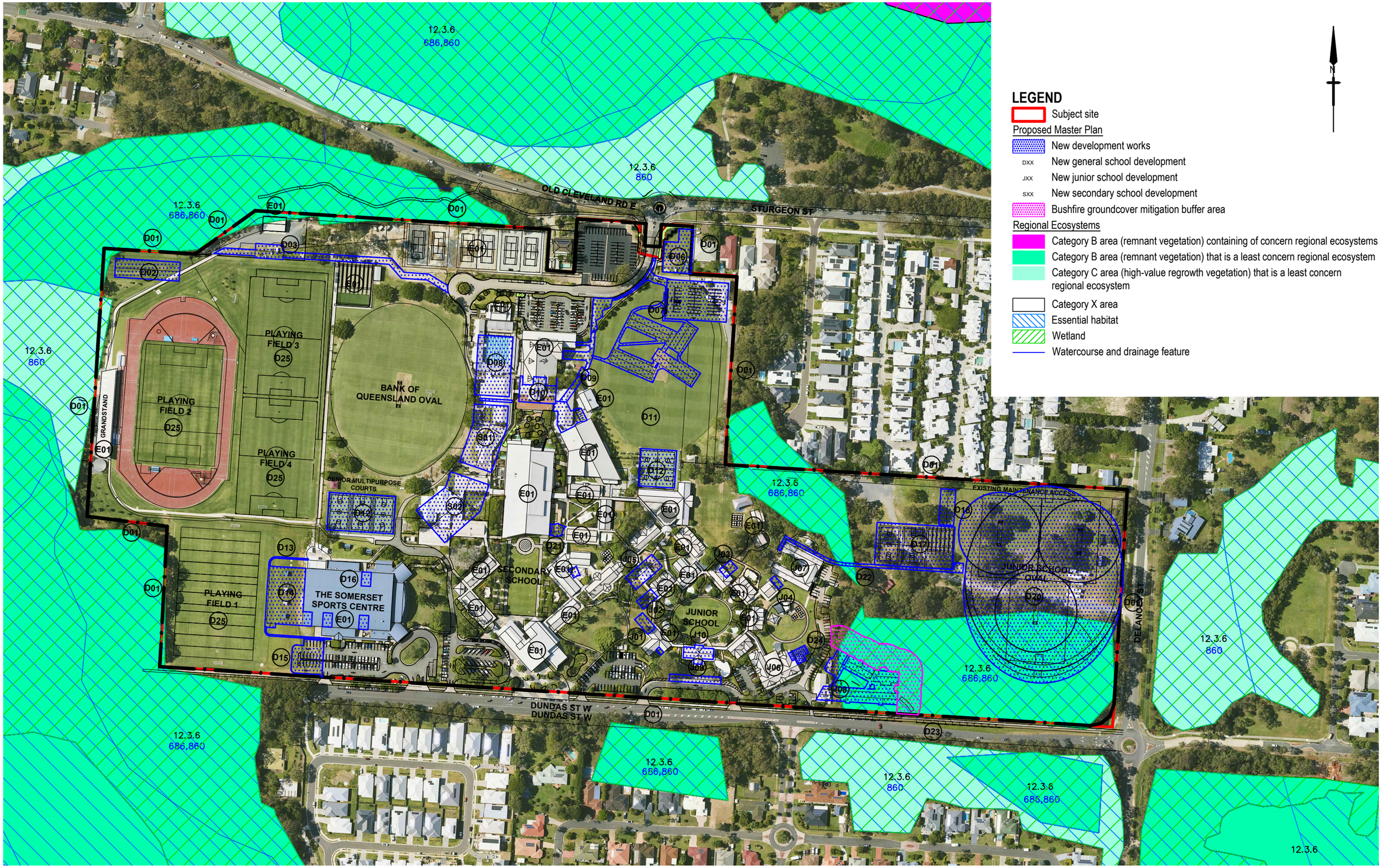
The impact of the proposed works on Regional Ecosystems within the site is shown in **FIGURE 17**. Proposed works are generally contained within existing cleared areas or to the edges of vegetation patches.

A Bushfire Hazard Assessment Report (BHAR) has been prepared for the proposed Master Plan by Rob Friend and Associates (Rob Friend 2025). Ormiston College Campus as a school is considered a Vulnerable use under the Bushfire Resilient Communities Technical Reference guide for The SPP State Interest 'Natural Hazards Risk and Resilience – Bushfire' (Oct 2019) and is required as a vulnerable use to be set back from hazardous vegetation at a distance that achieves a Radiant Heat Flux of 10kW/m^2 or less as an acceptable or tolerable level of risk. The Bushfire Hazard Assessment Report found that as the educational facilities are already established and use of mitigation strategies are employed, for any new development within the campus, there is no increase in risk to the vulnerable community than that which was already present (Rob Friend 2025).

Of relevance to the Ecological Assessment Report, the BHAR identifies the need for a Bushfire groundcover mitigation buffer area around the proposed Building J08 - New early learning centre and connected carpark (1 storey) (**FIGURE 4**) in order to reduce unacceptable bushfire risk from low intensity fire in this location. The Bushfire groundcover mitigation buffer area will extend for a distance of 20 m from the eastern and northern walls of the structure, within which the understorey vegetation will be managed to a height of less than 100 mm (Rob Friend 2025).

It should be noted that no impacts on RE vegetation are proposed for the Bushfire groundcover mitigation buffer area. Groundcover vegetation in the Bushfire groundcover mitigation buffer area is currently already managed with no groundcovers and this requirement will be a continuation of the existing management regime. No trees are proposed to be removed within the Bushfire groundcover mitigation buffer area for bushfire purposes.

In addition, proposed rehabilitation works (refer to **SECTION 6.3.1**) in the Koala corridor located near proposed Building J08 have been limited to less than 100m in order to avoid increasing the exposure and/or severity of bushfire hazard and to comply with Bushfire guidelines (Rob Friend 2025).



LEGEND

- Subject site

Proposed Master Plan

- New development works
- DXX New general school development
- JXX New junior school development
- SXX New secondary school development
- Bushfire groundcover mitigation buffer area

Regional Ecosystems

- Category B area (remnant vegetation) containing of concern regional ecosystems
- Category B area (remnant vegetation) that is a least concern regional ecosystem
- Category C area (high-value regrowth vegetation) that is a least concern regional ecosystem
- Category X area
- Essential habitat
- Wetland
- Watercourse and drainage feature

Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: DoR VMA GIS datasets;
Rohig - Proposed Master Plan Rev X 24/03/25

SCALE: 1 : 3000 @ A3

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FIGURE 17

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DATE: 2 April 2025
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TITLE

IMPACT ON REGIONAL ECOSYSTEMS

Construction of new buildings, sports fields, courts, parking facilities and other infrastructure across the site will result in the removal of 0.81 ha of Least Concern Regional Ecosystem (RE) 12.3.6 (remnant and regrowth). The proposed development will result in the removal of 116 (22%) of the surveyed trees on the subject site.

Additional impacts that may occur as a result of the removal of vegetation from the subject site are summarised as follows:

- Clearance of vegetation on the subject site will reduce the size and area of habitats available for the dispersal and recruitment of native flora species and may reduce dispersal and visits by pollinators which may negatively impact on the reproductive success of remaining flora in the area.
- Disturbance to the subject site will create opportunities for weeds to colonise both the site and adjacent vegetation. Weeds are likely to be introduced to the subject site and adjacent vegetation in construction materials or by vehicles.
- The removal of vegetation from the subject site will result in a decrease in organic material and biomass on the site.
- The removal of vegetation will disturb the soil structure and integrity which can reduce the health and longevity of adjacent areas of remaining vegetation and result in increased soil erosion which may cause sedimentation of watercourses.
- Clearing may result in injury, displacement and death to fauna.
- Clearing physically removes food sources, shelter and other habitat attributes that fauna use.
- Vegetation clearing may result in fragmentation of remaining habitat areas leading to reduced habitat connectivity and a reduction in dispersal opportunities for fauna and flora species.

6.2.2 Waterways and Wetlands

No watercourses are mapped on site under the *VM Act* (1999). No waterways were observed during the site assessment.

The eastern portion of the site is mapped as a Wetland of HES under Section 7 of the *Environmental Protection (Wetland and Water Biodiversity) Policy 2019* (**FIGURE 7**) and as a Waterway Corridors and Wetlands Overlay under the *Redland City Plan* (2018) (**FIGURE 10**). Portions of this area are also identified as a Wetland on the vegetation management wetlands map (**FIGURE 5**). However, it is noted that the mapped wetland areas in the eastern portion of the site are characterised by Broad-leaved paperbark forest (*M. quinquenervia*) but do not contain obligate hydrophytes. Any wetland values in this area are therefore likely to be ephemeral in nature.

FRC Environmental were engaged by Ormiston College to complete an aquatic ecological assessment (FRC 2020) of the mapped Wetland of HES in the eastern portion of the site. The objective of the assessment was to determine the aquatic ecological values of the mapped wetland using a range of approaches, including the AquaBAMM assessment

framework, and use a risk-based assessment to determine if proposed development would likely result in a Significant Residual Impact to aquatic ecological values. The assessment determined that the mapped wetland has low aquatic ecological values.

It is also noted that additional areas in the western portion of the site are mapped as a Wetland of HES (**FIGURE 7**), Council Waterway Corridors and Wetlands Overlay (**FIGURE 10**) and as a Wetland on the vegetation management wetlands map (**FIGURE 5**). These mapped areas in the western portion of the site occur over areas of existing sporting fields and maintained grass areas.

The mapped Wetland of HES (**FIGURE 18**) and Council Waterway Corridors and Wetlands Overlay (**FIGURE 19**) occurring on site will incur 0.97 ha of loss as a result of the proposed works. The mapped Wetland on the vegetation management wetlands map (**FIGURE 17**) will incur 0.81 ha of loss as a result of the proposed works. However, with consideration of the above, it is considered that the State Wetland of HES mapping and vegetation management wetlands map, and the Council Waterway Corridors and Wetlands Overlay mapping is not accurate. It is considered that the proposed development will not result in any significant impacts on wetland or waterway vegetation.

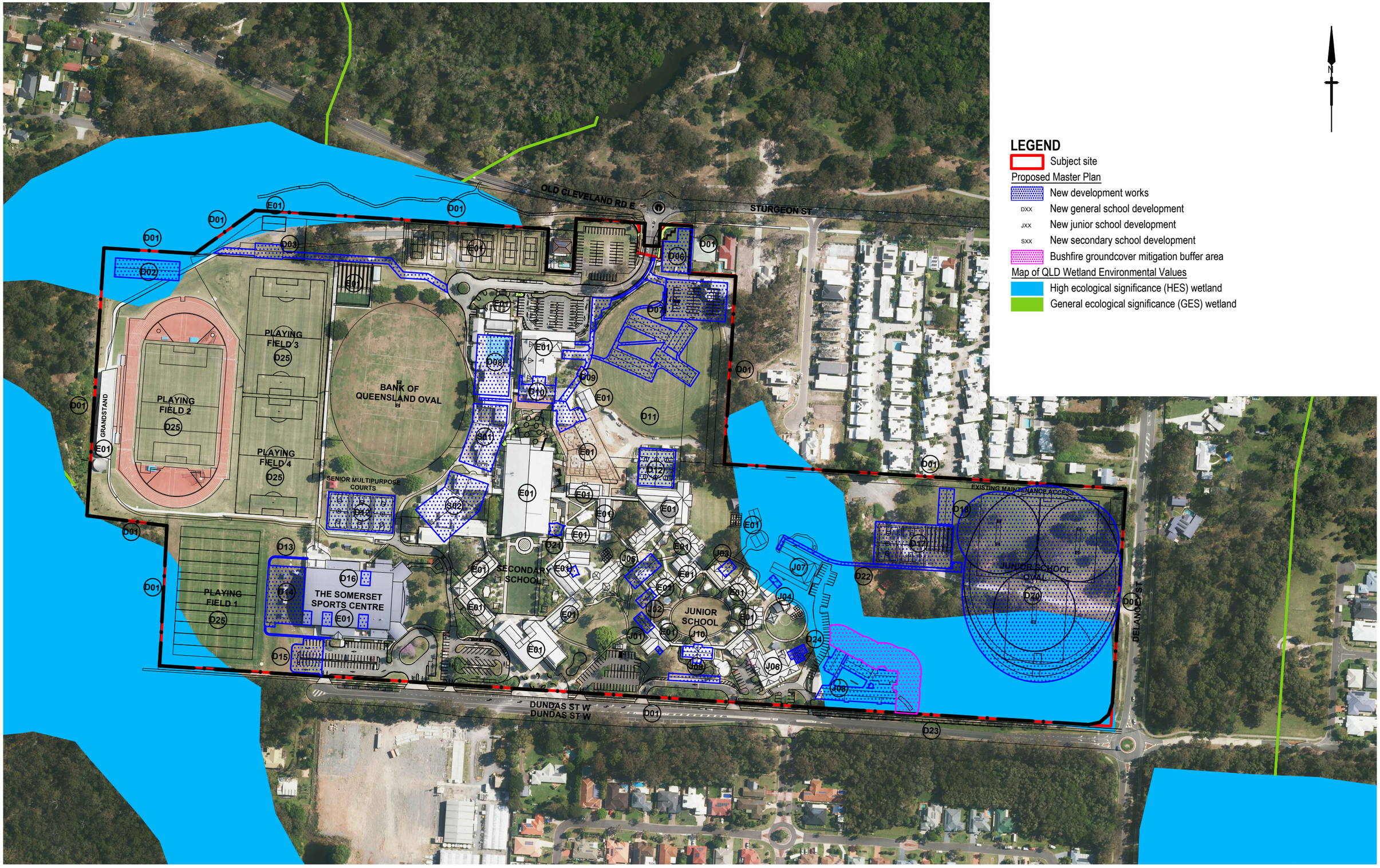
6.2.3 Threatened Fauna

Evidence of low-level koala activity was recorded within the site and surrounding vegetated lands (**FIGURE 14**). Grey-headed flying foxes were also observed. White-throated needletail and Fork-tailed swift are also considered to be a possible occurrence on the site based on the presence of suitable habitat. No further threatened fauna species were considered to be possible or likely occurrences (**SECTION 3.3.2, APPENDIX 4**).

The proposed development will result in the removal of native trees as discussed in **SECTION 6.2.1**. These trees may provide suitable forage habitat for the koala and the grey-headed flying fox. It should be noted that no impacts on threatened fauna habitat are proposed for the Bushfire groundcover mitigation buffer area. Groundcover vegetation in the Bushfire groundcover mitigation buffer area is currently already managed, and this requirement will be a continuation of the existing management regime. No trees are proposed to be removed within the Bushfire groundcover mitigation buffer area for bushfire purposes.

Site investigations have revealed that the level of use by the Koala is likely to be transitory. Based on the results of this assessment it is considered that the subject site and surrounding vegetated lands may be utilised occasionally by Koalas as they traverse the locality and that a resident/sedentary population is not currently present on the site. Construction of the proposed master plan on the site will result in the removal of 0.81 ha (approximately 31%) of mapped core koala habitat within a KPA (**FIGURE 20**).

A total of 112 of the 507 surveyed NJKHTs $\geq$20 cm DBH will be removed as result of the proposed development (**FIGURES 21A – 21D**). This equates to approximately 22% of the surveyed NJKHTs $\geq$200 cm DBH. An estimated additional 540 NJKHTs $\geq$30 cm DBH will be removed from the south-eastern portion of the site as result of the proposed development.



SOURCE: QLD DES Map of QLD Wetland Environmental Values GIS dataset;
Rohig - Proposed Master Plan Rev X 24/03/25

SCALE: 1 : 3000 @ A3

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FIGURE 18

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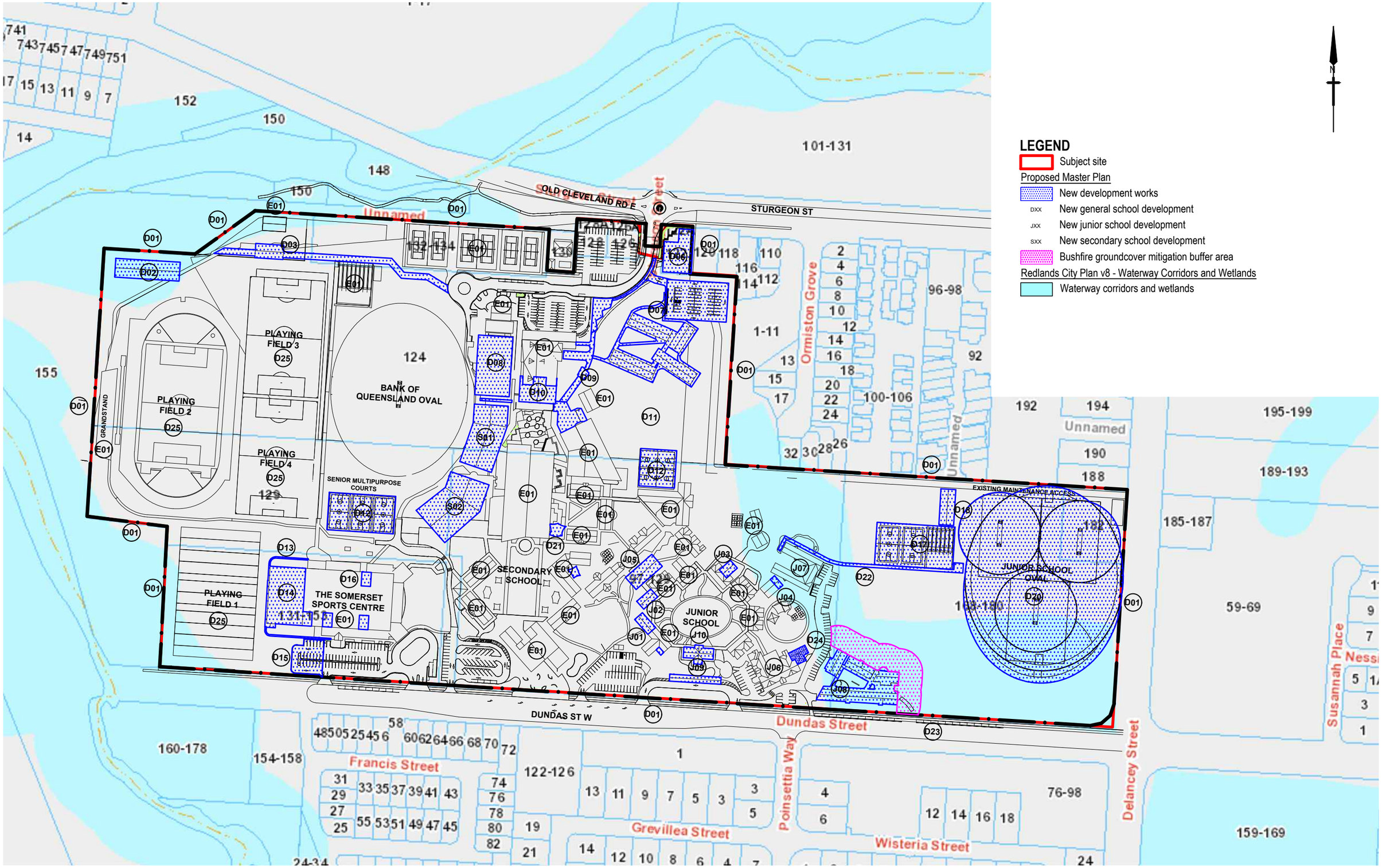
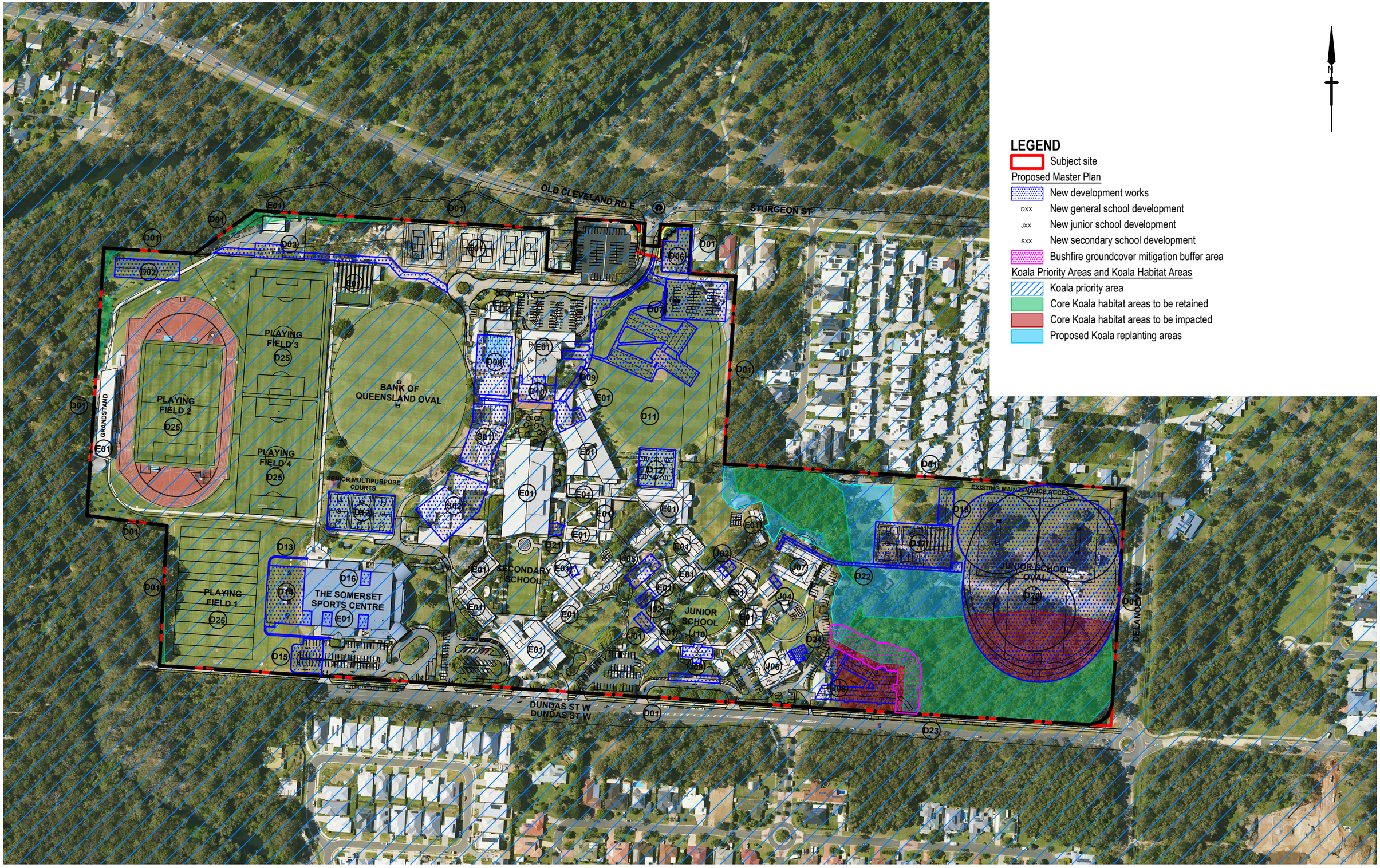
TITLE
IMPACT ON MAP OF QLD WETLAND ENVIRONMENTAL VALUES



SOURCE: Redlands City Council Red-e-map (accessed 05/03/25); Rohig - Proposed Master Plan Rev X 24/03/25 SCALE: 1 : 3000 @ A3 *JWA PTY LTD Ecological Consultants*	CLIENT Ormiston College PROJECT Ecological Assessment - Master Plan Ormiston College 97 Dundas Street, Ormiston, QLD Redland City Council LGA	FIGURE 19 PREPARED: BW DATE: 2 April 2025 FILE: Q15018_MP_20250401.dwg	TITLE IMPACT ON WATERWAY CORRIDORS & WETLANDS



Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: QLD DES SEQ Koala Conservation Strategy 2019-2024 v4.0 GIS dataset; Rohig - Proposed Master Plan Rev X 24/03/25

SCALE: 1 : 3000 @ A3

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FIGURE 20

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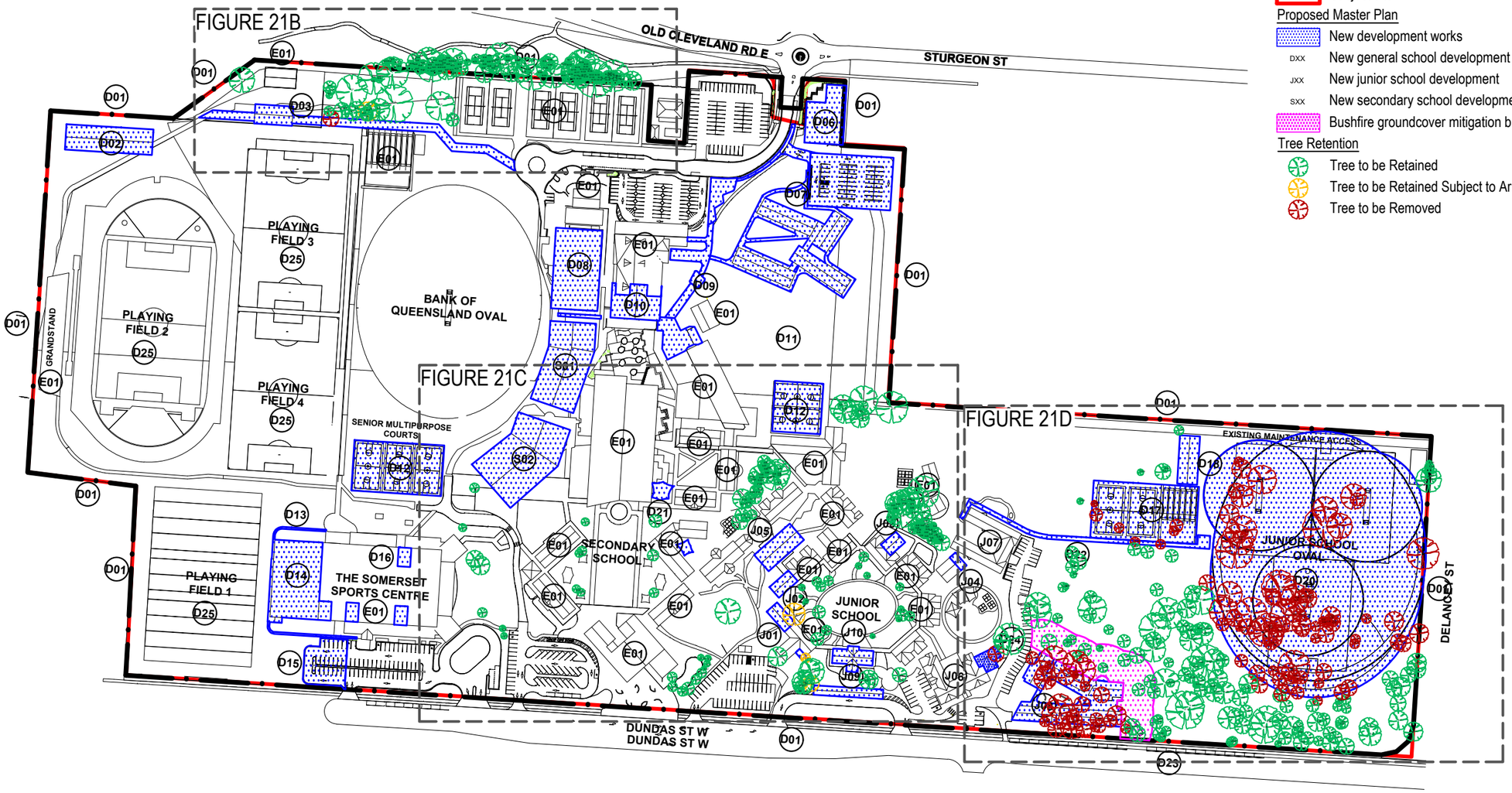
DATE: 2 April 2025
FILE: Q15018_MP_20250401.dwg

TITLE
IMPACT ON KOALA PRIORITY AREAS & KOALA HABITAT AREAS



LEGEND

- Subject site

Proposed Master Plan

- New development works
- DXX New general school development
- JXX New junior school development
- SXX New secondary school development
- Bushfire groundcover mitigation buffer area

Tree Retention

- Tree to be Retained
- Tree to be Retained Subject to Arborist Assessment
- Tree to be Removed

Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: JWA Site Investigations; Rohig - Proposed Master Plan Rev X 24/03/25

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FIGURE 21A

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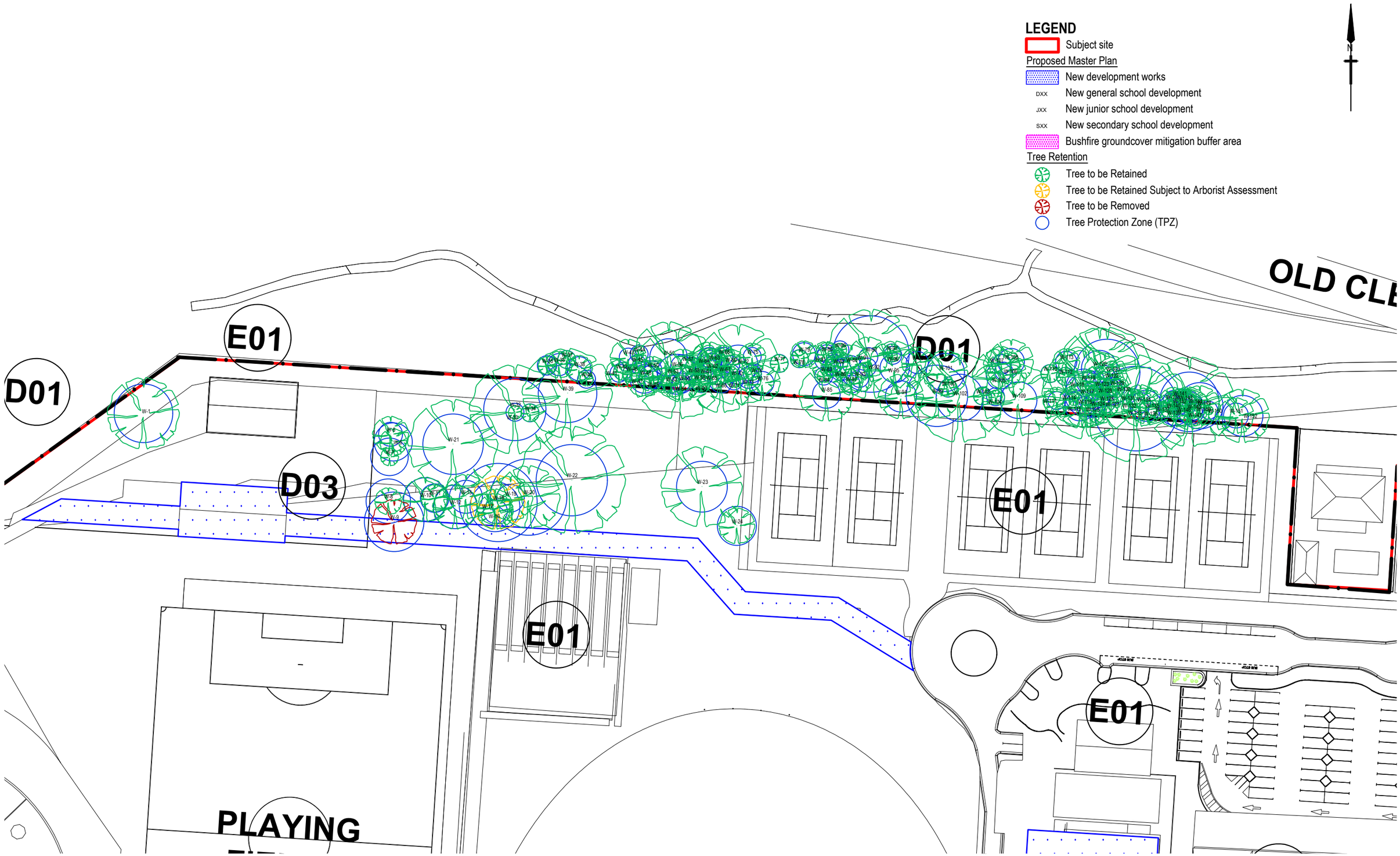
FILE: Q15018_MP_20250401.dwg

TITLE

TREE RETENTION PLAN



Scale 1 : 800

0 10m 20m 30m 40m 50m

SOURCE: JWA Site Investigations;
Rohig - Proposed Master Plan Rev X 24/03/25

SCALE: 1 : 800 @ A3

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FIGURE 21B

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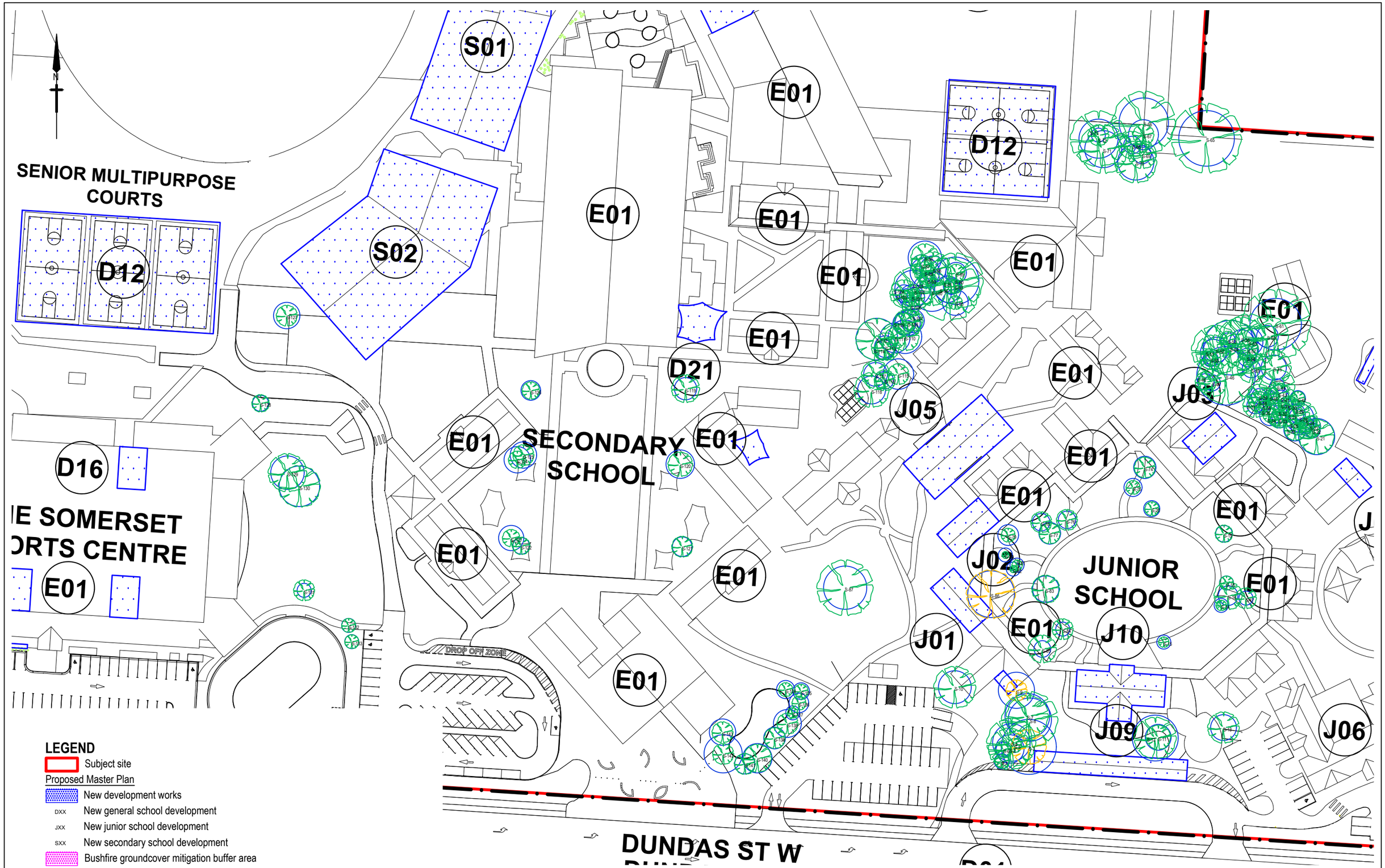
TITLE
TREE RETENTION PLAN



LEGEND

- Subject site

Proposed Master Plan

- New development works
- DXX New general school development
- JXX New junior school development
- SXX New secondary school development
- Bushfire groundcover mitigation buffer area

Tree Retention

- Tree to be Retained
- Tree to be Retained Subject to Arborist Assessment
- Tree to be Removed
- Tree Protection Zone (TPZ)

Scale 1 : 1000

0 10m 20m 30m 40m 50m

SOURCE: JWA Site Investigations; Rohig - Proposed Master Plan Rev X 24/03/25

SCALE: 1 : 1000 @ A3

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FIGURE 21C

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DATE: 2 April 2025
FILE: Q15018_MP_20250401.dwg

TITLE

TREE RETENTION PLAN

LEGEND

- Subject site

Proposed Master Plan

- New development works
- DXX New general school development
- JXX New junior school development
- SXX New secondary school development
- Bushfire groundcover mitigation buffer area

Tree Retention

- Tree to be Retained
- Tree to be Retained Subject to Arborist Assessment
- Tree to be Removed
- Tree Protection Zone (TPZ)

N

D01
EXISTING MAINTENANCE ACCESS
D18
D17
D22
JUNIOR SCHOOL OVAL
D20
D01
DELANCEY ST
J03
J07
E01
J04
OR
OOL
D24
J06
J08
D23

Scale 1 : 1000

0 10m 20m 30m 40m 50m

SOURCE: JWA Site Investigations; Rohig - Proposed Master Plan Rev X 24/03/25

SCALE: 1 : 1000 @ A3

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FIGURE 21D

PREPARED: BW
DATE: 2 April 2025
FILE: Q15018_MP_20250401.dwg

TITLE
TREE RETENTION PLAN

This equates to 40% of the additional estimated NJKHTs ≥300 cm DBH occurring in the south-eastern portion of the site.

A new full perimeter boundary security fence is proposed to be installed. Inappropriate fencing can reduce the permeability of the landscape to koalas and can result in the funnelling of koalas to unsafe crossing points, injury, and death. Koalas are skilful climbers but readily take a path of least resistance and prefer to push under or through a structure before climbing it. Koalas can climb a variety of fencing materials and structures that may seem unlikely, for example smooth metal signposts, patio supports and pool fences. With this in mind, koala-friendly fencing achieves permeability by allowing koalas to climb over, under or through the fencing and ensures koalas are not entrapped by the placement and design of fencing materials (such as barbed wire or narrow palings) (DES 2022).

In relation to the grey-headed flying fox, the trees to be removed are considered to represent an insignificant impact when compared to the available forage resources in the area for this highly mobile species. No known roost camps will be impacted.

The White-throated needletail is almost exclusively an aerial species and is therefore considered unlikely to be affected by the proposed development.

6.2.4 Habitat Trees

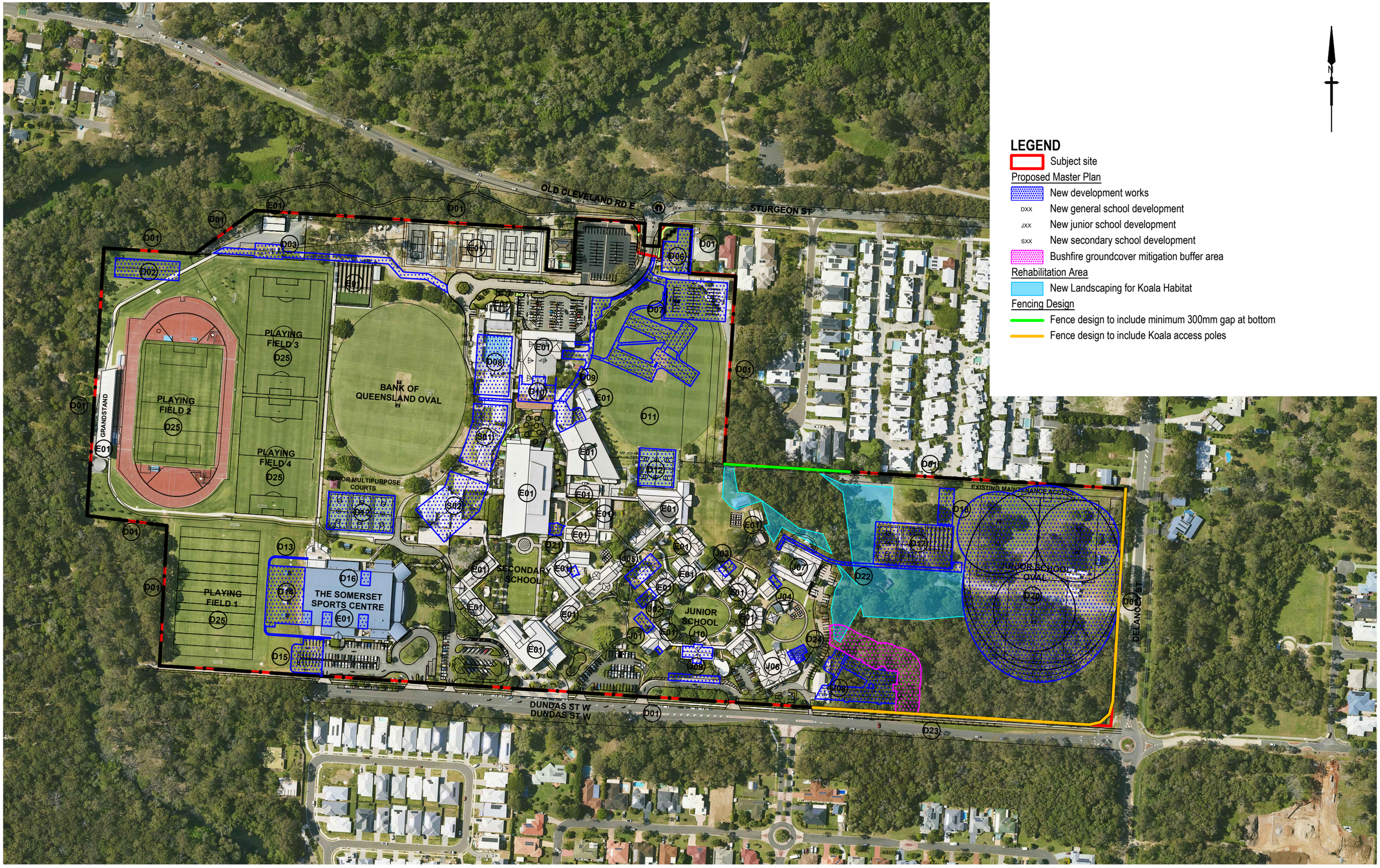
A total of eighteen (18) habitat trees (i.e. trees with obvious hollows, nests, fissures etc.) were located within the subject site. The proposed development will result in the removal of eleven (11) habitat trees (**APPENDIX 2**). It is noted that these trees represent a small proportion of available habitat trees in the locality and therefore their removal is not expected to significantly impact on local fauna communities.

6.3 Amelioration Strategies

6.3.1 Habitat Loss / Vegetation Clearing

Site rehabilitation works will be completed on the subject site in accordance with an approved Site Rehabilitation Plan (SRP). Rehabilitation works within degraded and previously cleared areas of the site will be undertaken (**FIGURE 22**) to improve existing ecological values and ameliorate the impacts of clearing works. Rehabilitation works have been located to enhance corridor values of the site. It is also recommended that any landscaping works utilise locally endemic native species, with a preference for NJKHTs where possible.

All clearing works should be undertaken in accordance with an approved Vegetation and Fauna Management Plan (VFMP) in order to ensure the protection of retained vegetation and native wildlife on site including tree protection measures in accordance with the Australian Standard AS4970-2009 – Protection of Trees on Development Sites, weed control protocols during construction (with a particular focus on weeds identified in the Redlands Coast Biosecurity Plan 2018-2023), erosion and sediment control measures and use of suitably qualified/licensed faun spotter catcher during clearing works. A Koala Plan of



SOURCE: Rohig - Proposed Master Plan Rev X 24/03/25

SCALE: 1 : 3000 @ A3

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FIGURE 22

PREPARED: BW
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FILE: Q15018_MP_20250401.dwg

TITLE

PROPOSED REHABILITATION & FENCING DESIGN

Management (KPoM) will also be required to ensure safe koala movement through the site (refer **SECTION 6.3.3**).

6.3.2 Waterways and Wetlands

No waterways are mapped on the site.

The mapped Wetland of HES (**FIGURE 18**) and Council Waterway Corridors and Wetlands Overlay (**FIGURE 19**) occurring on site will incur 0.97 ha of loss as a result of the proposed works. The mapped Wetland on the vegetation management wetlands map (**FIGURE 17**) will incur 0.81 ha of loss as a result of the proposed works. However, it has been determined that the State Wetland of HES mapping and vegetation management wetlands map, and the Council Waterway Corridors and Wetlands Overlay mapping is not accurate. It is considered that the proposed development will not result in any significant impacts on wetland or waterway vegetation.

Regardless, Rehabilitation and Stormwater Management Plans will be prepared prior to commencement of works. Rehabilitation and landscaping works should incorporate plant species typical of RE 12.3.6 where possible and appropriate. An Erosion and Sediment Control Plan should also be prepared to ensure suitable hydrological regimes and water quality are maintained during the construction phase of the development.

6.3.3 Threatened Fauna

Some loss of forage habitat for the Koala and Grey-headed flying fox will occur. In relation to the grey-headed flying fox this loss is not considered significant in the context of available forage habitat in the locality. No known roost camps will be impacted. Rehabilitation and landscape works should incorporate flowering/fruiting species suitable as Grey-headed flying fox forage where appropriate.

The Koala-sensitive Design Guidelines (DES 2022) provide design solutions to mitigate threats to koalas and their habitat and achieve a permeable landscape at the regional and local scale. Best practice design specifications include:

- Fencing raised off the ground with a minimum spacing of 300 millimetres from the ground to the fencing material, such as post and rail, provides the most permeable solution for koalas;
- Incorporate existing trees into the fence to facilitate movement;
- Use of push-under and push-through devices are preferred to traditional ‘escape poles’ constructed of treated timber poles, the effectiveness of which is not proven;
- Fence tops must avoid barbed-wire or sharp ends (such as are used on some chain-mesh security fencing) which can entrap or snare koalas and other wildlife.

Alternative solutions for fence design must:

- Ensure gaps in the fence are large enough to allow a koala to easily pass through;
- Gaps are of a size (less than 60 millimetres) to allow koalas to climb over but prevent koalas climbing through and getting stuck in the fence;

- Use rails or slats that have spaces of at least 15 mm between vertical slats and 20 millimetres between horizontal rails that koalas can climb. Alternately, use materials such as timber posts or chain wire that a koala can easily grip and climb.

In accordance with the Koala-sensitive Design Guidelines (DES 2022), it is recommended that where the fence intersects the proposed koala corridor (**FIGURE 20**) the fencing incorporates a 300 mm gap underneath to facilitate koala movement throughout the proposed corridor. Elsewhere around the property boundary, where a 300 mm gap cannot be incorporated into the fence design due to security and safety considerations, 'escape poles' should be incorporated (**PLATE 1**).

Plate 1 - example wooden bridge over security fencing designed to facilitate the safe movement over the fence (source: Koala-sensitive Design Guidelines, DES 2022)

In relation to the Koala, an assessment of compliance with State Code 25: Development in South East Queensland Koala Habitat Areas is contained in **SECTION 7.7**. A summary of the relevant amelioration measures to comply with the code is as follows:

- Site rehabilitation works will be completed on the subject site in accordance with a Site Rehabilitation Plan to be approved by the determining authority prior to commencement of works) to ensure that retained vegetation and additional plantings of PKFTs continue to provide habitat for the local koala population and to ensure that existing corridor functionality will be improved and maintained. A vegetated corridor will be retained and rehabilitated on the site (**FIGURE 22**). Scattered PKFTs are currently located throughout the campus that provide stepping-stone habitat for any koalas moving through the campus (**FIGURE 13**).
- A Koala Management Plan will be prepared by a suitably qualified and experienced person and approved by Council prior to commencement of works. As a minimum, the Koala Management Plan will include measures that comply with the sequential clearing and koala spotter requirements under Sections 10 and 11 of the Nature Conservation (Koala) Conservation Plan 2017 as follows:
    - clearing of the koala habitat trees is carried out in a way that ensures koalas on the area being cleared (the clearing site) have enough time to move out of the clearing site without human intervention, including, in particular:

- carrying out the clearing in stages; and
- ensuring not more than 50% of the site's area is cleared in any 1 stage; and
- ensuring that between each stage and the next there is at least 1 period of 12 hours starting at 6p.m. on a day and ending at 6a.m. on the following day during which no trees are cleared on the site;

o clearing of the koala habitat trees is carried out in a way that ensures, while the clearing is carried out, appropriate habitat links are maintained within the clearing site and between the site and its adjacent area, to allow koalas living on the site to move out of the site;

o no koala habitat tree in which a koala is present, and no koala habitat tree with a crown overlapping a tree in which a koala is present, is cleared; and

o clearing of any koala habitat trees having a trunk of a diameter of more than 10 cm at 1.3 m above the ground carried out in the presence of a koala spotter who has the primary role of locating koalas in the trees.

The Koala Plan of Management will also include measures to exclude koalas from dangerous worksites, provide koala safe movement areas through the development site, exclude dogs on site, ensure dust and light does not affect adjacent koala habitat, raise awareness of site workers to watch for koalas on site and detail a process to ensure injured/sick animals are taken care of immediately, including by contacting or taking animals to the closest appropriate koala care agents (e.g., koala carers group, veterinary clinic, wildlife hospital).

- The proposed development will result in the loss of 0.81 ha (approximately 31%) of core koala habitat (**FIGURE 20**). A total of 112 of the 507 surveyed NJKHTs ≥20 cm DBH will be removed as result of the proposed development (**FIGURES 21A – 21D**). This equates to approximately 22% of the surveyed NJKHTs ≥200 cm DBH. An estimated additional 540 NJKHTs ≥30 cm DBH will be removed from the south-eastern portion of the site as result of the proposed development. This equates to 40% of the additional estimated NJKHTs ≥300 cm DBH occurring in the south-eastern portion of the site.

  It is proposed to rehabilitate and revegetate approximately 0.81 ha of koala habitat on site (i.e. outside core koala habitat – an additional 0.03 ha core koala habitat will also be rehabilitated) (**FIGURE 20**). This would result in no net loss of koala habitat on the site.

The full assessment of compliance with State Code 25 is provided in **SECTION 7.7.** The assessment has determined that:

1. clearing of koala habitat and non-juvenile koala habitat trees (NJKHTs) on the site has been minimised as far as practicable. Proposed revegetation/compensatory habitat and rehabilitation works will result in no net loss of koala habitat;

2. proposed clearing works will not contribute to fragmentation of koala habitat areas;

3. on the contrary, proposed revegetation/compensatory habitat works, and rehabilitation of existing koala habitat will improve movement opportunities for koala through the site by expanding and enhancing an existing movement corridor; and

4. a Koala Management Plan will be prepared to ensure that the proposed development is constructed and undertaken in such a way that does not increase the risk of injury to, or death of koalas.

In additional to compliance with State Code 25, important consideration during the design of the masterplan was given to ensuring:

- no net loss of koala habitat area on the site. The proposal will result in the removal of 0.81 ha (31%) of the total of 2.57 ha of koala habitat occurring on the site. Strategically located revegetation areas totalling 0.81 ha have been identified to ensure no net loss of koala habitat on the site.
- enhanced habitat quality for koalas. The koala habitat to be impacted is generally comprised of supplementary/shelter trees species (i.e. *Melaleuca quinquenervia*) with only scattered PKFTs present (i.e. *Eucalyptus tereticornis*) (i.e. only 11% of the NJKHTs to be impacted are PKFTs). Proposed revegetation / compensatory habitat works will include the dense planting of PKFTs to offset the loss of habitat dominated by less preferred species. In total, it is proposed to plant a minimum of 526 PKFTs (at a density of 1 per 15 m2 – reflective of the current habitat on site) to offset the loss of an estimated 58 PKFTs and 594 supplementary/shelter tree species.
- enhanced movement opportunities for koalas. The Proposed revegetation / compensatory habitat works will occur in strategically located areas to expand and enhance the current koala movement corridor occurring on the site.

With the implementation of these recommendations it is considered that the proposed development will not result in a significant impact on the local koala population. In contrast, proposed revegetation works, and rehabilitation of existing koala habitat, will provide additional high-quality habitat and forage resources, ensure no net loss of koala habitat on the site, expand and enhance an existing movement corridor through the site.

6.3.4 Habitat Trees

The loss of habitat values associated with the habitat trees to be removed should be offset by the installation of nest boxes within retained habitat areas on the subject site. Replacement fauna nesting boxes will be required at the rate of one (1) nest box for every hollow removed. The exact number and location of nest boxes to be installed will be detailed in a Vegetation and Fauna Management Plan (to be approved by Council prior to commencement of works).

Nest boxes will be designed for a range of locally occurring hollow dependant fauna species and constructed of materials with a minimum lifespan of 10 years. Nest boxes should be installed within vegetation to be retained on site 4 – 6 weeks prior to the clearing stage and should be subject to regular ongoing monitoring.

7 CONSIDERATION OF STATUTORY REQUIREMENTS

7.1 Introduction

This section includes assessments of the impacts of the proposed works with regard relevant Commonwealth, State and Local legislation. Detailed assessment of compliance with relevant legislative requirements is provided in the following sections.

It should be noted that the MID process provides an alternative to lodging a development application with the relevant local government and is managed by the Department with input from other government agencies.

7.2 Commonwealth EPBC Act (1999)

7.2.1 Background

The EPBC Act provides a mechanism for assessing the environmental impact of activities and development where Matters of National Environmental Significance (MNES) may be significantly affected.

The Commonwealth *EPBC Act (1999)* was passed by Commonwealth Parliament in June 1999 and came into force on 16 July 2000. A person must not, without an approval under the Act, take an action that has or will have, or is likely to have, a significant impact on a MNES. These MNES are listed as follows:

- the world heritage values of a declared World Heritage property;
- the ecological character of a declared Ramsar wetland;
- a threatened species or endangered community listed under the Act;
- a migratory species listed under the Act; or
- the environment in a Commonwealth marine area or on Commonwealth land.

The Act also prohibits the taking, without an approval under the Act, of:

- a nuclear action; or
- an action in a Commonwealth marine area or on Commonwealth land that has or will have, or is likely to have, a significant impact on the environment.

MNES in Queensland include:

- declared World Heritage areas;
- declared Ramsar wetlands;
- listed threatened species (Schedule 1 and 2 of the Commonwealth Endangered Species Protection Act 1992);
- listed ecological communities; and
- listed migratory species (JAMBA and CAMBA).

An action includes a project, development, undertaking or an activity or series of activities. An action does not require approval if it is a lawful continuation of a use of land, sea or seabed that was occurring before the commencement of the Act. An enlargement, expansion or intensification of a use is not a continuation of a use.

The Commonwealth *EPBC Act (1999)* does not require Commonwealth approval for the rezoning of land. It does, however, suggest that when rezoning land, planning authorities should consider whether to allow actions that could significantly affect NES matters or the environment of Commonwealth land.

A Commonwealth Assessment will be required for proposed activities on the subject site if they affect a MNES. The Commonwealth Department of the Environment has prepared *EPBC Act* Policy Statements, including the Matters of National Environmental Significance – Significant Impact Guidelines 1.1 (DoE 2013) which provides a self-assessment process to assist in determining whether an action should be referred to the Commonwealth for a decision on whether assessment and approval is required under the Act. The proposed development has been considered against the Principal Significant Impact Guidelines for each of the MNES identified on the subject site. This assessment is provided in the following sections.

Where a project or action is believed to potentially cause a significant impact on a matter of national environmental significance, it is to be referred to the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW) for assessment as to whether the action is a 'controlled action' requiring Commonwealth approval for the proposed action.

Where an action requires Commonwealth approval, a formal assessment process is undertaken in accordance with provisions of relevant legislation.

7.2.2 Declared World Heritage Areas On or Near the Site

There are no declared World Heritage areas located on or near the subject site.

7.2.3 Declared Ramsar Wetlands On or Near the Site

The Subject site is located approximately 850 m from Moreton Bay, a Ramsar wetland. No significant impacts on the values of this Ramsar wetland are considered likely as a result of the proposed development.

7.2.4 Commonwealth Listed Threatened Flora and Fauna Species

7.2.4.1 Significant Impact Criteria

An action is likely to have a significant impact on a Critically Endangered, Endangered or Vulnerable species if there is a real chance or possibility that it will:

- lead to a long-term decrease in the size of a population;
- reduce the area of occupancy of the species;

- fragment an existing population into two or more populations;
- adversely affect habitat critical to the survival of a species;
- disrupt the breeding cycle of a population;
- modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline;
- result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat;
- introduce disease that may cause the species to decline; or
- interfere with the recovery of the species.

A 'population of a species' is defined under the *EPBC Act* as an occurrence of the species in a particular area. In relation to critically endangered, endangered or vulnerable threatened species, occurrences include but are not limited to a geographically distinct regional population, or collection of local populations, or a population, or collection of local populations that occur within a particular bioregion.

An 'invasive species' is an introduced species, including an introduced (translocated) native species, which out-competes native species for space and resources or which is a predator of native species. Introducing an invasive species into an area may result in that species becoming established. An invasive species may harm listed threatened species or ecological communities by direct competition, modification of habitat or predation.

7.2.4.2 Site Assessment

The presence of two (2) threatened fauna species listed within schedules of the EPBC Act were detected on the subject site, and a third species was considered a possible occurrence due to suitable habitat availability:

- Grey-headed flying-fox (*Pteropus poliocephalus*) (KNOWN);
- Koala (*Phascolarctos cinereus*) (KNOWN); and
- White-throated needletail (*Hirundapus caudacutus*).

Although small areas of suitable habitat for the Grey-headed flying fox and White-throated needletail will be cleared during development, no significant impacts (as listed in the significant impact criteria above) to these species or their habitats are considered possible or likely. Habitat occurring on site is likely to be of minimal value of the context of the broader locality. Any loss of potential habitat for species occurring on the site will be ameliorated with the retention and rehabilitation of existing vegetation on the site. These rehabilitated areas are considered to adequately compensate for the loss of habitat on site.

The proposed development will result in the removal of 0.81 ha (approximately 31%) of vegetation considered to provide suitable habitat for the Koala. This equates to

approximately 0.1% of the contiguous vegetation patch that the subject site forms part of, which covers a total of approximately 820 ha including Apex Park, Fellmonger Park and Hilliards Creek Park to the north, and Scribbly Gums Conservation Area, and Weippin Street Conservation Area to the south (**FIGURE 16**).

Proposed works are generally contained within existing cleared areas or to the edges of vegetation patches. It should be noted that no impacts on existing vegetation are proposed for the Bushfire groundcover mitigation buffer area. Groundcover vegetation in the Bushfire groundcover mitigation buffer area is currently already managed with no groundcovers and this requirement will be a continuation of the existing management regime. No non-juvenile Koala habitat trees are proposed to be removed within the Bushfire groundcover mitigation buffer area for bushfire purposes.

Vegetation removal of the subject site would involve clear felling, however, risks to koalas will be minimised by the supervision of all clearing by a suitably qualified wildlife spotter catcher.

The proposed development has been designed to retain and enhance movement corridors through the site. A vegetated corridor will be retained and rehabilitated on the site (**FIGURE 22**). Preferred koala food trees are currently scattered throughout the campus and provide stepping-stone habitat for any koalas moving through the campus (**FIGURE 13**). Rehabilitation works within these retained areas (in accordance with an approved Site Rehabilitation Plan) are expected to further enhance habitat and connectivity values within the locality. A Vegetation and Fauna Management Plan should also be prepared to ensure the protection of retained vegetation during construction and the Site Rehabilitation Plan will direct weed control and planting efforts within conservation areas.

With consideration of the above, the clearing of koala habitat on the site will not fragment the habitat to the point that a significant impact the local koala population is possible or likely.

The proposed development will occur on existing Ormiston College campus grounds. Dogs (with the exception of assistance dogs) are not likely to occur, and it is therefore not considered likely that the proposed development will significantly increase koala fatalities due to dog attacks. There is not likely to be any vehicular traffic on the site during night-time hours when koalas are most active. The proposed development is therefore not considered likely to significantly increase koala fatalities due to vehicle strike. Regardless, to mitigate impacts of vehicle strike on koalas, consideration should be given to relevant design principles from the Koala-sensitive Design Guideline (DEHP 2022), including:

- Limiting speed zones, ideally to 40 km/h or below;
- Installing koala crossing warning signs;
- Lighting roads at identified or potential koala crossing points; and
- Planning construction to avoid the koala breeding season (August to December) when koalas are most active.

The proposed development is not considered likely to facilitate the introduction or spread of disease or pathogens to local Koala populations.

The proposed development is not considered likely to change local hydrology resulting in degradation of habitat critical to the survival of the koala to the extent that the carrying capacity of the habitat is reduced in the long-term. An Erosion and Sediment Control Plan should be prepared to ensure suitable hydrological regimes and water quality are maintained during the construction phase of the development.

This assessment has determined that the proposed development will not affect habitat considered to be critical to the survival of the koala as:

- The proposed development will result in the removal of 0.81 ha (approximately 31%) of vegetation considered to provide suitable habitat for the koala. This equates to approximately 0.1% of the contiguous vegetation patch that the subject site forms part of. The removal of 0.81 ha is therefore considered to be insignificant when considering available contiguous habitat; and
- The proposed development has been designed to retain and enhance movement opportunities. A vegetated corridor will be retained and rehabilitated on the site (**FIGURE 20**). Scattered preferred koala food trees are currently scattered throughout the campus that provide stepping-stone habitat for any koalas moving through the campus (**FIGURE 13**).

Furthermore, the assessment has determined that the proposed development will not interfere substantially with the recovery of the koala as it will not:

- significantly increase mortality by dogs;
- significantly increase mortality by vehicles;
- facilitate the introduction or spread of disease or pathogens to habitat critical to the survival of the koala, that are likely to significantly reduce the reproductive output of koalas or reduce the carrying capacity of the habitat.
- create a barrier to movement to, between or within habitat critical to the survival of the koala that is likely to result in a long-term reduction in genetic fitness or access to habitat critical to the survival of the koala; or
- change hydrology resulting in degradation of habitat critical to the survival of the koala to the extent that the carrying capacity of the habitat is reduced in the long-term.

The subject site forms part of a larger patch of koala habitat in the broader landscape. Other areas of habitat within the contiguous landscape are more likely to be important for the recovery of the koala.

7.2.5 Listed Ecological Communities

No listed Ecological Communities were observed to occur on the site.

7.2.6 Listed Migratory Species On or Near the Site

7.2.6.1 Significant Impact Criteria

An action will require approval if the action has, will have, or is likely to have a significant impact on a listed migratory species. Note that some migratory species are also listed as threatened species. The significant impact criteria below are relevant to migratory species that are not threatened.

An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:

- substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles; or
- altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species; or
- result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species; or
- seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.

An area of 'important habitat' for a migratory species is:

- habitat used by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species; and/or
- habitat that is of critical importance to the species at particular life-cycle stages; and/or
- habitat utilized by a migratory species which is at the limit of the species range; and/or
- habitat within an area where the species is declining.

Listed migratory species cover a broad range of species with different life cycles and population sizes. Therefore, the definition of what an 'ecologically significant proportion' of the population is varies with the species (each circumstance needs to be evaluated). Some factors that should be considered include the species' population status, genetic distinctiveness and species-specific behavioural patterns (for example, site fidelity and dispersal rates).

The term 'population' in relation to migratory species, means the entire population or any geographically separate part of the population of any species or lower taxon of wild animals, a significant proportion of whose members cyclically and predictably cross one (1) or more national jurisdictional boundaries including Australia.

7.2.6.2 Site Assessment

No migratory species were recorded during the site assessment. Habitat assessment determined that two (2) migratory species are considered a possible or likely occurrence on site:

- Fork-tailed Swift (*Apus pacificus*); and
- White-throated needletail (*Hirundapus caudacutus*).

While these species may occur on the site from time to time, it is not considered that any significant population of these species occurs on the site. The proposed development will not have a significant impact on these migratory species due to the availability of suitable habitat in the wider landscape. Any loss of potential habitat will be ameliorated with the retention and rehabilitation of existing vegetation within the site. These rehabilitated areas are considered to compensate for the loss of habitat on site.

7.2.7 Requirement for Commonwealth Referral

Based on the results of the above assessment in accordance with the Matters of National Environmental Significance – Significant Impact Guidelines 1.1 (DoE 2013), it is considered that there is no requirement for Commonwealth referral. No offsets will be required under the Commonwealth *EPBC Act* Environmental Offsets Policy (2012).

7.3 Queensland NC Act (1992)

7.3.1 Background

The Queensland *Nature Conservation (NC) Act (1992)* aims to conserve nature through strategies such as dedicating and declaring protected areas for those parts of Queensland with outstanding biological diversity, natural features and wilderness values. The *NC Act* provides for the protection of near threatened, vulnerable and endangered animals and plants.

The *NC Act* details the management intent for listed flora and fauna species considered presumed Extinct, Endangered, Vulnerable, Near Threatened, Least Concern, International and Prohibited in Queensland. It discusses their significance and states the declared management intent and the principles to be observed in any taking and use for each group.

The proposed management intent for Endangered wildlife includes the following:

- to take action to ensure viable populations of the wildlife in the wild are preserved or re-established;
- to regularly monitor and review the status of Endangered wildlife and its habitat;
- to encourage scientific research and inventory programs likely to contribute to an understanding of Endangered wildlife and its habitat and management requirements;
- to recognize that the habitat of Endangered wildlife is likely to be a critical habitat or area of major interest; and

- to monitor and review the adequacy of environmental impact assessment procedures to ensure that they take into account the need to accurately assess the extent of the impact on Endangered wildlife and develop effective mitigation measures.

The proposed management intent for Vulnerable wildlife includes the following:

- to take action to ensure viable populations of the wildlife in the wild are reserved or established;
- to recognize that the conservation of the habitat of Vulnerable wildlife is critical to ensuring survival of that wildlife; and
- to monitor and review the adequacy of environmental impact assessment procedures to ensure that they take into account the need to accurately assess the extent of the impact on Vulnerable wildlife and develop effective mitigation measures.

The proposed management intent for Near Threatened wildlife includes the following:

- to regularly monitor and review the wildlife's conservation status and its habitat;
- to recognize the habitat of the wildlife as a potentially critical habitat or area of major interest; and
- to monitor and review the adequacy of environmental impact assessment procedures to ensure that they take into account the need to accurately assess the extent of the impact on Near Threatened wildlife and develop effective mitigation measures.

In support of the purpose and the provisions of the *NC Act*, the *Nature Conservation (Animals) Regulation 2020* (NCAR) and the *Nature Conservation (Plants) Regulation 2020* (NCPR) lists all flora and fauna species which are considered to be extinct in the wild, endangered, Vulnerable, Near Threatened and Least Concern wildlife.

7.3.2 Site Assessment

7.3.2.1 Flora

No threatened flora species listed under the NCPR are considered possible occurrences in the locality. No threatened flora species were located in site during the survey.

The proposed development will not significantly impact any threatened flora species listed under the NCPR.

7.3.2.2 Fauna

The presence of one (1) threatened fauna species (Koala) protected under the NCAR was detected on subject site. One (1) other Threatened fauna species (White-throated needletail) protected under the NCAR was considered to be a potential occurrence on the subject site.

For the koala, habitat is provided by mature eucalypt trees occurring across the site. The proposed development has been designed to utilise existing cleared or sparsely vegetated areas as far as possible, and a proportion of existing remnant vegetation will be retained. Rehabilitation works (in accordance with an approved Site Rehabilitation Plan) within disturbed areas on the site are expected to ensure that potential habitat for threatened species is maintained. It is not expected that the proposal will significantly reduce habitat resources for koalas in the context of the site or broader locality.

Impacts on species listed within schedules of the NCAR that have been recorded from the site, or a considered a possible occurrence, and their habitats will be minimised through the following mitigation measures:

- A Vegetation and Fauna Management Plan will be prepared and implemented to ensure impacts on Threatened fauna and areas of habitat to be retained on site are minimised during the construction and operational phases of the development.
- Rehabilitation works will be completed within retained vegetation in accordance with an approved Site Rehabilitation Plan (**FIGURE 22**). These rehabilitation works will increase the habitat values of these areas, which will compensate for any loss of habitat as a result of the development.
- A pre-clearing fauna trapping and relocation program to be implemented in areas of the site to be cleared.
- Use of spotter-catcher during clearing operations.
- Use of habitat and/or food trees in landscape plantings.
- Fauna friendly road crossings should be incorporated (if necessary) into the development layout at the detailed design stage.

Furthermore, in accordance with the objectives of the *NC Act*, a Species Management Program (SMP) will be required to be prepared and lodged with DES for any proposed activity that will impact on breeding places of protected animals that are classified as extinct in the wild, endangered, vulnerable, near threatened (EVNT), special least concern, colonial breeder or least concern, an SMP for that species will be required. Animal breeding places include obvious structures such as bird nests and tree hollows, as well as more cryptic places such as amphibian or reptile habitat where breeding takes place.

The purpose of an SMP is to:

- Assess the threats to native animal breeding places resulting from a planned activity;
- Incorporate management actions that will avoid or minimise both the immediate and the long-term impact of removing or altering an animal breeding place; and
- Set monitoring and reporting requirements that demonstrate the management actions in the SMP are effectively implemented and produce the intended results.

7.4 Queensland Vegetation Management Act (1999)

7.4.1 Background

Queensland's vegetation management framework regulates the clearing of certain native vegetation. It protects the State's biodiversity and, by conserving native vegetation, addresses land degradation issues such as salinity, soil degradation, erosion and declining water quality.

The purpose of the Queensland VM Act is to regulate the broad scale clearing of vegetation on freehold land to preserve remnant Regional Ecosystems (RE), vegetation in areas of high nature conservation value areas and areas vulnerable to land degradation. The VM Act also ensures that clearing does not cause land degradation, maintains or increases biodiversity, maintains ecological processes and allows for ecologically sustainable land use. The *VM Act* is currently supported by the State Policy for Vegetation Management (2019), which includes codes for the clearing of vegetation.

Approval is required under the *VM Act* when clearing is to be undertaken within a declared area or within a remnant Regional Ecosystem, unless listed under Exemptions relating to the Act.

'Remnant vegetation' refers to vegetation that has either never been cleared in the past, or if it has been cleared has regrown to meet certain criteria, such as having the same composition and structure of species that would exist if the vegetation community had not been disturbed. Remnant vegetation protected by the vegetation management framework is identified on a regional ecosystem map or remnant map.

A 'declared area' is an area declared by the Minister to be of high conservation value or vulnerable to land degradation.

Approvals to clear remnant vegetation on properties greater than 5 ha are managed by the State Assessment and Referral Agency (SARA). SARA coordinates the assessment of vegetation clearing applications which are considered against the State Development Assessment Provisions (SDAP) version 3.2 (2025).

The SDAP includes State Code 16: Native Vegetation Clearing (2025) which uses certified mapping (DES mapping) to administer the *VM Act*. Mapping includes:

- regulated vegetation management mapping for remnant vegetation and remnant vegetation associated with any natural watercourse or wetland;
- regional ecosystem (RE) mapping for Endangered REs and Of Concern REs;
- essential habitat (EH) mapping for habitat essential for threatened species; and
- referable wetlands mapping for waterways contributing to the Great Barrier Reef catchment.

Other categories assessed under State Code 16 include:

- clearing to maintain connectivity;

- clearing on acid sulphate soils;
- soil erosion; and
- salinity.

Property Maps of Assessable Vegetation (PMAVs) are a part of the framework of the *VM Act*. They are property-scale maps that show the location, boundary and conservation status of vegetation. PMAVs are submitted by landholders and used to update DES's Regulated Vegetation mapping for determining the location of vegetation assessable under the *VM Act*.

7.4.2 Assessable Vegetation on the Subject Site

The current regulated vegetation management map of the subject site includes Category X (vegetation not regulated under the VMA) areas over the majority of the site. Remnant vegetation covering parts of the eastern portion of the subject site as well as small areas on the northern and western boundaries is mapped as RE 12.3.6 (Least Concern). Current RE mapping is shown in **FIGURE 5**.

Under the state government's vegetation management laws, there are some clearing activities that can be undertaken without state approval. With respect to the proposed development the following exemptions are applicable:

1. Clearing of Category X vegetation can be undertaken for any purpose; and
2. Clearing of Category B vegetation (Least Concern or Of Concern regional ecosystems only) can be undertaken "for an urban purpose (e.g. residential, industrial, sporting, recreational or commercial) in an urban area".

7.5 State Code 8: Coastal Development and Tidal Works

7.5.1 Background

The Coastal Management District is declared under the *Coastal Protection and Management Act 1995* as coastal areas that require protection or management, especially with respect to the area's vulnerability to erosion, value in maintaining or enhancing coastal resources, or for planning and development of the area. Generally, lots projected to be permanently inundated by water or exposed to greater coastal erosion from sea level rise are included.

The Coastal Management District defines an area where the State assesses certain developments listed under the *Planning Regulation 2017*.

7.5.2 Applicability to the Subject Site

The subject site is not mapped as occurring with the Coastal Management District. State Code 8: Coastal Development and Tidal Works is therefore not applicable.

7.6 State Code 16: Native Vegetation Clearing

7.6.1 Background

State Development Assessment Provisions – State Code 16: Native Vegetation Clearing provides the assessment criteria for assessable development that is the clearing of native vegetation under the *Planning Act 2016*.

7.6.2 Applicability to the Subject Site

As previously discussed, under the state government's vegetation management laws, there are some clearing activities that can be undertaken without state approval. With respect to the proposed development the following exemptions are applicable:

1. Clearing of Category X vegetation can be undertaken for any purpose; and
2. Clearing of Category B vegetation (Least Concern or Of Concern regional ecosystems only) can be undertaken "for an urban purpose (e.g. residential, industrial, sporting, recreational or commercial) in an urban area".

State Code 16: Native Vegetation Clearing is therefore not applicable.

7.7 State Code 25: Development in South East Queensland Koala Habitat Areas

7.7.1 Background

The *Nature Conservation and Other Legislation (Koala Protection) Amendment Regulation* commenced on 7th February 2020 and amends the *Environmental Offsets Regulation 2014*, *Planning Regulation 2017*, *Nature Conservation (Koala) Conservation Plan 2017* and *Vegetation Management Regulation 2012* to provide increased protection to koala habitat areas in South East Queensland.

The new planning framework implements strict new clearing restrictions, prohibiting clearing of koala habitat areas within Koala Priority Areas as shown on the Koala Conservation Plan Map. Development proposing clearing of mapped Koala Habitat Areas must be assessed against SDAP State Code 25: Development in South East Queensland Koala Habitat Areas.

The purpose of this code is to ensure that development in South East Queensland:

1. results in no net loss of koala habitat area;
2. does not contribute to fragmentation of koala habitat areas;
3. maintains or improves connectivity within and between koala habitat areas to ensure safe koala movement;
4. is constructed and undertaken in such a way that does not increase the risk of injury to, or death of koalas; and
5. avoids impacts on matters of state environmental significance, and where avoidance is not reasonably possible, minimises and mitigates impacts and, provides

an offset for significant residual impacts to matters of state environmental significance that are prescribed environmental matters.

7.7.2 Applicability to the Subject Site

7.7.2.1 Introduction

The subject site is within the Koala Priority Area and contains areas of Core Koala Habitat (**FIGURE 6**). An assessment of compliance with the requirements of the State Code 25: Development in South East Queensland Koala Habitat Areas is therefore required. An assessment of compliance with the performance outcomes and acceptable outcomes in the code is provided in the following sections with consideration of the Guideline – SDAP State code 25: Development in koala habitat areas (DES 2020b) and Chapter 2A of the Queensland Environmental Offsets Policy (DES 2023).

7.7.2.2 Retaining Koala Habitat Areas

Performance Outcome 1 (PO1) of State Code 25 is in the following terms:

Performance outcomes	Acceptable outcomes
PO1 Development interfering with koala habitat (including interfering with koala habitat as a result of material change of use and interfering with koala habitat as a result of reconfiguring a lot) does not occur unless the application demonstrates the interfering with koala habitat has: 1. been reasonably avoided; or 2. been reasonably minimised where it cannot be reasonably avoided; and 3. mitigated the impacts of the interfering with koala habitat values.	No acceptable outcome is prescribed.

The intent of PO1 is to ensure that development is sited, designed, constructed and/or operated so the entire extent of mapped koala habitat areas is retained on-site. If this is not possible, development is sited, designed, constructed and/or operated to minimise unavoidable clearing of koala habitat areas and that impacts on koala habitat values are mitigated. Clearing for development can only proceed if the application demonstrates that:

- alternative development options to retain koala habitat area have been considered but were not reasonably practicable;
- there is no alternative other than clearing koala habitat area for the development to occur (note that existing cleared areas provide alternatives to clearing koala habitat area);
- the minimum amount of koala habitat area will be cleared; and
- actions to mitigate impacts on koala habitat values that will be removed are included in the planning and design of the development.

The proposed development is for the refurbishment of existing buildings and construction of multiple new buildings for general and specialised learning, a boarding house and early

learning centre. Other works include an aquatic centre, outdoor courts, sports ovals, cricket pitch and nets, grandstand, car parking and landscaping. The college has identified the need to provide additional facilities for school and community use. There is no other available land for the provision of these facilities. The design requirements of the proposed master plan for Ormiston College have necessitated the removal of some site vegetation.

Where possible the proposed development has been designed to utilise existing cleared or sparsely vegetated areas of the site and to allow for the retention of existing remnant vegetation. It should be noted that no impacts on Koala habitat are proposed for the Bushfire groundcover mitigation buffer area. Groundcover vegetation in the Bushfire groundcover mitigation buffer area is currently already managed, and this requirement will be a continuation of the existing management regime. No non-juvenile Koala habitat trees are proposed to be removed within the Bushfire groundcover mitigation buffer area for bushfire purposes.

Construction of the proposed master plan on the site will result in the removal of 0.81 ha (approximately 31%) of mapped koala habitat (**FIGURE 20**). It should also be noted that clearing will occur in areas of the site where low level (transitory) koala activity was recorded utilising the RG-bSAT method (Phillips and Hopkins 2007, Allen *et al*. 2010, Tweed Shire Council 2020).

Site rehabilitation works will be completed on the subject site (in accordance with a Site Rehabilitation Plan to be approved by Council prior to commencement of works) to ensure that retained vegetation and additional plantings of preferred koala food trees continue to provide habitat for the local koala population.

7.7.2.3 Koala Sensitive Design and Connectivity

Performance Outcome 2 (PO2) of State Code 25 is in the following terms:

Performance outcomes	Acceptable outcomes
PO1 The design and siting of development avoids fragmenting koala habitat areas within the site.	No acceptable outcome is prescribed.

PO2 seeks to avoid koala habitat areas becoming fragmented from other koala habitat areas. To achieve this outcome development is to be sited and designed to avoid fragmenting koala habitat areas by:

- avoid removing vegetation between patches of koala habitat area; and
- providing corridors to facilitate koala movement in undeveloped areas.

If development proposes to remove habitat or other vegetation between koala habitat areas, corridors should be identified to ensure retained koala habitat areas are connected.

It should be noted that the site occurs in an urbanised area. Koala habitat in the locality is already highly fragmented. The assessment of current levels of Koala activity/usage over the site utilising the RG-bSAT has identified areas of “low” level usage throughout the

vegetated portions of the site and surrounding land. As noted by Phillips and Callaghan (2011), where the results of a SAT site return an activity level within the low use range, the level of use by the Koala is likely to be transitory. Based on the results of this assessment it is considered that the subject site and surrounding vegetated lands may be utilised occasionally by Koalas as they traverse the locality. The results indicate that a resident/sedentary population is not currently present on the site. In this regard, the Guideline – SDAP State code 25: Development in koala habitat areas notes that minimum corridor widths retained on a development site should be guided by the home range size of koalas using it, and that if the corridor is shorter than one home range size, a narrow corridor may be sufficient.

The proposed development will retain a corridor of mapped koala habitat through the site (**FIGURE 20)**. Scattered preferred koala food trees are currently located throughout the campus that provide stepping-stone habitat for any koalas moving through the school (**FIGURE 13**). As the level of use of site habitat by the koala is likely to be transitory (i.e. a resident/sedentary population is not currently present on the site) this retained corridor is considered to be sufficient to allow the continued movement of koalas through the site. Furthermore, this corridor functionality will be improved and maintained through proposed site rehabilitation works (in accordance with a Site Rehabilitation Plan to be approved by Council prior to commencement of works).

Performance Outcome 3 (PO3) of State Code 25 is in the following terms:

Performance outcomes	Acceptable outcomes
PO1 The design and siting of development does not result in impediments that restrict the movement of koalas by providing for safe koala movement between highly connected patches of retained koala habitat area.	No acceptable outcome is prescribed.

The intent of PO3 is to ensure development is sited and designed to allow koalas to move safely between these highly connected patches, from one patch to another. This may be achieved by incorporating koala sensitive design principles in the siting and design of the development for example:

- the installation of koala exclusion fences that prevent koalas accessing dangerous parts of a site;
- the installation of koala safe fences, underpasses and overpasses that allow koalas to safely move through an area; or
- reduced speed limits at times of the day where koalas are most active.

The design must ensure that there is opportunity for koalas to move safely from one patch of koala habitat to another and not create barriers that prevents koala movement or makes it dangerous for koalas to move across a site.

As the proposed development is the extension of existing school grounds/facilities with people generally only present during daylight hours, there will be no specific areas of the

site where koalas need to be excluded. As discussed above, the proposed development will retain a corridor of mapped koala habitat through the site (**FIGURE 20)**. Scattered preferred koala food trees are currently located throughout the campus that provide stepping-stone habitat for any koalas moving through the school (**FIGURE 13**).

7.7.2.4 Koala Safety from Construction Activities

Performance Outcome 4 (PO4) of State Code 25 is in the following terms:

Performance outcomes	Acceptable outcomes
PO4 The construction of the development does not increase the risk of injury or death of koalas	**AO4.1** A koala management plan is provided that includes: 1. activities that may cause injury or death of koalas from construction activities; and 2. acceptable measures to avoid and mitigate injury or death of koalas from construction activities. AND **AO4.2** Interfering with koala habitat complies with the sequential clearing and koala spotter requirements under section 10 and 11 of the *Nature Conservation (Koala) Conservation Plan 2017*.

The intent of PO4 is to ensure koalas are not injured or killed as result of construction activities associated with a development. This includes clearing and subsequent construction activities that follow such as earthworks and building activities.

To demonstrate compliance with the acceptable outcomes, a Koala Management Plan must be prepared by a suitably qualified and experienced person and approved by Council prior to commencement of works. As a minimum, the Koala Management Plan should include measures that comply with the sequential clearing and koala spotter requirements under section 10 and 11 of the *Nature Conservation (Koala) Conservation Plan 2017* as follows:

1. clearing of the koala habitat trees is carried out in a way that ensures koalas on the area being cleared (the clearing site) have enough time to move out of the clearing site without human intervention, including, in particular:
    a. carrying out the clearing in stages; and
    b. ensuring not more than 50% of the site's area is cleared in any 1 stage; and
    c. ensuring that between each stage and the next there is at least 1 period of 12 hours starting at 6p.m. on a day and ending at 6a.m. on the following day during which no trees are cleared on the site;
2. clearing of the koala habitat trees is carried out in a way that ensures, while the clearing is carried out, appropriate habitat links are maintained within the clearing site and between the site and its adjacent area, to allow koalas living on the site to move out of the site;
3. no koala habitat tree in which a koala is present, and no koala habitat tree with a crown overlapping a tree in which a koala is present, is cleared.

4. clearing of any koala habitat trees having a trunk of a diameter of more than 10cm at 1.3m above the ground carried out in the presence of a koala spotter who has the primary role of locating koalas in the trees.

The Koala Plan of Management must also include measures to exclude koalas from dangerous worksites, provide koala safe movement areas through the development site, exclude dogs on site, ensure dust and light does not affect adjacent koala habitat, raise awareness of site workers to watch for koalas on site and detail a process to ensure injured/sick animals are taken care of immediately, including by contacting or taking animals to the closest appropriate koala care agents (e.g., koala carers group, veterinary clinic, wildlife hospital).

7.7.2.5 Matters of State Environmental Significance

Performance Outcome 5 (PO5) of State Code 25 is in the following terms:

Performance outcomes	Acceptable outcomes
PO5 Development: 1. avoids impacts on matters of state environmental significance; or 2. minimises and mitigates impacts on matters of state environmental significance after demonstrating avoidance is not reasonably possible; and 3. provides an offset if, after demonstrating all reasonable avoidance, minimisation and mitigation measures are undertaken, the development results in an acceptable significant residual impact on a matter of state environmental significance that is a prescribed environmental matter.	No acceptable outcome is prescribed.

The intent of this performance outcome is to achieve the SPP state interest by ensuring the siting, design, construction and operations of development will be undertaken to avoid, reduce and manage real or potential risks and impacts to MSES. It also aims to ensure that unavoidable impacts on MSES are counterbalanced through offsets.

There are various MSES layers mapped on the subject site (**FIGURE 8**). If there is an impact on MSES, applicants must submit a report by a suitably qualified person that provides an assessment against the Significant Residual Impact criteria justifying whether the residual impact is likely to be significant or not. In this regard, a Significant Residual Impact Assessment has been completed and is provided as **APPENDIX 6.** This assessment has considered the guidance for determining if development will have a significant residual impact on koala habitat areas provided in Chapter 2A of the Queensland Environmental Offsets Policy, and the guidance for determining if development will have a significant residual impact on all other matters of state environmental significance provided in the Significant Residual Impact Guideline (DSDIP 2014). The assessment has determined that:

- The proposed development is not considered likely to result Significant Residual Impact on Wildlife habitat (endangered or vulnerable) including essential habitat.
- No special least concern animals were recorded from the subject site. The proposed development is therefore not considered likely to result in a Significant Residual Impact on these species.
- A significant residual impact on 0.81 ha (approximately 31%) of core koala habitat will be incurred for the proposed development. It is proposed to rehabilitate and revegetate approximately 0.81 ha of koala habitat on site (i.e. outside core koala habitat – an additional 0.03 ha core koala habitat will also be rehabilitated) (**FIGURE 20**). This would result in no net loss of koala habitat on the site.
- Prescribed regional ecosystems that intersect with an area shown as a wetland on the vegetation management wetlands map are not a prescribed environmental matter where they occur in urban areas.
- It is not considered that High Ecological Significance Wetland MSES is applicable to the subject site, and that the current MSES mapping is inaccurate.

7.7.2.6 Category C and R Vegetation

Performance Outcome 6 (PO6) of State Code 25 is in the following terms:

Performance outcomes	Acceptable outcomes
PO6 Development: • avoids impacts on category C areas of vegetation and category R areas of vegetation; or • minimises and mitigates impacts on category C areas of vegetation and category R areas of vegetation after demonstrating avoidance is not reasonably possible.	No acceptable outcome is prescribed.

The intent of this performance outcome is to ensure this legislative requirement of the SPP is met by ensure impacts to Category C areas and Category R areas are avoided, minimised and mitigated to the greatest extent possible. These vegetation categories are defined in the VM Act. Category C areas contain regrowth vegetation classified as 'endangered', 'of concern' or 'least concern' regional ecosystems that has not been cleared for at least 15 years (i.e. not remnant vegetation). Category R areas in South East Queensland are regrowth watercourse and drainage areas within 50 m of a watercourse in the Burnett–Mary catchment.

There are no Category R vegetation areas mapped on the subject site.

There is a small area of Category C vegetation mapped along the western boundary of the site. However, the area clipping the site consists of a few planted trees and no regrowth vegetation.

7.7.3 Summary

The above assessment of compliance with State Code 25 has determined that:

1. clearing of koala habitat and non-juvenile koala habitat trees (NJKHTs) on the site has been minimised as far as practicable. Proposed revegetation/compensatory habitat and rehabilitation works will result in no net loss of koala habitat;

2. proposed clearing works will not contribute to fragmentation of koala habitat areas;

3. on the contrary, proposed revegetation/compensatory habitat works, and rehabilitation of existing koala habitat will improve movement opportunities for koala through the site by expanding and enhancing an existing movement corridor; and

4. a Koala Management Plan will be prepared to ensure that the proposed development is constructed and undertaken in such a way that does not increase the risk of injury to, or death of koalas.

In additional to compliance with State Code 25, important consideration during the design of the masterplan was given to ensuring:

- no net loss of koala habitat area on the site. The proposal will result in the removal of 0.81 ha (31%) of the total of 2.57 ha of koala habitat occurring on the site. Strategically located revegetation areas totalling 0.81 ha have been identified to ensure no net loss of koala habitat on the site.
- enhanced habitat quality for koalas. The koala habitat to be impacted is generally comprised of supplementary/shelter trees species (i.e. *Melaleuca quinquenervia*) with only scattered preferred koala food trees (PKFTs) present (i.e. *Eucalyptus tereticornis*) (i.e. only 11% of the NJKHTs to be impacted are PKFTs). Proposed revegetation / compensatory habitat works will include the dense planting of PKFTs to offset the loss of habitat dominated by less preferred species. In total, it is proposed to plant a minimum of 526 PKFTs (at a density of 1 per 15 m^2 – reflective of the current habitat on site) to offset the loss of an estimated 58 PKFTs and 594 supplementary/shelter tree species.
- enhanced movement opportunities for koalas. The Proposed revegetation / compensatory habitat works will occur in strategically located areas to expand and enhance the current koala movement corridor occurring on the site.

With the implementation of these recommendations it is considered that the proposed development will not result in a significant impact on the local koala population. In contrast, proposed revegetation works, and rehabilitation of existing koala habitat, will provide additional high-quality habitat and forage resources, ensure no net loss of koala habitat on the site, and will expand and enhance an existing movement corridor through the site.

7.8 Redland City Plan (Version 12 – 2024)

7.8.1 Background

Version 12 of the Redland City Plan 2018 was adopted by Council on 17th October 2024 and came into effect on the 14th November 2024. The City Plan has been prepared in accordance with the *Planning Act 2016*.

7.8.2 Zoning

The subject site is zoned as (**FIGURE 3**):

- Community Facilities – Precinct CF3;
- Low Density Residential – Precinct LDR1; and
- Conservation.

7.8.3 Environmental Significance Overlay Code

7.8.3.1 Introduction

The Environmental Significance Overlay Code applies to development:

1. within the environmental significance overlay as identified on the overlay maps contained within Schedule 2 (mapping); and

2. identified as requiring assessment against the environmental significance overlay code by the tables of assessment in Part 5 (tables of assessment).

The purpose of the environmental significance overlay code is to manage development to avoid or minimise and mitigate significant impacts on matters of national, state and local environmental significance.

The purpose of the code will be achieved through the following overall outcomes:

a) areas of high biodiversity or environmental significance are retained and protected;

b) development maximises the retention of native vegetation and significant habitat features;

c) development minimises the loss of koala habitat trees;

d) impacts on matters of state or local environmental significance are minimised and mitigated;

e) development does not cause substantial fragmentation of habitat areas;

f) opportunities for safe and viable wildlife movement within and between habitat areas are facilitated;

g) landscaping and planting are undertaken in a manner that contributes to the ecological values of the site; and

h) where they occur, significant residual impacts on matters of local environmental significance or another prescribed environmental matter in accordance with section 15(4) of the *Environmental Offsets Act 2014*, may need to be offset.

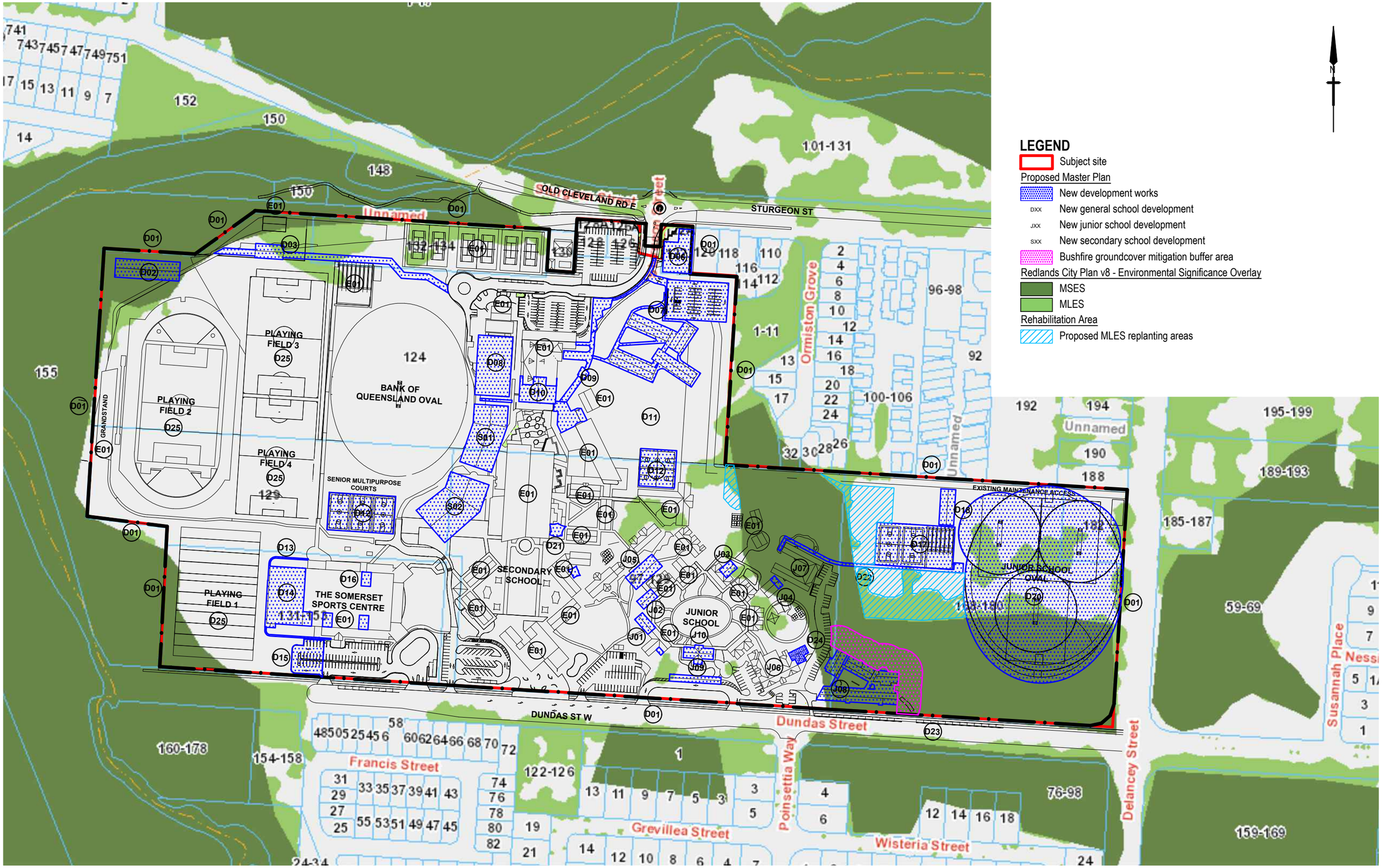
7.8.3.2 Site Assessment

The subject is mapped as containing MSES and MLES on the Environmental Significance Overlay (**FIGURE 9**).

An assessment of compliance with the Environmental Significance Overlay code, which details 'performance outcomes', and 'acceptable outcomes' required to be addressed by relevant Development Applications, has been completed in **APPENDIX 7**.

Impacts on MSES are discussed and addressed in **SECTION 7.7** above. In relation to impacts on MLES, the proposed master plan will result in the removal of 0.44 ha of mapped MLES (**FIGURE 23**). Where possible the proposed development has been designed to utilise existing cleared or sparsely vegetated areas of the site and to allow for the retention of existing remnant vegetation. It should be noted that no impacts on MLES are proposed for the Bushfire groundcover mitigation buffer area. Groundcover vegetation in the Bushfire groundcover mitigation buffer area is currently already managed, and this requirement will be a continuation of the existing management regime. No trees are proposed to be removed within the Bushfire groundcover mitigation buffer area for bushfire purposes.

To ensure compliance with the Environmental Significance Overlay code the following measures will be required:



Scale 1 : 3000

0 50m 100m 150m 200m

SOURCE: Redlands City Council Red-e-map (accessed 05/03/25); Rohig - Proposed Master Plan Rev X 24/03/25

SCALE: 1 : 3000 @ A3

JWA PTY LTD
Ecological Consultants

CLIENT
Ormiston College

PROJECT
Ecological Assessment - Master Plan
Ormiston College
97 Dundas Street, Ormiston, QLD
Redland City Council LGA

FIGURE 23

PREPARED: BW
DATE: 2 April 2025
FILE: Q15018_MP_20250401.dwg

TITLE
IMPACT ON ENVIRONMENTAL SIGNIFICANCE OVERLAY

- Rehabilitation works within degraded and previously cleared areas of the site will be undertaken (**FIGURE 22**) in accordance with a Site Rehabilitation Plan (to be approved by Council prior to commencement of works) to improve existing ecological values and ameliorate the impacts of clearing works. Rehabilitation work should incorporate preferred Koala food trees and flowering/fruiting species suitable as Grey-headed flying fox forage.
- The proposed development will retain a fauna movement corridor through the site (**FIGURE 22**) which is considered to be sufficient to allow the continued movement of highly mobile and disturbance adapted species and koalas through the site. Furthermore, this corridor functionality will be improved and maintained through proposed site rehabilitation works (in accordance with a Site Rehabilitation Plan to be approved by Council prior to commencement of works). Scattered preferred koala food trees are currently located throughout the campus that provide stepping-stone habitat for any koalas moving through the campus (**FIGURE 13**). These will be supplemented by additional landscape plantings where possible in accordance with a landscape plan.
- A Stormwater Management Plan should be prepared to consider the impacts to retained vegetation that may arise from changes to hydrological flows and water quality as a result of the proposed development.
- A Vegetation and Fauna Management Plan should be prepared (and approved by Council prior to commencement of works) and include measures to ensure that potential for disturbance of wildlife as a result of noise, light, vibration or other sources is minimised.
- The proposed development will result in the unavoidable removal of 0.44 ha of MLES. It is proposed to rehabilitate and revegetate approximately 0.35 ha of MLES vegetation on site (i.e. outside existing mapped MLES – an additional 0.27 ha existing mapped MLES vegetation will also be rehabilitated) (**FIGURE 23**).

  Proposed revegetation works on site will result in no net loss on MLES.

With implementation of the above, it is considered that the proposed development would generally comply with the intent and desired outcomes of the code.

7.8.4 Waterway Corridors and Wetland Overlay Code

The eastern, north-western and south-western portions of the site are mapped as Waterway Corridors and Wetlands Overlay under the *Redland City Plan* (2018) (**FIGURE 10**). The mapped Council Waterway Corridors and Wetlands Overlay (**FIGURE 19**) occurring on site will incur 0.97 ha of loss as a result of the proposed works.

No waterways were observed during the site assessment. It is noted that the mapped Wetland of HES areas onsite appear to be incorrect. The mapped areas in the western portions of the site occur over areas of existing sporting fields and maintained grass areas. The mapped area in the eastern portion of the site is characterised by Broad-leaved paperbark forest (*M. quinquenervia*) but does not contain obligate hydrophytes. Any wetland values in this are therefore likely to be ephemeral in nature.

FRC Environmental were engaged by Ormiston College to complete an aquatic ecological assessment (FRC 2020) of the mapped Wetland of HES in the eastern portion of the site. The objective of the assessment was to determine the aquatic ecological values of the mapped wetland using a range of approaches, including the AquaBAMM assessment framework, and use a risk-based assessment to determine if proposed development would likely result in a Significant Residual Impact to aquatic ecological values. The assessment determined that the mapped wetland has low aquatic ecological values.

With consideration of the above, it is considered that the Council Waterway Corridors and Wetlands Overlay is not accurate. It is considered that the proposed development will not result in any significant impacts on wetland or waterway vegetation.

An assessment of compliance with the Waterway Corridors and Wetlands Overlay code, which details 'performance outcomes', and 'acceptable outcomes' required to be addressed by relevant Development Applications, has been provided in **APPENDIX 7** for completeness.

8 SUMMARY AND CONCLUSIONS

JWA Pty Ltd has been engaged by Ormiston College to complete an Ecological Assessment for the proposed Ormiston College Master Plan. This EA has been prepared as part of a Ministerial Infrastructure Designation (MID) Submission to the State government to facilitate a Master Plan for Ormiston College. Ormiston College is located at 97 Dundas Street, Ormiston, QLD 4160. The land is formally described as Lots 1 - 5 on RP109238, Lot 1 on RP122772, Lot 1 on RP127130, Lot 100 - 102 on SP306734, Lot 1 and 2 on RP110831 and Lot 3 on RP49638 and is hereafter referred to as the subject site.

The site is occupied by Ormiston College and is comprised of buildings, carparks, sports fields and associated infrastructure. The site is partially vegetated by native forest and scattered trees and gardens.

A total of fifty-seven (57) flora species were recorded on the site. No threatened flora species were located on site. Two (2) broad vegetation communities were identified on the subject site. These vegetation communities were found to generally follow the current regulated vegetation management map of the subject site which shows Category X (vegetation not regulated under the VMA) areas, and remnant vegetation RE 12.3.6 (Least Concern). Non-remnant portions of the subject site comprise scattered or clumped mature native trees with some smaller areas containing emergent regrowth and/or mid-storey species. Ground cover is typically disturbed and void of native vegetation in these areas.

Incidental and targeted fauna surveys during 2016, 2019 and 2020 recorded two (2) native and one (1) introduced amphibian species; four (4) native reptile species; forty (40) native bird species; and six (6) species of mammal.

Two (2) significant fauna species (or evidence of their presence) were recorded – Koala and Grey-headed flying fox. An assessment of current levels of Koala activity/usage over the site utilising the RG-bSAT method identified areas of “low” level usage throughout the vegetated portions of the site and surrounding land. As noted by Phillips and Callaghan (2011), where the results of a SAT site return an activity level within the low use range, the level of use by the Koala is likely to be transitory.

The relatively intact remnant vegetation in the south-eastern portion of the site is likely to provide habitat and movement opportunities for a range of native fauna species. In the context of the locality, it provides connections between reserves to the east and south and a corridor occurring to the north of the site. These movement opportunities are likely to be of most benefit to highly mobile and disturbance adapted species of native wildlife, including the Koala.

An assessment in accordance with the Matters of National Environmental Significance – Significant Impact Guidelines 1.1 (DoE 2013) considered that there is no requirement for Commonwealth referral. No offsets will be required under the Commonwealth EPBC Act Environmental Offsets Policy (2012).

The proposed development will result in the loss of approximately 0.81 ha of the Least Concern RE 12.3.6 occurring on the site. However, the "Urban purpose in an Urban area" exemption applies for the removal of Regulated vegetation from the site.

The subject site is within the Koala Priority Area and contains Core Koala Habitat Areas and Koala Habitat Restoration Areas. An assessment of compliance with the requirements of the State Code 25: Development in South East Queensland Koala Habitat Areas has determined that:

> 1. clearing of koala habitat and non-juvenile koala habitat trees (NJKHTs) on the site has been minimised as far as practicable. Proposed revegetation/compensatory habitat and rehabilitation works will result in no net loss of koala habitat;
>
> 2. proposed clearing works will not contribute to fragmentation of koala habitat areas;
>
> 3. on the contrary, proposed revegetation/compensatory habitat works, and rehabilitation of existing koala habitat will improve movement opportunities for koala through the site by expanding and enhancing an existing movement corridor; and
>
> 4. a Koala Management Plan will be prepared to ensure that the proposed development is constructed and undertaken in such a way that does not increase the risk of injury to, or death of koalas.

In additional to compliance with State Code 25, important consideration during the design of the masterplan was given to ensuring:

- no net loss of koala habitat area on the site. The proposal will result in the removal of 0.81 ha (31%) of the total of 2.57 ha of koala habitat occurring on the site. Strategically located revegetation areas totalling 0.81 ha have been identified to ensure no net loss of koala habitat on the site.
- enhanced habitat quality for koalas. The koala habitat to be impacted is generally comprised of supplementary/shelter trees species (i.e. *Melaleuca quinquenervia*) with only scattered preferred koala food trees (PKFTs) present (i.e. *Eucalyptus tereticornis*) (i.e. only 11% of the NJKHTs to be impacted are PKFTs). Proposed revegetation / compensatory habitat works will include the dense planting of PKFTs to offset the loss of habitat dominated by less preferred species. In total, it is proposed to plant a minimum of 526 PKFTs (at a density of 1 per 15 m2 – reflective of the current habitat on site) to offset the loss of an estimated 58 PKFTs and 594 supplementary/shelter tree species.
- enhanced movement opportunities for koalas. The Proposed revegetation / compensatory habitat works will occur in strategically located areas to expand and enhance the current koala movement corridor occurring on the site.

With the implementation of these recommendations it is considered that the proposed development will not result in a significant impact on the local koala population. In contrast, proposed revegetation works, and rehabilitation of existing koala habitat, will provide additional high-quality habitat and forage resources, ensure no net loss of koala

habitat on the site, and expand and enhance an existing movement corridor through the site.

An assessment of compliance with the Environmental Significance Overlay code, which details 'specific outcomes, and 'probable solutions' required to be addressed by relevant Development Applications, has determined that the following measures will be required in addition to those listed above:

- A Stormwater Management Plan should be prepared to consider the impacts to retained vegetation that may arise from changes to hydrological flows and water quality as a result of the proposed development.
- A Vegetation and Fauna Management Plan should be prepared (and approved by Council prior to commencement of works) and include measures to ensure that potential for disturbance of wildlife as a result of noise, light, vibration or other sources is minimised. The exact number and location of nest boxes to be installed to offset the loss of habitat trees will also be detailed in the Vegetation and Fauna Management Plan.
- The proposed development will result in the unavoidable removal of 0.44 ha of MLES. It is proposed to rehabilitate and revegetate approximately 0.35 ha of MLES vegetation on site (i.e. outside existing mapped MLES – an additional 0.27 ha existing mapped MLES vegetation will also be rehabilitated). Proposed revegetation works on site will result in no net loss of MLES.

With implementation of the above, it is considered that the proposed development would generally comply with the intent and desired outcomes of the code.

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APPENDIX 1 – FLORA SPECIES LIST

Grouping	Family	Botanical Name	Common Name
Monocotyledons	Arecaceae	*Dypsis lutescens**	Golden cane palm
Monocotyledons	Arecaceae	*Syagrus romanzoffiana**	Cocos palm
Monocotyledons	Asparagaceae	*Asparagus africanus**	Asparagus fern
Monocotyledons	Asphodelaceae	*Dianella caerulea*	Blue flax-lily
Monocotyledons	Cyperaceae	*Cyperus aromaticus**	
Monocotyledons	Juncaceae	*Juncus kraussii*	Sea rush
Monocotyledons	Juncaginaceae	*Triglochin striata*	Streaked arrowgrass
Monocotyledons	Poaceae	*Paspalum mandiocanum**	Broad-leaved paspalum
Monocotyledons	Poaceae	*Paspalum urvillei**	Vasey grass
Monocotyledons	Xanthorrhoeaceae	*Geitonoplesium cymosum*	Scrambling lily
Monocotyledons	Zingiberaceae	*Alpinia caerulea*	Native ginger
Dicotyledons	Amaranthaceae	*Alternanthera pungens**	khaki weed
Dicotyledons	Anacardiaceae	*Mangifera indica**	Mango
Dicotyledons	Anacardiaceae	*Schinus terebinthifolius**	Broad-leaved pepper tree
Dicotyledons	Apiaceae	*Centella asiatica*	Centella
Dicotyledons	Apocynaceae	*Parsonsia straminea*	Monkey rope
Dicotyledons	Araliaceae	*Schefflera actinophylla**	Umbrella tree
Dicotyledons	Asteraceae	*Ageratina adenophora**	Crofton weed
Dicotyledons	Asteraceae	*Senecio vulgaris**	Common groundsel
Dicotyledons	Balsaminaceae	*Impatiens walleriana**	Balsam
Dicotyledons	Caesalpiniaceae	*Senna pendula var. glabrata**	Easter cassia
Dicotyledons	Casuarinaceae	*Allocasuarina littoralis*	Black she-oak
Dicotyledons	Convolvulaceae	*Ipomoea indica**	Blue morning glory
Dicotyledons	Convolvulaceae	*Ipomea alba*	Moon flower
Dicotyledons	Convolvulaceae	*Cuscuta campestris**	Dodder
Dicotyledons	Fabaceae	*Hardenbergia violacea*	False sarsaparilla
Dicotyledons	Fabaceae	*Hovea acutifolia*	Hovea
Dicotyledons	Lauraceae	*Cinnamomum camphora**	Camphor laurel
Dicotyledons	Mimosaceae	*Acacia fimbriata*	Brisbane wattle
Dicotyledons	Mimosaceae	*Acacia leiocalyx*	Early black wattle
Dicotyledons	Mimosaceae	*Acacia disparrima*	Hickory wattle
Dicotyledons	Moraceae	*Ficus watkinsiana*	Strangler fig
Dicotyledons	Myrtaceae	*Angophora subvelutina*	
Dicotyledons	Myrtaceae	*Corymbia gummifera*	Red bloodwood
Dicotyledons	Myrtaceae	*Corymbia intermedia*	Pink bloodwood
Dicotyledons	Myrtaceae	*Corymbia torelliana**	Cadaghi
Dicotyledons	Myrtaceae	*Eucalyptus microcorys*	Tallowwood
Dicotyledons	Myrtaceae	*Eucalyptus resinifera*	Red mahogany
Dicotyledons	Myrtaceae	*Eucalyptus robusta*	Swamp mahogany
Dicotyledons	Myrtaceae	*Eucalyptus seeana*	Narrow-leaved red gum
Dicotyledons	Myrtaceae	*Eucalyptus siderophloia*	Grey ironbark
Dicotyledons	Myrtaceae	*Eucalyptus tereticornis*	Queensland blue gum
Dicotyledons	Myrtaceae	*Eucalyptus tindaliae*	Tindale's stringybark
Dicotyledons	Myrtaceae	*Leptospermum sp.*	Teatree
Dicotyledons	Myrtaceae	*Lophostemon confertus*	Brush box

Grouping	Family	Botanical Name	Common Name
Dicotyledons	Myrtaceae	*Lophostemon suaveolens*	Swamp box
Dicotyledons	Myrtaceae	*Melaleuca quinquenervia*	Broad-leaved paperbark
Dicotyledons	Ochnaceae	*Ochna serrulata**	Ochna
Dicotyledons	Passifloraceae	*Passiflora suberosa**	Corky passionflower
Dicotyledons	Phyllanthaceae	*Breynia oblongifolia*	Coffee bush
Dicotyledons	Phyllanthaceae	*Glochidion ferdinandi*	Cheese tree
Dicotyledons	Polygonaceae	*Persicaria barbata*	
Monocotyledons	Proteaceae	*Grevillea robusta*	Silky oak
Dicotyledons	Rhamnaceae	*Alphitonia excelsa*	Red ash
Dicotyledons	Sapindaceae	*Cupaniopsis anacardioides*	Tuckeroo
Dicotyledons	Ulmaceae	*Celtis sinensis**	Chinese elm
Dicotyledons	Verbenaceae	*Lantana camara**	Lantana
Notes: * indicates introduced species.			

APPENDIX 2 – TREE SURVEY DATA

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
W-1	*Corymbia gummifera*	55	21	8	Yes	Yes	Potential hollows	Yes	Retain
W-5	*Casuarina cunninghamiana*	22.8	9	4	No			No	Retain
W-6	*Corymbia intermedia*	36 (3)	9	3	Yes			No	Retain
W-7	*Corymbia intermedia*	35 (3)	9	2	Yes			No	Retain
W-8	*Corymbia gummifera*	42 (5)	9	3	Yes			No	Retain
W-9	*Corymbia intermedia*	56	12	5	Yes			No	Remove
W-10	*Corymbia intermedia*	41 (2)	12	5	Yes			No	Retain
W-11	*Melaleuca salicina*	26.5 (2)	6	3	Yes			No	Retain
W-12	*Eucalyptus crebra*	41	16	5	Yes			No	Retain
W-13	*Eucalyptus crebra*	31	17	5	Yes			No	Retain
W-16	*Casuarina cunninghamiana*	22.8	7	4	No			No	Retain
W-17	*Corymbia intermedia*	47 (2)	16	4	Yes			No	Retain
W-18	*Melaleuca quinquenervia*	73 (5)	14	6	Yes			No	Retain Subject to Arborist Assessment
W-19	*Eucalyptus major*	25.9	15	5	Yes		Koala scat	No	Retain
W-20	*Eucalyptus major*	72	19	7	Yes		Koala scat	No	Retain
W-21	*Eucalyptus major*	57	21	10	Yes			No	Retain
W-22	*Eucalyptus crebra*	67	25	12	Yes			No	Retain
W-23	*Corymbia gummifera*	47.5	17	9	Yes			No	Retain
W-24	*Corymbia intermedia*	36.7	15	4	Yes			No	Retain
W-32	*Eucalyptus tereticornis*	58	28	10	Yes		Koala scat	No	Retain
W-33	*Angophora leiocarpa*	11	5	1.5	Yes			No	Retain
W-34	*Angophora leiocarpa*	13	6	2	Yes			No	Retain
W-35	*Corymbia intermedia*	18	10	2	Yes			Yes	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
W-36	*Corymbia intermedia*	21	12	3	Yes			Yes	Retain
W-37	*Corymbia intermedia*	15.7	9	2	Yes			Yes	Retain
W-38	*Corymbia intermedia*	22.5	11	3	Yes			Yes	Retain
W-39	*Eucalyptus fibrosa*	55.2	25	10	Yes			Yes	Retain
W-40	*Corymbia intermedia*	12.2	9	1.5	Yes			Yes	Retain
W-41	*Angophora leiocarpa*	17	13	3	Yes			Yes	Retain
W-42	*Angophora leiocarpa*	16.2	12	2	Yes			Yes	Retain
W-43	*Angophora leiocarpa*	15.4	9	4	Yes			Yes	Retain
W-44	*Corymbia intermedia*	6.2	4	1	Yes			Yes	Retain
W-45	*Corymbia intermedia*	10.2	8	1	Yes			Yes	Retain
W-46	*Corymbia intermedia*	15	10	2	Yes			Yes	Retain
W-47	*Angophora floribunda*	26.7	16	4	Yes			Yes	Retain
W-48	*Melaleuca quinquenervia*	22	10	3	Yes			Yes	Retain
W-49	*Eucalyptus tereticornis*	7	8	1	Yes			Yes	Retain
W-50	*Corymbia intermedia*	16.2	13	3	Yes			Yes	Retain
W-51	*Corymbia intermedia*	35.4	23	8	Yes			Yes	Retain
W-52	*Eucalyptus tereticornis*	17	16	3	Yes			Yes	Retain
W-53	*Angophora floribunda*	37.9	22	10	Yes			Yes	Retain
W-54	*Angophora leiocarpa*	16.8	10	4	Yes			Yes	Retain
W-55	*Angophora leiocarpa*	11.3	10	4	Yes			Yes	Retain
W-56	*Lophostemon suaveolens*	23.5	9	4	Yes			Yes	Retain
W-57	*Corymbia intermedia*	10.2	7	2	Yes			Yes	Retain
W-58	*Corymbia intermedia*	11	6	2	Yes			Yes	Retain
W-59	*Melaleuca quinquenervia*	12	6	2	Yes			Yes	Retain
W-60	*Eucalyptus seeana*	12	6	2	Yes			Yes	Retain
W-61	*Corymbia intermedia*	20.5	17	4	Yes			Yes	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
W-62	*Melaleuca quinquenervia*	23	15	4	Yes			Yes	Retain
W-63	*Eucalyptus tereticornis*	10	7	2.5	Yes			Yes	Retain
W-64	*Corymbia intermedia*	8	5	3	Yes			Yes	Retain
W-65	*Corymbia intermedia*	8.5	5	2	Yes			Yes	Retain
W-66	*Angophora leiocarpa*	21.5	20	7	Yes			Yes	Retain
W-67	*Corymbia intermedia*	14.4	15	2	Yes			Yes	Retain
W-68	*Corymbia intermedia*	13	16	2.5	Yes			Yes	Retain
W-69	*Angophora leiocarpa*	13.7	12	3.5	Yes			Yes	Retain
W-70	*Corymbia gummifera*	9.2	7	1.5	Yes			Yes	Retain
W-71	*Angophora leiocarpa*	14.1	13	1.5	Yes			Yes	Retain
W-72	*Eucalyptus seeana*	36.3	20	9	Yes			Yes	Retain
W-73	*Angophora leiocarpa*	19.6	17	3	Yes			Yes	Retain
W-74	*Eucalyptus seeana*	8.2	5	1.5	Yes			Yes	Retain
W-75	*Angophora leiocarpa*	11.4	5	3	Yes			Yes	Retain
W-76	*Corymbia intermedia*	21.3	16	4	Yes			Yes	Retain
W-77	*Corymbia intermedia*	14	11	2	Yes			Yes	Retain
W-78	*Corymbia intermedia*	16	12	2	Yes			Yes	Retain
W-79	*Corymbia intermedia*	21.9	18	3	Yes			Yes	Retain
W-80	*Angophora leiocarpa*	15	15	2.5	Yes			Yes	Retain
W-81	*Angophora leiocarpa*	21.5	17	4	Yes			Yes	Retain
W-82	*Angophora leiocarpa*	14.2	11	3	Yes			Yes	Retain
W-83	*Angophora leiocarpa*	9.6	8	1.5	Yes			Yes	Retain
W-84	*Eucalyptus tereticornis*	13.5	13	1.5	Yes			Yes	Retain
W-85	*Corymbia intermedia*	26	15	6	Yes			Yes	Retain
W-86	*Angophora leiocarpa*	19.8	17	4	Yes			Yes	Retain
W-87	*Angophora leiocarpa*	16.5	9	2.5	Yes			Yes	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
W-88	*Angophora leiocarpa*	17	10	4.4	Yes			Yes	Retain
W-89	*Angophora leiocarpa*	12.8	10	1.5	Yes			Yes	Retain
W-90	*Eucalyptus tereticornis*	72	23	10	Yes			Yes	Retain
W-91	*Angophora leiocarpa*	17.6	12	4.5	Yes			Yes	Retain
W-92	*Angophora leiocarpa*	8	4	1	Yes			Yes	Retain
W-93	*Melaleuca quinquenervia*	9.8	6	3	Yes			Yes	Retain
W-94	*Angophora leiocarpa*	29	19	5	Yes			Yes	Retain
W-95	*Eucalyptus siderophloia*	27.3	17	6	Yes			Yes	Retain
W-96	*Angophora leiocarpa*	9	5	1	Yes			Yes	Retain
W-97	*Corymbia intermedia*	12.5	5	2	Yes			Yes	Retain
W-98	*Lophostemon suaveolens*	21	10	3.5	Yes			Yes	Retain
W-99	*Melaleuca quinquenervia*	57.5 (2 stem)	16	5	Yes			Yes	Retain
W-100	*Eucalyptus tereticornis*	14.8	10	2	Yes			Yes	Retain
W-101	*Eucalyptus siderophloia*	35.5	23	5	Yes			Yes	Retain
W-102	*Eucalyptus tereticornis*	44	25	10	Yes			Yes	Retain
W-103	*Melaleuca quinquenervia*	11.8	4	2	Yes			Yes	Retain
W-104	*Corymbia intermedia*	11	6	1.5	Yes			Yes	Retain
W-105	*Melaleuca quinquenervia*	25	16	6	Yes			Yes	Retain
W-106	*Melaleuca quinquenervia*	17	8	4	Yes			Yes	Retain
W-107	*Melaleuca quinquenervia*	18.2	17	4	Yes			Yes	Retain
W-108	*Melaleuca quinquenervia*	25.2	15	5	Yes			Yes	Retain
W-109	*Corymbia intermedia*	34	20	8	Yes			Yes	Retain
W-110	*Eucalyptus seeana*	14.5	12	2	Yes			Yes	Retain
W-111	*Angophora leiocarpa*	13	5	3	Yes			Yes	Retain
W-112	*Angophora leiocarpa*	11.5	7	2	Yes			Yes	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
W-113	*Corymbia intermedia*	19.8	15	3	Yes			Yes	Retain
W-114	*Eucalyptus siderophloia*	11	5	1	Yes			Yes	Retain
W-115	*Corymbia intermedia*	28	16	5	Yes			Yes	Retain
W-116	*Angophora leiocarpa*	12.8	4	5	Yes			Yes	Retain
W-117	*Corymbia citriodora*	42	25	10	Yes			Yes	Retain
W-118	*Eucalyptus siderophloia*	33	20	9	Yes			Yes	Retain
W-119	*Angophora leiocarpa*	11.5	7	3	Yes			Yes	Retain
W-120	*Angophora leiocarpa*	33.5	15	9	Yes			Yes	Retain
W-121	*Eucalyptus tereticornis*	62	25	10	Yes			Yes	Retain
W-122	*Angophora leiocarpa*	19.4	14	5	Yes			Yes	Retain
W-123	*Eucalyptus seeana*	11	5	4	Yes			Yes	Retain
W-124	*Angophora leiocarpa*	8.7	5	1.5	Yes			Yes	Retain
W-125	*Eucalyptus siderophloia*	21.3	10	4	Yes			Yes	Retain
W-126	*Angophora leiocarpa*	12.3	5	3.5	Yes			Yes	Retain
W-127	*Corymbia intermedia*	14	7	3	Yes			Yes	Retain
W-128	*Angophora leiocarpa*	10.5	6	3	Yes			Yes	Retain
W-129	*Corymbia intermedia*	7.5	5	1	Yes			Yes	Retain
W-130	*Melaleuca quinquenervia*	17	6	3	Yes			Yes	Retain
W-131	*Corymbia intermedia*	11	7	2	Yes			Yes	Retain
W-132	*Eucalyptus tereticornis*	79	26	12	Yes			Yes	Retain
W-133	*Angophora leiocarpa*	17.5	7	4	Yes			Yes	Retain
W-134	*Melaleuca quinquenervia*	19.5 (2 stem)	5	4	Yes			Yes	Retain
W-135	*Glochidion ferdinandi*	29 (2 stem)	8	4	No			No	Retain
W-136	*Corymbia intermedia*	10.2	5	2	Yes			No	Retain
W-137	*Corymbia intermedia*	11.3	6	2	Yes			No	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
W-138	*Lophostemon suaveolens*	19.5	10	3	Yes			No	Retain
W-139	*Melaleuca quinquenervia*	30	17	4	Yes			No	Retain
W-140	*Melaleuca quinquenervia*	22	13	3	Yes			No	Retain
W-141	*Corymbia intermedia*	9.5	5	2	Yes			No	Retain
W-142	*Melaleuca quinquenervia*	20	12	3.5	Yes			No	Retain
W-143	*Eucalyptus seeana*	10.2	5	2	Yes			No	Retain
W-144	*Angophora leiocarpa*	55.5	23	10	Yes			No	Retain
W-145	*Corymbia intermedia*	29.5	15	4.5	Yes			No	Retain
W-146	*Melaleuca quinquenervia*	27.5	14	4.5	Yes			No	Retain
W-147	*Lophostemon suaveolens*	11	5	1.5	Yes			No	Retain
W-148	*Corymbia intermedia*	8	6	2	Yes			No	Retain
W-149	*Melaleuca quinquenervia*	43	16	4.5	Yes			No	Retain
W-150	*Corymbia intermedia*	11.5	6	1	Yes			No	Retain
W-151	*Corymbia intermedia*	23	10	4	Yes			No	Retain
W-152	*Corymbia intermedia*	38.3	13	6	Yes			No	Retain
E-1	*Eucalyptus tereticornis*	140	16	6	Yes			No	Remove
E-2	*Eucalyptus tereticornis*	90	16	6	Yes			Yes	Remove
E-3	*Eucalyptus tereticornis*	40	16	5	Yes		Koala scat	Yes	Remove
E-4	*Eucalyptus tereticornis*	35	14	5	Yes			Yes	Remove
E-5	*Eucalyptus tereticornis*	40 (x4)	12	6	Yes			No	Retain
E-6	*Eucalyptus tereticornis*	42 (x3)	14	6	Yes			No	Retain
E-7	*Eucalyptus tereticornis*	40	15	5	Yes			Yes	Retain
E-8	*Eucalyptus tereticornis*	42	14	5	Yes			Yes	Retain
E-9	*Eucalyptus tereticornis*	35	13	5	Yes			Yes	Retain
E-10	*Eucalyptus tereticornis*	55	15	6	Yes			Yes	Retain
E-11	*Eucalyptus tereticornis*	44	14	5	Yes			Yes	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
E-12	*Eucalyptus tereticornis*	66	15	6	Yes			Yes	Retain
E-13	*Eucalyptus tereticornis*	49	13	6	Yes			No	Retain
E-14	*Eucalyptus tereticornis*	55	21	7	Yes			Yes	Retain
E-15	*Eucalyptus tereticornis*	50 (x2)	24	6	Yes			Yes	Retain
E-16	*Eucalyptus tereticornis*	32 (x2)	11	5	Yes			Yes	Retain
E-17	*Eucalyptus tereticornis*	34	12	4	Yes			Yes	Retain
E-18	*Eucalyptus tereticornis*	39	14	5	Yes		Koala scat	Yes	Retain
E-19	*Eucalyptus tereticornis*	34	12	4	Yes			Yes	Retain
E-20	*Eucalyptus tereticornis*	37	14	3	Yes			Yes	Retain
E-21	*Eucalyptus tereticornis*	39	14	4	Yes			Yes	Retain
E-22	*Melaleuca quinquenervia*	37	9	3	Yes			Yes	Retain
E-23	*Eucalyptus tereticornis*	34	14	3	Yes			Yes	Retain
E-24	*Eucalyptus tereticornis*	30	13	2	Yes		Koala scat	Yes	Retain
E-25	*Eucalyptus tereticornis*	35	13	3	Yes			Yes	Retain
E-26	*Eucalyptus tereticornis*	48	14	5	Yes			Yes	Remove
E-27	*Eucalyptus tereticornis*	37	10	5	Yes			Yes	Remove
E-28	*Melaleuca quinquenervia*	33	18	3	Yes			Yes	Remove
E-29	*Melaleuca quinquenervia*	32	10	3	Yes			Yes	Remove
E-30	*Acacia disparrima*	42	6	3	No			Yes	Remove
E-31	*Eucalyptus tereticornis*	70	15	6	Yes		Koala scat (High)	Yes	Remove
E-32	*Melaleuca quinquenervia*	34	11	3	Yes			Yes	Remove
E-33	*Eucalyptus tereticornis*	41	16	3	Yes			Yes	Remove
E-34	*Melaleuca quinquenervia*	31	7	3	Yes			Yes	Remove
E-35	*Eucalyptus tereticornis*	46	13	5	Yes		Koala scat	Yes	Remove
E-36	*Melaleuca quinquenervia*	33	11	2	Yes			Yes	Remove

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
E-37	*Melaleuca quinquenervia*	33	11	2	Yes			Yes	Remove
E-38	*Eucalyptus tereticornis*	46	14	3	Yes			Yes	Remove
E-39	*Eucalyptus tereticornis*	52	16	5	Yes			Yes	Remove
E-40	*Eucalyptus tereticornis*	38	15	3	Yes			Yes	Remove
E-41	*Eucalyptus tereticornis*	51	18	5	Yes			Yes	Remove
E-42	*Eucalyptus tereticornis*	34	16	3	Yes			Yes	Remove
E-43	*Eucalyptus tereticornis*	39	12	3	Yes			Yes	Remove
E-44	*Eucalyptus tereticornis*	34	14	4	Yes			Yes	Retain
E-45	*Eucalyptus tereticornis*	36	13	4	Yes			Yes	Retain
E-46	*Eucalyptus tereticornis*	44	14	6	Yes			Yes	Retain
E-47	*Eucalyptus tereticornis*	35	14	3	Yes			Yes	Retain
E-48	*Eucalyptus tereticornis*	35 (x2)	13	4	Yes			Yes	Retain
E-49	*Eucalyptus tereticornis*	42	17	5	Yes			Yes	Retain
E-50	*Eucalyptus tereticornis*	34	15	3	Yes			Yes	Retain
E-51	*Eucalyptus tereticornis*	31	14	3	Yes			Yes	Retain
E-52	*Eucalyptus tereticornis*	60	17	7	Yes			Yes	Retain
E-53	*Eucalyptus tereticornis*	33	13	4	Yes		Koala scat	Yes	Retain
E-54	*Eucalyptus tereticornis*	37	15	4	Yes			Yes	Remove
E-55	*Eucalyptus tereticornis*	40	17	5	Yes			Yes	Remove
E-56	*Eucalyptus tereticornis*	30	14	4	Yes			Yes	Retain
E-57	*Eucalyptus tereticornis*	44	19	6	Yes			Yes	Remove
E-58	*Eucalyptus tereticornis*	30	16	4	Yes			Yes	Remove
E-59	*Eucalyptus tereticornis*	31	18	4	Yes			Yes	Remove
E-60	*Eucalyptus tereticornis*	40	18	5	Yes			Yes	Remove
E-61	*Eucalyptus tereticornis*	62	19	10	Yes			Yes	Remove
E-62	*Eucalyptus tereticornis*	32	15	4	Yes			Yes	Remove

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
E-63	*Eucalyptus tereticornis*	38	20	6	Yes			Yes	Remove
E-64	*Eucalyptus tereticornis*	50	19	4	Yes		Koala scat (old)	Yes	Remove
E-65	*Eucalyptus tereticornis*	39	20	5	Yes			Yes	Remove
E-66	*Eucalyptus tereticornis*	52	18	6	Yes			No	Remove
E-67	*Melaleuca quinquenervia*	34	10	4	Yes		Multi-stem	No	Remove
E-68	*Eucalyptus tereticornis*	42	12	4	Yes			No	Remove
E-69	*Eucalyptus tereticornis*	64	22	9	Yes			No	Remove
E-70	*Melaleuca quinquenervia*	33	10	3	Yes			No	Remove
E-71	*Eucalyptus tereticornis*	62	22	10	Yes			Yes	Remove
E-72	*Eucalyptus tereticornis*	40	15	5	Yes			Yes	Remove
E-73	*Eucalyptus tereticornis*	39	17	4	Yes			Yes	Remove
E-74	*Eucalyptus tereticornis*	56	17	10	Yes			Yes	Remove
E-75	*Melaleuca quinquenervia*	33	9	3	Yes			Yes	Remove
E-76	*Eucalyptus tereticornis*	49	23	9	Yes			Yes	Remove
E-77	*Eucalyptus tereticornis*	43	16	6	Yes			Yes	Remove
E-78	*Melaleuca quinquenervia*	33	11	4	Yes			Yes	Remove
E-79	*Melaleuca quinquenervia*	32	13	3	Yes			Yes	Remove
E-80	*Eucalyptus tereticornis*	38	19	4	Yes			Yes	Remove
E-81	*Eucalyptus tereticornis*	41	18	5	Yes			Yes	Retain
E-82	*Eucalyptus tereticornis*	32 (x2)	17	4	Yes			Yes	Retain
E-83	*Casuarina*	39	10	2	No			Yes	Retain
E-84	*Eucalyptus tereticornis*	49	23	10	Yes			Yes	Retain
E-85	*Eucalyptus tereticornis*	47	23	10	Yes			Yes	Retain
E-86	*Eucalyptus tereticornis*	30	12	4	Yes			Yes	Retain
E-87	*Melaleuca quinquenervia*	35	16	3	Yes			Yes	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
E-88	*Eucalyptus tereticornis*	33	19	6	Yes		Koala scat	Yes	Retain
E-89	*Eucalyptus tereticornis*	47	19	5	Yes			Yes	Remove
E-90	*Melaleuca quinquenervia*	34	16	5	Yes			Yes	Remove
E-91	*Corymbia intermedia*	32	16	4	Yes		Koala scat	Yes	Remove
E-92	*Melaleuca quinquenervia*	38	11	2	Yes			Yes	Remove
E-93	*Corymbia intermedia*	42	24	5	Yes			Yes	Remove
E-94	*Eucalyptus tereticornis*	50	25	10	Yes			Yes	Remove
E-95	*Corymbia intermedia*	34	10	5	Yes		Koala scat	No	Remove
E-96	*Eucalyptus tereticornis*	76	25	10	Yes	Yes	Habitat tree / Koala scat	No	Remove
E-97	*Eucalyptus tereticornis*	74	26	11	Yes	Yes	Habitat tree / Koala scat	No	Remove
E-98	*Corymbia intermedia*	39	12	8	Yes			No	Remove
E-99	*Corymbia intermedia*	53	26	9	Yes	Yes	Habitat tree	Yes	Remove
E-100	*Corymbia intermedia*	37	17	5	Yes			Yes	Remove
E-101	*Melaleuca quinquenervia*	32	14	4	Yes			Yes	Remove
E-102	*Eucalyptus tereticornis*	41	20	4	Yes			Yes	Retain
E-103	*Eucalyptus tereticornis*	44	22	7	Yes			Yes	Retain
E-104	*Eucalyptus tereticornis*	82	26	11	Yes	Yes	Habitat tree	Yes	Retain
E-105	*Eucalyptus tereticornis*	45	25	6	Yes			Yes	Retain
E-106	*Eucalyptus tereticornis*	34	25	4	Yes			Yes	Retain
E-107	*Eucalyptus tereticornis*	42	24	6	Yes			Yes	Retain
E-108	*Eucalyptus tereticornis*	41	24	7	Yes			Yes	Retain
E-109	*Eucalyptus tereticornis*	34	19	5	Yes			Yes	Retain
E-110	*Corymbia intermedia*	33	16	5	Yes			Yes	Retain
E-111	*Eucalyptus tereticornis*	27	25	7	Yes			Yes	Retain
E-112	*Eucalyptus tereticornis*	37	20	5	Yes			Yes	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
E-113	*Casuarina*	34	12	3	No			Yes	Retain
E-114	*Corymbia intermedia*	33	14	3	Yes			Yes	Retain
E-115	*Eucalyptus tereticornis*	52 (x2)	25	12	Yes			Yes	Retain
E-116	*Eucalyptus tereticornis*	49	25	9	Yes			Yes	Retain
E-117	*Eucalyptus tereticornis*	32	17	4	Yes			Yes	Retain
E-118	*Melaleuca quinquenervia*	35	14	2	Yes			Yes	Retain
E-119	*Eucalyptus tereticornis*	32	17	4	Yes			Yes	Retain
E-120	*Melaleuca quinquenervia*	37	16	3	Yes			Yes	Retain
E-121	*Melaleuca quinquenervia*	35	14	4	Yes			Yes	Retain
E-122	*Eucalyptus tereticornis*	43	19	7	Yes			Yes	Retain
E-123	*Eucalyptus tereticornis*	34	18	4	Yes			Yes	Retain
E-124	*Eucalyptus tereticornis*	60	20	7	Yes		Koala scat	Yes	Retain
E-125	*Eucalyptus tereticornis*	53	15	5	Yes			Yes	Retain
E-126	*Corymbia intermedia*	33	15	4	Yes			Yes	Retain
E-127	*Melaleuca quinquenervia*	32	11	3	Yes			Yes	Retain
E-128	*Eucalyptus tereticornis*	35	21	7	Yes			Yes	Retain
E-129	*Melaleuca quinquenervia*	31	12	4	Yes			Yes	Retain
E-130	*Eucalyptus tereticornis*	56	25	9	Yes			No	Retain
E-131	*Melaleuca quinquenervia*	57	11	5	Yes			No	Remove
E-132	*Corymbia intermedia*	41	13	5	Yes			No	Retain
E-133	*Eucalyptus tereticornis*	46	19	6	Yes			No	Retain
E-134	*Corymbia intermedia*	36	20	5	Yes			Yes	Retain
E-135	*Eucalyptus tereticornis*	109	22	10	Yes	Yes	Habitat tree	Yes	Retain
E-136	*Corymbia intermedia*	34	15	4	Yes			No	Retain
E-137	*Corymbia intermedia*	55	22	10	Yes			Yes	Retain
E-138	*Melaleuca quinquenervia*	34 (x2)	12	5	Yes			Yes	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
E-139	*Eucalyptus tereticornis*	48	21	8	Yes			Yes	Retain
E-140	*Corymbia intermedia*	34	18	5	Yes			Yes	Retain
E-141	*Melaleuca quinquenervia*	42	15	3	Yes			Yes	Retain
E-142	*Casuarina*	37	11	2.5	No			Yes	Retain
E-143	*Eucalyptus tereticornis*	90	26	9	Yes	Yes	Habitat tree	Yes	Retain
E-144	*Eucalyptus tereticornis*	40	15	4	Yes			Yes	Retain
E-145	*Corymbia intermedia*	34	16	4	Yes			Yes	Retain
E-146	*Eucalyptus tereticornis*	42	15	4	Yes			Yes	Retain
E-147	*Melaleuca quinquenervia*	49	13	3	Yes			Yes	Retain
E-148	*Eucalyptus tereticornis*	40	17	4	Yes		Koala scat	Yes	Retain
E-149	*Corymbia intermedia*	35	16	3	Yes	Yes	Termite	Yes	Retain
E-150	*Corymbia intermedia*	31	16	3	Yes			Yes	Retain
E-151	*Eucalyptus tereticornis*	36	18	4	Yes			Yes	Retain
E-152	*Eucalyptus tereticornis*	41	20	5	Yes			Yes	Retain
E-153	*Eucalyptus tereticornis*	52	20	5	Yes			Yes	Retain
E-154	*Corymbia intermedia*	37	16	3	Yes			Yes	Remove
E-155	*Corymbia intermedia*	37	17	4	Yes			Yes	Remove
E-156	*Corymbia intermedia*	38	23	6	Yes		Koala scat	Yes	Remove
E-157	*Eucalyptus tereticornis*	30	19	5	Yes			Yes	Remove
E-158	*Melaleuca quinquenervia*	48	10	3	Yes		Koala scat	Yes	Retain
E-159	*Melaleuca quinquenervia*	43	11	4	Yes			Yes	Retain
E-160	*Melaleuca quinquenervia*	32 (x2)	16	4	Yes			Yes	Retain
E-161	*Melaleuca quinquenervia*	32	11	2	Yes			Yes	Retain
E-162	*Melaleuca quinquenervia*	45	11	3	Yes			Yes	Retain
E-163	*Melaleuca quinquenervia*	60	10	4	Yes			Yes	Retain
E-164	*Eucalyptus tereticornis*	68	24	9	Yes			No	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
E-165	*Corymbia intermedia*	34	16	4	Yes			No	Retain
E-166	*Casuarina*	31	10	2	No			No	Retain
E-167	*Casuarina*	30 (x2)	12	2	No			No	Retain
E-168	*Acacia*	47	17	3	No			No	Retain
E-169	*Melaleuca quinquenervia*	60	16	3	Yes			Yes	Retain
E-170	*Casuarina*	37	10	2.5	No			Yes	Retain
E-171	*Corymbia intermedia*	36	15	4	Yes			Yes	Retain
E-172	*Melaleuca quinquenervia*	56	15	3	Yes			Yes	Retain
E-173	*Corymbia intermedia*	45	23	8	Yes	Yes	Termite	Yes	Remove
E-174	*Corymbia intermedia*	44	23	8	Yes			Yes	Remove
E-175	*Melaleuca quinquenervia*	34	16	2	Yes			Yes	Remove
E-176	*Corymbia intermedia*	35	16	5	Yes			Yes	Remove
E-177	*Melaleuca quinquenervia*	26	16	3	Yes			Yes	Remove
E-178	*Corymbia intermedia*	41	20	5	Yes			Yes	Remove
E-179	*Corymbia intermedia*	35	19	4	Yes			Yes	Remove
E-180	*Corymbia intermedia*	36	20	4	Yes			Yes	Remove
E-181	*Corymbia intermedia*	34	17	3	Yes			Yes	Remove
E-182	*Corymbia intermedia*	34	19	5	Yes			Yes	Remove
E-183	*Corymbia intermedia*	40	22	5	Yes			Yes	Remove
E-184	*Corymbia intermedia*	42	20	4	Yes			Yes	Remove
E-185	*Eucalyptus tereticornis*	30	17	5	Yes			Yes	Remove
E-186	*Corymbia intermedia*	46	25	7	Yes			Yes	Remove
E-187	*Eucalyptus tereticornis*	47	20	5	Yes			Yes	Remove
E-188	*Casuarina*	43	17	3	No		Habitat tree / Glider den	No	Remove
E-189	*Eucalyptus tereticornis*	50	20	9	Yes			Yes	Remove

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
E-190	*Eucalyptus tereticornis*	54	21	8	Yes			Yes	Remove
E-191	*Eucalyptus tereticornis*	36	15	3	Yes			Yes	Remove
E-192	*Eucalyptus tereticornis*	66	23	7	Yes			Yes	Remove
E-193	*Eucalyptus tereticornis*	40	11	5	Yes			Yes	Remove
E-194	*Melaleuca quinquenervia*	30	10	2	Yes			Yes	Remove
E-195	*Eucalyptus tereticornis*	70	20	9	Yes			Yes	Remove
E-196	*Acacia*	38	16	4	No			No	Remove
E-197	*Eucalyptus tereticornis*	39	9	5	Yes			Yes	Retain
E-198	*Melaleuca quinquenervia*	37	10	3	Yes			No	Retain
E-199	*Corymbia intermedia*	48	25	9	Yes			No	Retain
E-200	*Corymbia intermedia*	30	15	8	Yes			No	Retain
E-201	*Eucalyptus tereticornis*	48	13	4	Yes			No	Retain
E-202	*Eucalyptus tereticornis*	43	14	5	Yes			No	Retain
E-203	*Corymbia intermedia*	32	9	4	Yes			No	Retain
E-204	*Eucalyptus tereticornis*	36	12	2	Yes			No	Retain
E-205	*Corymbia intermedia*	34	12	2	Yes			No	Remove
E-206	*Eucalyptus tereticornis*	46	10	4	Yes			No	Remove
E-207	*Eucalyptus tereticornis*	34	14	3	Yes			No	Remove
E-208	*Eucalyptus tereticornis*	35	14	4	Yes			No	Retain
E-209	*Eucalyptus tereticornis*	36	15	3	Yes			No	Remove
E-210	*Eucalyptus tereticornis*	41	15	4	Yes			No	Retain
E-211	*Eucalyptus tereticornis*	40	14	3	Yes			No	Remove
E-212	*Eucalyptus tereticornis*	34	13	4	Yes			No	Retain
E-213	*Eucalyptus tereticornis*	30	13	3	Yes			No	Remove
E-214	*Eucalyptus tereticornis*	72 (x2)	14	4	Yes			No	Remove
E-215	*Eucalyptus tereticornis*	33	14	2	Yes			No	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
E-216	*Melaleuca quinquenervia*	33	12	2	Yes			No	Retain
E-217	*Eucalyptus tereticornis*	60	14	5	Yes			No	Retain
E-218	*Acacia*	38	9	3	No			No	Retain
E-219	*Acacia*	37 (x2)	8	3	No			No	Remove
E-220	*Eucalyptus tereticornis*	72	20	6	Yes			No	Remove
E-221	*Eucalyptus tereticornis*	57 (x2)	20	9	Yes			No	Remove
E-222	*Eucalyptus tereticornis*	47	20	5	Yes			No	Remove
E-223	*Eucalyptus tereticornis*	51	20	7	Yes			No	Remove
E-224	*Eucalyptus tereticornis*	69	19	6	Yes	Yes	Habitat tree	No	Remove
E-225	*Eucalyptus tereticornis*	75	21	10	Yes	Yes	Habitat tree	No	Remove
E-226	*Melaleuca quinquenervia*	39	10	2	Yes			No	Remove
E-227	*Eucalyptus tereticornis*	47	21	4	Yes			No	Remove
E-228	*Eucalyptus tereticornis*	88 (x2)	21	10	Yes	Yes	Habitat tree	No	Remove
E-229	*Eucalyptus tereticornis*	110	22	12	Yes	Yes	Habitat tree	No	Remove
E-230	*Eucalyptus tereticornis*	130	22	13	Yes	Yes	Habitat tree	No	Remove
E-231	*Melaleuca quinquenervia*	88 (x2)	11	8	Yes			No	Remove
E-232	*Swamp mahogany*	52 (x2)	11	8	Yes	Yes	Habitat tree / Koala scat	No	Remove
E-233	*Eucalyptus microcorys*	49	11	8	Yes	Yes	Habitat tree / Koala scat	No	Remove
E-234	*Melaleuca quinquenervia*	50	11	4	Yes			No	Remove
E-235	*Melaleuca quinquenervia*	33	8	2	Yes			No	Retain
E-236	*Melaleuca quinquenervia*	43	13	3	Yes			No	Retain
E-237	*Melaleuca quinquenervia*	35 (x2)	13	5	Yes			No	Retain
E-238	*Eucalyptus tereticornis*	68	20	8	Yes			No	Retain
E-239	*Eucalyptus tereticornis*	67 (x3)	20	10	Yes			No	Remove
S-1	*Lophostemon suaveolens*	18.5	10	2	Yes			No	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
S-2	*Eucalyptus seeana*	34	15	6	Yes			No	Retain
S-3	*Eucalyptus seeana*	66	20	5	Yes			No	Retain Subject to Arborist Assessment
S-4	*Eucalyptus seeana*	45	15	7	Yes			No	Retain
S-5	*Lophostemon suaveolens*	16	10	2	Yes			No	Retain
S-6	*Lophostemon suaveolens*	17.5	7	2.5	Yes			No	Retain
S-7	*Eucalyptus seeana*	53	18	6	Yes			No	Retain
S-8	*Eucalyptus seeana*	52	18	8	Yes			No	Retain
S-9	*Lophostemon suaveolens*	43	15	3	Yes			No	Retain Subject to Arborist Assessment
S-10	*Corymbia intermedia*	39.5	15	6	Yes			No	Retain
S-11	*Lophostemon suaveolens*	31	12	3.5	Yes			No	Retain
S-12	*Melaleuca quinquenervia*	55	12	6	Yes			No	Retain
S-13	*Lophostemon suaveolens*	31	12	4.5	Yes			No	Retain
S-14	*Lophostemon confertus*	12	5	1.5	Yes			No	Retain
S-15	*Lophostemon confertus*	17	5	1.5	Yes			No	Retain
S-16	*Melaleuca quinquenervia*	23	5	4	Yes			No	Retain
S-17	*Melaleuca quinquenervia*	16 x2	5	3	Yes			No	Retain
S-18	*Lophostemon confertus*	10	5	2	Yes			No	Retain
S-19	*Melaleuca quinquenervia*	20	6	2.5	Yes			No	Retain
S-20	*Melaleuca quinquenervia*	19 x2	8	2	Yes			No	Retain
S-21	*Melaleuca quinquenervia*	43	12	5	Yes			No	Retain
S-22	*Lophostemon suaveolens*	18	10	2	Yes			No	Retain
S-23	*Lophostemon suaveolens*	25	15	3	Yes			No	Retain
S-24	*Lophostemon suaveolens*	19	10	2	Yes			No	Retain
S-25	*Lophostemon suaveolens*	13	8	1.5	Yes			No	Retain
S-26	*Corymbia intermedia*	27	15	3	Yes			No	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
S-27	*Lophostemon suaveolens*	16	10	2.5	Yes			No	Retain
S-28	*Corymbia intermedia*	34	15	5	Yes			No	Retain
S-29	*Corymbia intermedia*	23	12	4	Yes			No	Retain
S-30	*Lophostemon suaveolens*	24	15	3	Yes			No	Retain
S-31	*Lophostemon suaveolens*	10	10	2	Yes			No	Retain
S-32	*Lophostemon suaveolens*	17	8	3	Yes			No	Retain
S-33	*Lophostemon suaveolens*	20	12	2.5	Yes			No	Retain
S-34	*Lophostemon suaveolens*	9	5	2	Yes			No	Retain
S-35	*Lophostemon suaveolens*	25	15	2	Yes			No	Retain
S-36	*Lophostemon suaveolens*	15	15	2.5	Yes			No	Retain
S-37	*Lophostemon suaveolens*	20	12	3.5	Yes			No	Retain
S-38	*Lophostemon suaveolens*	24	18	3	Yes			No	Retain
S-39	*Lophostemon suaveolens*	18	15	3.5	Yes			No	Retain
S-40	*Lophostemon suaveolens*	17	15	2	Yes			No	Retain
S-41	*Lophostemon suaveolens*	20	15	4	Yes			No	Retain
S-42	*Lophostemon suaveolens*	18	12	2	Yes			No	Retain
S-43	*Lophostemon suaveolens*	20	12	3	Yes			No	Retain
S-44	*Corymbia intermedia*	18.5	12	5	Yes			No	Retain
S-45	*Lophostemon suaveolens*	30	15	5	Yes			No	Retain
S-46	*Eucalyptus racemosa*	70	25	8	Yes			No	Retain
S-47	*Corymbia intermedia*	19.5	12	4	Yes			No	Retain
S-48	*Lophostemon suaveolens*	20	12	3	Yes			No	Retain
S-49	*Lophostemon suaveolens*	18	10	2	Yes			No	Retain
S-50	*Corymbia intermedia*	13	6	3	Yes			No	Retain
S-51	*Corymbia intermedia*	31	15	5	Yes			No	Retain
S-52	*Corymbia intermedia*	30	15	7	Yes			No	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
S-53	*Lophostemon suaveolens*	13 x 2	10	2.5	Yes			No	Retain
S-54	*Corymbia intermedia*	65	20	8	Yes			No	Retain
S-55	*Corymbia intermedia*	34	20	8	Yes			No	Retain
S-56	*Corymbia intermedia*	28	20	7	Yes			No	Retain
S-57	*Lophostemon suaveolens*	25.5	10	3	Yes			No	Retain
S-58	*Lophostemon suaveolens*	22	10	1.5	Yes			No	Retain
S-59	*Lophostemon suaveolens*	22	10	4	Yes			No	Retain
S-60	*Corymbia intermedia*	26	12	6	Yes			No	Retain
S-61	*Corymbia intermedia*	62	25	10	Yes	Yes	Habitat tree	No	Retain
S-62	*Lophostemon suaveolens*	23.5	10	5	Yes			No	Retain
S-63	*Eucalyptus seeana*	63	25	10	Yes			No	Retain
S-64	*Corymbia torelliana*	29	8	5	Yes			No	Remove
S-65	*Eucalyptus resinifera*	67	25	10	Yes	Yes	Koala scat / Potential hollows	No	Retain
S-66	*Eucalyptus racemosa*	59	25	9	Yes			No	Retain
S-67	*Lophostemon suaveolens*	35.5	15	3	Yes			No	Retain
S-68	*Lophostemon suaveolens*	21	12	4	Yes			No	Retain
S-69	*Lophostemon suaveolens*	22	12	4	Yes			No	Retain
S-70	*Lophostemon suaveolens*	43	15	6	Yes			No	Retain
S-71	*Eucalyptus siderophloia*	44	20	7	Yes			No	Retain
S-72	*Corymbia intermedia*	47	22	8	Yes			No	Retain
S-73	*Lophostemon suaveolens*	12 x2	6	3	Yes			No	Retain
S-74	*Melaleuca quinquenervia*	27	6	3	Yes			No	Retain
S-75	*Melaleuca quinquenervia*	22	5	2	Yes			No	Retain
S-76	*Melaleuca quinquenervia*	20.5	8	3	Yes			No	Retain
S-77	*Lophostemon confertus*	25.5	10	3	Yes			No	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
S-78	*Lophostemon confertus*	21	10	3	Yes			No	Retain
S-79	*Melaleuca quinquenervia*	25	8	2	Yes			No	Retain
S-80	*Lophostemon confertus*	10	5	1	Yes			No	Retain
S-81	*Lophostemon confertus*	13.5	6	1.5	Yes			No	Retain
S-82	*Lophostemon confertus*	9	4	1	Yes			No	Retain
S-83	*Lophostemon suaveolens*	32 x2	15	4	Yes			No	Retain
S-84	*Melaleuca quinquenervia*	17 x2	8	3	Yes			No	Retain
S-85	*Melaleuca quinquenervia*	20 x 5	8	4	Yes			No	Retain
S-86	*Eucalyptus seeana*	56	20	7	Yes			No	Retain Subject to Arborist Assessment
S-87	*Eucalyptus seeana*	52	20	8	Yes			No	Retain
S-88	*Lophostemon suaveolens*	32	10	5	Yes			No	Retain
S-89	*Lophostemon suaveolens*	25	1	2.5	Yes			No	Retain
S-90	*Eucalyptus seeana*	57	25	8	Yes			No	Retain
S-91	*Lophostemon suaveolens*	13	8	2	Yes			No	Retain
S-92	*Lophostemon suaveolens*	19	12	2	Yes			No	Retain
S-93	*Lophostemon suaveolens*	15.5	10	2	Yes			No	Retain
S-94	*Corymbia intermedia*	32	18	9	Yes			No	Retain
S-95	*Melaleuca quinquenervia*	31	12	2	Yes			No	Retain
S-96	*Lophostemon suaveolens*	40	10	4	Yes			No	Retain
S-97	*Corymbia intermedia*	25	12	3	Yes			No	Retain
S-98	*Corymbia intermedia*	35	20	3	Yes			No	Retain
S-99	*Lophostemon suaveolens*	18	15	2.5	Yes			No	Retain
S-100	*Eucalyptus resinifera*	47	20	4	Yes			No	Retain
S-101	*Melaleuca quinquenervia*	30	12	2.5	Yes			No	Retain
S-102	*Lophostemon suaveolens*	14	12	1.5	Yes			No	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
S-103	*Eucalyptus seeana*	43	25	6	Yes			No	Retain
S-104	*Lophostemon suaveolens*	21	10	4	Yes			No	Retain
S-105	*Melaleuca quinquenervia*	11.5	10	1.5	Yes			No	Retain
S-106	*Lophostemon suaveolens*	21	12	2.5	Yes			No	Retain
S-107	*Lophostemon suaveolens*	28 x2	15	3	Yes			No	Retain
S-108	*Lophostemon suaveolens*	30	18	4	Yes			No	Retain
S-109	*Lophostemon suaveolens*	27.5	18	3	Yes			No	Retain
S-110	*Melaleuca quinquenervia*	40	25	4	Yes			No	Retain
S-111	*Melaleuca quinquenervia*	36	18	3	Yes			No	Retain
S-112	*Melaleuca quinquenervia*	50	25	6	Yes			No	Retain
S-113	*Lophostemon suaveolens*	25.5	16	4	Yes			No	Retain
S-114	*Lophostemon suaveolens*	23 x2	15	3	Yes			No	Retain
S-115	*Lophostemon suaveolens*	37	18	3	Yes			No	Retain
S-116	*Lophostemon suaveolens*	21	12	3	Yes			No	Retain
S-117	*Lophostemon suaveolens*	28	15	4	Yes			No	Retain
S-118	*Lophostemon suaveolens*	33	15	5	Yes			No	Retain
S-119	*Melaleuca quinquenervia*	27 x2	10	4	Yes			No	Retain
S-120	*Melaleuca quinquenervia*	34	10	3.5	Yes			No	Retain
S-121	*Melaleuca quinquenervia*	23 x2	10	3	Yes			No	Retain
S-122	*Melaleuca quinquenervia*	20 x2	10	2.5	Yes			No	Retain
S-123	*Melaleuca quinquenervia*	30 x2	10	2.5	Yes			No	Retain
S-124	*Melaleuca quinquenervia*	32	10	2.5	Yes			No	Retain
S-125	*Melaleuca quinquenervia*	32	8	3	Yes			No	Retain
S-126	*Melaleuca quinquenervia*	23.5	6	2.5	Yes			No	Retain
S-127	*Lophostemon suaveolens*	32 x3	20	3	Yes			No	Retain
S-128	*Corymbia ptychocarpa*	19x2	6	2.5	Yes			No	Retain

ID	Species name	DBH (cm)	Height (m)	Spread (m)	NJKHT	Habitat	Notes	Within Mapped Core Koala Habitat	Retention
S-129	*Melaleuca quinquenervia*	40	18	5.5	Yes			No	Retain
S-130	*Melaleuca quinquenervia*	48	20	6	Yes			No	Retain
S-131	*Corymbia intermedia*	16 x2	10	3	Yes			No	Retain
S-132	*Corymbia ptychocarpa*	10	3	2	Yes			No	Retain
S-133	*Corymbia ptychocarpa*	9	3	2	Yes			No	Retain
S-134	*Melaleuca quinquenervia*	22	6	2	Yes			No	Retain
S-135	*Melaleuca quinquenervia*	20	6	2	Yes			No	Retain
S-136	*Melaleuca quinquenervia*	23.5	8	2	Yes			No	Retain
S-137	*Melaleuca quinquenervia*	17	4	1.5	Yes			No	Retain
S-138	*Melaleuca quinquenervia*	33	10	3	Yes			No	Retain
S-139	*Melaleuca quinquenervia*	26	8	3	Yes			No	Retain
S-140	*Melaleuca quinquenervia*	35	8	4	Yes			No	Retain
S-141	*Melaleuca quinquenervia*	24.5	8	3	Yes			No	Retain
S-142	*Melaleuca quinquenervia*	46	10	3	Yes			No	Retain
S-143	*Melaleuca quinquenervia*	32	10	3	Yes			No	Retain

APPENDIX 3 – TREE PLOT DATA

PLOT 1 (Tree 027)			
Species	**DBH Size class (cm)**		
	0-10	**11-20**	**21-30**
Eucalyptus tereticornis			2
Melaleuca quinquenervia	1	5	8
Acacia disparrima	2	2	
Corymbia intermedia		1	

PLOT 2 (Tree 102)			
Species	**DBH Size class (cm)**		
	0-10	**11-20**	**21-30**
Melaleuca quinquenervia		2	7
Acacia disparrima	11		
Corymbia intermedia	5		2
Alphitonia excelsa	6		
Lophostemon suaveolens	9		
Allocasuarina littoralis		1	

PLOT 3 (Tree 157)			
Species	**DBH Size class (cm)**		
	0-10	**11-20**	**21-30**
Melaleuca quinquenervia	3	2	2
Acacia disparrima	5		
Corymbia intermedia	3		
Alphitonia excelsa	3	1	
Lophostemon suaveolens	9	2	3
Allocasuarina littoralis	7		
Jagera pseudorhus	1		

APPENDIX 4 – HABITAT SUITABILITY ASSESSMENTS

Threatened Flora Species

Scientific Name	Common Name	Likelihood of Occurring on the Site
Acronychia littoralis	Scented Acronychia	**Unlikely**: Suitable habitat not observed onsite. Scented acronychia occurs in transition zones between littoral rainforest and swamp sclerophyll forest; between littoral and coastal cypress pine communities; and margins of littoral forest.
Arthraxon hispidus	Hairy joint grass	**Unlikely**: Suitable habitat not observed onsite. Hairy-joint Grass is found in or on the edges of rainforest and in wet eucalypt forest, often near creeks or swamps, as well as woodland. In south-east Queensland, Hairy-joint Grass has also been recorded growing around freshwater springs on coastal foreshore dunes, in shaded small gullies, on creek banks, and on sandy alluvium in creek beds in open forests, and also with bog mosses in mound springs (DoE 2016).
Baloghia marmorata	Marbled Baloghia	**Unlikely**: Suitable habitat not observed onsite. Marbled Baloghia is found in subtropical rainforest/notophyll vine forest and wet sclerophyll forest (brush box woodland) with rainforest understorey between 150 and 550 m above sea level. Soils are rich black or dark brown clay and loam derived from basalt.
Bosistoa transversa	Yellow satinheart	**Unlikely**: Suitable habitat not observed onsite. Yellow satinheart grows in wet sclerophyll forest, dry sclerophyll forest and rainforest up to 300 m in altitude. Associated vegetation includes *Argyrodendron trifoliolatum, Syzygium hodgkinsoniae, Endiandra pubens, Dendrocnide photinophylla, Acmena ingens, Diploglottis australis* and *Diospyros mabacea* (DoE 2016).
Corchorus cunninghamii	Native Jute	**Unlikely**: Suitable habitat not observed onsite. The Native Jute occurs in the ecotone of wet sclerophyll forest and dry to dry-subtropical rainforest (e.g. araucarian microphyll vine forest), and in Hoop Pine (Araucaria cunninghamii) plantations. It often occurs on hill crests, exposed slopes, ridges or upper slopes of hilly terrain on south or south-east aspect (Halford 1993d; NSW DECCW 2004d).

Scientific Name	Common Name	Likelihood of Occurring on the Site
		It also occurs on sheltered slopes, gullies and on lower slopes, depending on the topographic position of the sclerophyll-rainforest margin (NSW DECCW 2004d). Sites are at low to mid elevation (150-450 m above sea level) (NSW DECCW 2004d). Soils are generally shallow, stony, well drained and derived from metasediments (Halford 1996c) or dark brown or chocolate soils of basaltic origin (NSW NPWS 1999ap).
Cryptocarya foetida	Stinking Cryptocarya	**Unlikely:** Suitable habitat not observed onsite. Occurs in coastal sands, or close to the coast, occurring in littoral rainforest on old sand dunes and subtropical rainforests over slate and occasionally on basalt to an altitude of 150 m. Associated species include *Syzygium hemilamprum* (broad-leaved lilly pilly), *Acronychia imperforate* (beach acronychia), *Cryptocarya triplinervis* (three-veined laurel), *Cupaniopsis anacardioides* (tuckeroo), *Flindersia bennettiana* (Bennet's ash), *Lophostemon confertus* (brush box) and *Syzygium luehmannii* (small-leaved lilly pilly). Distribution, Iluka on the north coast of New South Wales, to Fraser Island in Queensland.
Cryptostylis hunteriana	Leafless Tongue-orchid	**Unlikely:** Suitable habitat not observed onsite. This species occurs in a wide range of habitats including heathlands, healthy woodlands, sedgelands, *Xanthorrhoea* spp. Plains, dry sclerophyll forests (shrub/grass sub-formation and shrubby sub-formation), forested wetlands, freshwater wetlands, grasslands, grassy woodlands, rainforests and wet sclerophyll forests (grassy sub-formation). Found in soils that are generally considered to be moist and sandy, however, this species is also known to grow in dry or peaty soils (DoE 2016).
Cupaniopsis shirleyana	Wedge-leaf tuckeroo	**Unlikely**: Suitable habitat not observed onsite. This species occurs in a variety of dry rainforest vegetation types, including vine thicket communities on hillsides, stream beds and along riverbanks at altitudes up to 550 m above sea level. This species is also likely to occur on the margins of native vegetation in scrubby urbanised areas (Thomas & McDonald 1989).
Endiandra floydii	Floyd's Walnut	**Unlikely**: Suitable habitat not observed onsite. This species is found in warm-temperate and subtropical rainforest, from sea level to 430 m altitude (Harden 1990).

Scientific Name	Common Name	Likelihood of Occurring on the Site
Macadamia integrifolia	Macadamia nut	**Unlikely**: Suitable habitat not observed onsite. The Macadamia Nut grows in remnant rainforest, preferring partially open areas such as rainforest edges. However, this habitat is not continuously fit for the species. Vegetation communities in which the Macadamia Nut is found range from complex notophyll mixed forest, extremely tall closed forest, simple notophyll mixed very tall closed forest to simple microphyll-notophyll mixed mid-high closed forest with *Araucaria* and *Argyrodendron* emergent (DoE 2016).
Macadamia tetraphylla	Rough-shelled bush nut	**Unlikely**: Suitable habitat not observed onsite. The Rough-shelled bush nut is a rare species that generally occurs in subtropical rainforest and complex notophyll vineforest, at the margins of these forests and in mixed sclerophyll forest (Barry & Thomas 1994; Gross 1995; Quinn *et al*. 1995). It occurs in restricted habitat, growing on moderate to steep hillslopes on alluvial soils at well-drained sites (Queensland CRA/RFA Steering Committee 1997).
Notelaea lloydii	Lloyd's Olive	**Unlikely**: Suitable habitat not observed onsite. The species occurs on undulating to hilly terrain either in moist gullies or on gentle to steep dry slopes but is rarely found on rocky outcrops. Soil types are mostly shallow, well drained and stony to very rocky in texture (Guymer 1987; Qld CRA/RFA Steering Committee 1998).
Persicaria elatior	Knotweed, Tall Knotweed	**Unlikely**: Suitable habitat not observed onsite. Knotweed normally grows in damp places, including: • coastal with swampy areas (Quinn et al. 1995) • along watercourses, streams and lakes (NSW DECCW 2005ov) • swamp forest (NSW DECCW 2005ov) • disturbed areas (NSW DECCW 2005ov).
Phaius australis	Lesser Swamp-orchid	**Unlikely**: Suitable habitat observed onsite is highly degraded. The lesser swamp-orchid is commonly associated with coastal wet heath/sedgeland wetlands, swampy grassland, or swampy forest and often where broad-leaved paperbark or swamp mahogany are found. Typically, the lesser swamp-orchid is restricted to the

Scientific Name	Common Name	Likelihood of Occurring on the Site
		swamp-forest margins, where it occurs in swamp sclerophyll forest (broad-leaved paperbark/swamp mahogany/swamp box (Lophostemon suaveolens)), swampy rainforest (often with sclerophyll emergents), or fringing open forest. It is often associated with rainforest elements such as Bangalow palm (Archontophoenix cunninghamiana) or cabbage tree palm (Livistona australis).
Planchonella eerwah	Shiny-leaved Condoo	**Unlikely**: Suitable habitat not observed onsite. The species grows in subtropical rainforest, dry rainforest and Hoop Pine (Araucaria cunninghamii) vine scrub (Forster et al. 1991; Hauser & Blok 1998; Leigh et al. 1984; Williams et al. 1984). All known areas in which the Shiny-leaved Condoo occurs are warm and subtropical with an annual rainfall of between 650–1000 mm. Sixty percent of the annual rain falls in the summer months (Wiley et al. 1999).
Rhodamnia rubescens	Scrub turpentine	**Unlikely**: Suitable habitat not observed onsite. Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils.
Rhodomyrtus psidioides	Native guava	**Unlikely**: Suitable habitat not observed onsite. Pioneer species found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest often near creeks and drainage lines.
Samadera bidwillii	Quassia	**Unlikely**: Suitable habitat not observed onsite. Quassia commonly occurs in lowland rainforest or on rainforest margins (Hewson 1985), but it can also be found in other forest types, such as open forest and woodland (DNR 2001). Quassia is commonly found in areas adjacent to both temporary and permanent watercourses (Belleng Pty Ltd 2004).
Thesium australe	Austral toadflax	**Unlikely**: Suitable habitat not observed onsite. Austral toadflax is semi-parasitic on roots of a range of grass species, notably Kangaroo Grass (*Themeda triandra*). It occurs in shrubland, grassland or woodland, often on damp sites, in subtropical, temperate and subalpine climates over a wide range of altitudes. It occurs on soils derived from sedimentary, igneous and metamorphic geology on a range of soils including black clay loams to yellow podzolics and peaty loams. Vegetation types

Scientific Name	Common Name	Likelihood of Occurring on the Site
		include open grassy heath dominated by Swamp Myrtle (*Leptospermum myrtifolium*), Small-fruit Hakea (Hakea microcarpa), Alpine Bottlebrush (Callistemon sieberi), Woolly Grevillea (*Grevillea lanigera*), Coral Heath (*Epacris microphylla*) and Poa spp.; Kangaroo Grass grassland surrounded by Eucalyptus woodland; and grassland dominated by Barbed-wire Grass (*Cymbopogon refractus*) (DoE 2016).

Threatened Fauna and Migratory Species

Scientific Name	Common Name	Likelihood of Occurring on the Site
Mammals		
Macroderma gigas	Ghost Bat	**Unlikely**: Suitable habitat not observed onsite. Ghost Bat roost in caves, old mine tunnels and in deep cracks in rocks. They usually roost in colonies, but because many of their roosting sites are being destroyed it is rare to find large colonies.
Petaurus australis	Yellow-bellied glider	**Unlikely**: Suitable habitat not observed onsite. Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. Forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south.
Petauroides volans volans	Southern Greater glider	**Unlikely**: Suitable habitat not observed onsite. This species is found in eucalypt forests and woodlands. It prefers forests with a good diversity of eucalypt species to provide consistent forage opportunities year-round, and is found in the greatest abundance in tall, montane, moist old growth forests (DoE 2016).
Phascolarctos cinereus	Koala	**RECORDED** This species inhabits a range of temperate, sub-tropical and tropical forest, woodland and semi-arid communities where suitable food trees are present. The Koala is a leaf-eating specialist that feeds primarily during dawn, dusk or night. Its diet is restricted

Scientific Name	Common Name	Likelihood of Occurring on the Site
		mainly to foliage of *Eucalyptus* spp; however, it may also consume foliage of related genera, including *Corymbia* spp., *Angophora* spp. and *Lophostemon* spp. The Koala may, at times, supplement its diet with other species, including *Leptospermum* spp. and *Melaleuca* spp. (DoE 2016).
Potorous tridactylus tridactylus	Long-nosed potoroo (SE Mainland)	**Unlikely**: Suitable habitat not observed onsite. This species inhabits coastal heaths and dry and wet sclerophyll forests. Dense understorey with occasional open areas is an essential part of habitat, and may consist of grass-trees, sedges, ferns or heath, or of low shrubs of tea-trees or melaleucas. A sandy loam soil is also a common feature.
Pteropus poliocephalus	Grey-headed flying-fox	**RECORDED** This species occurs in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops (NSW OEH 2014). This species feeds on the nectar and pollen of native trees, in particular *Eucalyptus*, *Melaleuca* and *Banksia*, and fruits of rainforest trees and vines. It also feeds on commercial fruit crops and on introduced tree species in urban areas (NSW OEH 2014). The grey-headed flying-fox roosts in aggregations of various sizes on exposed branches. Roost sites are generally located within 20 km of a regular food source (NSW OEH 2014) and are typically located near water, such as lakes, rivers or the coast (DoE 2016). Roost vegetation includes rainforest patches, stands of *Melaleuca*, mangroves and riparian vegetation, but colonies also use highly modified vegetation in urban and suburban areas (DoE 2016). The species can maintain fidelity to roost sites for extended periods, although new sites have been colonized (NSW OEH 2014, DoE 2016).
Xeromys myoides	Water mouse	**Unlikely**: Suitable habitat not observed onsite. Although the water mouse had been documented in three distinct locations (Northern Territory, central south Queensland, south-east Queensland) they require similar habitat including mangroves and the associated saltmarsh, sedgelands, clay pans, heathlands, and freshwater wetlands. The main habitat difference at each location is the littoral, supralittoral and terrestrial vegetation which differs in structure and composition. These differences dictate the species' nesting behaviour.

Scientific Name	Common Name	Likelihood of Occurring on the Site
Reptiles		
Coeranoscincus reticulatus	Three-toed snake-tooth skink	**Unlikely**: Suitable habitat not observed onsite. This species inhabits rainforest and occasionally moist eucalypt forest, on loamy or sandy soils. This species feeds on earthworms and beetle grubs and is found in leaf litter, often immediately adjacent to fallen tree trunks (DoE 2016).
Delma torquata	Adorned Delma, Collared Delma	**Unlikely**: Suitable habitat not observed onsite. Due to specific habitat requirements, this species distribution is highly fragmented and restricted to only a few locations. The Collared Delma is known from the western suburbs of Brisbane, QLD and the following sites: Bunya Mountains, Blackdown Tableland National Park (NP), Bullyard Conservation Park, D'Aguilar Range NP, Expedition NP, Naumgna and Lockyer Forest Reserves, Western Creek near Millmerran and the Toowoomba Range (DoE 2016). This species inhabits eucalypt dominated woodland and open forest where it is associated with suitable micro-habitats (exposed rocky outcrops). The ground cover is predominantly native grasses, such as Kangaroo Grass (*Themeda triandra*), Barbed-wire Grass (*Cymbopogon refractus*), Wiregrass (*Aristida* sp.) and Lomandra (*Lomandra* sp.) (DoE 2016). The presence of rocks, logs, bark and other coarse woody debris, and mats of leaf litter (typically 30–100mm thick) appears to be an essential characteristic of the collared delma microhabitat and is always present where the species occurs (DoE 2016). Whilst Collared delmas are often found associated with small rocks, the presence of small rocks is not an essential habitat characteristic (DoE 2016).
Hemiaspis damelii	Grey Snake	**Unlikely**: Suitable habitat not observed onsite. Favours woodlands especially eucalypt communities, usually on heavier, cracking clay soils prone to seasonal inundation. Particularly associated with water bodies or naturally occurring drainage features.
Birds		
Actitis hypoleucos	Common Sandpiper	**Unlikely:** Suitable habitat not observed onsite. The species utilises a wide range of coastal wetlands and some inland wetlands, with varying levels of salinity, and is mostly found around muddy margins or rocky shores and rarely on mudflats. The Common Sandpiper has been recorded in estuaries and deltas of

Scientific Name	Common Name	Likelihood of Occurring on the Site
		streams, as well as on banks farther upstream; around lakes, pools, billabongs, reservoirs, dams and claypans, and occasionally piers and jetties. The muddy margins utilised by the species are often narrow and may be steep. The species is often associated with mangroves and sometimes found in areas of mud littered with rocks or snags (Geering et al. 2007; Higgins & Davies 1996).
Anthochaera phrygia	Regent honeyeater	**Unlikely**: Suitable habitat not observed onsite. The regent honeyeater is found from Dalby in Queensland, south to Bendigo in Victoria, especially along the ranges and the western slopes. However, its distribution is extremely patchy with only a small number of known breeding sites. The estimated total population is between 350 and 400 mature individuals. In south-east Queensland it is found ranging from Cooloola, Great Sandy National Park to near the Queensland-New South Wales border. In Queensland, breeding occurs regularly west of Warwick by a small number of individual regent honeyeaters. Potential habitat for this species includes dry eucalypt woodland and open forest, rural and urban areas with mature eucalypts. It favours ironbark-box associations, mugga ironbark *Eucalyptus sideroxylon*, white box (*E. albens*), and yellow box (E. *melliodora*). Other habitat includes swamp mahogany (*E. robusta*), or spotted gum (*Corymbia maculata*) or river she-oak (*Casuarina cunninghamiana*) with associated needle-leaf mistletoe (*Amyema cambagei*). This species generally prefers wetter, more fertile sites that are reliable nectar producers (both in timing and quantity), such as creek flats, river valleys and lower slopes (NSW OEH 2014).
Apus pacificus	Fork-tailed Swift	**Possible: May forage above subject site.** This is a primarily aerial species, usually occurring above dry or open habitats, but also occasionally above rainforest and wet sclerophyll forests. They have been recorded above settled areas such as farmlands, towns, and cities.
Arenaria interpres	Ruddy Turnstone	**Unlikely**: Suitable habitat not observed onsite. The Ruddy Turnstone is found singly or in small groups along the coastline and only occasionally inland. They are mainly found on exposed rocks or reefs, often with shallow pools, and on beaches. In the north, they are found in a wider range of habitats, including mudflats.

Scientific Name	Common Name	Likelihood of Occurring on the Site
Botaurus poiciloptilus	Australian bittern	**Unlikely**: Suitable habitat not observed onsite. This species occurs in terrestrial freshwater wetlands and, rarely, estuarine habitats. It favours wetlands with tall, dense vegetation, where it forages in still, shallow water up to 0.3m deep, often at the edges of pools or waterways, or from platforms or mats of vegetation over deep water. The species favours permanent and seasonal freshwater habitats, particularly those dominated by sedges, rushes and/or reeds (e.g. *Phragmites, Cyperus, Eleocharis, Juncus, Typha, Baumea, Bolboschoenus*) or cutting grass (*Gahnia*) growing over muddy or peaty substrate (DoE 2016).
Calidris acuminata	Sharp-tailed Sandpiper	**Unlikely**: Suitable habitat not observed onsite. In Australasia, the Sharp-tailed Sandpiper prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, saltpans and hypersaline saltlakes inland. They also occur in saltworks and sewage farms. They use flooded paddocks, sedgelands and other ephemeral wetlands, but leave when they dry. They use intertidal mudflats in sheltered bays, inlets, estuaries or seashores, and also swamps and creeks lined with mangroves. They tend to occupy coastal mudflats mainly after ephemeral terrestrial wetlands have dried out, moving back during the wet season. They may be attracted to mats of algae and water weed either floating or washed up around terrestrial wetlands, and coastal areas with much beachcast seaweed. Sometimes they occur on rocky shores and rarely on exposed reefs (Higgins & Davies 1996).
Calidris alba	Sanderling	**Unlikely**: Suitable habitat not observed onsite. In Australia, the species is almost always found on the coast, mostly on open sandy beaches exposed to open sea-swell, and also on exposed sandbars and spits, and shingle banks, where they forage in the wave-wash zone and amongst rotting seaweed. Sanderlings also occur on beaches that may contain wave-washed rocky outcrops. Less often the species occurs on more sheltered sandy shorelines of estuaries, inlets and harbours. Rarely, they are recorded in near-coastal wetlands, such as lagoons, hypersaline lakes, saltponds and samphire flats. There are rare inland records from sandy shores of ephemeral brackish lakes and brackish river-pools (Higgins & Davies 1996).

Scientific Name	Common Name	Likelihood of Occurring on the Site
Calidris canutus	Red Knot, Knot	**Unlikely**: Suitable habitat not observed onsite. In Australasia the Red Knot mainly inhabit intertidal mudflats, sandflats and sandy beaches of sheltered coasts, in estuaries, bays, inlets, lagoons and harbours; sometimes on sandy ocean beaches or shallow pools on exposed wave-cut rock platforms or coral reefs. They are occasionally seen on terrestrial saline wetlands near the coast, such as lakes, lagoons, pools and pans, and recorded on sewage ponds and saltworks, but rarely use freshwater swamps. They rarely use inland lakes or swamps (Higgins & Davies 1996).
Calidris ferruginea	Curlew Sandpiper	**Unlikely**: Suitable habitat not observed onsite. Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. Occasionally they are recorded around floodwaters (Higgins & Davies 1996).
Calidris melanotos	Pectoral Sandpiper	**Unlikely**: Suitable habitat not observed onsite. In Australasia, the Pectoral Sandpiper prefers shallow fresh to saline wetlands. The species is found at coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.
Calidris pugnax	Ruff	**Unlikely**: Suitable habitat not observed onsite. Migrants occur in almost any wetland habitat, from reservoirs and fields to coastal mudflats.
Calidris ruficollis	Red-necked Stint	**Unlikely**: Suitable habitat not observed onsite. In Australasia, the Red-necked Stint is mostly found in coastal areas, including in sheltered inlets, bays, lagoons and estuaries with intertidal mudflats, often near spits, islets and banks and, sometimes, on protected sandy or coralline shores. Occasionally they have been recorded on exposed or ocean beaches, and sometimes on stony or rocky shores, reefs or shoals. They also occur in saltworks and sewage farms; saltmarsh;

Scientific Name	Common Name	Likelihood of Occurring on the Site
		ephemeral or permanent shallow wetlands near the coast or inland, including lagoons, lakes, swamps, riverbanks, waterholes, bore drains, dams, soaks and pools in saltflats. They sometimes use flooded paddocks or damp grasslands. They have occasionally been recorded on dry gibber plains, with little or no perennial vegetation (Higgins & Davies 1996).
Calidris tenuirostris	Great Knot	**Unlikely**: Suitable habitat not observed onsite. Occurs within sheltered, coastal habitats containing large, intertidal mudflats or sandflats, including inlets, bays, harbours, estuaries and lagoons. Often recorded on sandy beaches with mudflats nearby, sandy spits and islets and sometimes on exposed reefs or rock platforms.
Calyptorhynchus lathami lathami	Glossy black cockatoo	**Unlikely**: Suitable habitat not observed onsite. This species is associated with woodland or open sclerophyll forests with populations of *Allocasuarina*, which comprise its exclusive diet. They require large old trees with hollows for nesting.
Charadrius bicinctus	Double-banded Plover	**Unlikely**: Suitable habitat not observed onsite. The Double-banded Plover is found on littoral, estuarine and fresh or saline terrestrial wetlands and also saltmarsh, grasslands and pasture. It occurs on muddy, sandy, shingled or sometimes rocky beaches, bays and inlets, harbours and margins of fresh or saline terrestrial wetlands such as lakes, lagoons and swamps, shallow estuaries and rivers. The species is sometimes associated with coastal lagoons, inland saltlakes and saltworks. It is also found on seagrass beds, especially Zostera, which, when exposed at low tide, remain heavily saturated or have numerous water-filled depressions. This species sometimes utilises kelp beds.
Charadrius leschenaultii	Greater Sand Plover	**Unlikely**: Suitable habitat not observed onsite. In the non-breeding grounds in Australasia, the species is almost entirely coastal, inhabiting littoral and estuarine habitats. They mainly occur on sheltered sandy, shelly or muddy beaches with large intertidal mudflats or sandbanks, as well as sandy estuarine lagoons (Bamford 1988; Blakers et al. 1984; Lane 1987; Sibson 1948; Stewart et al. 2007),

Scientific Name	Common Name	Likelihood of Occurring on the Site
		and inshore reefs, rock platforms, small rocky islands or sand cays on coral reefs (Abbott 1982; Morris 1989; Sedgwick 1978).
Charadrius mongolus	Lesser Sand Plover	**Unlikely**: Suitable habitat not observed onsite. In non-breeding grounds in Australia, this species usually occurs in coastal littoral and estuarine environments. It inhabits large intertidal sandflats or mudflats in sheltered bays, harbours and estuaries, and occasionally sandy ocean beaches, coral reefs, wave-cut rock platforms and rocky outcrops. It also sometime occurs in short saltmarsh or among mangroves. The species also inhabits saltworks and near-coastal saltpans, brackish swamps and sandy or silt islands in riverbeds.
Charadrius veredus	Oriental Plover, Oriental Dotterel	**Unlikely**: Suitable habitat not observed onsite. The Oriental Plover is found generally inland; in open grasslands in arid and semi-arid zones; and less often in estuarine or littoral environments. This species prefers flat inland plains, sparsely vegetated short grass with hard bare ground including claypans, playing fields, lawns and cattle camps. The Oriental Plover may move to lightly-wooded grasslands with the onset of the wet season.
Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)	**Unlikely**: Suitable habitat not observed onsite. Found in eucalypt woodlands and dry open forest of the inland slopes and plains inland of the Great Dividing Range. This species mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species. It is also found in mallee and River Red Gum (Eucalyptus camaldulensis) Forest bordering wetlands with an open understorey of acacias, saltbush, lignum, cumbungi and grasses. Fallen timber is an important habitat component for foraging. The Brown treecreeper has been recorded, though less commonly, in similar woodland habitats on the coastal ranges and plains. Hollows in standing dead or live trees and tree stumps are essential for nesting.
Cuculus optatus	Oriental cuckoo	**Unlikely**: Suitable habitat not observed onsite. This species is found in monsoon forests, the edges of rainforests, treed paddocks, mangroves, roadsides and river flats (Pizzey & Knight 1999).

Scientific Name	Common Name	Likelihood of Occurring on the Site
Cyclopsitta diophthalma coxeni	Coxen's fig-parrot	**Unlikely**: Suitable habitat not observed onsite. Usually recorded from drier rainforests and adjacent wetter eucalypt forest but rarely seen due to its small size and cryptic habits. Also found in the wetter lowland rainforests that are now largely cleared in NSW. The bird shows a decided preference for fig trees, but also feeds on other fruiting rainforest species, lichen, nectar and grubs.
Erythrotriorchis radiatus	Red goshawk	**Unlikely**: Suitable habitat not observed onsite. This species occupies open forests and woodlands along rivers and wetlands and rainforest fringes. In NSW favoured habitat includes *Melaleuca* forest along coastal rivers (Debus 1991, 1993).
Falco hypoleucos	Grey falcon	**Unlikely**: Suitable habitat not observed onsite. Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey.
Gallinago hardwickii	Latham's snipe	**Unlikely**: Suitable habitat not observed onsite. This species generally occupies flooded meadows, seasonal or semi-permanent swamps, or open waters bogs, waterholes, billabongs, lagoons, lakes, creek or river margins, river pools and floodplains. Dense fringing vegetation is preferred by this species, but it has been recorded in waterlogged paddocks (DoE 2016).
Gallinago megala	Swinhoe's Snipe	**Unlikely**: Suitable habitat not observed onsite. This species inhabits shallow freshwater wetlands of various kinds including paddy fields, swamps and sewage farms, with bare mud or shallow water for feeding, with nearby vegetation cover. This species is also known to occur in grasslands, drier cultivated areas and market gardens (Higgins and Davies 1996). Most species records are from the Northern Territory.
Gallinago stenura	Pin-tailed Snipe	**Unlikely**: Suitable habitat not observed onsite. Cryptic shorebird of wetlands, wet meadows, and both flooded and dry agricultural fields.

Scientific Name	Common Name	Likelihood of Occurring on the Site
Geophaps scripta scripta	Squatter pigeon	**Unlikely**: Suitable habitat not observed onsite. As this species nests in shallow ground depressions, it requires well drained soils, preferring those under an open tree canopy. Generally, open forest and woodland communities with patchy tussock-grassy understories support this species (DoE 2016).
Grantiella picta	Painted Honeyeater	**Unlikely**: Suitable habitat not observed onsite. Inhabits Boree/ Weeping Myall (*Acacia pendula*), Brigalow (*A. harpophylla*) and Box-Gum Woodlands and Box-Ironbark Forests. A specialist feeder on the fruits of mistletoes growing on woodland eucalypts and acacias. Prefers mistletoes of the genus *Amyema*. Insects and nectar from mistletoe or eucalypts are occasionally eaten.
Hirundapus caudacutus	White-throated needletail	**Possible**: **May forage above subject site.** This species occurs flying over most types of habitats, they are probably recorded most often above wooded areas, including open forest and rainforest, and may also fly between trees or in clearings, below the canopy, but they are less commonly recorded flying above woodland. It is recorded in all coastal regions of Queensland and NSW and almost always forage aerially (DoE 2016).
Lathamus discolor	Swift parrot	**Unlikely**: Suitable habitat not observed onsite. The Swift parrot migrates from its Tasmanian breeding grounds to overwinter in the box-ironbark forests and woodlands of Victoria, NSW and southern Queensland. In south-eastern Queensland, Narrow-leaved ironbark and Forest red gum forests are commonly utilized (Kennedy and Tzaros 2005, Swift Parrot Recovery Team 2001).
Limicola falcinellus	Broad-billed Sandpiper	**Unlikely**: Suitable habitat not observed onsite. Whilst in Australia, Broad-billed Sandpipers are most commonly seen feeding and roosting in estuarine mudflats, saltmarshes, and reefs. Individuals have occasionally been recorded at sewage farms and freshwater lagoons. The intertidal mudflats along the north coast are preferred, particularly areas of soft mud on the seaward side of mangroves.
Limnodromus semipalmatus	Asian dowitcher	**Unlikely**: Suitable habitat not observed onsite.

Scientific Name	Common Name	Likelihood of Occurring on the Site
		The Asian Dowitcher occurs in sheltered coastal Environments, such as embayments, coastal lagoons, estuaries and tidal creeks. They are known to frequent shallow water and exposed mudflats or sandflats. In Australia the Port Hedland Saltworks provides crucial habitat for the species. The species is commonly found in the round ponds and channels of saltworks and sewage farms. It is also found at near-coastal swamps and lakes (Higgins & Davies 1996).
Limosa lapponica baueri	Nunivak Bar-tailed Godwit	**Unlikely**: Suitable habitat not observed onsite. It is found mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. Less frequently it occurs in salt lakes and brackish wetlands, sandy ocean beaches and rock platforms. It often occurs around beds of seagrass, and sometimes in nearby saltmarsh or the outer margins of mangrove areas.
Limosa limosa	Black-tailed Godwit	**Unlikely**: Suitable habitat not observed onsite. In Australia the Black-tailed Godwit has a primarily coastal habitat environment. The species is commonly found in sheltered bays, estuaries and lagoons with large intertidal mudflats or sandflats, or spits and banks of mud, sand or shell-grit; occasionally recorded on rocky coasts or coral islets. The use of habitat often depends on the stage of the tide. It is also found in shallow and sparsely vegetated, near-coastal, wetlands; such as saltmarsh, saltflats, river pools, swamps, lagoons and floodplains.
Ninox strenua	Powerful Owl	**Unlikely**: Suitable habitat not observed onsite. The Powerful Owl inhabits a range of vegetation types, from woodland and open sclerophyll forest to tall open wet forest and rainforest.
Numenius madagascariensis	Eastern Curlew	**Unlikely**: Suitable habitat not observed onsite. It generally occupies coastal lakes, inlets, bays and estuarine habitats, and in New South Wales is mainly found in intertidal mudflats and sometimes saltmarsh of sheltered coasts.
Numenius minutus	Little Curlew, Little Whimbrel	**Unlikely**: Suitable habitat not observed onsite. The Little Curlew is most often found feeding in short, dry grassland and sedgeland, including dry floodplains and blacksoil plains, which have scattered, shallow freshwater

Scientific Name	Common Name	Likelihood of Occurring on the Site
		pools or areas seasonally inundated. Open woodlands with a grassy or burnt understorey, dry saltmarshes, coastal swamps, mudflats or sandflats of estuaries or beaches on sheltered coasts, mown lawns, gardens, recreational areas, ovals, racecourses and verges of roads and airstrips are also used (Higgins & Davies 1996).
Numenius phaeopus	Whimbrel	**Unlikely**: Suitable habitat not observed onsite. Whimbrels are found mainly on the coast, on tidal and estuarine mudflats, especially near mangroves. They are sometimes found on beaches and rocky shores.
Pandion haliaetus	Osprey	**Unlikely**: Suitable habitat not observed onsite. This species is found in littoral and coastal habitats around the country, occasionally following large watercourses inland. It requires extensive open areas of water for foraging (DoE 2016).
Pluvialis fulva	Pacific Golden Plover	**Unlikely**: Suitable habitat not observed onsite. In non-breeding grounds in Australia this species usually inhabits coastal habitats, though it occasionally occurs around inland wetlands. Pacific Golden Plovers usually occur on beaches, mudflats and sandflats (sometimes in vegetation such as mangroves, low saltmarsh such as Sarcocornia, or beds of seagrass) in sheltered areas including harbours, estuaries and lagoons, and also in evaporation ponds in saltworks. The species is also sometimes recorded on islands, sand and coral cays and exposed reefs and rocks. They are less often recorded in terrestrial habitats, usually wetlands such as fresh, brackish or saline lakes, billabongs, pools, swamps and wet claypans, especially those with muddy margins and often with submerged vegetation or short emergent grass. Other terrestrial habitats inhabited include short (or, occasionally, long) grass in paddocks, crops or airstrips, or ploughed or recently burnt areas, and they are very occasionally recorded well away from water (Marchant & Higgins 1993).
Pluvialis squatarola	Grey Plover	**Unlikely**: Suitable habitat not observed onsite. The Grey Plover is almost entirely coastal, being found mainly on marine shores, inlets, estuaries and lagoons with large tidal mudflats or sandflats for feeding, sandy beaches for roosting, and also on rocky coasts.

Scientific Name	Common Name	Likelihood of Occurring on the Site
Rostratula australis	Australian painted snipe	**Unlikely**: Suitable habitat not observed onsite. This species inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and clay pans. They also use inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains. Typical sites include those with rank emergent tussocks of grass, sedges, rushes or reeds, or samphire; often with scattered clumps of lignum *Muehlenbeckia* or canegrass or sometimes tea-tree (*Melaleuca*). The species sometimes utilises areas that are lined with trees, or that have some scattered fallen or washed-up timber. Breeding habitat requirements may be quite specific: shallow wetlands with areas of bare wet mud and both upper and canopy cover nearby. Nest records are all, or nearly all, from or near small islands in freshwater wetlands, provided that these islands are a combination of very shallow water, exposed mud, dense low cover and sometimes some tall dense cover (DoE 2016).
Stagonopleura guttata	Diamond Firetail	**Unlikely**: Suitable habitat not observed onsite. Diamond firetail is typically found in grassy eucalypt woodlands (including Box-Gum woodlands and Snow Gum Eucalyptus pauciflora woodlands) and is often found in riparian areas (rivers and creeks), and sometimes in lightly wooded farmland. It also occurs in open forest, mallee, natural temperate grassland, and in secondary grassland derived from other communities. Nests are built either in the shrubby understorey, or higher up, especially under hawk's or raven's nests. Birds roost in dense shrubs or in smaller nests built especially for roosting.
Sternula albifrons	Little Tern	**Unlikely**: Suitable habitat not observed onsite. In Australia, Little Terns inhabit sheltered coastal environments, including lagoons, estuaries, river mouths and deltas, lakes, bays, harbours and inlets, especially those with exposed sandbanks or sand-spits, and also on exposed ocean beaches.
Tringa brevipes	Grey-tailed Tattler	**Unlikely**: Suitable habitat not observed onsite. Within Australia, the Grey-tailed Tattler has a primarily northern coastal distribution and is found in most coastal regions. In Queensland it is found along the entire coast, with small numbers located in the Gulf of Carpentaria. The Grey-tailed Tattler is often found

Scientific Name	Common Name	Likelihood of Occurring on the Site
		on sheltered coasts with reefs and rock platforms or with intertidal mudflats. It can also be found at intertidal rocky, coral or stony reefs as well as platforms and islets that are exposed at low tide. It usually roosts in the branches of mangroves or, rarely, in dense stands of other shrubs, or on snags or driftwood.
Tringa glareola	Wood Sandpiper	**Unlikely**: Suitable habitat not observed onsite. The Wood Sandpiper uses well-vegetated, shallow, freshwater wetlands, such as swamps, billabongs, lakes, pools and waterholes. They are typically associated with emergent, aquatic plants or grass, and dominated by taller fringing vegetation, such as dense stands of rushes or reeds, shrubs, or dead or live trees, especially Melaleuca and River Red Gums Eucalyptus camaldulensis and often with fallen timber. They also frequent inundated grasslands, short herbage or wooded floodplains, where floodwaters are temporary or receding, and irrigated crops. They are also found at some small wetlands only when they are drying. They are rarely found using brackish wetlands, or dry stunted saltmarsh. Typically they do not use coastal flats but are occasionally recorded in stony wetlands.
Tringa incana	Wandering Tattler	**Unlikely**: Suitable habitat not observed onsite. The Wandering Tattler is a vagrant in the East Asian-Australasian Flyway and is uncommon in Australia. It is generally found on rocky coasts with reefs and platforms, points, spits, piers, offshore islands and shingle beaches or beds. It is occasionally seen on coral reefs or beaches and tends to avoid mudflats. Foraging habitat is among rocks or shingle, or in shallow pools at edges of reefs or beaches, mainly along the tideline. Wandering Tattlers have been recorded roosting or perching on top of boulders surrounded by or close to water.
Tringa nebularia	Common Greenshank, Greenshank	**Unlikely**: Suitable habitat not observed onsite. The Common Greenshank is found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity. It occurs in sheltered coastal habitats, typically with large mudflats and saltmarsh, mangroves or seagrass. Habitats include embayments, harbours, river estuaries, deltas and lagoons and are recorded less often in round tidal pools, rock-flats and rock platforms. The species uses both permanent and ephemeral terrestrial wetlands, including swamps, lakes, dams, rivers, creeks, billabongs,

Scientific Name	Common Name	Likelihood of Occurring on the Site
		waterholes and inundated floodplains, claypans and saltflats. It will also use artificial wetlands, including sewage farms and saltworks dams, inundated rice crops and bores. The edges of the wetlands used are generally of mud or clay, occasionally of sand, and may be bare or with emergent or fringing vegetation, including short sedges and saltmarsh, mangroves, thickets of rushes, and dead or live trees. It was once recorded with Black-winged Stilts (Himantopus himantopus) in pasture but are generally not found in dry grassland (Higgins & Davies 1996).
Tringa stagnatilis	Marsh Sandpiper, Little Greenshank	**Unlikely**: Suitable habitat not observed onsite. The Marsh Sandpiper lives in permanent or ephemeral wetlands of varying salinity, including swamps, lagoons, billabongs, saltpans, saltmarshes, estuaries, pools on inundated floodplains, and intertidal mudflats and also regularly at sewage farms and saltworks. They are recorded less often at reservoirs, waterholes, soaks, bore-drain swamps and flooded inland lakes. In north Australia they prefer intertidal mudflats (Higgins & Davies 1996), although surveys in Kakadu National Park recorded more birds around shallow freshwater lakes than in areas influenced by tide (Bamford 1988). At the Top End they often use ephemeral pools on inundated freshwater and tidal floodplains (Higgins & Davies 1996). Three of the five sites with highest recorded numbers are saltwater habitats (Hunter Estuary, NSW; Port Hedland Saltworks, Western Australia; Tullakool Evaporation Ponds, NSW) (Watkins 1993). In the south-east Gulf of Carpentaria they have been recorded round both saline and fresh waters (Garnett 1989). Elsewhere they said to avoid, or rarely occur in, tidal habitats, and rarely occur on beaches. In Western Australia they prefer freshwater to marine environments. In south-east Australia they prefer inland saline lakes and coastal saltworks. They are found infrequently around mangroves (Higgins & Davies 1996).
Turnix melanogaster	Black-breasted button-quail	**Unlikely**: Suitable habitat not observed onsite. This species is restricted to rainforests and forests, mostly in areas with 770-1200 mm rainfall per annum. They prefer drier low closed forests, particularly semi-evergreen vine thicket, low microphyll vine forest, Araucarian microphyll vine forest and Araucarian notophyll vine forest. This species may also be found in low, dense acacia thickets and, in littoral area, in vegetation behind sand dunes. An extensive dense leaf-

Scientific Name	Common Name	Likelihood of Occurring on the Site
		litter layer is required for foraging and possibly also roosting. Fallen logs and a dense, heterogeneously distributed shrub layers are also considered to be important habitat characteristics for shelter and breeding (DoE 2016).
Xenus cinereus	Terek Sandpiper	**Unlikely**: Suitable habitat not observed onsite. Terek Sandpiper mostly forages in the open, on soft wet intertidal mudflats or in sheltered estuaries, embayments, harbours or lagoons. The species has also been recorded on islets, mudbanks, sandbanks and spits, and near mangroves and occasionally in samphire (Halosarcia spp.). Birds are seldom near the edge of water, however, birds may wade into the water (Marchant & Higgins 1993).
Frogs		
Adelotus brevis	Tusked frog	**Unlikely**: Suitable habitat not observed onsite. This species prefers rainforests, wet sclerophyll forests and grasslands. It is generally found under logs and leaf-litter along streams and dams (NSW OEH 2014).
Crinia tinnula	Wallum Froglet	**Unlikely**: Suitable habitat not observed onsite. This species inhabits acidic wetlands (pH 4.3-5.2) within Melaleuca swamps, sedgeland, wet or dry heathland and wallum/woodland areas in the sandy coastal lowlands (<100m ASL) of south-east Queensland. Occasionally animals occur in adjacent forests with a heathy understorey and are known to persist in disturbed wallum habitat such as 4WD-impacted sites, roadsides, quarry site, and exotic pine plantations and partly cleared areas (DEHP 2013).
Litoria olongburensis	Wallum Sedge Frog	**Unlikely:** Suitable habitat not observed onsite. The wallum sedge frog is found in ephemeral, seasonal and permanent wetlands with emergent reeds, ferns and/or sedges, in undisturbed coastal wallum swamps. Griffith and colleagues (2003) describe wallum as sandmass heathland and shrubland, and various forest, woodland, sedgeland and grassland communities (Bantianoff & Elsol 1989; Coaldrake 1961). While most common in swamps, the wallum sedge frog may also be found around creeks and freshwater lakes in coastal wallum. At swamp sites, the wallum sedge frog can be found sheltering amongst sedges, reeds and ferns all year round (Anstis

Scientific Name	Common Name	Likelihood of Occurring on the Site
		2002; Ehmann 1997; Ingram & Corben 1975; James 1996; Lewis & Goldingay 2005; Liem & Ingram 1977; Neilson 2000).
Insects/Invertebrates		
Argynnis hyperbius inconstans	Australian Fritillary	**Unlikely**: Suitable habitat not observed onsite. They are restricted to open, swampy, coastal areas where the larval food plant, *Viola betonicifolia*, grows as a small, insignificant ground herb in association with *Lomandra longifolia* (long leaved matrush) and grasses, especially the grass *Imperata cylindrica* (blady grass).

APPENDIX 5 – SAT DATA SHEETS

SAT SITE A5			
No.	**Species**	**Koala**	**Scats**
1	*Eucalyptus tereticornis*	x	x
2	*Melaleuca quinquenervia*	x	x
3	*Eucalyptus tereticornis*	x	x
4	*Melaleuca quinquenervia*	x	x
5	*Eucalyptus tereticornis*	x	✓
6	*Melaleuca quinquenervia*	x	x
7	*Eucalyptus tereticornis*	x	x
8	*Eucalyptus tereticornis*	x	x
9	*Eucalyptus tereticornis*	x	✓
10	*Melaleuca quinquenervia*	x	x
11	*Eucalyptus tereticornis*	x	✓
12	*Eucalyptus tereticornis*	x	x
13	*Melaleuca quinquenervia*	x	x
14	*Eucalyptus tereticornis*	x	x
15	*Eucalyptus tereticornis*	x	x
16	*Eucalyptus tereticornis*	x	x
17	*Eucalyptus tereticornis*	x	x
18	*Corymbia intermedia*	x	x
19	*Corymbia intermedia*	x	x
20	*Melaleuca quinquenervia*	x	✓
21	*Melaleuca quinquenervia*	x	x
22	*Melaleuca quinquenervia*	x	x
23	*Melaleuca quinquenervia*	x	x
24	*Melaleuca quinquenervia*	x	x
25	*Melaleuca quinquenervia*	x	x
26	*Melaleuca quinquenervia*	x	x
27	*Melaleuca quinquenervia*	x	x
28	*Acacia disparrima*	x	x
29	*Acacia disparrima*	x	x
30	*Acacia disparrima*	x	x

SAT SITE B14			
No.	**Species**	**Koala**	**Scats**
1	*Eucalyptus tereticornis*	x	x
2	*Eucalyptus tereticornis*	x	✓
3	*Eucalyptus tereticornis*	x	x
4	*Acacia disparrima*	x	x
5	*Melaleuca quinquenervia*	x	x
6	*Melaleuca quinquenervia*	x	x
7	*Eucalyptus tereticornis*	x	x
8	*Melaleuca quinquenervia*	x	x
9	*Melaleuca quinquenervia*	x	x
10	*Melaleuca quinquenervia*	x	x
11	*Melaleuca quinquenervia*	x	x
12	*Melaleuca quinquenervia*	x	x
13	*Melaleuca quinquenervia*	x	x
14	*Eucalyptus tereticornis*	x	x
15	*Melaleuca quinquenervia*	x	x
16	*Eucalyptus tereticornis*	x	✓
17	*Eucalyptus tereticornis*	x	x
18	*Melaleuca quinquenervia*	x	✓
19	*Melaleuca quinquenervia*	x	x
20	*Melaleuca quinquenervia*	x	x
21	*Melaleuca quinquenervia*	x	x
22	*Melaleuca quinquenervia*	x	x
23	*Melaleuca quinquenervia*	x	x
24	*Melaleuca quinquenervia*	x	x
25	*Melaleuca quinquenervia*	x	x
26	*Melaleuca quinquenervia*	x	x
27	*Melaleuca quinquenervia*	x	x
28	*Melaleuca quinquenervia*	x	x
29	*Melaleuca quinquenervia*	x	x
30	*Melaleuca quinquenervia*	x	x

SAT SITE B9			
No.	**Species**	**Koala**	**Scats**
1	*Melaleuca quinquenervia*	x	x
2	*Melaleuca quinquenervia*	x	x
3	*Melaleuca quinquenervia*	x	x
4	*Melaleuca quinquenervia*	x	x
5	*Melaleuca quinquenervia*	x	x
6	*Eucalyptus tereticornis*	x	x
7	*Eucalyptus tereticornis*	x	x
8	*Eucalyptus tereticornis*	x	x
9	*Eucalyptus tereticornis*	x	x
10	*Melaleuca quinquenervia*	x	x
11	*Eucalyptus tereticornis*	x	x
12	*Melaleuca quinquenervia*	x	x
13	*Eucalyptus tereticornis*	x	✓
14	*Eucalyptus tereticornis*	x	x
15	*Eucalyptus tereticornis*	x	✓
16	*Eucalyptus tereticornis*	x	✓
17	*Eucalyptus tereticornis*	x	x
18	*Eucalyptus tereticornis*	x	x
19	*Eucalyptus tereticornis*	x	x
20	*Eucalyptus tereticornis*	x	x
21	*Eucalyptus tereticornis*	x	x
22	*Eucalyptus tereticornis*	x	x
23	*Eucalyptus tereticornis*	x	x
24	*Melaleuca quinquenervia*	x	✓
25	*Melaleuca quinquenervia*	x	x
26	*Melaleuca quinquenervia*	x	x
27	*Melaleuca quinquenervia*	x	x
28	*Melaleuca quinquenervia*	x	x
29	*Melaleuca quinquenervia*	x	x
30	*Melaleuca quinquenervia*	x	x

SAT SITE B8			
No.	**Species**	**Koala**	**Scats**
1	*Melaleuca quinquenervia*	x	x
2	*Melaleuca quinquenervia*	x	x
3	*Corymbia intermedia*	x	x
4	*Melaleuca quinquenervia*	x	✓
5	*Eucalyptus tereticornis*	x	x
6	*Melaleuca quinquenervia*	x	x
7	*Melaleuca quinquenervia*	x	x
8	*Melaleuca quinquenervia*	x	x
9	*Acacia disparrima*	x	x
10	*Melaleuca quinquenervia*	x	x
11	*Melaleuca quinquenervia*	x	x
12	*Eucalyptus tereticornis*	x	x
13	*Eucalyptus tereticornis*	x	x
14	*Eucalyptus tereticornis*	x	x
15	*Eucalyptus tereticornis*	x	x
16	*Eucalyptus tereticornis*	x	x
17	*Eucalyptus tereticornis*	x	x
18	*Eucalyptus tereticornis*	x	x
19	*Eucalyptus tereticornis*	x	x
20	*Eucalyptus tereticornis*	x	x
21	*Eucalyptus tereticornis*	x	x
22	*Melaleuca quinquenervia*	x	✓
23	*Melaleuca quinquenervia*	x	x
24	*Melaleuca quinquenervia*	x	x
25	*Melaleuca quinquenervia*	x	x
26	*Melaleuca quinquenervia*	x	x
27	*Melaleuca quinquenervia*	x	x
28	*Corymbia intermedia*	x	x
29	*Alphitonia excelsa*	x	x
30	*Allocasuarina littoralis*	x	x

SAT SITE B13			
No.	**Species**	**Koala**	**Scats**
1	*Acacia disparrima*	x	x
2	*Eucalyptus tereticornis*	x	x
3	*Eucalyptus tereticornis*	x	x
4	*Eucalyptus tereticornis*	x	x
5	*Eucalyptus tereticornis*	x	x
6	*Eucalyptus tereticornis*	x	x
7	*Eucalyptus tereticornis*	x	x
8	*Eucalyptus tereticornis*	x	x
9	*Eucalyptus tereticornis*	x	x
10	*Melaleuca quinquenervia*	x	x
11	*Melaleuca quinquenervia*	x	x
12	*Eucalyptus tereticornis*	x	x
13	*Eucalyptus tereticornis*	x	x
14	*Melaleuca quinquenervia*	x	x
15	*Melaleuca quinquenervia*	x	x
16	*Eucalyptus tereticornis*	x	x
17	*Acacia disparrima*	x	✓
18	*Acacia disparrima*	x	x
19	*Acacia disparrima*	x	x
20	*Acacia disparrima*	x	x
21	*Melaleuca quinquenervia*	x	x
22	*Melaleuca quinquenervia*	x	x
23	*Melaleuca quinquenervia*	x	x
24	*Melaleuca quinquenervia*	x	x
25	*Melaleuca quinquenervia*	x	x
26	*Melaleuca quinquenervia*	x	x
27	*Melaleuca quinquenervia*	x	x
28	*Melaleuca quinquenervia*	x	x
29	*Melaleuca quinquenervia*	x	x
30	*Corymbia intermedia*	x	x

SAT SITE A4			
No.	**Species**	**Koala**	**Scats**
1	*Corymbia intermedia*	x	x
2	*Acacia disparrima*	x	x
3	*Corymbia intermedia*	x	x
4	*Eucalyptus tereticornis*	x	x
5	*Corymbia intermedia*	x	x
6	*Acacia disparrima*	x	x
7	*Acacia disparrima*	x	x
8	*Corymbia intermedia*	x	x
9	*Corymbia intermedia*	x	x
10	*Eucalyptus tereticornis*	x	x
11	*Acacia disparrima*	x	x
12	*Lophostemon suaveolens*	x	x
13	*Lophostemon suaveolens*	x	x
14	*Corymbia intermedia*	x	x
15	*Melaleuca quinquenervia*	x	x
16	*Corymbia intermedia*	x	✓
17	*Corymbia intermedia*	x	x
18	*Corymbia intermedia*	x	x
19	*Corymbia intermedia*	x	x
20	*Eucalyptus tereticornis*	x	x
21	*Eucalyptus tereticornis*	x	x
22	*Eucalyptus tereticornis*	x	x
23	*Eucalyptus tereticornis*	x	x
24	*Eucalyptus tereticornis*	x	x
25	*Melaleuca quinquenervia*	x	✓
26	*Acacia disparrima*	x	x
27	*Acacia disparrima*	x	x
28	*Allocasuarina littoralis*	x	x
29	*Allocasuarina littoralis*	x	x
30	*Allocasuarina littoralis*	x	x

SAT SITE B17			
No.	**Species**	**Koala**	**Scats**
1	*Eucalyptus racemosa*	x	x
2	*Lophostemon suaveolens*	x	x
3	*Corymbia intermedia*	x	x
4	*Lophostemon suaveolens*	x	x
5	*Corymbia intermedia*	x	x
6	*Lophostemon suaveolens*	x	x
7	*Corymbia intermedia*	x	x
8	*Acacia disparrima*	x	x
9	*Acacia disparrima*	x	x
10	*Lophostemon suaveolens*	x	x
11	*Lophostemon suaveolens*	x	x
12	*Lophostemon suaveolens*	x	x
13	*Lophostemon suaveolens*	x	x
14	*Lophostemon suaveolens*	x	x
15	*Lophostemon suaveolens*	x	x
16	*Lophostemon suaveolens*	x	x
17	*Lophostemon suaveolens*	x	x
18	*Lophostemon suaveolens*	x	x
19	*Lophostemon suaveolens*	x	x
20	*Lophostemon suaveolens*	x	x
21	*Lophostemon suaveolens*	x	x
22	*Lophostemon suaveolens*	x	x
23	*Lophostemon suaveolens*	x	x
24	*Lophostemon suaveolens*	x	x
25	*Corymbia intermedia*	x	✓
26	*Corymbia intermedia*	x	x
27	*Corymbia intermedia*	x	x
28	*Cinnamomum camphora*	x	x
29	*Glochidion ferdinandi*	x	✓
30	*Glochidion ferdinandi*	x	x

SAT SITE B16			
No.	**Species**	**Koala**	**Scats**
1	*Corymbia intermedia*	x	x
2	*Lophostemon suaveolens*	x	x
3	*Lophostemon suaveolens*	x	x
4	*Lophostemon suaveolens*	x	x
5	*Corymbia intermedia*	x	x
6	*Corymbia intermedia*	x	x
7	*Eucalyptus sp.*	x	x
8	*Lophostemon suaveolens*	x	x
9	*Lophostemon suaveolens*	x	x
10	*Lophostemon suaveolens*	x	x
11	*Corymbia intermedia*	x	x
12	*Lophostemon suaveolens*	x	x
13	*Corymbia intermedia*	x	x
14	*Lophostemon suaveolens*	x	x
15	*Corymbia intermedia*	x	x
16	*Corymbia intermedia*	x	x
17	*Corymbia intermedia*	x	x
18	*Corymbia intermedia*	x	x
19	*Corymbia intermedia*	x	x
20	*Corymbia intermedia*	x	x
21	*Corymbia intermedia*	x	x
22	*Corymbia intermedia*	x	x
23	*Corymbia intermedia*	x	x
24	*Eucalyptus punctata*	x	x
25	*Lophostemon suaveolens*	x	x
26	*Lophostemon suaveolens*	x	x
27	*Lophostemon suaveolens*	x	x
28	*Acacia disparrima*	x	x
29	*Eucalyptus tereticornis*	x	x
30	*Eucalyptus tereticornis*	x	x

SAT SITE B6			
No.	**Species**	**Koala**	**Scats**
1	*Melaleuca quinquenervia*	x	x
2	*Melaleuca quinquenervia*	x	x
3	*Lophostemon suaveolens*	x	x
4	*Lophostemon suaveolens*	x	x
5	*Melaleuca quinquenervia*	x	x
6	*Acacia disparrima*	x	x
7	*Acacia disparrima*	x	x
8	*Melaleuca quinquenervia*	x	x
9	*Melaleuca quinquenervia*	x	x
10	*Melaleuca quinquenervia*	x	x
11	*Eucalyptus tereticornis*	x	x
12	*Acacia disparrima*	x	x
13	*Melaleuca quinquenervia*	x	x
14	*Acacia disparrima*	x	x
15	*Corymbia intermedia*	x	x
16	*Melaleuca quinquenervia*	x	x
17	*Melaleuca quinquenervia*	x	x
18	*Melaleuca quinquenervia*	x	x
19	*Melaleuca quinquenervia*	x	x
20	*Melaleuca quinquenervia*	x	x
21	*Melaleuca quinquenervia*	x	x
22	*Allocasuarina littoralis*	x	x
23	*Eucalyptus tereticornis*	x	x
24	*Eucalyptus tereticornis*	x	x
25	*Eucalyptus tereticornis*	x	x
26	*Eucalyptus tereticornis*	x	x
27	*Corymbia intermedia*	x	✓
28	*Corymbia intermedia*	x	x
29	*Lophostemon suaveolens*	x	✓
30	*Lophostemon suaveolens*	x	x

SAT SITE B7			
No.	**Species**	**Koala**	**Scats**
1	*Melaleuca quinquenervia*	x	x
2	*Acacia disparrima*	x	x
3	*Melaleuca quinquenervia*	x	x
4	*Lophostemon suaveolens*	x	x
5	*Melaleuca quinquenervia*	x	x
6	*Corymbia intermedia*	x	x
7	*Lophostemon suaveolens*	x	x
8	*Acacia disparrima*	x	x
9	*Lophostemon suaveolens*	x	x
10	*Lophostemon suaveolens*	x	x
11	*Corymbia intermedia*	x	x
12	*Corymbia intermedia*	x	x
13	*Lophostemon suaveolens*	x	x
14	*Lophostemon suaveolens*	x	x
15	*Eucalyptus tereticornis*	x	x
16	*Eucalyptus tereticornis*	x	x
17	*Eucalyptus tereticornis*	x	x
18	*Allocasuarina littoralis*	x	x
19	*Allocasuarina littoralis*	x	x
20	*Allocasuarina littoralis*	x	x
21	*Allocasuarina littoralis*	x	x
22	*Allocasuarina littoralis*	x	x
23	*Melaleuca quinquenervia*	x	x
24	*Melaleuca quinquenervia*	x	x
25	*Melaleuca quinquenervia*	x	x
26	*Melaleuca quinquenervia*	x	x
27	*Lophostemon suaveolens*	x	x
28	*Lophostemon suaveolens*	x	x
29	*Alphitonia excelsa*	x	x
30	*Lophostemon suaveolens*	x	x

SAT SITE A3			
No.	**Species**	**Koala**	**Scats**
1	*Melaleuca quinquenervia*	x	x
2	*Melaleuca quinquenervia*	x	x
3	*Melaleuca quinquenervia*	x	x
4	*Allocasuarina littoralis*	x	x
5	*Melaleuca quinquenervia*	x	x
6	*Melaleuca quinquenervia*	x	x
7	*Melaleuca quinquenervia*	x	x
8	*Melaleuca quinquenervia*	x	x
9	*Allocasuarina littoralis*	x	x
10	*Allocasuarina littoralis*	x	x
11	*Eucalyptus tereticornis*	x	x
12	*Allocasuarina littoralis*	x	x
13	*Melaleuca quinquenervia*	x	x
14	*Melaleuca quinquenervia*	x	x
15	*Allocasuarina littoralis*	x	x
16	*Eucalyptus tereticornis*	x	✓
17	*Eucalyptus tereticornis*	x	x
18	*Eucalyptus tereticornis*	x	x
19	*Eucalyptus tereticornis*	x	x
20	*Eucalyptus tereticornis*	x	x
21	*Eucalyptus tereticornis*	x	x
22	*Lophostemon suaveolens*	x	x
23	*Corymbia intermedia*	x	x
24	*Corymbia intermedia*	x	x
25	*Melaleuca quinquenervia*	x	x
26	*Melaleuca quinquenervia*	x	x
27	*Melaleuca quinquenervia*	x	x
28	*Eucalyptus seeana*	x	x
29	*Eucalyptus seeana*	x	x
30	*Eucalyptus seeana*	x	x

SAT SITE A1			
No.	**Species**	**Koala**	**Scats**
1	*Eucalyptus tereticornis*	x	✓
2	*Eucalyptus tereticornis*	x	x
3	*Eucalyptus tereticornis*	x	x
4	*Eucalyptus tereticornis*	x	x
5	*Eucalyptus tereticornis*	x	x
6	*Eucalyptus tereticornis*	x	x
7	*Eucalyptus tereticornis*	x	x
8	*Eucalyptus tereticornis*	x	x
9	*Melaleuca quinquenervia*	x	x
10	*Melaleuca quinquenervia*	x	x
11	*Melaleuca quinquenervia*	x	x
12	*Melaleuca quinquenervia*	x	x
13	*Melaleuca quinquenervia*	x	x
14	*Melaleuca quinquenervia*	x	x
15	*Melaleuca quinquenervia*	x	x
16	*Melaleuca quinquenervia*	x	x
17	*Melaleuca quinquenervia*	x	x
18	*Melaleuca quinquenervia*	x	x
19	*Melaleuca quinquenervia*	x	x
20	*Melaleuca quinquenervia*	x	x
21	*Melaleuca quinquenervia*	x	x
22	*Melaleuca quinquenervia*	x	x
23	*Melaleuca quinquenervia*	x	x
24	*Melaleuca quinquenervia*	x	x
25	*Lophostemon suaveolens*	x	✓
26	*Lophostemon suaveolens*	x	x
27	*Acacia disparrima*	x	x
28	*Acacia disparrima*	x	x
29	*Acacia disparrima*	x	x
30	*Acacia disparrima*	x	x

SAT SITE B2			
No.	**Species**	**Koala**	**Scats**
1	*Melaleuca quinquenervia*	x	x
2	*Melaleuca quinquenervia*	x	x
3	*Lophostemon suaveolens*	x	x
4	*Lophostemon suaveolens*	x	x
5	*Lophostemon suaveolens*	x	x
6	*Corymbia intermedia*	x	x
7	*Corymbia intermedia*	x	x
8	*Corymbia intermedia*	x	x
9	*Corymbia intermedia*	x	x
10	*Corymbia intermedia*	x	x
11	*Eucalyptus tereticornis*	x	✓
12	*Eucalyptus tereticornis*	x	x
13	*Eucalyptus tereticornis*	x	x
14	*Eucalyptus tereticornis*	x	x
15	*Eucalyptus tereticornis*	x	x
16	*Eucalyptus tereticornis*	x	x
17	*Eucalyptus tereticornis*	x	x
18	*Eucalyptus tereticornis*	x	x
19	*Eucalyptus tereticornis*	x	x
20	*Eucalyptus tereticornis*	x	x
21	*Acacia disparrima*	x	x
22	*Acacia disparrima*	x	x
23	*Acacia disparrima*	x	x
24	*Acacia disparrima*	x	x
25	*Acacia disparrima*	x	x
26	*Acacia disparrima*	x	x
27	*Acacia disparrima*	x	x
28	*Acacia disparrima*	x	x
29	*Acacia disparrima*	x	x
30	*Acacia disparrima*	x	x

SAT SITE A2			
No.	**Species**	**Koala**	**Scats**
1	*Eucalyptus tereticornis*	x	x
2	*Eucalyptus tereticornis*	x	x
3	*Eucalyptus tereticornis*	x	x
4	*Eucalyptus tereticornis*	x	x
5	*Eucalyptus tereticornis*	x	x
6	*Eucalyptus tereticornis*	x	x
7	*Eucalyptus tereticornis*	x	x
8	*Eucalyptus tereticornis*	x	x
9	*Eucalyptus tereticornis*	x	x
10	*Lophostemon suaveolens*	x	x
11	*Lophostemon suaveolens*	x	✓
12	*Lophostemon suaveolens*	x	x
13	*Lophostemon suaveolens*	x	x
14	*Lophostemon suaveolens*	x	x
15	*Lophostemon suaveolens*	x	x
16	*Corymbia intermedia*	x	x
17	*Corymbia intermedia*	x	x
18	*Corymbia intermedia*	x	x
19	*Corymbia intermedia*	x	x
20	*Corymbia intermedia*	x	x
21	*Eucalyptus siderophloia*	x	x
22	*Eucalyptus siderophloia*	x	x
23	*Acacia disparrima*	x	✓
24	*Acacia disparrima*	x	x
25	*Acacia disparrima*	x	x
26	*Acacia disparrima*	x	x
27	*Acacia disparrima*	x	x
28	*Acacia disparrima*	x	x
29	*Acacia disparrima*	x	x
30	*Acacia disparrima*	x	x

SAT SITE B3			
No.	**Species**	**Koala**	**Scats**
1	*Eucalyptus tereticornis*	x	x
2	*Eucalyptus tereticornis*	x	x
3	*Eucalyptus tereticornis*	x	x
4	*Eucalyptus tereticornis*	x	x
5	*Eucalyptus tereticornis*	x	x
6	*Eucalyptus tereticornis*	x	x
7	*Eucalyptus tereticornis*	x	x
8	*Eucalyptus tereticornis*	x	x
9	*Eucalyptus tereticornis*	x	x
10	*Eucalyptus tereticornis*	x	x
11	*Lophostemon suaveolens*	x	x
12	*Lophostemon suaveolens*	x	x
13	*Corymbia intermedia*	x	x
14	*Corymbia intermedia*	x	x
15	*Corymbia intermedia*	x	✓
16	*Corymbia intermedia*	x	x
17	*Melaleuca quinquenervia*	x	x
18	*Melaleuca quinquenervia*	x	x
19	*Melaleuca quinquenervia*	x	x
20	*Melaleuca quinquenervia*	x	x
21	*Melaleuca quinquenervia*	x	x
22	*Melaleuca quinquenervia*	x	x
23	*Eucalyptus seeana*	x	x
24	*Eucalyptus seeana*	x	x
25	*Eucalyptus seeana*	x	x
26	*Acacia disparrima*	x	x
27	*Acacia disparrima*	x	x
28	*Acacia disparrima*	x	x
29	*Acacia disparrima*	x	x
30	*Acacia disparrima*	x	x

SAT SITE A6			
No.	**Species**	**Koala**	**Scats**
1	*Eucalyptus tereticornis*	x	✓
2	*Eucalyptus tereticornis*	x	✓
3	*Eucalyptus tereticornis*	x	x
4	*Eucalyptus tereticornis*	x	x
5	*Eucalyptus tereticornis*	x	x
6	*Eucalyptus tereticornis*	x	x
7	*Eucalyptus tereticornis*	x	x
8	*Melaleuca quinquenervia*	x	x
9	*Melaleuca quinquenervia*	x	x
10	*Melaleuca quinquenervia*	x	x
11	*Melaleuca quinquenervia*	x	x
12	*Melaleuca quinquenervia*	x	x
13	*Melaleuca quinquenervia*	x	x
14	*Melaleuca quinquenervia*	x	x
15	*Melaleuca quinquenervia*	x	x
16	*Melaleuca quinquenervia*	x	x
17	*Melaleuca quinquenervia*	x	x
18	*Melaleuca quinquenervia*	x	x
19	*Melaleuca quinquenervia*	x	x
20	*Melaleuca quinquenervia*	x	x
21	*Melaleuca quinquenervia*	x	x
22	*Melaleuca quinquenervia*	x	x
23	*Melaleuca quinquenervia*	x	x
24	*Melaleuca quinquenervia*	x	x
25	*Melaleuca quinquenervia*	x	x
26	*Acacia disparrima*	x	✓
27	*Acacia disparrima*	x	x
28	*Acacia disparrima*	x	x
29	*Acacia disparrima*	x	x
30	*Acacia disparrima*	x	x

SAT SITE B22			
No.	**Species**	**Koala**	**Scats**
1	*Eucalyptus tereticornis*	x	x
2	*Eucalyptus tereticornis*	x	x
3	*Eucalyptus tereticornis*	x	x
4	*Eucalyptus tereticornis*	x	x
5	*Melaleuca quinquenervia*	x	x
6	*Melaleuca quinquenervia*	x	x
7	*Melaleuca quinquenervia*	x	x
8	*Melaleuca quinquenervia*	x	x
9	*Melaleuca quinquenervia*	x	x
10	*Melaleuca quinquenervia*	x	x
11	*Melaleuca quinquenervia*	x	x
12	*Melaleuca quinquenervia*	x	x
13	*Melaleuca quinquenervia*	x	x
14	*Melaleuca quinquenervia*	x	x
15	*Melaleuca quinquenervia*	x	x
16	*Melaleuca quinquenervia*	x	x
17	*Melaleuca quinquenervia*	x	x
18	*Melaleuca quinquenervia*	x	x
19	*Melaleuca quinquenervia*	x	x
20	*Melaleuca quinquenervia*	x	x
21	*Melaleuca quinquenervia*	x	x
22	*Melaleuca quinquenervia*	x	x
23	*Melaleuca quinquenervia*	x	x
24	*Melaleuca quinquenervia*	x	x
25	*Acacia disparrima*	x	x
26	*Acacia disparrima*	x	x
27	*Acacia disparrima*	x	x
28	*Acacia disparrima*	x	x
29	*Acacia disparrima*	x	x
30	*Lophostemon suaveolens*	x	✓

SAT SITE B15			
No.	**Species**	**Koala**	**Scats**
1	*Eucalyptus tereticornis*	x	x
2	*Eucalyptus tereticornis*	x	x
3	*Lophostemon suaveolens*	x	x
4	*Lophostemon suaveolens*	x	x
5	*Lophostemon suaveolens*	x	x
6	*Lophostemon suaveolens*	x	x
7	*Melaleuca quinquenervia*	x	x
8	*Melaleuca quinquenervia*	x	x
9	*Melaleuca quinquenervia*	x	x
10	*Melaleuca quinquenervia*	x	x
11	*Melaleuca quinquenervia*	x	x
12	*Melaleuca quinquenervia*	x	x
13	*Melaleuca quinquenervia*	x	x
14	*Melaleuca quinquenervia*	x	x
15	*Melaleuca quinquenervia*	x	x
16	*Melaleuca quinquenervia*	x	x
17	*Melaleuca quinquenervia*	x	x
18	*Melaleuca quinquenervia*	x	x
19	*Melaleuca quinquenervia*	x	x
20	*Melaleuca quinquenervia*	x	x
21	*Melaleuca quinquenervia*	x	x
22	*Melaleuca quinquenervia*	x	x
23	*Melaleuca quinquenervia*	x	x
24	*Melaleuca quinquenervia*	x	x
25	*Acacia disparrima*	x	x
26	*Acacia disparrima*	x	x
27	*Acacia disparrima*	x	x
28	*Acacia disparrima*	x	x
29	*Acacia disparrima*	x	x
30	*Acacia disparrima*	x	x

SAT SITE B11			
No.	**Species**	**Koala**	**Scats**
1	*Eucalyptus tereticornis*	x	✓
2	*Eucalyptus tereticornis*	x	x
3	*Eucalyptus tereticornis*	x	x
4	*Eucalyptus tereticornis*	x	x
5	*Eucalyptus tereticornis*	x	x
6	*Eucalyptus seeana*	x	x
7	*Lophostemon suaveolens*	x	x
8	*Lophostemon suaveolens*	x	x
9	*Lophostemon suaveolens*	x	x
10	*Lophostemon suaveolens*	x	x
11	*Melaleuca quinquenervia*	x	x
12	*Melaleuca quinquenervia*	x	x
13	*Melaleuca quinquenervia*	x	x
14	*Melaleuca quinquenervia*	x	x
15	*Melaleuca quinquenervia*	x	x
16	*Melaleuca quinquenervia*	x	x
17	*Melaleuca quinquenervia*	x	x
18	*Melaleuca quinquenervia*	x	x
19	*Melaleuca quinquenervia*	x	x
20	*Melaleuca quinquenervia*	x	x
21	*Melaleuca quinquenervia*	x	x
22	*Acacia disparrima*	x	x
23	*Acacia disparrima*	x	x
24	*Acacia disparrima*	x	x
25	*Acacia disparrima*	x	x
26	*Acacia disparrima*	x	x
27	*Acacia disparrima*	x	x
28	*Acacia disparrima*	x	x
29	*Acacia disparrima*	x	x
30	*Acacia disparrima*	x	x

SAT SITE B10			
No.	**Species**	**Koala**	**Scats**
1	*Eucalyptus tereticornis*	x	x
2	*Eucalyptus tereticornis*	x	x
3	*Eucalyptus tereticornis*	x	x
4	*Eucalyptus tereticornis*	x	x
5	*Lophostemon suaveolens*	x	x
6	*Lophostemon suaveolens*	x	x
7	*Lophostemon suaveolens*	x	x
8	*Corymbia intermedia*	x	✓
9	*Corymbia intermedia*	x	x
10	*Melaleuca quinquenervia*	x	x
11	*Melaleuca quinquenervia*	x	x
12	*Melaleuca quinquenervia*	x	x
13	*Melaleuca quinquenervia*	x	x
14	*Melaleuca quinquenervia*	x	x
15	*Melaleuca quinquenervia*	x	x
16	*Melaleuca quinquenervia*	x	x
17	*Melaleuca quinquenervia*	x	x
18	*Melaleuca quinquenervia*	x	x
19	*Melaleuca quinquenervia*	x	x
20	*Melaleuca quinquenervia*	x	x
21	*Melaleuca quinquenervia*	x	x
22	*Melaleuca quinquenervia*	x	x
23	*Melaleuca quinquenervia*	x	x
24	*Melaleuca quinquenervia*	x	x
25	*Acacia disparrima*	x	✓
26	*Acacia disparrima*	x	x
27	*Acacia disparrima*	x	x
28	*Acacia disparrima*	x	x
29	*Acacia disparrima*	x	x
30	*Acacia disparrima*	x	x

APPENDIX 6 – SIGNIFICANT RESIDUAL IMPACT ASSESSMENT

1 BACKGROUND

There are various MSES layers mapped on the subject site (**FIGURES 8A and 8B**) including:

- Wildlife habitat (endangered or vulnerable) including essential habitat;
- Wildlife habitat (special least concern animal);
- Wildlife habitat (koala habitat area – core);
- Regulated vegetation (wetland); and
- High ecological significance wetland.

If there is an impact on MSES, applicants must submit a report by a suitably qualified person that provides an assessment against the Significant Residual Impact criteria justifying whether the residual impact is likely to be significant or not. In this regard, a Significant Residual Impact Assessment has been completed for each of the above MSES in the following sections. This assessment has considered the guidance for determining if development will have a significant residual impact on koala habitat areas provided in Chapter 2A of the Queensland Environmental Offsets Policy, and the guidance for determining if development will have a significant residual impact on all other matters of state environmental significance provided in the Significant Residual Impact Guideline (DSDIP 2014).

2 WILDLIFE HABITAT (ENDANGERED OR VULNERABLE)

2.1 Introduction

Habitat suitability assessments were completed for the threatened fauna species that are known to occur or considered possible occurrences in the locality (**APPENDIX 4**). One (1) species are known to utilise the site as forage habitat – the koala (addressed separately below) and one (1) additional species is considered to be a possible occurrence on the subject site - White-throated needletail (*Hirundapus caudacutus*). Essential habitat for the Wallum froglet (*Crinia tinnula*) is mapped on the site however targeted surveys failed to record this species and habitat is not considered to be suitable.

2.2 Significant Residual Impact Criteria

Section 5.1 of the Guideline defines an SRI on endangered and vulnerable wildlife habitat (including essential habitat) and states that:

> *An action is likely to have a significant impact on endangered and vulnerable wildlife if the impact on the habitat is likely to:*
>
> *a) lead to a long-term decrease in the size of a local population; or*
>
> *b) reduce the extent of occurrence of the species; or*
>
> *c) fragment an existing population; or*

d) result in genetically distinct populations forming as a result of habitat isolation; or

e) result in invasive species that are harmful to an endangered or vulnerable species becoming established in the endangered or vulnerable species' habitat; or

f) introduce disease that may cause the population to decline, or

g) interfere with the recovery of the species; or

h) cause disruption to ecologically significant locations (breeding, feeding, nesting, migration or resting sites) of a species.

2.3 Assessment of Proposal

The White-throated needletail (*Hirundapus caudacutus*) is widespread during the non-breeding season in eastern and south-eastern Australia (Barrett *et al*. 2003; Blakers *et al*. 1984; Higgins 1999). In eastern Australia, it is recorded in all coastal regions of Queensland and NSW, extending inland to the western slopes of the Great Divide and occasionally onto the adjacent inland plains. The area of occupancy of the White-throated Needletail in Australia has been estimated at 126 200 km^2. In Australia, the White-throated Needletail is almost exclusively aerial, from heights of less than 1 m up to more than 1000 m above the ground.

The proposed development is not considered likely to result in any of the above listed SRI criteria on this species. No Significant Residual Impact will be incurred.

2.4 Offset Obligations

As no Significant Residual Impact will be incurred, no offsets for endangered and vulnerable wildlife habitat (including essential habitat) will be required.

3 WILDLIFE HABITAT (SPECIAL LEAST CONCERN ANIMAL)

3.1 Introduction

Special least concern animal is defined with the *Nature Conservation (Wildlife) Regulation 2006* as the following:

a) the echidna (Tachyglossus aculeatus);

b) the platypus (Ornithorhynchus anatinus);

c) a least concern bird to which any of the following apply—

i. the agreement called 'Agreement Between the Government of Australia and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment' and signed at Tokyo on 6 February 1974;

ii. *the agreement called 'Agreement Between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment' and signed at Canberra on 20 October 1986;*

iii. *the convention called 'Convention on the Conservation of Migratory Species of Wild Animals' and signed at Bonn on 23 June 1979.*

3.2 Significant Residual Impact Criteria

Section 5.1 of the Guideline defines an SRI on Special least concern (non-migratory) animal wildlife habitat and states that:

> *An action is likely to have a significant impact on a special least concern (non-migratory) animal wildlife habitat if it is likely that it will result in:*
>
> *a) a long-term decrease in the size of a local population; or*
>
> *b) a reduced extent of occurrence of the species; or*
>
> *c) fragmentation of an existing population; or*
>
> *d) result in genetically distinct populations forming as a result of habitat isolation; or*
>
> *e) disruption to ecologically significant locations (breeding, feeding or nesting sites) of a species.*

3.3 Assessment of Proposal

No special least concern animals were recorded from the subject site. The proposed development is therefore not considered likely to result in any of the above listed SRI criteria on these species. No Significant Residual Impact will be incurred.

3.4 Offset Obligations

As no Significant Residual Impact will be incurred, no offsets for special least concern (non-migratory) animal wildlife habitat will be required.

4 WILDLIFE HABITAT (KOALA HABITAT AREA – CORE)

4.1 Introduction

The site is within a Koala Priority Area (KPA). The mapping shows approximately 2.58 ha of the subject site as 'Core Koala Habitat Area' (**FIGURE 6**).

4.2 Significant Residual Impact Criteria

Guidance for determining if development will have a significant residual impact on koala habitat areas is provided in Chapter 2A of the Queensland Environmental Offsets Policy. A

significant residual impact on koala habitat in SEQ is described in the State guidelines to be the removal of one (1) non-juvenile koala habitat tree.

4.3 Assessment of Proposal

The proposed development will result in the removal of mapped core koala habitat and associated non-juvenile koala habitat trees. Non-juvenile koala habitat trees are defined in schedule 2, section 6(6) of the *Environmental Offsets Regulation 2014* as:

> *a koala habitat tree that—*
>
> *a) is more than 4m high; or*
>
> *b) has a trunk with a circumference of more than 31.5cm at 1.3m above the ground.*

A koala habitat tree is defined in schedule 2, section 6(6) of the *Environmental Offsets Regulation 2014* as:

> *a tree of any of the following genera—*
>
> *a) Angophora;*
>
> *b) Corymbia;*
>
> *c) Eucalyptus;*
>
> *d) Lophostemon;*
>
> *e) Melaleuca.*

A total of 0.81 ha (approximately 31%) of core koala habitat will be removed as a result of the proposed development. It should be noted that no impacts on Koala habitat are proposed for the Bushfire groundcover mitigation buffer area. Groundcover vegetation in the Bushfire groundcover mitigation buffer area is currently already managed, and this requirement will be a continuation of the existing management regime. No non-juvenile Koala habitat trees are proposed to be removed within the Bushfire groundcover mitigation buffer area for bushfire purposes.

A total of 112 of the 507 surveyed NJKHTs ≥20 cm DBH will be removed as result of the proposed development (**FIGURES 20A - 20D**). This equates to approximately 22% of the surveyed NJKHTs ≥200 cm DBH. An estimated additional 540 NJKHTs ≥30 cm DBH will be removed from the south-eastern portion of the site as result of the proposed development. This equates to 40% of the additional estimated NJKHTs ≥300 cm DBH occurring in the south-eastern portion of the site.

Important consideration during the design of the masterplan was given to ensuring:

- no net loss of koala habitat area on the site. The proposal will result in the removal of 0.81 ha (31%) of the total of 2.57 ha of koala habitat occurring on the site. Strategically located revegetation areas totalling 0.81 ha have been identified to ensure no net loss of koala habitat on the site.

- enhanced habitat quality for koalas. The koala habitat to be impacted is generally comprised of supplementary/shelter trees species (i.e. *Melaleuca quinquenervia*) with only scattered preferred koala food trees (PKFTs) present (i.e. *Eucalyptus tereticornis*) (i.e. only 11% of the NJKHTs to be impacted are PKFTs). Proposed revegetation / compensatory habitat works will include the dense planting of PKFTs to offset the loss of habitat dominated by less preferred species. In total, it is proposed to plant a minimum of 526 PKFTs (at a density of 1 per 15 m2 – reflective of the current habitat on site) to offset the loss of an estimated 58 PKFTs and 594 supplementary/shelter tree species.
- enhanced movement opportunities for koalas. The Proposed revegetation / compensatory habitat works will occur in strategically located areas to expand and enhance the current koala movement corridor occurring on the site.

4.4 Offset Obligations

Proposed revegetation/compensatory habitat and rehabilitation works will result in no net loss of koala habitat. As no Significant Residual Impact will be incurred, no offsets for impacts on core koala habitat are considered necessary.

5 REGULATED VEGETATION (WETLAND)

Prescribed regional ecosystems that intersect with an area shown as a wetland on the vegetation management wetlands map are not a prescribed environmental matter where they occur in urban areas.

6 HIGH ECOLOGICAL SIGNIFICANCE WETLAND

A wetland of high ecological significance is mapped as occurring on the subject site. Wetlands in Queensland are mapped as having either high ecological significance or general ecological significance. The ecological significance score is assigned based on information obtained through the Aquatic Biodiversity Assessment and Mapping Method (AquaBAMM).

It is noted that the mapped Wetland of HES areas onsite appear to be incorrect. The mapped Wetland of HES in the western portions of the site occur over areas of existing sporting fields and maintained grass areas. The mapped Wetland of HES in the eastern portion of the site is characterised by Broad-leaved paperbark forest (*M. quinquenervia*) but does not contain obligate hydrophytes. Any wetland values in this are therefore likely to be ephemeral in nature.

FRC Environmental were engaged by Ormiston College to complete an aquatic ecological assessment (FRC 2020) of the mapped Wetland of HES in the eastern portion of the site. The objective of the assessment was to determine the aquatic ecological values of the mapped wetland using a range of approaches, including the AquaBAMM assessment framework, and use a risk-based assessment to determine if proposed development would likely result in a Significant Residual Impact to aquatic ecological values. The assessment determined that the mapped wetland has low aquatic ecological values.

It is noted that a previous version of the Significant Residual Impact Guideline noted that a SRI will not be incurred if *"the mapped wetland in a WPA, wetland of HES or a wetland or watercourse in a HEV water is determined as not having 'high' or 'very high' conservations values using AquaBAMM or an appropriate assessment technique"*.

With consideration of the above, it is not considered that High Ecological Significance Wetland MSES is applicable to the subject site, and that the current MSES mapping is inaccurate.

APPENDIX 7 – ASSESSMENT OF COMPLIANCE WITH RELEVANT SECTIONS OF THE REDLAND CITY PLAN VERSION 4.0 (2020)

ENVIRONMENTAL SIGNIFICANCE OVERLAY CODE

Performance Outcomes	Acceptable Outcomes	Response
For assessable development		
Values to be protected		
PO2 Development does not result in a significant reduction in the level or condition of biodiversity and ecological functions and processes in the locality.	No acceptable outcome is nominated	While a proportion of vegetation may be removed as a result of the proposed development, the proposed works have been planned around the need to retain the best quality existing vegetation and will not result in the significant loss of habitat for native flora and fauna species. Rehabilitation works within degraded and previously cleared areas of the site will be undertaken (**FIGURE 22**) in accordance with a Site Rehabilitation Plan (to be approved by Council prior to commencement of works) to improve existing ecological values and ameliorate the impacts of clearing works. Rehabilitation work should incorporate preferred Koala food trees and flowering/fruiting species suitable as Grey-headed flying fox forage.
PO3 Development does not cause substantial fragmentation of habitat areas	No acceptable outcome is nominated	It should be noted that the site occurs in an urbanised area and habitat in the locality is already highly fragmented. The relatively intact remnant vegetation in the southern portion of the site is likely to provide movement opportunities for a range of native fauna species. In the context of the locality, it provides connections between reserves to the east and south and a corridor occurring to the north of the site. These movement opportunities are likely to be of most benefit to highly mobile and disturbance adapted species of native wildlife.

Performance Outcomes	Acceptable Outcomes	Response
		The proposed development will retain a fauna movement corridor through the site (**FIGURE 22**) which is considered to be sufficient to allow the continued movement of highly mobile and disturbance adapted species and koalas through the site. Furthermore, this corridor functionality will be improved and maintained through proposed site rehabilitation works (in accordance with a Site Rehabilitation Plan to be approved by Council prior to commencement of works). Scattered trees also occur throughout the school grounds which will provide stepping stone habitat for fauna moving through the site.
PO4 Connections between habitat areas are retained, so that movement of key species and normal gene flow between populations is not inhibited or made less safe. Connections may include both continuous corridors and "stepping stone" patches and refuges.	No acceptable outcome is nominated	See response to PO3 above.
Minimising and mitigating impacts		
PO5 Edge effects on retained habitat areas are minimised by providing the smallest possible perimeter to area ratio.	No acceptable outcome is nominated	The proposed development is for the extension of the existing Ormiston College campus onto adjoining land. The college has identified the need to provide additional facilities for school and community use. There is no other available land for the provision of these facilities. The design requirements of the master plan have necessitated the removal of some site vegetation. With consideration of the above, the perimeter to area ratio of the retained habitat areas is a small as possible. Edge effects on retained habitat will be further mitigated through proposed site rehabilitation works (in accordance with a Site Rehabilitation Plan to be approved by Council prior to commencement of works) which should include weed management and maintenance works and dense plantings to 'seal' the edges of retained habitat patches.

Performance Outcomes	Acceptable Outcomes	Response
PO6 The design, scale and intensity of development minimises impacts on retained habitat.	No acceptable outcome is nominated	As discussed in response to PO5 above, there are no suitable alternatives for the design/location of the proposed development. Impacts on habitat have been minimised as far as practicable and retained habitat will be managed and enhanced through proposed site rehabilitation works (in accordance with a Site Rehabilitation Plan to be approved by Council prior to commencement of works).
PO7 Retained habitat is protected to ensure its ongoing health and resilience, and to avoid degradation as a result of edge effects.	No acceptable outcome is nominated	See responses to PO5 and PO6 above.
PO8 Barriers restricting the movement and dispersal of wildlife are removed, except where they are necessary for the safety of people or animals.	No acceptable outcome is nominated.	As the proposed development is the extension of existing school grounds/facilities it is not likely that any barriers to wildlife movement will be created. There will be no specific areas of the site where wildlife needs to be excluded. As discussed in response to PO3 above, the proposed development will retain a fauna movement corridor through the site (**FIGURE 22**) which is considered to be sufficient to allow the continued movement of highly mobile and disturbance adapted species and koalas through the site. Furthermore, this corridor functionality will be improved and maintained through proposed site rehabilitation works (in accordance with a Site Rehabilitation Plan to be approved by Council prior to commencement of works). Scattered trees already occurring throughout the school grounds also provide stepping-stone habitat for fauna moving the school.
PO9 Development does not result in the introduction of pest species (plant or animal), that pose a risk to ecological integrity or disturbance to native fauna.	No acceptable outcome is nominated.	Pest species, including Cane toads and weeds, are already present on the site. The proposed development is not likely to introduce additional pest species. Rehabilitation works within degraded and previously cleared areas of the site will be undertaken in accordance with a Site Rehabilitation Plan (to be approved by Council prior to commencement of works) to improve existing ecological values and ameliorate the impacts of weeds.

Performance Outcomes	Acceptable Outcomes	Response
PO10 Development minimises alterations to natural landforms, flow regimes, groundwater recharge and surface water drainage patterns.	No acceptable outcome is nominated.	A Stormwater Management Plan should be prepared to consider the impacts to retained vegetation that may arise from changes to hydrological flows and water quality as a result of the proposed development.
PO11 Development minimises potential for disturbance of wildlife as a result of noise, light, vibration or other source.	No acceptable outcome is nominated.	A Fauna Management Plan should be prepared (and approved by Council prior to commencement of works) and include measures to ensure that potential for disturbance of wildlife as a result of noise, light, vibration or other sources is minimised.
PO12 Roads and public access within and adjacent to areas of ecological significance are located and designed to avoid disturbance of ecological values or danger to wildlife.	No acceptable outcome is nominated.	The locations of proposed roads and public access have been planned around the need to retain the best quality existing vegetation to avoid disturbance of ecological values and limit the danger to wildlife.
Corridors and enhancement planting		
PO13 Development contributes to the restoration of waterway or land based ecological corridors, where they would significantly enhance the health and resilience of habitat and wildlife on and near the site.	No acceptable outcome is nominated.	See response to PO3 above.
PO14 Corridors have sufficient width to maintain viable wildlife or habitat linkages.	**AO14.1** Ecological corridors have a minimum width of 100m.	Whilst the retained ecological corridor will be below the minimum width of 100m post development, the existing corridor is already less than this width. It is also noted that an assessment of compliance with State Code 25: Development in South East Queensland Koala Habitat Areas has indicated that that minimum corridor widths retained on a development site should be guided by the home range size of koalas using it, and that if the corridor is shorter than one home range size, a narrow corridor may be sufficient.

Performance Outcomes	Acceptable Outcomes	Response
		The proposed development will retain a corridor of mapped koala habitat through the site (**FIGURE 20**). As the level of use of site habitat by the koala is likely to be transitory (i.e. a resident/sedentary population is not currently present on the site) this retained corridor is considered to be sufficient to allow the continued movement of koalas through the site. Furthermore, this corridor functionality will be improved and maintained through proposed site rehabilitation works (in accordance with a Site Rehabilitation Plan to be approved by Council prior to commencement of works). Scattered trees throughout the school grounds that will be retained will also continue to provide stepping-stone habitat for fauna moving through the site.
PO15 Development incorporates opportunities for revegetation to enhance habitat condition, biodiversity and wildlife movement.	No acceptable outcome is nominated.	Rehabilitation works within retained habitat on the site will be undertaken in accordance with a Site Rehabilitation Plan (to be approved by Council prior to commencement of works) to improve existing ecological values and ameliorate the impacts of clearing works.
PO16 Enhancement plantings and landscaping utilise endemic native species which replicate or complement the composition of the habitat it is connected to, unless this would increase bushfire risk.	No acceptable outcome is nominated.	Enhancement plantings and landscaping should utilise native species which are representative of RE 12.3.5.
PO17 Where clearing occurs, it is sequenced and undertaken in a manner that provides opportunities for fauna to vacate affected land.	No acceptable outcome is nominated.	A Koala Management Plan is required to be prepared in accordance with State Code 25: Development in South East Queensland Koala Habitat Areas. The Koala Management Plan must include measures that comply with the sequential clearing and koala spotter requirements under section 10 and 11 of the Nature Conservation (Koala) Conservation Plan 2017. These measures are considered appropriate to all native fauna species. Additional selective clearing measures shall be detailed in a Fauna Management (to be approved

Performance Outcomes	Acceptable Outcomes	Response
		by Council prior to commencement of works) and employed on site, whereby smaller non-habitat trees (selective clearing) are initially removed followed by the removal of habitat trees (subsequent clearing). This provides a disturbance stimulus, encouraging wildlife to relocate to areas of retained vegetation.
Offsets		
PO18 Where development results in, or is likely to result in, a significant residual impact on matters of local environmental significance, despite all reasonable on-site mitigation measures, the impact will be offset.	**AO18.1** Offsets are provided in accordance with offset arrangements set out in Planning Scheme Policy 1 – Environmental significance.	The proposed development will result in the unavoidable removal of 0.44 ha of MLES. It is proposed to rehabilitate and revegetate approximately 0.35 ha of MLES vegetation on site (i.e. outside existing mapped MLES – an additional 0.27 ha existing mapped MLES vegetation will also be rehabilitated) (**FIGURE 23**). Proposed revegetation works on site would result in no net loss of MLES. Offsets are therefore not considered necessary.

WATERWAY CORRIDOR AND WETLANDS OVERLAY CODE FOR ASSESSABLE DEVELOPMENT

Performance Outcome	Acceptable Outcome	Response
PO1 Development does not adversely impact on the hydrological regime or recharge of a wetland or waterway.	No acceptable outcome is nominated.	There are no mapped or actual waterways on the site. The small depression in the south-east corner of the site holds shallow water for brief periods after above-average rainfall. The proposed development will not interfere with periodic filling of the depression with water during high rainfall periods.
PO2 A core riparian buffer is maintained along and around waterways and wetlands that is vegetated, development free, and is of a sufficient width to: (1) protect water quality; (2) protect the stability of stream bank and bed; (3) allow for natural hydrological and geomorphological processes; (4) minimise erosion; (5) maintain or achieve healthy water temperatures and in-stream conditions; and (6) support viable wildlife habitat and movement.	**AO2.1** A development free, vegetated buffer area is provided in accordance with Table 8.2.11.3.2. **AO2.2** No clearing occurs within the buffer area provided in accordance with Table 8.2.11.3.2.	There are no mapped or actual waterways on the site, and thus no riparian vegetation along waterways. Thus, Table 8.2.11.3.2 is not applicable.
PO3 Riparian vegetation provides sufficient shade over the stream to protect in-stream habitat, biodiversity and ecological processes.	**AO3.1** Vegetation achieves 70% canopy cover over streams 10m or less in width and 70% canopy cover over near-bank areas along other streams.	There are no mapped or actual waterways on the site, and thus no riparian vegetation along waterways. Existing native vegetation surrounding the small depression in the south-east corner of the site will be retained at a minimum width of greater than two times the maximum width of the depression; thus, shading of the depression will be unchanged from current.

Performance Outcome	Acceptable Outcome	Response
PO4 Development maximises opportunities for natural filtration of sediments, nutrients and other pollutants, and slowing of overland flow.	No acceptable outcome is nominated.	As assessed in the Stormwater Report
PO5 The development is designed to avoid any worsening of water quality in a waterway or wetland. Editor's note—Applicants must also have regard to the Healthy waters code.	No acceptable outcome is nominated.	As assessed in the Stormwater Report
PO6 Bank erosion and slumping is avoided, and hydrological and geomorphological processes of a waterway or wetland are maintained by: (1) providing an area either side of the existing channel to allow for natural lateral and longitudinal movement; (2) restoring bank vegetation and large woody debris within the channel; (3) implementing bank and bed stabilisation measures; and (4) reinstating a stable hydrology and geomorphology where it is modified or unstable	No acceptable outcome is nominated. Editor's note—An environmental management plan may be required to support any proposed hydrology reinstatement works.	As assessed in the Stormwater Report
PO7 Barriers to in-stream or land-based wildlife movement are removed unless they are naturally occurring or necessary for the safety of wildlife	No acceptable outcome is nominated.	It should be noted that the site occurs in an urbanised area and habitat in the locality is already highly fragmented. The relatively intact remnant vegetation in the southern portion of the site is likely to provide movement opportunities for a range of native fauna species. In the context

Performance Outcome	Acceptable Outcome	Response
		of the locality, it provides connections between reserves to the east and south and a corridor occurring to the north of the site. These movement opportunities are likely to be of most benefit to highly mobile and disturbance adapted species of native wildlife. The proposed development will retain a fauna movement corridor through the site (**FIGURE 22**) which is considered to be sufficient to allow the continued movement of highly mobile and disturbance adapted species and koalas through the site. Furthermore, this corridor functionality will be improved and maintained through proposed site rehabilitation works (in accordance with a Site Rehabilitation Plan to be approved by Council prior to commencement of works).
PO8 Development incorporates opportunities for revegetation to enhance stream and habitat condition, biodiversity and wildlife movement wherever possible.	No acceptable outcome is nominated	There are no mapped or actual waterways on the site, and thus no riparian vegetation along waterways. Existing native vegetation surrounding the small depression in the south-east corner of the site will be retained at a minimum width of greater than two times the maximum width of the depression. Thus, opportunities to further enhance riparian vegetation with revegetation is not applicable.
PO9 Enhancement plantings and landscaping utilise endemic native species which replicate or complement the composition of the habitat it is connected to.	No acceptable outcome is nominated	As assessed in the Landscaping Report.

Performance Outcome	Acceptable Outcome	Response
PO10 Development does not result in the introduction of non-native pest species (plant or animal) and removes existing pest species that pose a risk to ecological or stream integrity.	No acceptable outcome is nominated. Editor's note—Weed species are identified in Council's Pest Management Plan 2012–2016, Part B.	As assessed in the Landscaping Report.
PO11 Disturbance or predation of native fauna by domestic pets and livestock is prevented.	No acceptable outcome is nominated	The proposed development will occur on existing Ormiston College campus grounds. Dogs (with the exception of assistance dogs) and livestock are not likely to occur, and it is therefore not considered likely that the proposed development will significantly increase koala fatalities or disturbance due to dog attacks or livestock.
PO12 Development minimises potential for disturbance of wildlife as a result of noise, light, vibration or other source.	No acceptable outcome is nominated	A Fauna Management Plan should be prepared (and approved by Council prior to commencement of works) and include measures to ensure that potential for disturbance of wildlife as a result of noise, light, vibration or other sources is minimised.
PO13 Public access to or along waterways and wetlands is located and designed to minimise disturbance of environmental values.	No acceptable outcome is nominated	There are no mapped or actual waterways on the site, and thus access to waterways is not applicable.