ECOLOGY | BIODIVERSITY OFFSETS | BUSHFIRE

AEP Ref: **3174**

Date: **09 February 2023**

To **c/- ADW Johnson**

Attention **Stephanie Van Dissel**

Via Email **stephaniev@adwjohnson.com.au**

Dear Stephanie,

RE: Ecological Assessment Report for Liverpool City Council

Anderson Environment & Planning (AEP) herewith provide this Ecological Assessment Report to detail the impacts of a proposed activity at Governor Macquarie Drive between Alfred Road and Childs Road in Chipping Norton, NSW (**Figure 1**).

The proposal includes the following:

- Road and drainage upgrade works to Governor Macquarie Drive between Alfred Road and Childs Road in Chipping Norton – approx. 450m long.

The report is specifically intended to identify any impacts on biodiversity as a result of this activity application. The information contained within this report has been generated from site inspections and a desktop survey of available information, combined with professional judgement.

Literature Review

Primary information sources reviewed included:

- Aerial Photograph Interpretation (API) of the site and surrounding locality;
- State Vegetation Type Mapping (SVTM)
- NSW Biodiversity Values Map (accessed February 2023) (https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BVMap);
- DPE Important Habitat Mapping (accessed February 2023);
- Landuse Mapping for NSW 2017(accessed February 2023) (https://datasets.seed.nsw.gov.au/dataset/nsw-landuse-2017-v1p2-f0ed);
- DPE BioNet Vegetation Classification website (accessed February 2023) (https://www.environment.nsw.gov.au/NSWVCA20PRapp); and
- DPE Bionet Threatened Biodiversity Profiles (accessed February 2023) (https://www.environment.nsw.gov.au/AtlasApp);

In addition, database searches were carried out, namely:

- Review of flora and fauna records held by the NSW Department of Planning and Environment (DPE) BioNet Atlas of NSW Wildlife within 10km of the site (February 2023) https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/nsw-bionet; and

- Protected Matters Search within a 5km radius of the site on Commonwealth Department of Climate Change, Energy, the Environment and Water (February 2023) https://www.environment.gov.au/epbc/protected-matters-search-tool.

Table 1 below provides a summary of the site characteristics.

Table 1 – Site Summary

Detail	Comments
Client	c/- ADW Johnson Pty Ltd
Address	Governor Macquarie Drive, Chipping Norton 2170
Titles	NA
Area (approx.)	The works footprint covers an area of 1.67ha (Subject Site).
LGA	Liverpool City
Zoning	Under the *Liverpool City Local Environmental Plan 2022* (the LEP), the Subject Site is zoned IN2 – Light Industry and R3 – Medium Density Residential.
Subject Site	The Subject Site refers to the footprint of the proposed activity which will include road and drainage upgrade works to Governor Macquarie Drive. (**Figure 1**). Within such area exists commercial and industrial buildings along Governor Macquarie Drive and residential buildings along Child's Road and Alfred Road. The remainder of the Subject Site is a central strip of unused land, comprising predominantly exotic groundcover and a moderate number of clustered native trees.
Plant Community Types (PCTs)	Vegetation within the proposed activity footprint is dominated by an exotic species groundcover including *Chloris gayana, Eleusine tristachya* and *Eragrostis curvula*. A small number of native trees were also present at the site forming a strip of native trees including *Eucalyptus moluccana, Eucalyptus punctata* and *Eucalyptus crebra*. These trees are not commensurate with any PCT as they have been planted along the nature strip. Ground- truthed Vegetation is shown in **Figure 4.** A full species list is included in **Attachment C**.
BOS Clearing Threshold Trigger	The area clearing threshold does not apply to Part 5 Activities. The vegetation clearing threshold for the site is 0.25ha of native vegetation. Impacts to native vegetation will be approx. 0.083ha.
AOBV	The site does not contain any Areas of Outstanding Biodiversity Value.
Biodiversity Values Mapping	No BV Mapped Lands are mapped within the Subject Site (**Figure 3**).
Regional Vegetation Mapping	The Subject Site is not mapped as containing native vegetation under the State Vegetation Type Mapping (**Figure 3**).

Flora and Fauna Assessment

The field surveys for the site were prepared and performed with due recognition of the State survey guidelines (DEC 2004; DECC 2009; OEH 2018; DPIE 2020).

The size of the site, the type of native vegetation and habitats remaining, the status of existing and proposed surrounding land use and the level and type of habitat linkages to proximate bushland areas were considered in formulating the methodology employed and described below.

The assessment approach was tailored to undertake sufficient works to ensure that legislative requirements were met relating to threatened species and native species in general for the proposed specific activity. Where any potential doubt remained over species impact, presence within the site was assumed to ensure that a conservative approach was adopted.

Given the small size of the area proposed for impact, the highly degraded nature of vegetation and lack of habitat features therein the below surveys are considered appropriate to fully understand the biodiversity of the Subject Site (**Figure 5**).

Table 2 – Survey Methodology

Survey	Target Species	Methodology used	Survey Date
Flora	Full flora assessment	Random meander Flora identification	27/1/23
Fauna	Diurnal fauna	Random meander Targeted survey for *Meridolum corneovirens* (Cumberland Plain Land Snail) Habitat assessment Incidental survey	27/1/23
Flora	Diurnal flora	Targeted Flora Survey Random meander	30/1/23
Fauna	Diurnal fauna	Random meander Incidental survey	30/1/23

Database Searches

Searches were undertaken of databases within a 10km radius of the Subject Site for BC Act listings and 5km radius for EPBC Act listings. Note that any records considered erroneous, historic only, or obviously of no relevance to the site in regards to habitat (e.g., seabirds, marine species, etc.) were omitted.

The potential for listed threatened species to occur within the site was considered. Detailed ecological profiles of threatened species can be found at https://www.environment.nsw.gov.au/threatenedspeciesapp/.

Subject Species

The proposed works will upgrade the road and drainage services on Governor Macquarie Drive between Alfred Road and Childs Road **(Figure 2)**. No threatened species were detected via site survey and any potential impacts to threatened species are considered to be negligible given the highly disturbed condition of the site and very small area of suboptimal habitat present on site. It is considered highly unlikely that any threatened species would utilise the site to any notable degree or be significantly impacted by the proposed works.

Notable BioNet Atlas records exist for the following threatened species within close proximity of the Subject Site:

- *Pteropus poliocephalus* (Grey headed Flying Fox)

Species listed in **Table 3** have potential to utilise the site or have records within close proximity to the Subject Site.

Table 3 – Key Species Analysis

Guild / Species	Key Habitat Feature	Comment
Grey- headed Flying Fox	Proximity of records to Subject Site	There are notable records close to the Subject Site within the past few years. The species may use the site as foraging habitat.

5 - Part Test Assessment

Section 7.3 of the BC Act lists five factors that must be taken into account in determining the significance of potential impacts of proposed activities on threatened species, populations, ecological communities and/or their habitats as listed within the BC Act.

The 5-part test is used to determine whether there is likely to be a significant impact, and thus whether the Biodiversity Offsets Scheme (BOS) is triggered.

Table 4 – 5 - Part Test

Section of BC Act 7.3	Requirement	Assessment
a)	*in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction*	There is limited potential for threatened species to utilise the disturbed grassland and patch of native trees within the Subject Site. The managed nature of the site does not provide habitat for the species. Therefore, the activity is unlikely to impact the species extinction.
b)	*in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:* *i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*	No endangered ecological community will be impacted by this proposed activity.
	ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction	
c)	*in relation to the habitat of a threatened species or ecological community:* *i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and*	It is not considered that removal of disturbed vegetation will impact the long-term survival of any threatened species as larger amounts of retained habitat are present to the east that would provide suitable optimal habitat.
	ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and	
	iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of	

Section of BC Act 7.3	Requirement	Assessment
	the species or ecological community in the locality	
d)	*Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)*	The Subject Site is not classified as an Area of Outstanding Biodiversity Value.
e)	*Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process (KTP)*	The activity has potential to contribute to the following KTPs: • Anthropogenic climate change The proposal will contribute in a small way to the processes causing Anthropogenic Climate Change via the removal of vegetation which acts as a carbon sink. However, due to the small area to be impacted it is considered an insignificant contribution to this KTP. • Clearing of native vegetation The proposal will involve impacts to approximately 0.083ha of native vegetation, this removal is not considered to contribute to this KTP in any notable magnitude. • Invasion and establishment of aggressive weed species and exotic perennial grasses There is potential for an increase in weed species and exotic grasses to encroach on the grassland in the Subject Site due to edge effects, however the site is already experiencing the edge effects of weed encroachment. Therefore, a drastic increase is not expected to occur and the level of impacts to remaining biodiversity values are considered minimal. • Infection of native plants by Phytophthora cinnamomic There is potential for the activity to contribute to this KTP during the clearing and construction phase. Appropriate hygiene protocols are outlined below. If such controls are implemented, the risk for the proposal to contribute to this KTP will be minimised. • Introduction and establishment of Exotic Rust Fungi of the order Pucciniales pathogenic on plants of the family Myrtaceae There is potential for the proposal to contribute to this KTP during the clearing and construction phase. Appropriate hygiene protocols are outlined. If such controls are implemented, the risk for the activity to contribute to this KTP will be minimised.

5 - Part Test Conclusion

No threatened species were recorded during field surveys within the Subject Site. Given this, the sites highly disturbed condition and the small area proposed for impact it is concluded that the proposed activity is unlikely to have any significant impact upon any threatened species or any other threatened entity.

State Environmental Planning Policy (Resilience and Hazards) 2021

The *State Environmental Planning Policy (Resilience and Hazards) 2021* (Resilience and Hazards SEPP) commenced on 1 March 2022. The *State Environment Planning Policy (Coastal Management) 2018* (Coastal SEPP) was one SEPP that was consolidated within the Resilience and Hazards SEPP 2021 under Chapter 2 Coastal Management. No policy changes were made as part of the consolidation nor did the legal effect of the existing SEPPs, with section 30A of the Interpretation Act 1987 applying to the transferred provisions. The consolidation was undertaken in accordance with section 3.22 of the Environmental Planning and Assessment Act 1979.

Consultation of Chapter 2 Coastal Management maps revealed that the Subject Site is not mapped within Proximity to Coastal Wetlands.

State Environmental Planning Policy (Biodiversity and Conservation) 2021

The *State Environmental Planning Policy (Biodiversity and Conservation) 2021* or Biodiversity and Conservation SEPP (BC SEPP) commenced on 1 March 2022. This SEPP consolidated 11 other SEPPs within this SEPP on the 1 March 2022. The *State Environmental Planning Policy (Koala Habitat Protection) 2021* (Koala SEPP) was one SEPP that was consolidated within the Biodiversity and Conservation SEPP under *Chapter 3 – Koala Habitat Protection 2020* and *Chapter 4 – Koala Habitat Protection 2021*. No policy changes were made as part of the consolidation nor did the legal effect of the existing SEPPs, with section 30A of the Interpretation Act 1987 applying to the transferred provisions.

The SEPP (Biodiversity and Conservation) 2021 does not apply to Part-5 activities. Therefore, no further assessment is required.

EPBC Act Assessment

A search was conducted in February 2023 of Matters of National Environmental Significance (MNES) as relevant to the *Environment Protection & Biodiversity Conservation Act 1999* (EPBC Act). The following MNES are considered in this assessment.

World Heritage Properties:

The site is not a World Heritage area and is not in close proximity to any such area.

National Heritage Places:

The site is not a National Heritage Place and does not contain any matters of national heritage.

Wetlands of International Significance (declared Ramsar wetlands):

The site does not contain Ramsar wetlands.

Great Barrier Reef Marine Park:

The site is not part of, or within close proximity to, the Great Barrier Reef Marine Park.

Commonwealth Marine Areas:

The site is not part of, or within close proximity to, any Commonwealth Marine Area.

Threatened Ecological Communities:

Eleven (11) Threatened Ecological Communities are listed as potentially present within 5km of the site;

- EEC – *Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community*;
- EEC – C*oastal Swamp Sclerophyll Forest of New South Wales and South East Queensland*;
- CEEC - *River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria*;
- EEC – *Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion;*
- CEEC – *Cooks River/ Castlereagh Ironbark Forest of the Sydney Basin Bioregion;*
- CEEC – *Cumberland Plain Shale Woodlands and Shale- Gravel Transition Forest;*
- CEEC – *Shale Sandstone Transition Forest of the Sydney Basin Bioregion;*
- EEC – *Subtropical and Temperate Coastal Saltmarsh*
- CEEC – *Turpentine- Ironbark Forest of the Sydney Basin Bioregion*
- EEC – *Upland Basalt Eucalypt Forests of the Sydney Basin Bioregion; and*
- CEEC – *Western Sydney Dry Rainforest and Moist Woodland on Shale.*

Vegetation on site is not commensurate with any of the above TECs.

Threatened Species:

No threatened flora or fauna species within the EPBC Act have been identified on site

Migratory Species:

There is low potential for some of the migratory terrestrial species listed in the EPBC Act to visit the site on an irregular basis. However, it is considered that the proposal is highly unlikely to significantly affect the availability of potential habitat within the locality for such mobile species, or disrupt migratory patterns.

EPBC Act Assessment Conclusion:

Consideration of the EPBC Act revealed that it is unlikely that significant impacts on Matters of National Environmental Significance will occur as a result of the proposal. As such a referral is not considered necessary.

Recommendations

This assessment has considered the proposed activity and determined that the impact to 0.083ha of native vegetation and the existing exotic vegetation is highly unlikely to have significant impacts on any threatened ecological community or threatened species. The following recommendations are made to mitigate potential impacts on local biodiversity as a result of the works on the site.

- Appropriately fence the site between the proposed works and retained vegetation;
- Tree protection fencing should be used on trees to be retained near to the works;
- Required clearing of any native vegetation on site should be undertaken in the presence of a suitably experienced ecologist to ensure any displaced native fauna can be taken into care and dealt with appropriately;
- Any landscaping to occur should utilise native, endemic species that form part of the surrounding vegetation community;
- Impacts of Chytrid and Phytophthora will be managed through the adoption of site hygiene protocols;
- Establish and maintain appropriate erosion and sediment controls during both construction and operation;
- Rehabilitation should focus on stable landform shaping to facilitate regeneration of native species occurring on site where natural areas are disturbed. No exotic species are to be introduced to site with the exception of sterile cover crops (if appropriate); and
- Appropriate stormwater management controls will be required to be implemented and maintained to avoid any indirect impacts to nearby watercourses.

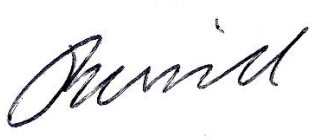
Summary

Consideration has been given to the *BC Act*, *EPBC Act* and other applicable legislation. Given the nature of the proposed activity, it is considered that there will be no significant impacts associated with the proposed works.

We trust this information satisfies Council requirements. Should you require any further details or clarification, please contact the writer or Ian Benson (Director & Principal Ecologist, 0420 624 707).

Yours faithfully,

Anderson Environment & Planning



Jeremy Burrill

Ecologist

0487 154 036

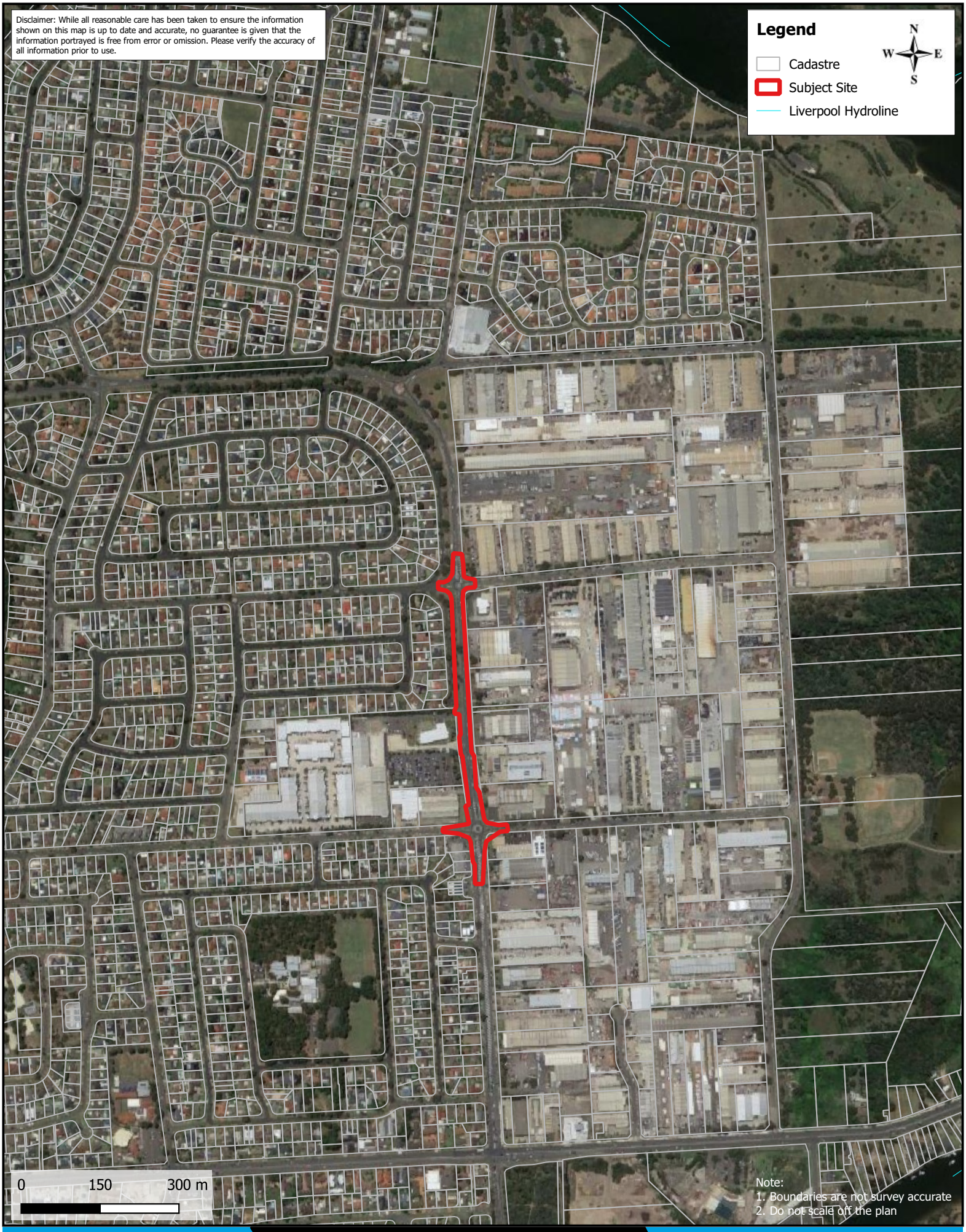
Attachment A: Figures

Attachment B: BOSET Report

Attachment C: Flora and Fauna list

Attachment D: Site Photos

Attachment A: Figures



AEP

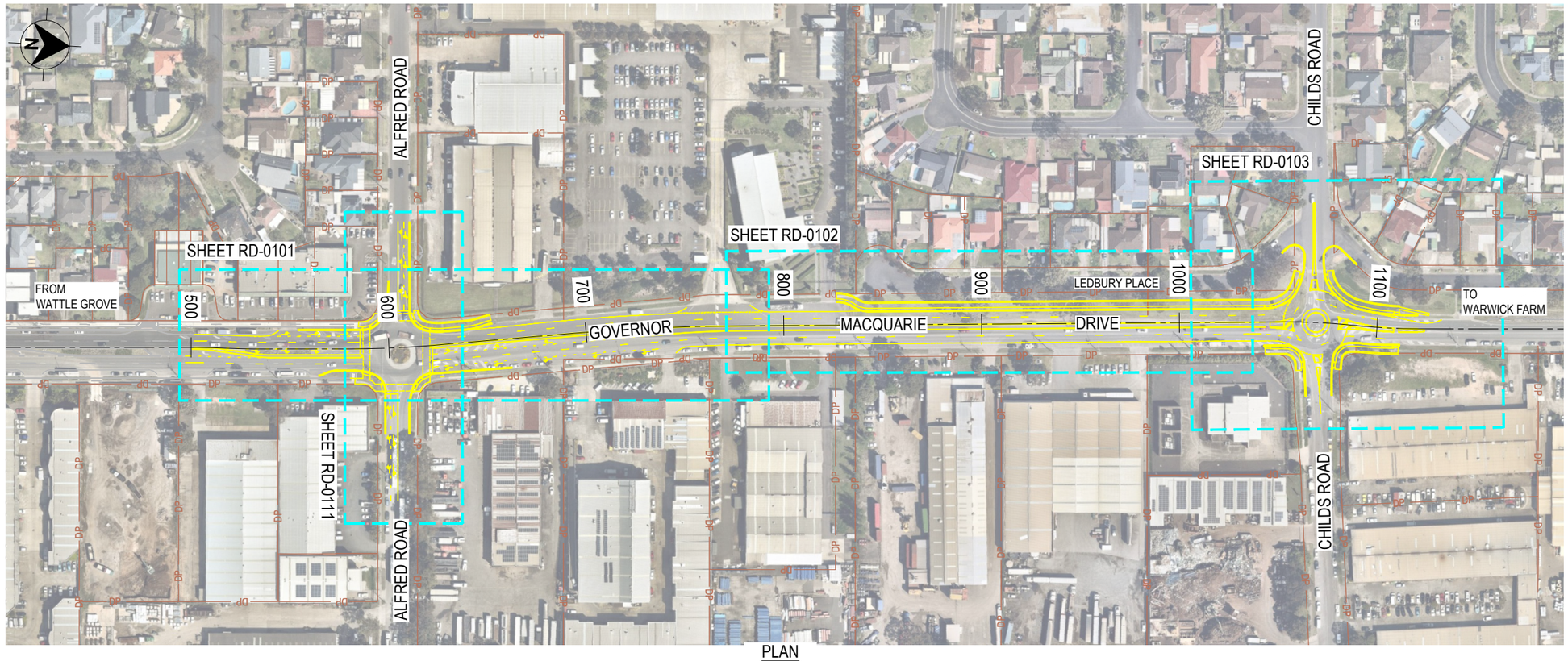
Title: Figure 1 - Site Location

Date: February 2023

Location: Governor Macquarie Drive, Chipping Norton, 2170

Client: ADW Johnson Pty Ltd

AEP ref: 3174



PLAN
SCALE 1:2500

LEGEND

- DP — DP OVERLAY BOUNDARY
- PROPOSED WORKS
- PLAN SHEET AREA AT 1:500

NOTES

ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH CURRENT RMS QA SPECIFICATIONS AND AUSTRALIAN STANDARDS UNLESS OTHERWISE STATED

ALL INVESTIGATIONS AND WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH RMS' QA SPECIFICATION G22 - WORK HEALTH AND SAFETY (CONSTRUCTION AND MAINTENANCE WORKS)

PROVISION FOR TRAFFIC DURING CONSTRUCTION TO BE IN ACCORDANCE WITH RMS' QA SPECIFICATION G10 - TRAFFIC MANAGEMENT AND RMS' TRAFFIC CONTROL AT WORK SITE MANUAL

REFER TO SHEET GE-0002 FOR DRAWING LIST

REFER TO SHEET RD-0001 FOR TYPICAL SECTIONS

GENERAL NOTES

ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH LCC CONSTRUCTION STANDARDS, SPECIFICATION AND STANDARD DRAWINGS, CURRENT AT THE TIME OF COMMENCEMENT OF WORK.

EROSION CONTROL

APPROPRIATE MEASURES ARE TO BE UNDERTAKEN FOR THE CONTROL OF SOIL EROSION AND THE MINIMISATION OF DOWNSTREAM SEDIMENT TRANSFER DURING THE CONSTRUCTION PERIOD AND FOR THE FULL PERIOD OF OPERATION OF THE DEVELOPMENT. THE WORK SHALL COMPLY WITH THE GENERAL PRINCIPLES AS SET DOWN IN THE COUNCIL'S SPECIFICATION. PARTICULAR ATTENTION SHOULD BE PAID TO SURFACE RUNOFF FROM ALL EXPOSED AREAS.

PUBLIC UTILITIES

ALL PUBLIC UTILITIES ARE TO BE CLEARLY IDENTIFIED IN THE FIELD PRIOR TO ANY CIVIL WORKS. THIS FIRM DOES NOT ACCEPT ANY RESPONSIBILITY FOR DAMAGES OR RELOCATION COSTS TO PUBLIC UTILITIES DURING THE CONSTRUCTION OF THE DEVELOPMENT. LIVERPOOL CITY COUNCIL ARE TO BE NOTIFIED PRIOR TO THE COMMENCEMENT OF ANY WORKS AND CONCURRENCE FROM BOTH ORGANISATIONS SHALL BE OBTAINED PRIOR TO THE COMMENCEMENT OF WORK.

IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ALL WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE WORK HEALTH AND SAFETY ACT.

STORMWATER DRAINAGE NOTES

D1. LOCATION OF EXISTING SERVICES ON THESE PLANS IS INDICATIVE ONLY BASED ON SERVICES EVIDENT AT THE TIME OF SURVEY AND DIAL BEFORE YOU DIG SEARCHES MADE AT THE TIME OF PLAN PREPARATION. THE CONTRACTOR IS TO CARRY OUT A COMPLETE SERVICES SEARCH PRIOR TO CONSTRUCTION AND TAKE ALL NECESSARY PRECAUTIONS.

D2. FOR DETAILS OF SW PITS REFER TO LCC STANDARD DRAWINGS WHERE APPLICABLE.

D3. STANDARD STEP IRONS TO BE PROVIDED FOR PITS WHERE DEPTH EXCEEDS 1200mm OR AS OTHERWISE REQUIRED BY LCC SPECIFICATIONS.

D4. CONCRETE CHARACTERISTIC STRENGTH SHALL BE 25 MPA (MIN) WITH SLUMP OF 60-80 mm, UNLESS NOTED OTHERWISE.

D5. SET OUT POINTS FOR STORMWATER PITS HAS BEEN TAKEN AS THE CENTRE OF THE PIT, UNLESS NOTED OTHERWISE.

D6. ALL R.C. STORMWATER PIPES TO BE CLASS "4", UNLESS NOTED OTHERWISE.

ROADWORKS NOTES

R1. SUBGRADE CBR'S FOR PAVEMENT DESIGN ARE BASED ON GEOTECHNICAL INVESTIGATIONS.

R2. SUBGRADE AND BASECOURSE TO BE COMPACTED IN ACCORDANCE WITH R.M.S.SPECIFICATION.

R3. SIGNPOSTING AND LINE MARKING TO CONFORM WITH AS1742.2. AND R.M.S. REQUIREMENTS.

R4. STREET SIGNS TO R.M.S. STANDARD SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR.

LINEMARKING NOTES

1. ALL SIGNPOSTING AND LINE MARKING (INCLUDING RAISED PAVEMENT MARKERS) TO BE IN ACCORDANCE WITH AS 1742.2 AND R.M.S. SPECIFICATIONS.

2. ALL CHEVRONS TO BE WATERBOURNE PAINT LINE MARKING, AND DIRECTIONAL ARROWS TO BE THERMOPLASTIC.

3. REMOVE ALL REDUNDANT LINE MARKING BY GRINDING OR WATER BLASTING IN ACCORDANCE WITH R.M.S. SPECIFICATION.

4. REMOVE ALL REDUNDANT SIGNPOSTING.

EARTHWORKS NOTES

N1. EARTHWORKS TO BE CARRIED OUT TO R.M.S. SPECIFICATIONS. UNSOUND MATERIALS ARE TO BE REMOVED FROM ROADS PRIOR TO FILLING. THE CONTRACTOR IS TO ARRANGE AND MAKE AVAILABLE COMPACTION CERTIFICATES WHERE REQUIRED.

N2. PROVIDE MIN. 100mm. AND MAX. 200mm. TOPSOIL WITH TURF ON FOOTPATHS, FILLED AREAS AND ALL OTHER AREAS DISTURBED DURING CONSTRUCTION. TOPSOILING AND TURF IS ONLY APPROPRIATE IN BROAD LOWLY GRADED AREAS IN CONJUNCTION WITH SILT FENCING.

N3. THE CONTRACTOR SHALL CONTROL SEDIMENTATION, EROSION AND POLLUTION DURING CONSTRUCTION IN ACCORDANCE WITH THE REQUIREMENTS OF RMS.

NOT FOR CONSTRUCTION

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED
0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME: s:\300312\DWG\engineering\ENG\detailed design\300312-DD-GE-0020.dwg

DESIGN LOT CODE: ...

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: S:\300312\DESIGN\12D\GOVERNOR MACQUARIE DRIVE\DESIGN

PLOT DATE / TIME: 12/5/2022 10:20 AM

PLOT BY: jacobj

CLIENT

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
x_SHT x_LABELS x_DESIGN x_SURVEY x_DRAINAGE x_UTILITIES	0	05.12.22	DETAILED DESIGN - ISSUED FOR REVIEW	-	-

SCALES ON A3 SIZE DRAWING: 0 25 50 75 100 HORIZONTAL SCALE 1:2500m

CO-ORDINATE SYSTEM: MGA ZONE 56

HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY

COMPANY NAME / LOGO

adw johnson
Central Coast
5 Pioneer Avenue,
P.O. Box 3717,
Tuggerah N.S.W. 2259
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ABN 62 129 445 398

	NAME	DATE
DRAWN	J.JACKSON	05.12.22
DRG CHECK	I.BROWN	05.12.22
DESIGN	N.WALL	05.12.22
DESIGN CHECK	I.BROWN	05.12.22
DESIGN MNGR	I.BROWN	05.12.22
PROJECT MNGR	I.BROWN	05.12.22

LIVERPOOL CITY COUNCIL
GOVERNOR MACQUARIE DRIVE
ROAD UPGRADE WORKS
ALFRED ROAD TO CHILDS ROAD, CHIPPING NORTON
GENERAL
OVERVIEW PLAN

A3

DESIGN PROJECT No. 300312

PART -

ISSUE STATUS: DETAILED DESIGN

EDMS No.: -

SHEET No.: GE-0020

ISSUE: 0

AEP

Title: Figure 3 - Regional Vegetation

Date: February 2023

Location: Governor Macquarie Drive, Chipping Norton, 2170

Client: ADW Johnson Pty Ltd

AEP ref: 3174

AEP

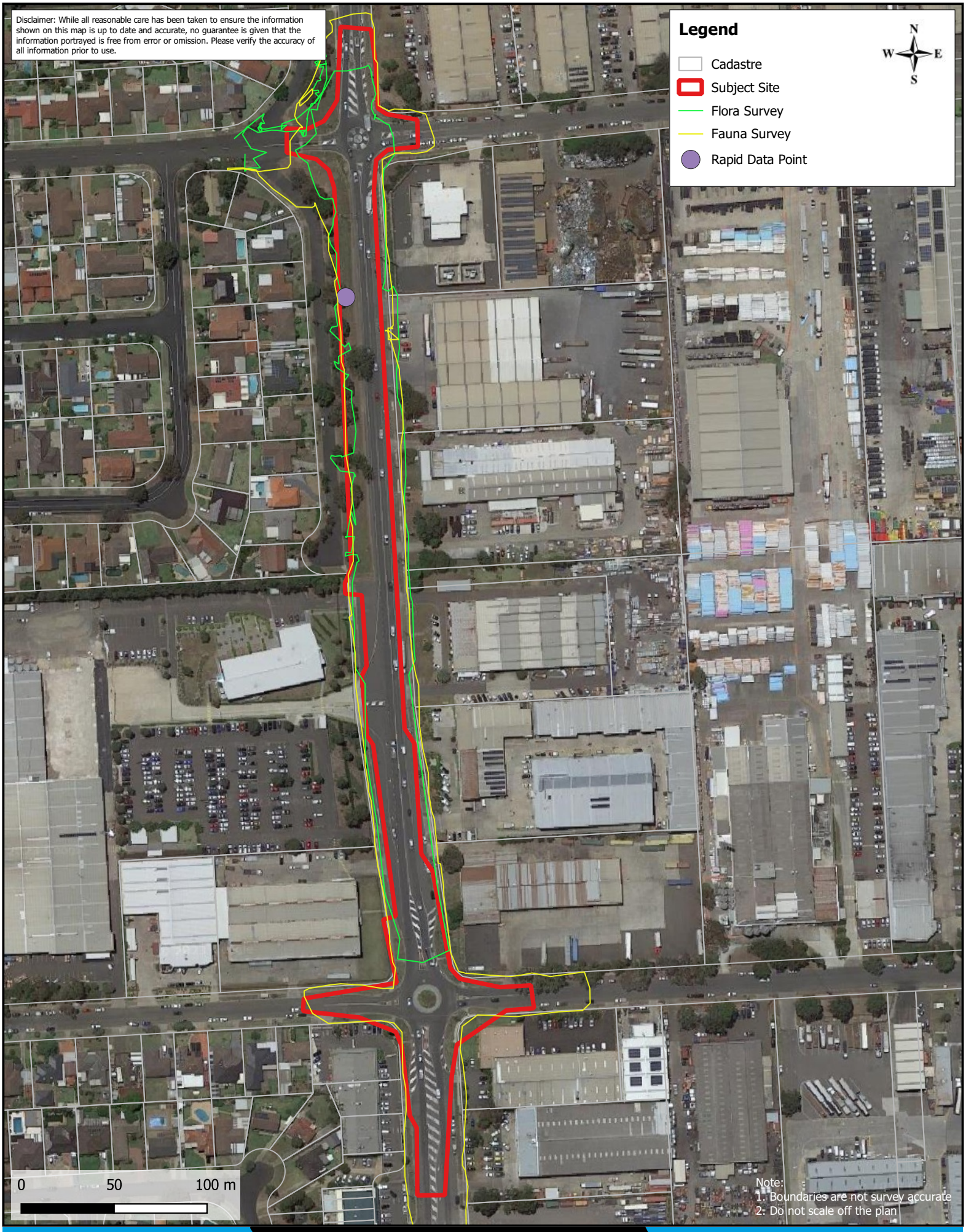
Title: Figure 4 - Ground- truthed Vegetation

Date: February 2023

Location: Governor Macquarie Drive, Chipping Norton, 2170

Client: ADW Johnson Pty Ltd

AEP ref: 3174



AEP

Title: Figure 5 - Survey Effort

Date: February 2023

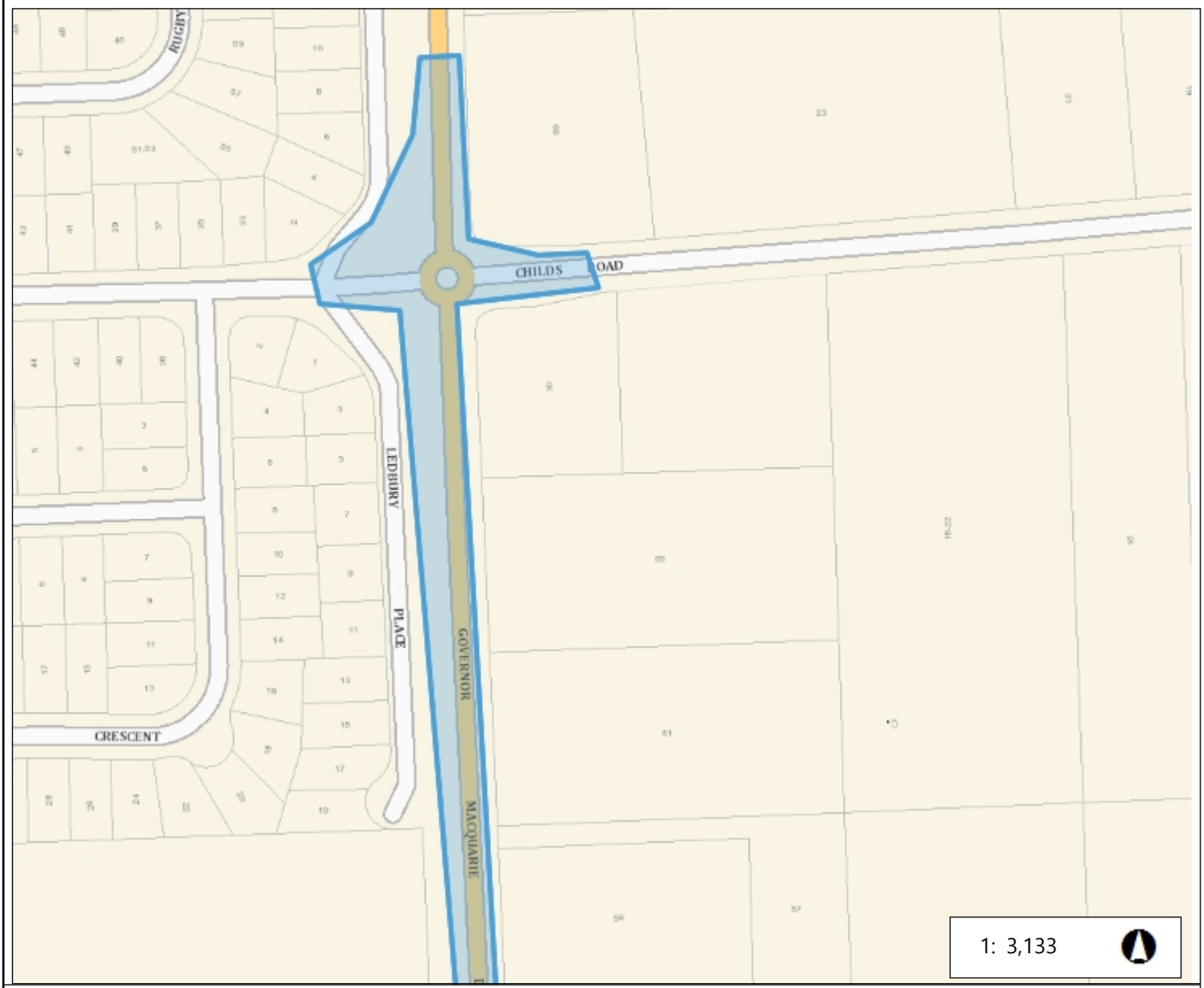
Location: Governor Macquarie Drive, Chipping Norton, 2170

Client: ADW Johnson Pty Ltd

AEP ref: 3174

Attachment B: BOSET Report

Biodiversity Values Map



159.1 0 79.57 159.1 Metres

WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Legend

- Biodiversity Values that have been mapped for more than 90 days
- Biodiversity Values added within last 90 days

Notes

Biodiversity Values Map and Threshold Report

Results Summary

Date of Calculation	07/02/2023 5:19 PM	**BDAR Required***
Total Digitised Area	18,263.1 sqm	
Minimum Lot Size Method	LEP	
Minimum Lot Size 10,000sqm = 1ha	300 sqm	
Area Clearing Threshold 10,000sqm = 1ha	2,500 sqm	
Area clearing trigger Area of native vegetation cleared	Unknown #	Unknown #
Biodiversity values map trigger Impact on biodiversity values map(not including values added within the last 90 days)?	no	no
Date of the 90 day Expiry	N/A	

*If BDAR required has:

- at least one 'Yes': you have exceeded the BOS threshold. You are now required to submit a Biodiversity Development Assessment Report with your development application. Go to https://customer.lmbc.nsw.gov.au/assessment/AccreditedAssessor to access a list of assessors who are accredited to apply the Biodiversity Assessment Method and write a Biodiversity Development Assessment Report
- 'No': you have not exceeded the BOS threshold. You may still require a permit from local council. Review the development control plan and consult with council. You may still be required to assess whether the development is '"likely to significantly affect threatened species' as determined under the test in s. 7.3 of the Biodiversity Conservation Act 2016. You may still be required to review the area where no vegetation mapping is available.

Where the area of impact occurs on land with no vegetation mapping available, the tool cannot determine the area of native vegetation cleared and if this exceeds the Area Threshold. You will need to work out the area of native vegetation cleared - refer to the BMAT user guide for how to do this.

On and after the 90 day expiry date a BDAR will be required.

Disclaimer

This results summary and map can be used as guidance material only. This results summary and map is not guaranteed to be free from error or omission. The State of NSW and Department of Planning and Environment and its employees disclaim liability for any act done on the information in the results summary or map and any consequences of such acts or omissions. It remains the responsibility of the proponent to ensure that their development application complies will all aspects of the *Biodiversity Conservation Act 2016.*

The mapping provided in this tool has been done with the best available mapping and knowledge of species habitat requirements. This map is valid for a period of 30 days from the date of calculation (above).

Acknowledgement

I as the applicant for this development, submit that I have correctly depicted the area that will be impacted or likely to be impacted as a result of the proposed development.

Signature_____ Date:07/02/2023 05:19 PM

Attachment C: Observed Flora and Expected Fauna Lists

Observed Flora in Subject Site

Scientific Name	Common Name
Flora	
*Yucca spp.**	
*Conyza bonariensis**	Flax-leaf Fleabane
Gamochaeta purpurea	
*Taraxacum officinale**	Dandelion
*Jacaranda mimosifolia**	Jacaranda
Dichondra repens	Kidney Weed
*Lotus spp.**	
*Trifolium repens**	White Clover
*Centaurium erythraea**	Common Centaury
*Modiola caroliniana**	Red-flowered Mallow
*Sida rhombifolia**	Paddy's Lucerne
Callistemon salignus	Willow Bottlebrush
Corymbia maculata	Spotted Gum
Eucalyptus cinerea	Argyle Apple
Eucalyptus crebra	Narrow-leaved Ironbark
Eucalyptus moluccana	Grey Box
Eucalyptus punctata	Grey Gum
Eucalyptus tereticornis	Forest Red Gum
Tristaniopsis laurina	Water Gum
*Plantago lanceolata**	Ribwort
*Bromus catharticus**	Prairie Grass
*Cenchrus clandestinum**	Kikuyu
*Chloris gayana**	Rhodes Grass
Cynodon dactylon	Common Couch
Dichanthium spp.	
*Ehrharta erecta**	Panic Veldtgrass
*Eragrostis curvula**	African Lovegrass
*Paspalum dilatatum**	Paspalum
*Stenotaphrum secundatum**	Buffalo Grass
*Urochloa panicoides**	Urochloa Grass
*Lantana camara**	Lantana

* Represents non-native or non-endemic species

Observed and Expected Fauna list

Expected Fauna		
Scientific Name	**Common Name**	**Surveyed**
		Observed (O), Heard (W), Scat (P), Miscellaneous (M), Track/scratchings (F), Nest (E), Burrow (FB)
		Bat Records Observed (O), Definitely (D) Possible or within Species Group (P) Likely (L)
Crinia signifera	Common Eastern Froglet	
Limnodynastes peronii	Brown-striped Frog	
Limnodynastes tasmaniensis	Spotted Grass Frog	
Litoria dentata	Bleating Tree Frog	
Litoria fallax	Eastern Dwarf Tree Frog	
Litoria peronii	Peron's Tree Frog	
Concinnia tenuis	Barred-sided Skink	
Eulamprus quoyii	Eastern Water-skink	
Lampropholis delicata	Dark-flecked Garden Sunskink	
Lampropholis guichenoti	Pale-flecked Garden Sunskink	
Saiphos equalis	Three-toed Skink	
Tiliqua scincoides	Eastern Blue-tongue	
Amphibolurus muricatus	Jacky Lizard	
Intellagama lesueurii	Eastern Water Dragon	
Pogona barbata	Bearded Dragon	
Varanus varius	Lace Monitor	
Hemiaspis signata	Black-bellied Swamp Snake	
Pseudechis porphyriacus	Red-bellied Black Snake	
Anas superciliosa	Pacific Black Duck	
Chenonetta jubata	Australian Wood Duck	
Columba livia	Rock Dove	
Ocyphaps lophotes	Crested Pigeon	
Spilopelia chinensis	Spotted Turtle-Dove	
Podargus strigoides	Tawny Frogmouth	
Hirundapus caudacutus	White-throated Needletail	
Egretta novaehollandiae	White-faced Heron	
Threskiornis moluccus	Australian White Ibis	
Threskiornis spinicollis	Straw-necked Ibis	
Accipiter cirrocephalus	Collared Sparrowhawk	

Expected Fauna		
Accipiter fasciatus	Brown Goshawk	
Accipiter novaehollandiae	Grey Goshawk	
Aquila audax	Wedge-tailed Eagle	
Aviceda subcristata	Pacific Baza	
Circus approximans	Swamp Harrier	
Elanus axillaris	Black-shouldered Kite	
Haliaeetus leucogaster	White-bellied Sea-Eagle	
Haliastur sphenurus	Whistling Kite	
Hieraaetus morphnoides	Little Eagle	
^^Lophoictinia isura	Square-tailed Kite	
Milvus migrans	Black Kite	
Pandion cristatus	Eastern Osprey	
Falco berigora	Brown Falcon	
Falco cenchroides cenchroides	Nankeen Kestrel	
Falco longipennis	Australian Hobby	
Falco peregrinus	Peregrine Falcon	
Falco sp.	Unidentified Falcon	
Vanellus miles	Masked Lapwing	
Cacatua galerita	Sulphur-crested Cockatoo	O
Cacatua sanguinea	Little Corella	
Cacatua tenuirostris	Long-billed Corella	
Eolophus roseicapilla	Galah	
Zanda funereus	Yellow-tailed Black-Cockatoo	
Alisterus scapularis	Australian King-Parrot	
Glossopsitta concinna	Musk Lorikeet	
Glossopsitta pusilla	Little Lorikeet	
Platycercus elegans	Crimson Rosella	
Platycercus eximius	Eastern Rosella	O
Psephotus haematonotus	Red-rumped Parrot	
Trichoglossus chlorolepidotus	Scaly-breasted Lorikeet	
Trichoglossus haematodus	Rainbow Lorikeet	
Eudynamys orientalis	Eastern Koel	
Scythrops novaehollandiae	Channel-billed Cuckoo	
Dacelo novaeguineae	Laughing Kookaburra	
Todiramphus sanctus	Sacred Kingfisher	
Eurystomus orientalis	Dollarbird	

Expected Fauna		
Malurus cyaneus	Superb Fairy-wren	
Malurus lamberti	Variegated Fairy-wren	
Acanthorhynchus tenuirostris	Eastern Spinebill	
Anthochaera carunculata	Red Wattlebird	
Anthochaera chrysoptera	Little Wattlebird	
Caligavis chrysops	Yellow-faced Honeyeater	
Lichmera indistincta	Brown Honeyeater	
Manorina melanocephala	Noisy Miner	
Philemon corniculatus	Noisy Friarbird	
Coracina novaehollandiae	Black-faced Cuckoo-shrike	
Sphecotheres vieilloti	Australasian Figbird	
Cracticus nigrogularis	Pied Butcherbird	
Cracticus torquatus	Grey Butcherbird	
Gymnorhina tibicen	Australian Magpie	O
Strepera graculina	Pied Currawong	
Rhipidura leucophrys	Willie Wagtail	
Rhipidura rufifrons	Rufous Fantail	
Corvus coronoides	Australian Raven	
Grallina cyanoleuca	Magpie-lark	O
Hirundo neoxena	Welcome Swallow	
Petrochelidon ariel	Fairy Martin	
Petrochelidon nigricans	Tree Martin	
*Pycnonotus jocosus**	Red-whiskered Bulbul	
*Turdus merula**	Eurasian Blackbird	
*Acridotheres tristis**	Common Myna	O
*Sturnus vulgaris**	Common Starling	
Zosterops lateralis	Silvereye	
*Passer domesticus**	House Sparrow	
Pseudocheirus peregrinus	Common Ringtail Possum	
Trichosurus vulpecula	Common Brushtail Possum	
Pteropus poliocephalus	Grey-headed Flying-fox	
Austronomus australis	White-striped Freetail-bat	
Micronomus norfolkensis	Eastern Coastal Free-tailed Bat	
Ozimops ridei	Eastern Free-tailed Bat	
Chalinolobus gouldii	Gould's Wattled Bat	
Chalinolobus morio	Chocolate Wattled Bat	
Falsistrellus tasmaniensis	Eastern False Pipistrelle	

Expected Fauna		
Nyctophilus geoffroyi	Lesser Long-eared Bat	
Nyctophilus gouldi	Gould's Long-eared Bat	
Scoteanax rueppellii	Greater Broad-nosed Bat	
Scotorepens orion	Eastern Broad-nosed Bat	
Vespadelus darlingtoni	Large Forest Bat	
Vespadelus pumilus	Eastern Forest Bat	
Vespadelus regulus	Southern Forest Bat	
Vespadelus vulturnus	Little Forest Bat	
Miniopterus australis	Little Bent-winged Bat	
Miniopterus orianae oceanensis	Large Bent-winged Bat	
*Mus musculus**	House Mouse	
*Rattus norvegicus**	Brown Rat	
*Rattus rattus**	Black Rat	
*Vulpes vulpes**	Fox	
*Felis catus**	Cat	
*Lepus capensis occidentalis**	Brown Hare	
*Oryctolagus cuniculus**	Rabbit	

Attachment D: Site Photos

Above: Planted native trees along Governor Macquarie Drive.

Above: Managed exotic grassland at the roundabout of Governor Macquarie Drive and Childs Road.

Above: Governor Macquarie Drive looking north.

Above: Governor Macquarie Drive looking south