



Ripley View Residential Subdivision
Preliminary Documentation Report
EPBC Referral 2020/8615

VOLUME 5 – APPENDICES 8-14

23/02/2024 - version 7.1

Report prepared for Arxhe Ripley View Investment Trust

Appendix 8

Previous Development Layout



LEGEND

- SUBJECT SITE
- PDA BOUNDARY
- NEIGHBOURHOOD BOUNDARY
- OPEN SPACE LINEAR & RECREATION
- EXCLUSION ZONE FOR REMNANT VEGETATION
- ENDANGERED REMNANT VEGETATION
- PROPOSED RETENTION BASINS
- MINING BOUNDARY OF INFLUENCE ZONE
- MINING BOUNDARY ABERDARE SEAM WORKINGS
- MINING BOUNDARY BLUFF SEAM WORKINGS
- FELDSPAR FAULT LOCATIONS & 15m OFFSET
- 10m WIDE FOOTPATH LOCATIONS
- PROPOSED ROAD WIDENING (SEE NOT BELOW)
- MGA TOP OF BANK (ENG'Y)
- 10m OFFSET FROM TOP OF BANK (ENG'Y)
- LOT TYPES
 - CHILD CARE
 - LOTS 300m² MINIMUM
 - LOTS 375m² MINIMUM
 - LOTS 400m² MINIMUM
 - LOTS 450m² MINIMUM
 - DUPLEX LOTS 500m² MINIMUM

STATISTICS OVERALL

TOTAL AREA	47.12ha
Area of Linear Open Space	11.8458ha
Area of Local Park	0.5265ha
Area of Drainage Reserve	2.9094ha
Area of Road Widening	0.1220ha
Area of Child Care	0.3146ha

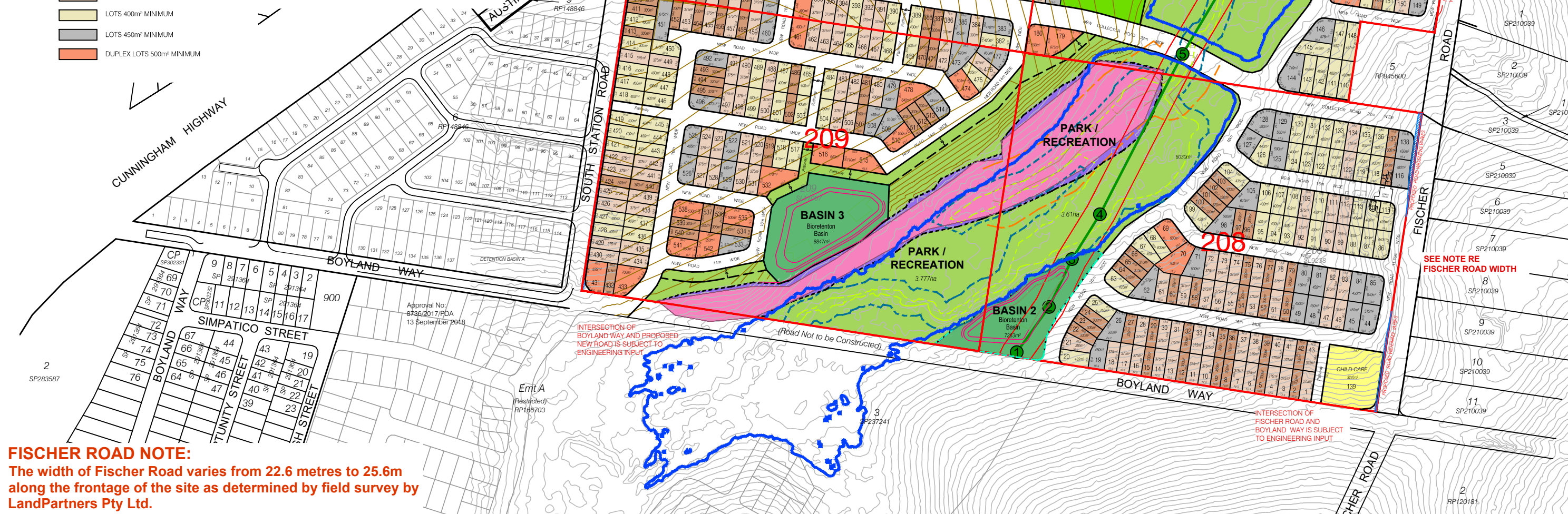
No OF LOTS	
Villa Lots 10.0m Frontage	113 (19%)
Courtyard Lots (1) 12.5m Frontage	134 (23%)
Courtyard Lots (2) 12.5m Frontage	193 (33%)
Traditional Lots 15m + Frontage	63 (11%)
Duplex Lots	39 (78)(14%)

TOTAL No. LOTS	541 (580 Titles)
Child Care Site	1

TOTAL AREA OF LOTS	= 21.91ha
TOTAL AREA OF ROAD	= 9.828ha
LENGTH OF 22m WIDE ROAD	= 818m
LENGTH OF 16m WIDE ROAD	= 4897m
Length of Fischer Road	= 612m
Length of Boyland Road	= 400m
Length of South Station Road	= 354m

TOTAL No. LOTS	541
TOTAL No. OF TITLES	580

DENSITY CALCULATIONS
580 TITLES (Area of Lots 21.91ha, Local Roads 9.828ha, & Local Park .5265m) (excludes Child Care site)
32.2545ha = Dwellings 18 / ha



FISCHER ROAD NOTE:

The width of Fischer Road varies from 22.6 metres to 25.6m along the frontage of the site as determined by field survey by LandPartners Pty Ltd.

NOTE: SITE SUBJECT TO GEOTECHNICAL ANALYSIS TO CONFIRM LAYOUT



37, 39 - 49 & 63 FISCHER ROAD & 3 MELROSE DRIVE
FLINDERS VIEW

PLAN DESCRIPTION:
LOT 209 ON SL11067
LOT 210 ON SL9236 & LOTS 211 & 2 ON RP 906067
TOTAL AREA 34.5785ha

Client Name: HALL PROPERTY SOLUTIONS
Project Name: RIPLEY VIEW ESTATE

File: BRSS7261-XXX-3-14
Drawn: MIS
Date: 28/11/2019

Appendix 9

Solicitors Letter in Relation to Works Undertaken by Urban Utilities

Our Ref: Michael Connor:ADS:2300410
Your Ref: 2020/8615

9 August 2023

Karen Hanson
Department of Climate Change, Energy,
the Environment and Water
BY EMAIL

Dear Ms Hanson

**2020/8615 Ripley View Residential Subdivision – Draft Preliminary
Documentation Review**

Introduction

We are the solicitors for Arxhe Ripley View Investment Pty Ltd ("*Arxhe*"), the current owners of Lot 208 on SL11067, Lot 209 on SL11067, Lot 210 on SL9238, Lot 211 on RP906067 and Lot 2 on RP906067 ("*the Land*"), in respect of which the "*controlled action*" assessment (reference no. 2020/8615) ("*the Controlled Action Assessment*") is currently being carried out by the Department of Climate Change, Energy, the Environment and Water ("*the Department*") under the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* ("*EPBC Act*").

Arxhe became the registered owner of the Land on 10 October 2022, having purchased it from CLAG Pty Ltd ("*CLAG*") and Property Blue Pty Ltd ("*Property Blue*"). CLAG was the original designated proponent for the Controlled Action Assessment. We are instructed that Arxhe has now replaced CLAG as the designated proponent, however, Arxhe has appointed Hall Property Solutions (a related entity of CLAG) as the project manager for the proposed development the subject of the Controlled Action Assessment.

Updated preliminary documentation for the Controlled Action Assessment was submitted by CLAG on 25 October 2022 and the Department made

its second-round comments/requests for further information on 22 February 2023. Arxhe and CLAG have requested that we assist in the provision of a response to items 3 and 4 of those comments/requests for information, which are extracted below:

Item	Topic	Department's response February 2023
3.	Cleared works undertaken	<p>A meeting on 17 January 2023 was held between the department and the proponent/consultant to discuss the clearing works undertaken by Urban Utilities in July/August 2022. The department requested information on the extent of the clearing and 28 South provided the following information:</p> <p><i>Cleared corridor width appears to range 18-22 m. Total length is 693 m. The total area of the disturbance is 2.34 ha, with the disturbance footprint overlaying 0.56 ha of the avoidance area outlined in the revised PD Report.</i></p> <p><i>Areas of the disturbance within the avoidance area (arising from pipeline development) will now be reclassified as Management Unit MU3 – Ecological Restoration and comprehensive planting prescriptions for this area applied (refer to Appendix 9 of the PD Report).</i></p> <p>For transparency, please update the PD with the sewer pipeline works undertaken, including the following:</p> <ul style="list-style-type: none"> • detail for the rationale for the clearing; • dimensions of the works, including the dimensions within the impact footprint area, revegetated batters and bio-retention basin area and the Linear Park; • alignment of the works (include a map showing the alignment of the works); • type of habitat that has been impacted by the works, including habitat trees that were removed; • if the works have impacted listed matters of national environmental significance; • rehabilitation works that will be undertaken along the alignment of the pipeline works; and • the effectiveness of the corridor as a result of the clearing action and whether the remainder of the vegetation meets a 100 metre width.

4.	Loss of Koala foraging trees from clearing works	During the meeting on 17 January 2023, you advised that the width of clearing undertaken was between 15 – 30 metres and the clearing would cause no impediment to the Koala. However, the loss of foraging habitat needs to be addressed. As a result of the clearing, foraging trees have been removed and are now lost for the Koala. Whilst the department understands that the proponent will replant the cleared areas, please explain how the loss of foraging habitat will be compensated.
----	--	---

Responsibility for Sewer Pipeline Works / Vegetation Clearing

Whilst our client does not understand that either it, or CLAG, is subject to criticism from the Department in relation to the vegetation clearing/disturbance caused by Urban Utilities when carrying out its sewer upgrade works, so that there is no misunderstanding, our client wishes to record a number of important aspects of that vegetation clearing/disturbance, as follows:

1. the Central SEQ Distributor Retailer Authority, trading as Urban Utilities ("*Urban Utilities*"), which carried out those works is a distributor-retailer entity created by the *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009* ("*the SEQ Water Act*")¹ for the purposes of performing various water and wastewater functions that were previously performed individually by the participating local governments of that distributor-retailer entity. Those functions include the provision of wastewater services and the construction and maintenance of trunk wastewater infrastructure. The participating local governments (which includes the Ipswich City Council, in which local government area the Land is situated) are the shareholders of that entity;
2. the sewer pipeline works and associated vegetation clearing and disturbance was carried by Urban Utilities as part of its planned augmentation of its wider trunk wastewater infrastructure network and those works do not form a part of, and are unrelated to, our client's proposed development of the Land that is the subject of the Controlled Action Assessment, being the development of the Land for 511 residential allotments, 1 future childcare centre lot, parks, drainage reserves and internal roads, in accordance with the development approval granted on 11 August 2021 by the Ipswich

¹ Section 8 of the SEQ Water Act

City Council under delegation from the Minister of Economic Development pursuant to the *Economic Development Act 2012*²;

3. whilst those works were carried out between approximately July 2022 and August 2022, while CLAG and Property Blue were the registered owner of the Land, Urban Utilities' entitlement to enter the Land to carry out the works arose pursuant to access agreements executed between Urban Utilities and the owners of the relevant parcels of land that preceded CLAG and Property Blue³, which agreements CLAG and Property Blue considered they were bound by, as a consequence of deeds of covenant that CLAG and Property Blue were required to execute as a condition of the sale contracts for the Land, pursuant to which, CLAG and Property Blue undertook to observe and perform all of the obligations of the former landowner under those agreements. It is noted that those agreements imposed obligations upon Urban Utilities that it comply with all relevant laws in carrying out the works. We are also instructed that the vegetation disturbance caused by Urban Utilities in carrying out the works in fact extended outside the areas authorised by those agreements, without the knowledge or consent of CLAG or Property Blue;
4. neither our client, nor CLAG, had any involvement in the works carried out by Urban Utilities and consequently, their ability to provide additional information in relation to those works is limited to the information that Urban Utilities will provide to them and what can otherwise be ascertained by our client and CLAG and their consultants *ex post facto*, although our client and CLAG are making all reasonable efforts to obtain as much of the additional information requested by the Department as possible;
5. subsequent to the carrying out of the works, Urban Utilities advised our client that it did not consider that referral of Urban Utilities' works under the EPBC Act was warranted and has provided our client with the following reports that it obtained in that respect (copies of which are enclosed for your reference):
 - a. Ecological assessment and protected flora survey report prepared by BAAM Ecological Consultants dated 7 June 2009; and

² Given that the Land is located in a priority development area under the *Economic Development Act 2012*

³ Namely, Graham Dixon and Patricia Dixon in respect of Lot 208 on SL11067 and Kelly Consolidated Pty Ltd in respect of Lot 209 on SL11067, Lot 211 on RP906067 and Lot 2 on RP906067

- b. Significant impact assessment for koala prepared by Downer WSP dated 9 March 2021;
6. given the matters discussed above, to the extent that the works carried out by Urban Utilities constituted a "*controlled action*" that ought to have been referred to the Minister under Part 7 of the EPBC Act (and which would have consequently required approval to be lawfully carried out), any responsibility for that rests with Urban Utilities, rather than with our client or CLAG. Those works do not form part of our client's proposed action under the EPBC Act; and
7. the vegetation loss/disturbance caused by the works carried out by Urban Utilities includes areas of vegetation loss/disturbance that would not have arisen from our client's proposed development.

Notwithstanding that the vegetation loss/disturbance caused by Urban Utilities includes areas that would not have been impacted by our client's development and notwithstanding that neither our client nor CLAG is responsible for those works, our client will nevertheless include those additional areas of disturbance when determining the residual impacts of the proposed development for which an offset will be provided.

Yours faithfully

CONNOR O'MEARA



Encls.

"Liability limited by a scheme approved under professional standards legislation"

ECOLOGICAL ASSESSMENT AND PROTECTED FLORA SURVEY

SWANBANK STAGE 3 SEWER AUGMENTATION, FLINDERS VIEW

Prepared for
Queensland Urban Utilities



Biodiversity Assessment and Management Pty Ltd
PO Box 1376
CLEVELAND 4163

 **BAAM**
ECOLOGICAL CONSULTANTS

Specialised ecological knowledge that reduces your risk

Document Control Sheet

File Number: 0483-001

Project Manager/s: Dr Jo Chambers

Client: Queensland Urban Utilities

Project Title: Ecological Assessment and Protected Flora Survey – Swanbank Stage 3 Sewer Augmentation, Flinders View

Project Author/s: Dr Jo Chambers, Shelley Trevaskis.

Project Summary: Assess the ecological values and conduct a protected flora survey over land potentially impacted by a proposed sewer upgrade in Flinders View to inform project design and approvals.

Draft Preparation History:

Draft No.	Date draft completed	Reviewed by	Issued by
0483-001 Draft A	29/05/2019	Jedd Appleton	Dr Jo Chambers

Revision/ Checking History Track:

Version	Date of Issue	Checked by	Issued by
Version 0	07/6/2019	Jedd Appleton	Jo Chambers

Document Distribution:

Destination	Revision							
	1	Date Dispatched	2	Date Dispatched	3	Date Dispatched	4	Date Dispatched
Client Copy 1 - digital	A	29/05/2019	0	07/6/2019				
Client Copy 1- hard copy								
PDF - server	A	29/05/2019	0	07/6/2019				
PDF – backup – archived	A	29/05/2019	0	07/6/2019				
Hard Copy -library								

NOTICE TO USERS OF THIS REPORT

Purpose of Report

Biodiversity Assessment and Management Pty Ltd has produced this report in its capacity as {consultants} for and on the request of the Queensland Urban Utilities (the "Client") for documenting an assessment of the ecological values and the results of a protected flora survey over land potentially impacted by a proposed sewer upgrade in Flinders View to inform project design and approvals (the "Specified Purpose"). This information and any recommendations in this report are particular to the Specified Purpose and are based on facts, matters and circumstances particular to the subject matter of the report and the Specified Purpose at the time of production. This report is not to be used, nor is it suitable, for any purpose other than the Specified Purpose. Biodiversity Assessment and Management Pty Ltd disclaims all liability for any loss and/or damage whatsoever arising either directly or indirectly as a result of any application, use or reliance upon the report for any purpose other than the Specified Purpose.

This report has been produced solely for the benefit of the Client. Biodiversity Assessment and Management Pty Ltd does not accept that a duty of care is owed to any party other than the Client. This report is not to be used by any third party other than as authorised in writing by Biodiversity Assessment and Management Pty Ltd and any such use shall continue to be limited to the Specified Purpose. Further, Biodiversity Assessment and Management Pty Ltd does not make any warranty, express or implied, or assume any legal liability or responsibility for any third party's use in whole or in part of the report or application or use of any other information or process disclosed in this report and to the full extent allowed by law excludes liability in contract, tort or otherwise, for any loss or damage sustained by any person or body corporate arising from or in connection with the supply or use of the whole part of the report through any cause whatsoever.

Biodiversity Assessment and Management Pty Ltd has used information provided to it by the Client and governmental registers, databases, departments and agencies in the preparation of this report. Biodiversity Assessment and Management Pty Ltd does not know, nor does it have any reason to suspect, that the information provided to it was false, inaccurate, incomplete or misleading at the time of its receipt. This report is supplied on the basis that while Biodiversity Assessment and Management Pty Ltd believes all the information in it is deemed reliable at the time of publication, it does not warrant its accuracy or completeness and to the full extent allowed by law excludes liability in contract, tort or otherwise, for any loss or damage sustained by any person or body corporate arising from or in connection with the supply or use of the whole or any part of the information in this report through any cause whatsoever.

Copyright and reproduction

This report and all indexes, schedules, annexures or appendices are subject to copyright pursuant to the Copyright Act 1968 (Cth). Subject to statutory defences, no third party may reproduce, publish, adapt or communicate to the public, in whole or in part, the content of this report without the express written consent of Biodiversity Assessment and Management Pty Ltd.

Signed on behalf of

Date: 7 June, 2019

Biodiversity Assessment and Management Pty Ltd



Director

EXECUTIVE SUMMARY

INTRODUCTION

This report has been prepared for Queensland Urban Utilities (QUU) to document the results of an ecological assessment and protected flora survey over land potentially impacted by a proposed sewer upgrade in Flinders View (the 'Study Site').

As requested by QUU, the Study Site included the proposed trunk sewer alignment, as well as the immediate surrounds (generally encompassing an area of 10 metres either side of the proposed trunk sewer line).

The assessment was undertaken to ensure all planned activities on the site are in keeping with the General Environmental Duty requirement stated in s.36 of the *Environmental Protection Act 1994* and any other relevant legislative requirements under the *Nature Conservation Act 1992* (NC Act), *Vegetation Management Act 1999*, *Planning Act 2016* and *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

METHODOLOGIES

The assessment combined a desktop review to broadly characterise the currently recognised ecological values of the Study Site, with a field survey to verify the ecological values and enable an informed assessment of potential impacts from the proposed actions. The focus of the field survey was to confirm the presence of any matters of National, State or Local environmental significance that may represent development constraints, including regulated/protected vegetation, significant wetlands/waterways and habitat for significant species.

As the Study Site occurs within an area identified as high risk on the flora survey trigger map, a targeted flora survey was also undertaken in accordance with the State's *Flora Survey Guidelines - Protected Plants*.

GENERAL ECOLOGICAL VALUES

The Study Site is located within a peri-urban environment experiencing rapid development of residential areas. The Study Site supports a mosaic of remnant, native bushland interspersed with regrowth vegetation and open space. Fauna habitat values varied in response to the level of disturbance within a location, with vegetation in the southern portions of the Study Site supporting higher habitat values. The Study Site contains a number of large Forest Red Gum *Eucalyptus tereticornis* trees, which provide important resources for a variety of native fauna. A narrow drainage line that runs south from Swanbank Road provides potential habitat for locally common frog species.

SUMMARY OF ECOLOGICAL CONSTRAINTS AND LEGISLATIVE OBLIGATIONS

Commonwealth Considerations

Matters of National Environmental Significance (MNES)

The field survey has confirmed that the Study Site contains no Threatened Ecological Communities or threatened flora species listed under the EPBC Act. No threatened fauna species were observed during the field survey, although the Study Site supports favoured food trees for species such as Koala *Phascolarctos cinereus* and Grey-headed Flying-Fox *Pteropus poliocephalus*. Overall, it is considered a referral to the Commonwealth is not warranted in relation to potential impacts upon MNES.

State Considerations

Matters of State Environmental Significance (MSES)

State Government mapping indicates the Study Site supports Category B regulated vegetation in the form of remnant Endangered and Least Concern regional ecosystems (REs), as well as regulated vegetation intersected by a mapped watercourse, Essential Habitat for NC Act-listed species and Category C high-value regrowth vegetation. Groundtruthing verified the presence and extent of most of this mapped regulated vegetation; however, some differences were noted in Rourkes Park and in vegetation immediately south of Rourkes Park.

Where any mapped Category B regulated vegetation within the Study Site is to be cleared under a development application, the application may (subject to any exemptions that may apply) need to address State Code 16: Native vegetation clearing, which requires that any significant residual impacts (where deemed appropriate) to Endangered REs, regulated vegetation intersected by a mapped watercourse and Essential Habitat are subject to offsets in accordance with the Queensland *Environmental Offsets Act 2014*. The *Significant Residual Impact Guideline, Department of State Development, Infrastructure and Planning, 2014* outlines what would be considered a significant residual impact upon these values.

Clearing in a mapped Category C area or Least Concern Category B area may be able to be carried out under the 'urban purpose in an urban area' vegetation clearing exemption under the Queensland *Planning Act 2016*. Any clearing within a Category B area that cannot be carried out under the 'urban purpose in an urban area' exemption (including the clearing of Endangered Category B regulated vegetation) will require an operational works permit for native vegetation clearing. Where the clearing of mapped Category C vegetation cannot be carried out under an exemption, it must meet the requirements of the *Accepted development vegetation clearing code 'Managing Category C regrowth vegetation'*; otherwise, the proposed development may be classified as Prohibited Development.

State mapping indicates the Study Site supports a fish passage waterway subject to waterway barrier works approval. The field survey has determined that the waterway does not meet the Department of Agriculture and Fisheries' (DAF) definition of a waterway for some sections of the mapped extent. If the proposed works are likely to impact on fish passage by creating a waterway barrier, discussions with DAF are recommended to confirm approval requirements and the need for any offsets.

The Study Site is not mapped within a Koala Assessable Development Area, such that the project will not be subject to provisions of Schedule 11 of the *Planning Regulation 2017* in relation to Koala habitat.

NC Act Obligations

No Endangered, Vulnerable or Near Threatened (EVNT) flora were recorded during the protected plant survey. Consequently, an exempt clearing notification is to be submitted to the Department of Environment and Science (DES), accompanied by this report, at least one week before clearing commences, but no later than one year after the completion of the survey (i.e. by 2 May 2020).

No active animal breeding places were recorded during the field survey, although potential animal breeding places are present in the form of tree hollows and arboreal termite nests. Common frog species may also breed within the onsite waterway, particularly during the warmer months of the year, and trees onsite may be used by nesting birds. It is recommended pre-clear inspections are undertaken closer to the commencement of works to confirm the presence or absence of active animal breeding places, such that any necessary Species Management Program (SMP) is obtained.

State Restricted Weeds

Restricted invasive weed species listed as Category 3 restricted invasive plants under the Queensland *Biosecurity Act 2014* were recorded on the Study Site. These plants must not be distributed (i.e. released into the environment) unless the distribution or disposal is authorised in a regulation or under a permit. More generally, landowners are responsible for taking all reasonable and practical steps to minimise the risks associated with invasive plants under their control.

CONCLUSIONS AND RECOMMENDATIONS

To ensure assessment and approval by State authorities and potential offset requirements are avoided or minimised, it is recommended the proposed works:

- are positioned wholly within Least Concern and/or Category X vegetation to avoid clearing mapped Endangered REs;
- avoid create barriers within, and avoid clearing near, mapped watercourses; and
- limit clearing of remnant vegetation to that absolutely necessary for construction and within relevant State code thresholds.

It is also recommended specialist town planning advice is obtained as to whether the 'urban purpose in an urban area' vegetation clearing exemption under the Queensland *Planning Act 2016* applies to the project. Otherwise, the clearing of mapped Category C vegetation must meet the requirements of the *Accepted development vegetation clearing code 'Managing Category C regrowth vegetation'*, or the proposed development may be classified as Prohibited Development.

As animal breeding places may be present within the Study Site, depending on the timing or works, it is recommended pre-clear inspections are undertaken closer to the commencement of works such that any necessary Species Management Program (SMP) is obtained.

Eucalyptus tereticornis, which are prevalent within the Study Site, provide important resources for a variety of native fauna; therefore, the proposed works should, where practical, avoid or minimise the clearing of mature *E. tereticornis*.

ECOLOGICAL ASSESSMENT AND PROTECTED FLORA SURVEY

SWANBANK STAGE 3 SEWER AUGMENTATION, FLINDERS VIEW

Table of Contents

1.0	INTRODUCTION	1
2.0	METHODOLOGIES.....	1
2.1	Desktop	1
2.2	Field Survey	1
2.2.1	Ecological Assessment	1
2.2.2	Protected Flora Survey	3
2.3	Data Analysis and Reporting	3
3.0	RESULTS.....	5
3.1	General Ecological Values.....	5
3.1.1	Vegetation Communities	5
3.1.2	Large Trees	6
3.1.3	Fauna and Fauna Habitats	6
3.1.4	Fauna Movement Opportunities.....	6
3.2	Matters of National Environmental Significance (MNES).....	9
3.2.1	Threatened Ecological Communities	9
3.2.2	Threatened Species	9
3.2.3	Migratory Species	11
3.2.4	Weeds of National Significance	11
3.3	Matters of State Environmental Significance (MSES).....	12
3.3.1	Regulated Vegetation.....	12
3.3.2	Wetlands and Watercourses.....	14
3.3.3	Waterways for Waterway Barrier Works.....	14
3.4	South East Queensland Koala Planning Framework	15
3.5	Matters Addressed under the NC Act.....	15
3.5.1	Protected Flora.....	15
3.5.2	Animal Breeding Places	16
3.6	Matters Addressed under the Biosecurity Act 2014	17
4.0	CONCLUSIONS AND RECOMMENDATIONS.....	17
5.0	REFERENCES	18

Table of Figures

Figure 1.1: Location of Study Site

Figure 2.1: Protected Flora Survey Effort and Vegetation Assessment Sites

Figure 3.1a: Ecological Features (northern portions of Study Site)

Figure 3.1b: Ecological Features (southern portions of Study Site)

Figure 3.2: Groundtruthed RE mapping

Table of Appendices

- Appendix 1: Database Search Results
- Appendix 2 Matters of State Environmental Significance Mapping
- Appendix 3 Protected Plant Survey Ecologist Qualifications and Certification Statement
- Appendix 4 Flora Survey Data
- Appendix 5: Identified Large Tree Data

Table of Terms and Abbreviations

BAAM	Biodiversity Assessment and Management Pty Ltd
DAF	Queensland Department of Agriculture and Fisheries
DBH	Diameter at Breast Height
DES	Queensland Department of Environment and Science (formerly EHP)
DNRME	Queensland Department of Natural Resources, Mines and Energy
EHP	Queensland Department of Environment and Heritage Protection (now DES)
EPA	Environmental Protection Area
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
EVNT	Species listed as endangered, vulnerable or near threatened under the EPBC Act or NC Act
MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
NC Act	Queensland <i>Nature Conservation Act 1992</i>
PMAV	Property Map of Assessable Vegetation
QUU	Queensland Urban Utilities
RE	Regional Ecosystem
SMP	Species Management Program
SRI	Significant Residual Impact
TEC	Threatened Ecological Community
VM Act	Queensland <i>Vegetation Management Act 1999</i>

1.0 INTRODUCTION

This report has been prepared for Queensland Urban Utilities (QUU) to document the results of an ecological assessment and protected flora survey over land potentially impacted by a proposed sewer upgrade (the “Swanbank Stage 3 Augmentation” project) in Flinders View.

The areas assessed (the ‘Study Site’) included the proposed trunk sewer alignment, as well as the immediate surrounds (generally encompassing an area of 10 metres either side of the proposed trunk sewer line) The Study Site is located alongside the Cunningham Highway, within a peri-urban environment experiencing rapid development of residential areas (**Figure 1.1**). The Swanbank power station is located approximately 1.5 km to the east and dense residential development occurs to the west of the Cunningham Highway.

The assessment has been undertaken to ensure all planned activities on the site are in keeping with the General Environmental Duty requirement stated in s.36 of the *Environmental Protection Act 1994* and any other relevant legislative requirements under the *Nature Conservation Act 1992* (NC Act), *Vegetation Management Act 1999*, *Planning Act 2016* and *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The scope of the assessment included:

- A desktop assessment to broadly characterise the currently recognised ecological values of the Study Site;
- A field survey to assess the ecological values of the Study Site and enable an informed assessment of potential impacts from the proposed actions, including the identification of vegetation communities, wetlands and watercourses on the Study Site, as well as associated habitat values for potentially occurring significant species; and
- An overview of legislative requirements and guidelines relevant to the proposed development.

As the Study Site is identified as occurring within a high risk area on the Queensland Department of Environment and Science (DES) flora survey trigger map, the assessment also included targeted searches for flora species listed as Endangered, Vulnerable or Near Threatened (EVNT) under the NC Act, undertaken in

accordance with the Queensland *Flora Survey Guidelines - Protected Plants* (EHP 2016), to inform the requirement for a clearing permit or exempt notification under the NC Act.

2.0 METHODOLOGIES

2.1 DESKTOP

The desktop review comprised a search of online mapping and databases and an analysis of information for conservation significant vegetation communities and flora and fauna species with reference to the Study Site locality. Information reviewed included:

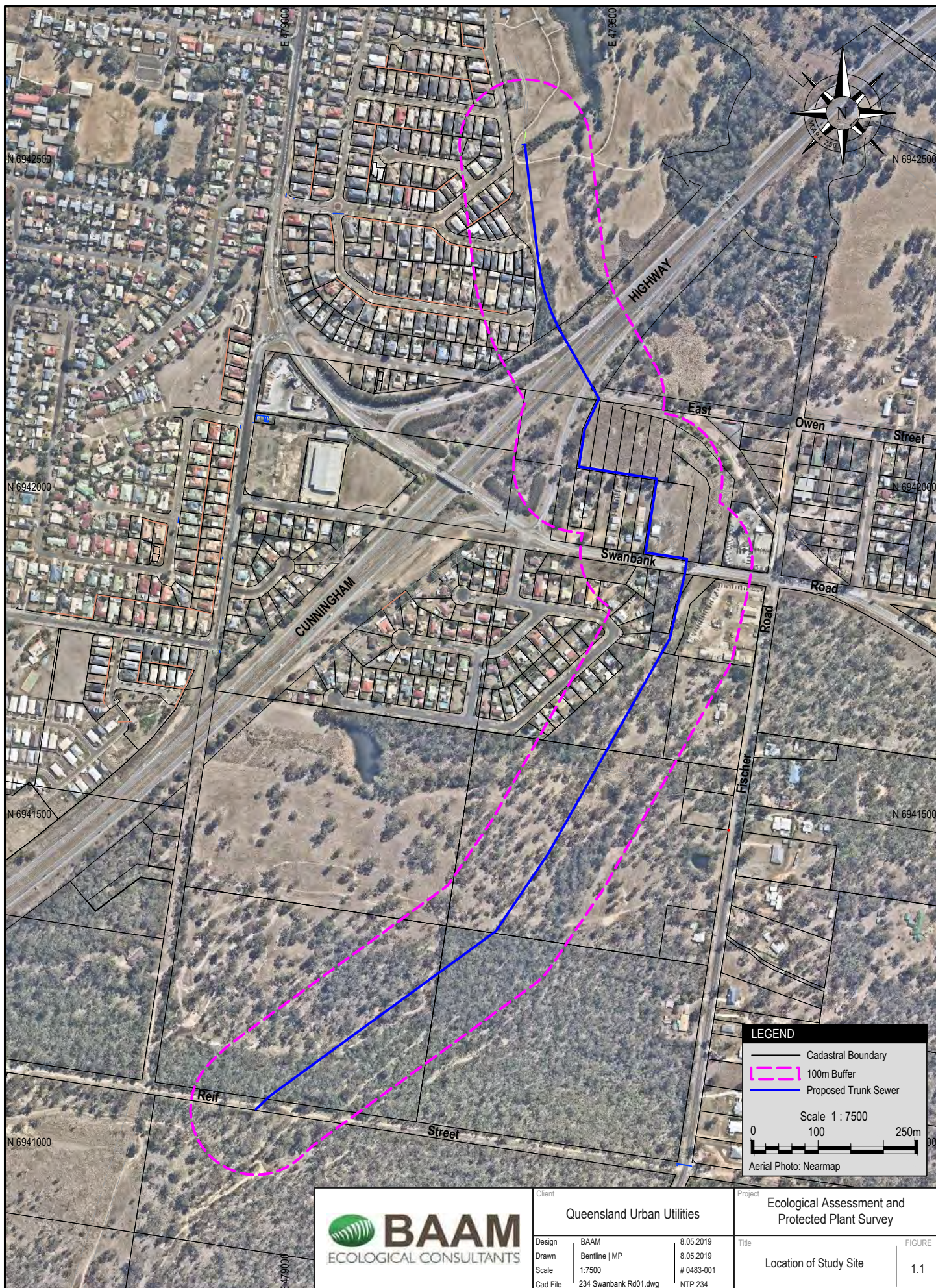
- The Commonwealth EPBC Protected Matters Search Tool to identify any matters of national environmental significance (MNES) protected under the EPBC Act that may occur within the Study Site (**Appendix 1**).
- The Queensland Wildlife Online database, to determine if any EVNT species have been previously recorded in the vicinity of the Study Site (**Appendix 1**).
- State mapping of regulated vegetation, habitats, wetlands and waterways, to identify any matters of state environmental significance (MSES) currently recognised as occurring within the Study Site (**Appendix 2**).
- Reference material on the target flora species for the protected flora survey (species profiles, etc.) to confirm habitat requirements and distinguishing features to assist field identification.

2.2 FIELD SURVEY

2.2.1 Ecological Assessment

The ecological field survey involved a traverse of the Study Site undertaken by BAAM Senior Ecologists Dr Jo Chambers and Shelley Trevaskis over one day on 2 May 2019. Regular showers had occurred during the week preceding the site visit.

The focus of the field survey was to confirm the presence of any matters of National, State or Local environmental significance that may represent development constraints, including regulated/protected vegetation, significant wetlands/waterways and habitat for significant species.



Quaternary site data was recorded at representative locations (refer **Figure 2.1**) in accordance with the methodology prescribed in Neldner *et al.* (2017). Quaternary sites measure the height, canopy cover and dominant species present in each stratum of a vegetation community and inform the applicable remnant status and regional ecosystem (RE) type.

The location, species and habitat features of all trees within 10 metres either side of the proposed sewer line with a trunk diameter of 30cm diameter breast height (DBH) or greater were also recorded by GPS to inform project design, along with other notable features.

All work was performed in accordance with BAAM's Scientific Purposes Permit and Animal Ethics Approval.

2.2.2 Protected Flora Survey

The protected flora survey covered all representative habitats occurring in the Study Site and a 100m surrounding buffer area, together referred to as the 'clearing impact area' (refer **Figures 1.1** and **2.1**).

In accordance with the *Flora Survey Guidelines - Protected Plants* (EHP 2016), the survey involved timed, random meander surveys within the clearing impact area. For each random meander, a starting point was selected and the starting time noted. The area of interest was then traversed as a random meander, taking a GPS point every five minutes and all the while searching carefully for EVNT plant species. The random meander was terminated once no new species had been recorded for a period of 30 minutes or more.

The field survey identified two main habitat types within the clearing impact area, these being:

- Eucalypt open forest/woodland (approximately 18 hectares; five meanders undertaken). This community occurs south of Swanbank Road and encompasses remnant, regrowth and non-remnant vegetation. The community is generally associated with a watercourse that traverses the Study Site; and

- maintained/landscaped vegetation (approximately 13 hectares; two meanders undertaken). North of Swanbank Road, most vegetation adjacent to the proposed trunk sewer is maintained and/or landscaped. Rourkes Park, located just south of Swanbank Road, is also maintained. In accordance with the *Flora Survey Guidelines - Protected Plants* (EHP 2016), this form of landscape constitutes a 'highly modified environment' that is not required to be surveyed; however, meanders were still included in these areas.

Figure 2.1 shows the location of protected flora survey meanders and flora survey sites.

Qualifications of Field Team

The targeted flora survey was led by Shelley Trevaskis (Senior Ecologist at BAAM). Shelley is suitably qualified to undertake protected plants assessments as prescribed under the *Queensland Flora Survey Guidelines – Protected Plants* (EHP 2016) – her declaration letter and Curriculum vitae is provided in **Appendix 3**.

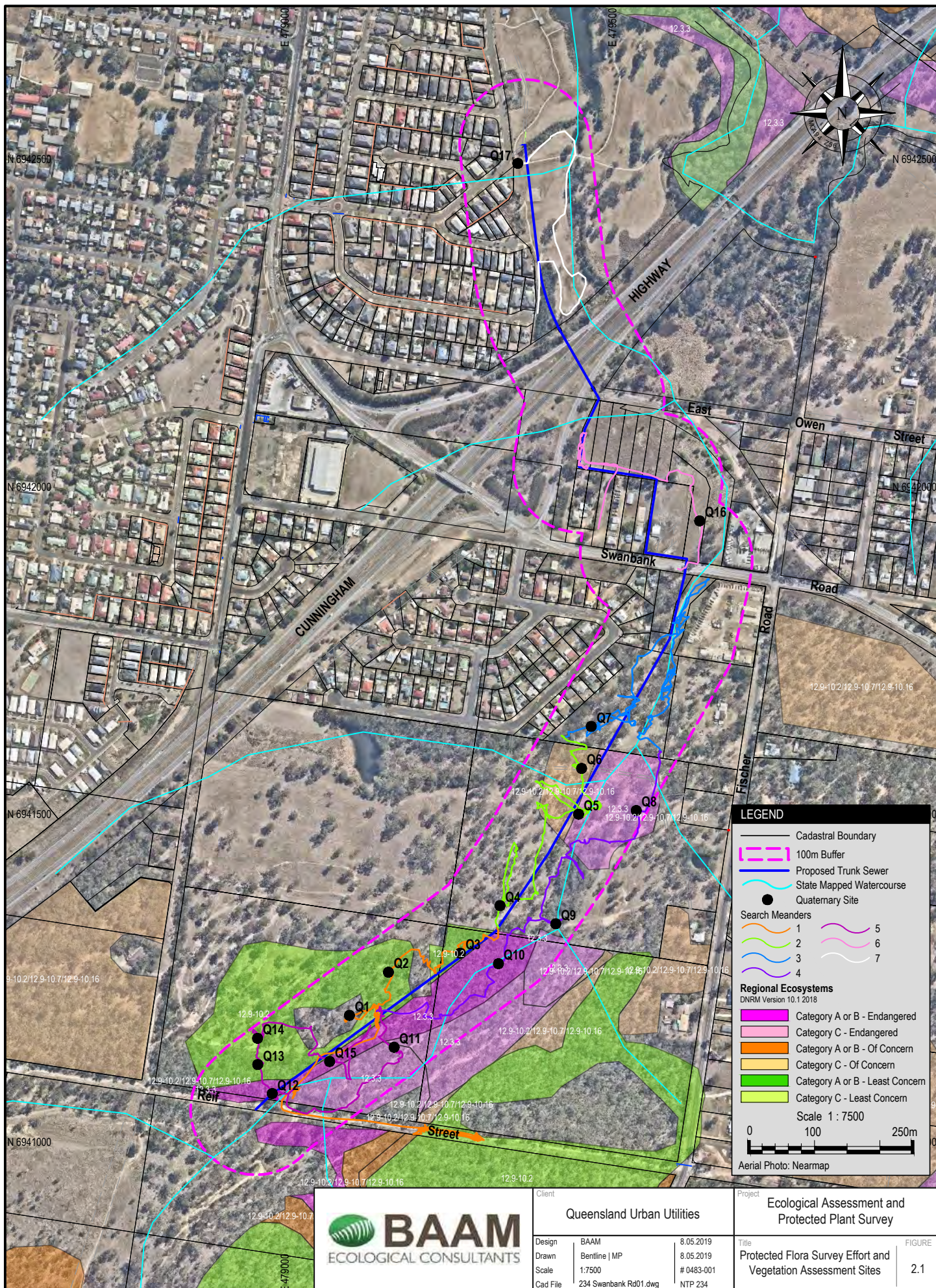
Survey Timing

The flora survey was commissioned to be undertaken in May 2019 in order to achieve project timelines. All species targeted in this survey were expected to have identifiable foliage present following rainfall. Therefore, it was determined that a survey in May was suitable to detect the species targeted.

2.3 DATA ANALYSIS AND REPORTING

Following the field survey, data were analysed and interpreted to enable an informed assessment of species presence/absence and the accuracy of current, statutory mapping of ecological values. An assessment of the likelihood of conservation significant species occurring on the Study Site was informed by survey and database records, known distributions, and specific habitat requirements of each species.

Potential impacts to the identified values as a result of the proposed development of the Study Site were then identified, with reference to relevant guidelines, where available.



3.0 RESULTS

3.1 GENERAL ECOLOGICAL VALUES

3.1.1 Vegetation Communities

The Study Site supports a mosaic of remnant, native bushland interspersed with regrowth vegetation and open space. North of Swanbank Road, the proposed trunk line alignment generally traverses land that has been cleared and appears to be regularly maintained (**Photo 1**), although several mature Forest Red Gum *Eucalyptus tereticornis* trees occur in proximity to the alignment just south of the Cunningham Highway (**Photo 2**).



Photo 1. Maintained parkland north of the Cunningham Highway.



Photo 2. Mature Forest Red Gums that occur adjacent to the proposed trunk sewer line alignment just south of the Cunningham Highway.

Rourkes Park, immediately south of Swanbank Road, features a stand of Forest Red Gum within a maintained, parkland environment (**Photo 3**). Although mapped non-remnant, this stand of trees displayed the height and canopy cover to be classed as an Endangered remnant vegetation community (refer **Section 3.3.1**)



Photo 3. Forest Red Gum stand in Rourkes Park, just south of Swanbank Road.

South of Rourkes Park, the Study Site features eucalypt open forest/woodland, much of which has been historically disturbed. Previous disturbance and clearing has resulted in this portion of the Study Site displaying a patchy mosaic of remnant, regrowth and non-remnant vegetation (**Photo 4**). It is noted that the extent of these representations differed slightly from that indicated in State RE Regional Ecosystem (RE) mapping. These differences are discussed in **Section 3.3.1**.



Photo 4. Eucalypt regrowth recorded in the southern portion of the Study Site.

The proposed trunk sewer is located in proximity to State mapped drainage lines that contained pooled water at the time of the assessment, with adjacent floodplain vegetation (**Photos 5, 6**). A small dam associated with this watercourse was also recorded south of Rourkes Park.



Photo 5. Section of drainage line present in Rourkes Park.



Photo 6. Drainage line and surrounding vegetation present towards southern portion of the Study Site

Descriptions and photographs of representative vegetation recorded across the study are provided in **Appendix 4**. Site locations where vegetation community type was recorded (as presented in **Appendix 4**) are shown in **Figure 2.1**.

3.1.2 Large Trees

A requirement of the field survey was to identify all trees with a DBH <30 cm located 10 m either side of the proposed trunk sewer alignment.

A total of 136 large trees were recorded, the majority of which are *Eucalyptus tereticornis*. The locations of these trees are shown on **Figure 3.1**, with descriptions and measurements each tree provided in **Appendix 5**.

It should be noted that, although some of the trees are not within the direct impact area, some of the trees are of a sufficient size such that their tree protection zone (TPZ) may be impacted by the proposed works. The TPZs of all large trees recorded are provided in **Appendix 5**.

3.1.3 Fauna and Fauna Habitats

In general, the southern portions of the Study Site support higher habitat values for native fauna (refer Q10-15 on **Figure 2.1**), where the shrub and ground layers are relatively intact in comparison to highly maintained areas. These areas also support dense leaf litter and fallen woody debris (**Photo 7**) that provide habitat for ground-dwelling mammal, reptile and frog species. These areas also supported a variety of food sources for native birds.



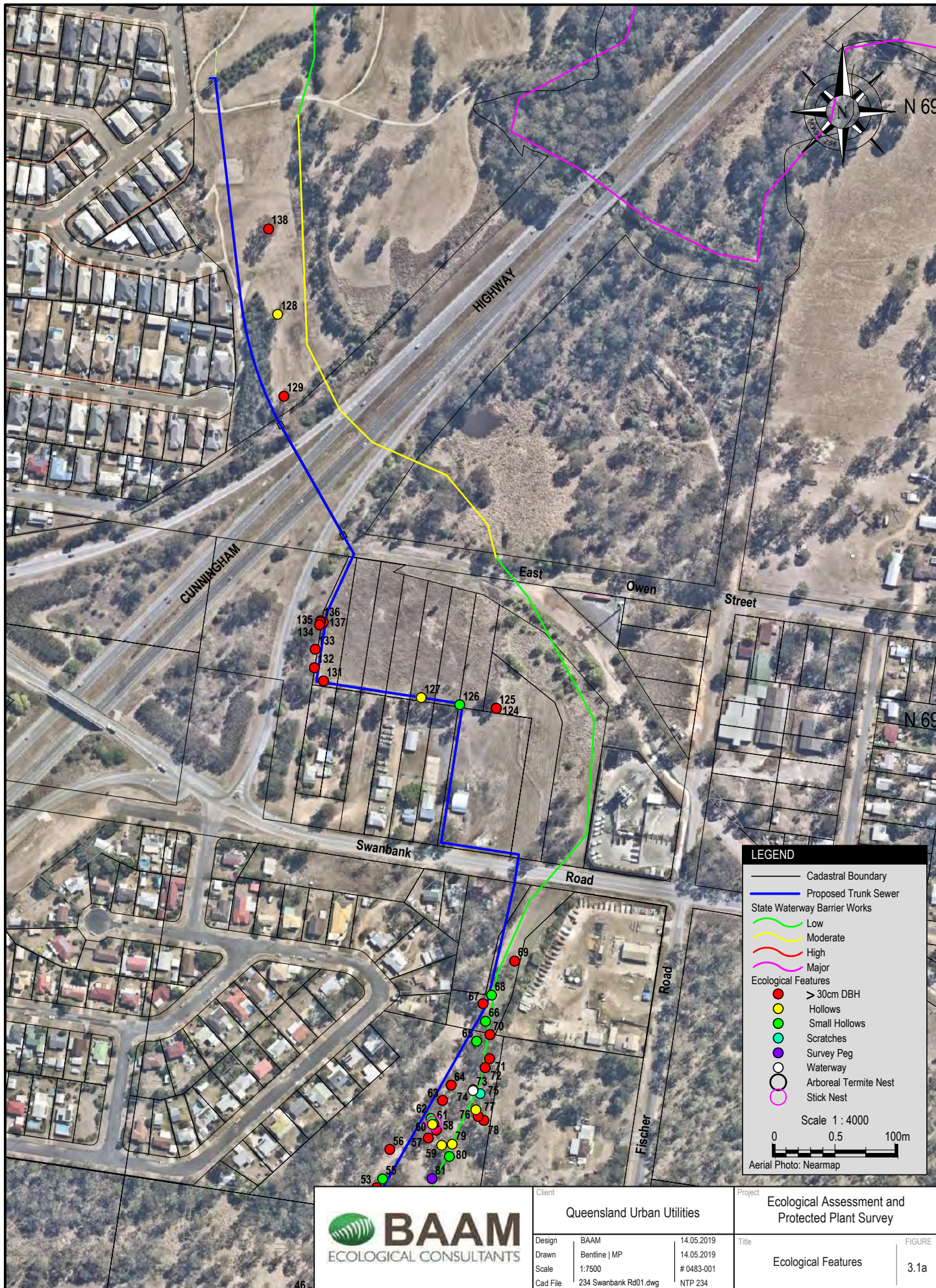
Photo 7. Leaf litter and ground debris in southern portions of the Study Site provide habitats for mammal, reptile and frog species.

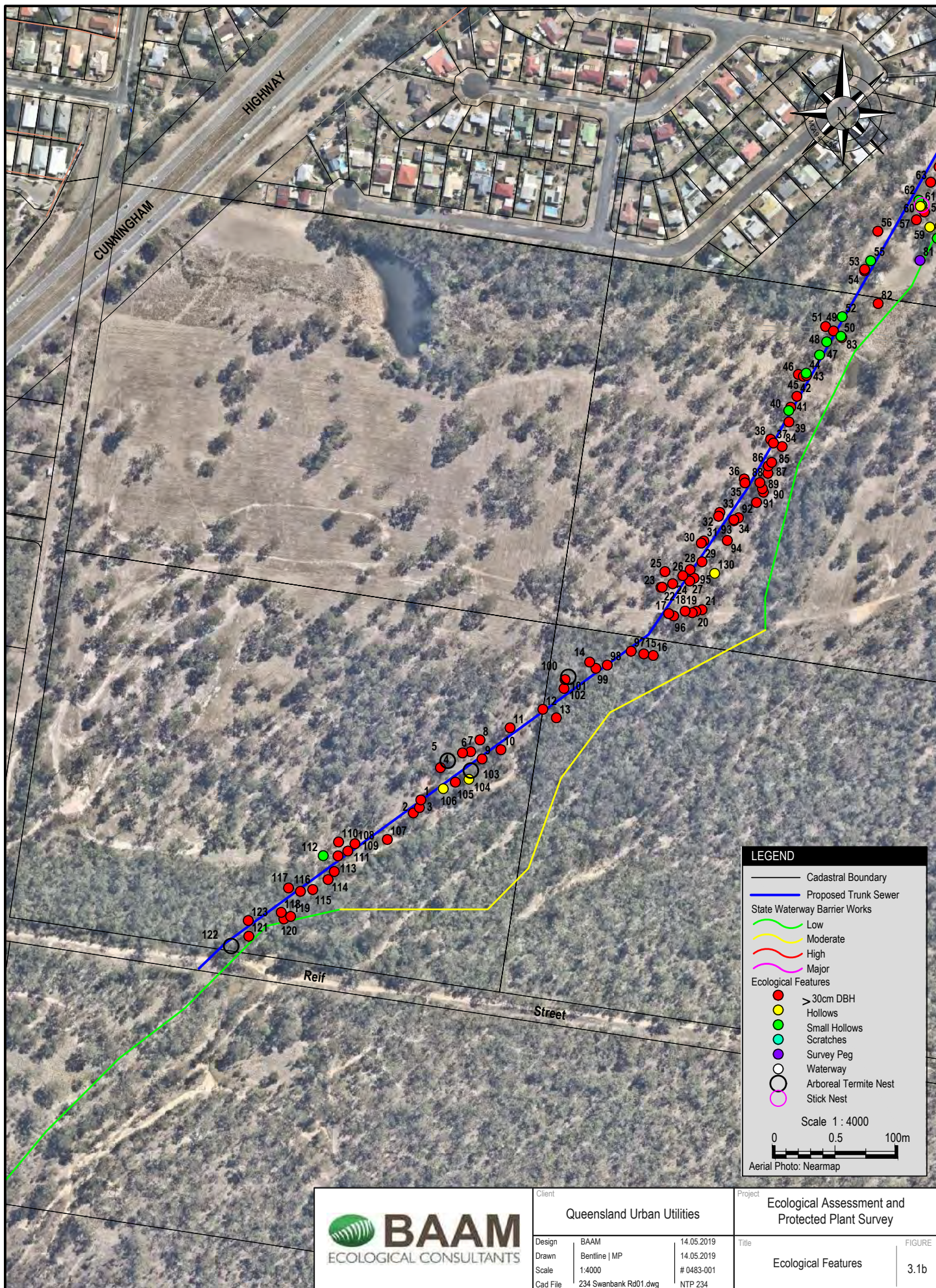
The Study Site supports a number of trees with hollows of varying size, as well as arboreal termite nests, which offer nesting/ roosting habitat for birds and arboreal mammals (**Figure 3.1a/b**). Forest Red Gums, which dominated the canopy throughout much of the Study Site, are also considered valuable habitat trees as they flower in winter, thereby providing an important seasonal feeding resource for birds, arboreal mammals and bats.

The narrow drainage line that runs south from Swanbank Road provides potential habitat for locally common frog species, such as Dwarf Eastern Sedgefrog *Litoria fallax*, which was heard calling during the survey.

3.1.4 Fauna Movement Opportunities

There are currently no restrictions to fauna movement across the Study Site, although the Cunningham Highway and high density residential development to the west would represent a significant barrier to many ground-dwelling species. The proposed works are not likely to cause any significant impacts to fauna movement opportunities that remain within the local landscape.





3.2 MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE (MNES)

3.2.1 Threatened Ecological Communities

The EPBC Protected Matters Search (**Appendix 1**) indicates four EPBC listed Threatened Ecological Communities (TEC) could potentially occur onsite, these being;

- Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland ecological community (currently listed as Endangered);
- Lowland Rainforest of Subtropical Australia (Critically Endangered);
- Swamp Tea-tree (*Melaleuca irbyana*) Forest of Southeast Queensland (Critically Endangered); and
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Critically Endangered).

No vegetation communities with species indicative of these TECs are identified on State vegetation mapping (**Section 3.3.1**), and no species characteristic of these TECs were identified in the Study Site during the field survey, confirming that these TECs do not occur within the Study Site.

3.2.2 Threatened Species

Flora

The targeted flora survey did not record any nationally listed threatened flora species. Given the extent of searching, as well as historical clearing and disturbance exhibited across the Study Site, it is considered highly unlikely that the Study Site provides habitat for any of the species listed as potentially occurring on site in the EPBC Protected Matters search (**Appendix 1**).

Fauna

No threatened fauna species were observed during the field survey. However, the Study Site supports favoured food trees for species such as Koala *Phascolarctos cinereus* and Grey-headed Flying-Fox *Pteropus poliocephalus*, both of which are listed as Vulnerable under the EPBC Act.

The Wildlife Online database (**Appendix 1**) indicates 122 Koala have been recorded within 5 km of the Study Site since 1980 (although none

since 2007¹), while the Atlas of Living Australia only records two Koala within 5 km of the Study Site, the most recent of which is from 2013.

No Koala scats were observed during the survey, and only a small number of trees (3) showed scratches that may (or may not) have been made by a Koala. A number of off-road vehicle tracks were also present throughout much of the Study Site, suggesting an existing level of threat to Koala at this location, in addition to surrounding roads and residential development.

Based on previous records, current field observations, and surrounding land uses, it is considered Koalas would only occur at this location in low densities, if at all. Even so, determining whether or not there is likely to be a significant impact on Koala should also be based on the importance of the habitat within the Study Site to Koala.

The results of a habitat assessment performed in accordance with the EPBC Act referral guidelines for Koala habitat assessment tool (DoE 2014) are summarised in **Table 3.1**. The total habitat score from this assessment is 3; consequently, Koala habitat within the Study Site is not recognised as 'habitat critical to the survival of Koala' under the EPBC Act referral guidelines. The nature and extent of clearing required for the proposed infrastructure is also unlikely to significantly reduce the amount of habitat in the local landscape. Consequently, it is considered there is unlikely to be a significant impact on Koala as a result of the project.

Forest Red Gum, which dominates the canopy over much of the Study Site, is an important winter food resource for Grey-headed Flying-Fox, and it is likely this species would be present within the Study Site during flowering events. However, the removal of this vegetation is unlikely to have a significant impact on this species, given the abundance of alternative food resources in the wider landscape. Furthermore, the nearest flying-fox camp is located approximately 3 km west of the Study Site (DoE 2019), such that breeding habitat will not be impacted.

¹ Based on sightings data available from the State Government's "Biomaps" online interactive mapping tool (<http://qldspatial.information.qld.gov.au/biomaps/>)

Table 3.1. Koala habitat assessment tool results summary.

Attribute	Score	Coastal area criteria	Score	Assessment details
Koala occurrence	+2 (high)	Evidence of one or more Koalas within the last 2 years	0	<p>Desktop: The EPBC Act Protected Matters Search Tool report identified the Koala as 'species or species' habitat known to occur' within the area. The Wildlife Online point buffer search identified 122 Koala records since 1980 within a 5 km radius of the Study Site, although none within 2km of the Study Site since 2007. The Atlas of Living Australia database (ALA 2019) lists only two records for Koala within a 5 km buffer, the most recent of which is from 2013.</p> <p>On-ground: No definitive evidence of Koala utilisation of the Study Site was recorded during the field survey.</p>
	+1 (medium)	Evidence of one or more Koalas within 2 km of the edge of the impact area within the last 5 years		
	0 (low)	None of the above		
Vegetation Composition	+2 (high)	Has forest or woodland with 2 or more known Koala food tree species, OR 1 food tree species that alone accounts for >50% of the vegetation in the relevant strata.	2	<p>Desktop: The Queensland RE mapping identifies the Study Site as supporting Eucalyptus spp. dominated remnant and regrowth vegetation.</p> <p>On-ground: Vegetation in the Study Site contains several known Koala food tree species.</p>
	+1 (medium)	Has forest or woodland with only 1 species of known Koala food tree present.		
	0 (low)	None of the above		
Habitat connectivity	+2 (high)	Area is part of a contiguous landscape ≥ 500 ha.	0	The Study Site is surrounded by urban development and roads which form barriers that are likely to prevent safe movement of Koala.
	+1 (medium)	Area is part of a contiguous landscape < 500 ha but ≥ 300 ha.		
	0 (low)	None of the above		
Key existing threats	+2 (high)	Little or no evidence of Koala mortality from vehicle strike or dog attack at present in areas that score 1 or 2 for Koala occurrence	1	<p>Desktop: Recent data from the Department of Environment and Science relating to Koala mortality for the Study Site shows there have been no recorded Koala mortalities with the Swanbank area since 2006.</p> <p>On-ground: The Study Site is located within a rapidly expanding urban environment. Although vehicle and dog threats to Koala within the Study Site would be relatively low at the present time, increasing development within the local area is likely to lead to an increase in threats in the near future.</p>
	+1 (medium)	Evidence of infrequent or irregular Koala mortality from vehicle strike or dog attack at present in areas that score 1 or 2 for Koala occurrence		
	0 (low)	Evidence of frequent or regular Koala mortality from vehicle strike or dog attack in the Study Site at present		
Recovery value *	+2 (high)	Habitat is likely to be important for achieving the interim recovery objectives for the relevant context	0	As the Study Site is located within a rapidly developing urban area, habitat is unlikely to be important for achieving the interim recovery objects.
	+1 (medium)	Uncertainty exists as to whether the habitat is important for achieving the interim recovery objectives for the relevant context		
	0 (low)	Habitat is unlikely to be important for achieving the interim recovery objectives for the relevant context		
Total Score			3	As the total score is <5, Koala habitat within the Study Site is not recognised as 'habitat critical to the survival of Koala' under the EPBC Act referral guidelines.

* Interim recovery objective in coastal areas is to protect and conserve large, connected areas of Koala habitat, particularly large, connected areas that support Koalas that are: genetically diverse/distinct; or free of disease or have a very low incidence of disease; or breeding (i.e. presence of back young or juveniles)

No other threatened fauna species are expected to utilise the Study Site, based on the types and conditions of the habitats present and known species distributions. It is therefore considered a referral to the Commonwealth is not warranted in relation to potential impacts upon threatened fauna species. Even so, it is recommended the clearing of Forest Red Gums is avoided wherever practical to ensure the loss of this important habitat resource for Koala, Grey-headed Flying-Fox and various other native fauna is minimised.

3.2.3 Migratory Species

Database searches (**Appendix 1**) indicate the potential presence of EPBC Act listed migratory species, a number of which have potential to be seasonal visitors to the Study Site. However, the Study Site would not support an ecologically significant proportion of habitat for migratory species, and all potentially occurring migratory species are common, widely-distributed species that are neither known to be declining nor at the limit of their range within the local area.

Therefore, any future development of the Study Site is unlikely to have a significant impact on migratory species, and it is considered a referral to the Commonwealth is not warranted in relation to potential impacts upon migratory species.

3.2.4 Weeds of National Significance

Weeds of National Significance recorded on the Study Site include:

- Lantana *Lantana camara* - recorded frequently across the Study Site;
- Prickly Pear *Opuntia stricta* – recorded occasionally in the southern portion of the Study Site; and
- Salvinia *Salvinia molesta* – recorded in the small dam just south of Rourkes Park.

Appropriate management of these species is legally required by the landholders.

3.3 MATTERS OF STATE ENVIRONMENTAL SIGNIFICANCE (MSES)

3.3.1 Regulated Vegetation

State Government mapping (**Appendix 2, Figure 2.1**) shows the Study Site supports Category B regulated vegetation in the form of remnant Endangered and Least Concern REs, as well as Category C high-value regrowth vegetation. Some of the vegetation also occurs within the defined distance of a mapped watercourse, while areas mapped by the State as remnant vegetation are also mapped as Essential Habitat Koala, Australian Painted Snipe *Rostratula australis* and flora species *Plectranthus habrophyllus*.

Groundtruthing verified the presence and extent of most of the mapped regulated vegetation; however, as shown in **Figure 3.2**, some differences were noted, as follows:

- Vegetation in Rourkes Park, just south of Swanbank Road, is mapped by the State as non-remnant; however, site data indicates this vegetation meets the height and canopy cover benchmarks for remnant, Endangered RE12.3.3. Although the understorey has been completely cleared and modified, the canopy layer is dominated by Forest Red Gum, and transect data collected in this location meets the T1 height (25m) and cover (68%) requirements of the remnant RE12.3.3 community. Furthermore, Rourkes Park is low lying and forms the alluvial flats of a mapped watercourse that traverses this park, indicating Land Zone 3 is applicable.
- Just south of Rourkes Park, a polygon of regrowth vegetation mapped by the State as regrowth RE12.9-10.12/12.9-10.7/12.9-10.16 was ground-truthed as remnant, Endangered RE12.3.3. A State mapped drainage line and the presence of soggy substrate and species associated with wetter environments indicates Land Zone 3 is applicable in this location. Transect data collected in this location meets the T1 height (19m) and cover (92%) requirements of the remnant RE12.3.3 community.
- A polygon of regrowth RE12.3.3 adjacent to the above described community is also reflective of the remnant RE12.3.3 community.

The above ground truthing results are provided so QUU has a complete understanding of the ecological values of the Study Site. However, it is understood any clearing of remnant or regrowth vegetation would be undertaken with regard to the

current State RE mapping for the Study Site, as provided in **Appendix 2** and **Figure 2.1**.

It is also noted that previous Property Map of Assessable Vegetation (PMAV) approvals have 'locked in' Category X (non-remnant) vegetation on Lots 211, RP906067; Lot 210 SL9238 and Lot 209 SL11067 (**Figure 3.2**).

The field survey has also confirmed the accuracy of the essential habitat mapping for Koala and *Plectranthus habrophyllus*, as the Study Site supports at least 3 essential habitat factors for these species (i.e. vegetation community, RE and altitude). However, the Study Site does not support three essential habitat factors for Australian Painted Snipe and this species is not expected to be present.

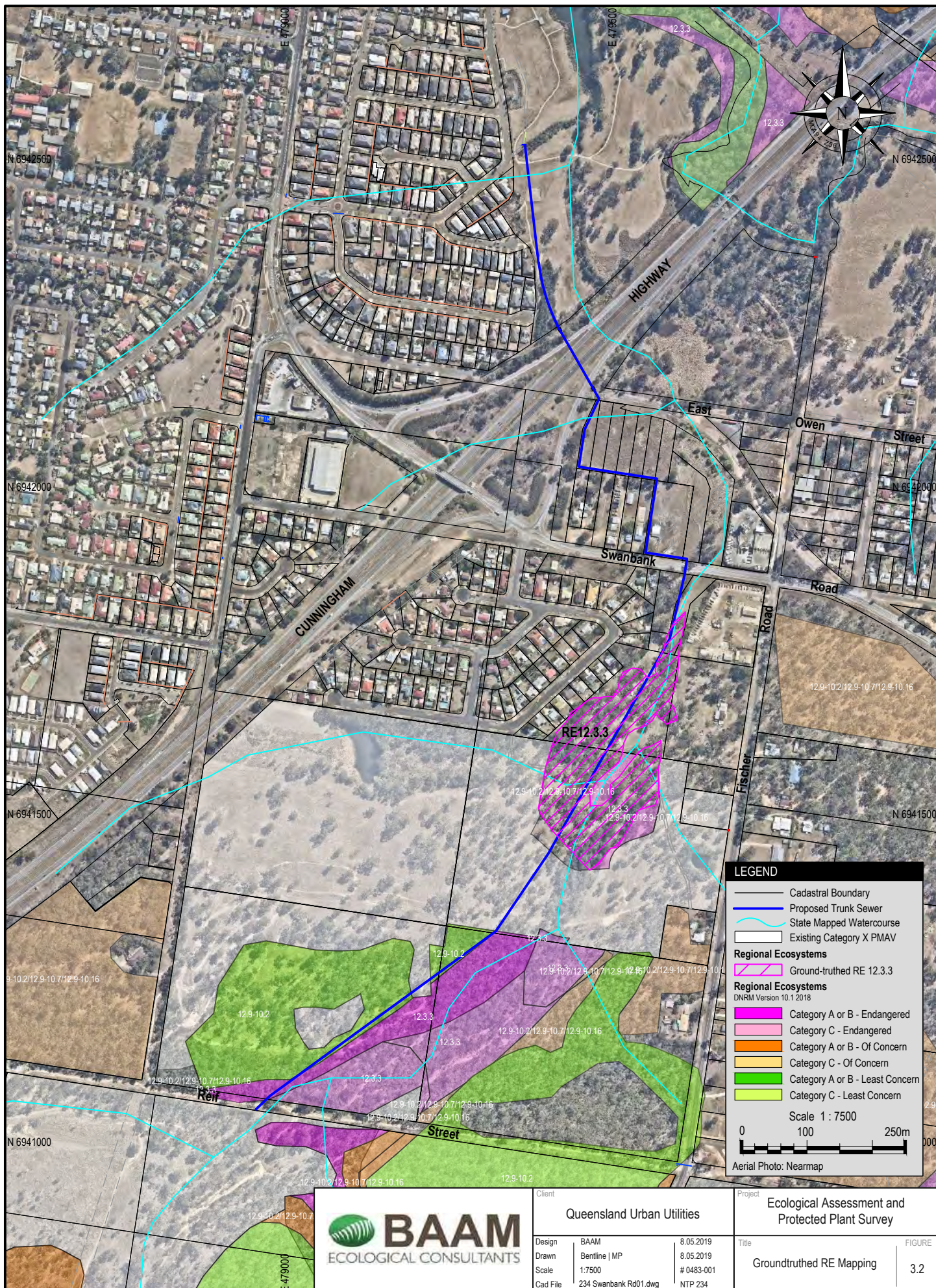
Legislative Implications

Where any mapped Category B regulated vegetation on the Study Site is to be cleared under a development application, the application may (subject to any exemptions that apply) need to address State Code 16: Native vegetation clearing.

As the Study Site falls within the urban footprint, the clearing of Category C vegetation and Least Concern remnant REs are likely to meet the definition of exempt clearing under the Queensland *Planning Act 2016* if the purpose of the clearing is for an "urban purpose" as defined under that legislation. However, any such exemption does not apply to Category B Endangered vegetation, such that any proposed clearing of mapped Endangered REs (and associated Essential Habitat and watercourse vegetation) may be subject to assessment against State Code 16.

In general, State Code 16 indicates the clearing of Endangered REs, Essential Habitat and watercourse vegetation with a "sparse" structure (i.e. such as RE 12.3.3) is acceptable if it does not exceed 20 m in width or 2 ha in total area. Otherwise, any significant residual impacts (where deemed necessary and appropriate) are subject to offsets in accordance with the Queensland *Environmental Offsets Act 2014*.

The *Significant Residual Impact Guideline*, Department of State Development, Infrastructure and Planning, 2014 outlines what would be considered a significant residual impact upon these values, i.e.:



- a significant residual impact upon Endangered REs would be likely if more than 5 ha was cleared, the clearing results in an overall area of Endangered RE of less than 5 ha, or the clearing results in the physical separation of Endangered REs;
- a significant residual impact upon Essential Habitat would be likely if the clearing exceeded 20 m in width or 2 ha in area, and resulted in a greater than 10% permanent reduction in the mapped extent of Essential Habitat onsite; and
- a significant residual impact would be likely if the clearing resulted in the permanent removal of vegetation within the defined distance of a stream order 2 watercourse where no rehabilitation is proposed, or resulted in the permanent removal of more than 0.5ha of an Endangered RE within the defined distance of a watercourse.

State Code 16: also sets out requirements for maintaining the connectivity of vegetation in general, i.e.:

- clearing does not occur in areas of vegetation that are less than 10 hectares
- clearing does not reduce the extent of vegetation to less than 10 hectares;
- clearing does not occur in areas of vegetation less than 100 metres wide;
- clearing does not reduce the width of vegetation to less than 100 metres; and
- clearing does not occur where the extent of vegetation on the subject lot(s) is reduced to, or less than, 30 per cent of the total area of the lot(s).

It is important to note that proposed clearing which fails to meet the connectivity requirements cannot be offset, and approval may be withheld or refused, subject to a redesign.

Advice from the Department of Natural Resources and Mines and Energy (DNRME) also indicates any clearing within a Category B area that cannot be carried out under the “urban purpose in an urban area” exemption (such as Endangered REs) will require an operational works permit for native vegetation clearing. Prior to submitting a development application involving the clearing of mapped vegetation, the applicant must also first obtain written confirmation from DNRME that the proposed development is for a relevant purpose under section 22A of the Queensland *Vegetation Management Act 1999*.

It is also important to note that, where the clearing of mapped Category C vegetation cannot be carried out under an exemption, it must meet the requirements of the *Accepted development vegetation clearing code ‘Managing Category C regrowth vegetation’*, which requires clearing within the Category C area to be limited to 10 m wide. Otherwise, clearing beyond the scope of the code in a category C area is prohibited development as you cannot currently apply for a development permit for clearing of regulated regrowth vegetation.

Overall, based on the above, it is recommended any clearing of mapped Endangered RE is avoided. It is also recommended specialist town planning advice is obtained as to whether the ‘urban purpose in an urban area’ vegetation clearing exemption under the Queensland *Planning Act 2016* applies to the project such that the implications of clearing Category C vegetation are fully understood and accounted for.

3.3.2 Wetlands and Watercourses

State mapping (**Appendix 2**) indicates no wetland protection areas or wetlands of high ecological significance occur within or adjacent to the Study Site.

3.3.3 Waterways for Waterway Barrier Works

State mapping indicates the Study Site supports a fish passage waterway subject to waterway barrier works approval (**Appendix 2**).

In accordance with DAF (2019), a “waterway” must have at least one of the following attributes:

1. The bed and banks need to be continuous upstream and downstream of the site rather than isolated and broken sections of a depression.
2. Flow must continue beyond the duration of a rain event and have some reliability attached to rainfall. There is a need to distinguish between channels that funnel immediate localised rainfall; and waterways where flow has arisen from an upstream catchment.
3. The flow needs to be sufficient to sustain basic ecological processes and habitats, and to maintain biodiversity within or across the feature. The adequacy of the flow depends on the ecological function of the channel e.g. waterways that connect to fish habitat like a wetland or waterhole may only

need infrequent and short-duration flows to provide connectivity for fish.

4. Most instream features provide habitat for fish under adequate flow conditions or, in the case of pools, during dry periods.

Based on the above criteria, it is considered that the mapped waterway within the Study Site generally meets the definition of a waterway just south of Swanbank Road. However, there were no defined banks and no pooling water in this mapped waterway at the location of the survey peg number 9007 (**Photo 8**) (refer **Figure 3.1a**). This survey peg is located in an area which is devoid of large trees and, therefore, from an ecological perspective, is the preferred location for the proposed trunk sewer at this point. Therefore, discussions with the Department of Agriculture and Fisheries (DAF) are recommended to confirm assessment and approval requirements if the proposed works were undertaken at this location.



Photo 8. shows lack of waterway at location of survey peg.

Otherwise, if the proposed works are likely to impact on fish passage by creating a waterway barrier, an offset may be required for undertaking waterway barrier works. The *Significant Residual Impact Guideline, Department of State Development, Infrastructure and Planning, 2014* states an action is likely to have a significant impact on a waterway providing for fish passage if there is a real possibility that it will result in: •

- a) a permanent modification to the volume, depth, timing, duration or flow frequency of the waterway;
- b) permanent modification or fragmentation of fish habitat including but not limited to in stream vegetation, snags and woody debris, substrate, bank or riffle formation necessary

for breeding and/or survival of native fish species;

- c) the mortality or injury of fish species; OR
- d) works that permanently reduce the level of fish passage provided in a tidal waterway or a waterway identified as a major high risk waterway for waterway barrier works, to a level that would increase stress on fish populations.

If an offset is deemed necessary, it must be met through a financial settlement at a cost of \$2,500 per 0.1 ha of mapped fish passage impacted upon.

3.4 SOUTH EAST QUEENSLAND KOALA PLANNING FRAMEWORK

The Study Site is not mapped within a Koala Assessable Development Area (**Appendix 2**), such that the project will not be subject to provisions of Schedule 11 of the *Planning Regulation 2017* in relation to Koala habitat.

Even so, it is understood QUU have areas dedicated to the planting of Koala food trees to compensate for the loss of this resource resulting from QUU projects.

3.5 MATTERS ADDRESSED UNDER THE NC ACT

3.5.1 Protected Flora

A search of the DES Wildlife Online database (**Appendix 1**) identified five EVNT flora species listed under the NC Act have been previously recorded within 5 km of the Study Site since 1980. The results of this search, together with the preferred habitat of each species, are presented in **Table 3.1**.

No threatened flora species were detected within the search area during the targeted field survey. Given the extent of searches (refer **Figure 2.1**), as well as historical clearing and disturbance exhibited across the Study Site, it is considered highly unlikely the Study Site provides habitat for any of the target species. Consequently, no direct or indirect impacts on protected plant species are expected to occur and no mitigation measures are considered necessary.

Table 3.1. EVNT flora species recorded within 5km of the Study Site and preferred habitat and likelihood of occurrence

Species	Status NCA	Preferred habitat characteristics	Likelihood of occurrence
<i>Marsdenia coronata</i> Slender Milkvine	V	Commonly found in open eucalypt forest and woodland communities on hillslopes and ridge tops at altitudes of 40–780 m above sea level. Also known from rocky outcrops along cliff lines. Most commonly recorded with <i>Eucalyptus</i> , <i>E. carnea</i> , <i>Corymbia citriodora</i> , <i>C. henryi</i> , <i>Eucalyptus acmenoides</i> and <i>E. propinqua</i> (DoE, 2016).	Unlikely to occur: Closest records occur in Swanbank, several kilometres east of the site. The site is low lying, hillside and ridgetops were not recorded. The species was not recorded during searches.
<i>Melaleuca irbyana</i> Swamp Tea Tree	E	Grows in flat areas that are periodically waterlogged, in eucalypt forest, mixed forest and <i>Melaleuca</i> woodland with a sparse and grassy understorey. It grows on poorly draining, heavy clay soils. Known from Ipswich, Jimboomba and Waterford West, typically in lower lying areas (DES 2018).	Unlikely to occur: Closest records occur in White Rock, several kilometres east of the site (ALA, 2019). This species is distinctive and easy to recognise, it was not recorded during searches.
<i>Notelaea ipsviciensis</i> Cooneana Olive	E	The Cooneana Olive is known from three closely clustered sub-populations in the Ipswich area. Surveys to locate further populations have exhausted the Ipswich area and it is considered unlikely to be recorded outside of its current extent, this being less than 2km ² . It is an understorey plant in degraded, eucalypt dominated dry sclerophyll vegetation communities (DoE, 2015a).	Unlikely to occur: Closest records occur in New Chum, several kilometres north of the site. No ALA records in proximity to the works area (ALA, 2019). The species was not encountered during searches.
<i>Notelaea lloydii</i> Lloyd's Native Olive	V	Found in the ecotone between eucalypt open forests and vine thicket on undulating to hilly terrain either in moist gullies or on gentle to steep dry slopes, but rarely on rocky outcrops. Soil types are mostly shallow, well drained and stony to very rocky in texture (Department of the Environment, 2018).	Unlikely to occur: Closest records occur in New Chum, several kilometres north of the site; and Ipswich several kilometres west of the site. No ALA records in proximity to the works area (ALA, 2019). The species was not encountered during searches.
<i>Plectranthus habrophyllus</i>	E	Known only from near Ipswich and near Ormeau in south-east Queensland where it is associated with shaded gullies on rocky sediments substrates, often adjacent to dry rainforest (DoE, 2015b).	Unlikely to occur: An ALA record occurs along a watercourse in Swanbank, approximately 1km east of the site (ALA, 2019). The preferred habitat was not encountered on site.

The *Flora Survey Guidelines – Protected Plants* (EHP 2016) stipulate that, where no EVNT species are identified within the clearing impact area, an exempt clearing notification is required to be submitted to DES. This report should accompany the notification as an attachment.

Section 261ZA requires that the exemption and supporting report are submitted at least one week before clearing commences, but no later than one year after the completion of the flora survey that was undertaken for the report (i.e. by 2 May 2020).

Following submission of the exemption, the applicant will receive a receipt of the submission providing approval for the clearing to commence. Clearing under this exemption may be conducted within two years after the flora survey report is submitted.

3.5.2 Animal Breeding Places

No active animal breeding places were recorded during the field survey, although potential animal breeding places are present in the form of tree hollows and arboreal termite nests (refer **Figure 3.1a/b**). As the hollows and termite nests were near the canopy of tall trees, these could not be inspected to determine if they supported active breeding places. Furthermore, common frog species may breed within the onsite waterway, particularly during the warmer months of the year, and trees onsite may be used by nesting birds.

Under the NC Act, any action that is required to tamper with a confirmed native animal breeding place in order to complete the scope of works must be undertaken in accordance with a Species Management Program (SMP) approved by DES.

DES provides two SMP templates, depending on the identified protected animals. The SMP “low risk of impacts” relates to protected animals classed as Least Concern under NC Act where the impacts are unlikely to affect broader population. The SMP “high risk of impacts” relates to protected animals identified as EVNT, Special Least Concern or Least Concern Colonial Breeder species, where the broader population is at a greater risk from impacts.

The findings of the field survey indicate there are unlikely to be breeding places for EVNT species present within the Study Site, although breeding places for Least Concern species may be present, subject to the timing of works. It is recommended pre-clear inspections are undertaken closer to the commencement of works to confirm the presence or absence of active animal breeding places, such that any necessary Species Management Program (SMP) is obtained.

3.6 MATTERS ADDRESSED UNDER THE BIOSECURITY ACT 2014

Restricted invasive weed species listed as Category 3 restricted invasive plants under the Queensland *Biosecurity Act 2014* that were recorded within or immediately adjacent to the Study Site include:

- Lantana *Lantana camara* and Creeping Lantana *Lantana montevidensis*. Both forms of Lantana were recorded frequently across the Study Site;
- Prickly Pear *Opuntia stricta* – recorded occasionally in the southern portion of the Study Site;
- Salvinia *Salvinia molesta* – recorded in the small dam just south of Rourkes Park.
- Chinese Elm *Celtis sinensis* – recorded along the watercourse south of Rourkes Park;
- Broad-leaved Pepper Tree *Schinus terebinthifolius* - recorded along the watercourse south of Rourkes Park;
- Mother of Millions *Bryophyllum delagoense* - recorded occasionally in the southern portion of the Study Site;
- Annual Ragweed *Ambrosia artemisiifolia* - recorded occasionally along the drainage line in the southern portion of the Study Site; and
- Groundsel *Baccharis halimifolia* - recorded along the watercourse south of Rourkes Park.

In accordance with the *Biosecurity Act 2014*, these species must not be released into the

environment unless the distribution or disposal is authorised in a regulation or under a permit. More generally, landowners are responsible for taking all reasonable and practical steps to minimise the risks associated with invasive plants under their control.

4.0 CONCLUSIONS AND RECOMMENDATIONS

It is considered a referral to the Commonwealth Government is not warranted in relation to potential impacts upon MNES.

To ensure assessment and approval by State authorities and potential offset requirements are avoided or minimised, it is recommended the proposed works:

- are positioned wholly within Least Concern and/or Category X vegetation to avoid clearing mapped Endangered REs;
- avoid creating barriers within, and avoid clearing near, mapped watercourses; and
- limit clearing of remnant vegetation to that absolutely necessary for construction and within relevant State code thresholds.

It is also recommended specialist town planning advice is obtained as to whether the ‘urban purpose in an urban area’ vegetation clearing exemption under the Queensland *Planning Act 2016* applies to the project. Otherwise, the clearing of mapped Category C vegetation must meet the requirements of the *Accepted development vegetation clearing code ‘Managing Category C regrowth vegetation’*, or the proposed development may be classified as Prohibited Development.

Discussions with DAF are also recommended to determine if the proposed works would cause a significant impact to fish passage.

As animal breeding places may be present within the Study Site, depending on the timing of works, it is recommended pre-clear inspections are undertaken closer to the commencement of works such that any necessary Species Management Program (SMP) is obtained.

Eucalyptus tereticornis, which are prevalent within the Study Site, provide important resources for a variety of native fauna; therefore, the proposed works should, where practical, avoid or minimise the clearing of mature *E. tereticornis*.

5.0 REFERENCES

Atlas of Living Australia (ALA) (2019). Species occurrence records website accessed 1 May 2019:

<https://biocache.ala.org.au/explore/your-area#-27.6667|152.8167|12>

Department of Agriculture and Fisheries

(DAF). (2019). *What is a waterway.*

<https://www.daf.qld.gov.au/business-priorities/fisheries/habitats/policies-guidelines/factsheets/what-is-a-waterway>
Accessed 07/5/2019.

Department of the Environment (DoE) (2015a).

Notelaea ipsviciensis in Species Profile and Threats Database, Department of the Environment, Canberra.

<http://www.environment.gov.au/sprat>.
Accessed 07/5/2019.

Department of the Environment (DoE) (2015b).

Plectranthus habrophyllus in Species Profile and Threats Database, Department of the Environment, Canberra. Available from:

<http://www.environment.gov.au/sprat>.
Accessed 07/5/2019.

Department of the Environment (DoE) (2018).

Notelaea lloydii in Species Profile and Threats Database, Department of the Environment, Canberra.

<http://www.environment.gov.au/sprt>.
Accessed 07/5/2019.

Department of the Environment (DoE) (2016).

Marsdenia coronata in Species Profile and Threats Database, Department of the Environment, Canberra.

<http://www.environment.gov.au/sprat>.
Accessed 07/5/2019.

Department of the Environment (DoE) (2019).

National Flying Fox Monitoring Program.

<http://www.environment.gov.au/webgis-framework/apps/ffc-wide/ffc-wide.jsf>
Accessed 17 May, 2019.

Department of Environment and Heritage

Protection (EHP) (2016). *Flora Survey Guidelines – Protected Plants* (Version 2.00).

Department of Environment and Heritage Protection, Queensland Government, Brisbane. Accessed 07/5/2019.

Department of the Environment and Science (DES) (2018). Species Profiles *Melaleuca irbyana*. <https://apps.des.qld.gov.au/species-search/details/?id=26403> Accessed 07/5/2019.

Department of State Development and Planning (2014). *Significant Residual Impact Guideline.*

<http://www.dlgrma.qld.gov.au/resources/guideline/planning/dsdip-significant-residual-impact-guideline.pdf>. Accessed 07/5/2019.

Leiper et al.(2008). *Mountain to Mangroves* revised edition. Society for Growing Australian Plants. Logan Branch.

Neldner, V.J et al (2019). *Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland, Version 4.0.* Queensland Herbarium, Queensland Department of Science, Information Technology, Innovation and the Arts, Brisbane.

APPENDIX 1

Database Search Results



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 16/04/19 09:45:34

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are
©Commonwealth of Australia
(Geoscience Australia), ©PSMA 2010

[Coordinates](#)

Buffer: 5.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	2
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	33
Listed Migratory Species:	16

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	22
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	1
Regional Forest Agreements:	None
Invasive Species:	40
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)		[Resource Information]
Name	Proximity	
Moreton bay	30 - 40km upstream	
Moreton bay	30 - 40km upstream	

Listed Threatened Ecological Communities

[Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community may occur within area
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community may occur within area
Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland	Critically Endangered	Community likely to occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within area

Listed Threatened Species

[Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia		
Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour may occur within area
Botaurus poiciloptilus		
Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Dasyornis brachypterus		
Eastern Bristlebird [533]	Endangered	Species or species habitat may occur within area
Erythrorchis radiatus		
Red Goshawk [942]	Vulnerable	Species or species habitat known to occur within area
Geophaps scripta scripta		
Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area
Grantiella picta		
Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area
Lathamus discolor		
Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Poephila cincta cincta Southern Black-throated Finch [64447]	Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted-snipe, Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area
Fish		
Maccullochella peelii Murray Cod [66633]	Vulnerable	Species or species habitat may occur within area
Insects		
Argynnis hyperbius inconstans Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area
Mammals		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat may occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat likely to occur within area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Potorous tridactylus tridactylus Long-nosed Potoroo (SE mainland) [66645]	Vulnerable	Species or species habitat may occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area
Plants		
Arthraxon hispidus Hairy-joint Grass [9338]	Vulnerable	Species or species habitat may occur within area
Bosistoia transversa Three-leaved Bosistoia, Yellow Satinheart [16091]	Vulnerable	Species or species habitat likely to occur within area
Cycas ophiolitica [55797]	Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
Notelaea ipsviciensis Cooneana Olive [81858]	Critically Endangered	Species or species habitat known to occur within area
Notelaea lloydii Lloyd's Olive [15002]	Vulnerable	Species or species habitat likely to occur within area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat may occur within area
Samadera bidwillii Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area

Reptiles

Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat likely to occur within area
Furina dunmalli Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species

[[Resource Information](#)]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area

Migratory Terrestrial Species

Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area

Migratory Wetlands Species

Name	Threatened	Type of Presence
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [\[Resource Information \]](#)

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Defence - IPSWICH TRAINING DEPOT

Listed Marine Species [\[Resource Information \]](#)

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species

Name	Threatened	Type of Presence
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	habitat likely to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Critically Endangered	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]	Critically Endangered	Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]		Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]		Species or species habitat likely to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered*	Species or species habitat likely to occur within area

Extra Information

State and Territory Reserves [\[Resource Information \]](#)

Name	State
Denmark Hill	QLD

Invasive Species [\[Resource Information \]](#)

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		

Acridotheres tristis Common Myna, Indian Myna [387]	Species or species habitat likely to occur within area
--	--

Anas platyrhynchos Mallard [974]	Species or species habitat likely to occur within area
-------------------------------------	--

Carduelis carduelis European Goldfinch [403]	Species or species habitat likely to occur within area
---	--

Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]	Species or species habitat likely to occur within area
--	--

Lonchura punctulata Nutmeg Mannikin [399]	Species or species habitat likely to occur within area
--	--

Passer domesticus House Sparrow [405]	Species or species habitat likely to occur within area
--	--

Streptopelia chinensis Spotted Turtle-Dove [780]	Species or species habitat likely to occur within area
---	--

Sturnus vulgaris Common Starling [389]	Species or species habitat likely to occur within area
---	--

Frogs

Rhinella marina Cane Toad [83218]	Species or species habitat known to occur within area
--------------------------------------	---

Mammals

Name	Status	Type of Presence
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Equus caballus Horse [5]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus africanus Climbing Asparagus, Climbing Asparagus Fern [66907]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Dolichandra unguis-cati Cat's Claw Vine, Yellow Trumpet Vine, Cat's Claw Creeper, Funnel Creeper [85119]		Species or species habitat likely to occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large- leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Parthenium hysterophorus Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]		Species or species habitat likely to occur within area
Sagittaria platyphylla Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo [12323]		Species or species habitat likely to occur within area
Reptiles		
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area
Ramphotyphlops braminus Flowerpot Blind Snake, Brahminy Blind Snake, Cacing Besi [1258]		Species or species habitat may occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-27.6529 152.7904

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.



Queensland Government

Wildlife Online Extract

Search Criteria: Species List for a Specified Point
Species: All
Type: All
Status: Rare and threatened species
Records: Confirmed
Date: Since 1980
Latitude: -27.6514
Longitude: 152.7913
Distance: 5
Email: jo@baamecology.com
Date submitted: Tuesday 16 Apr 2019 08:46:40
Date extracted: Tuesday 16 Apr 2019 08:50:07

The number of records retrieved = 7

Disclaimer

As the DSITIA is still in a process of collating and vetting data, it is possible the information given is not complete. The information provided should only be used for the project for which it was requested and it should be appropriately acknowledged as being derived from Wildlife Online when it is used.

The State of Queensland does not invite reliance upon, nor accept responsibility for this information. Persons should satisfy themselves through independent means as to the accuracy and completeness of this information.

No statements, representations or warranties are made about the accuracy or completeness of this information. The State of Queensland disclaims all responsibility for this information and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete in any way for any reason.

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Rostratulidae	<i>Rostratula australis</i>	Australian painted snipe		V	E	3
animals	mammals	Phascolarctidae	<i>Phascolarctos cinereus</i>	koala		V	V	122
plants	Equisetopsida	Apocynaceae	<i>Marsdenia coronata</i>	slender milkvine		V		11/11
plants	Equisetopsida	Lamiaceae	<i>Plectranthus habrophyllus</i>			E	E	1/1
plants	Equisetopsida	Myrtaceae	<i>Melaleuca irbyana</i>			E		1/1
plants	Equisetopsida	Oleaceae	<i>Notelaea lloydii</i>	Lloyd's native olive		V	V	7/7
plants	Equisetopsida	Oleaceae	<i>Notelaea ipsviciensis</i>			E	CE	7/7

CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992*. The codes are Extinct in the Wild (PE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C) or Not Protected ().

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999*. The values of EPBC are Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Extinct in the Wild (XW) and Vulnerable (V).

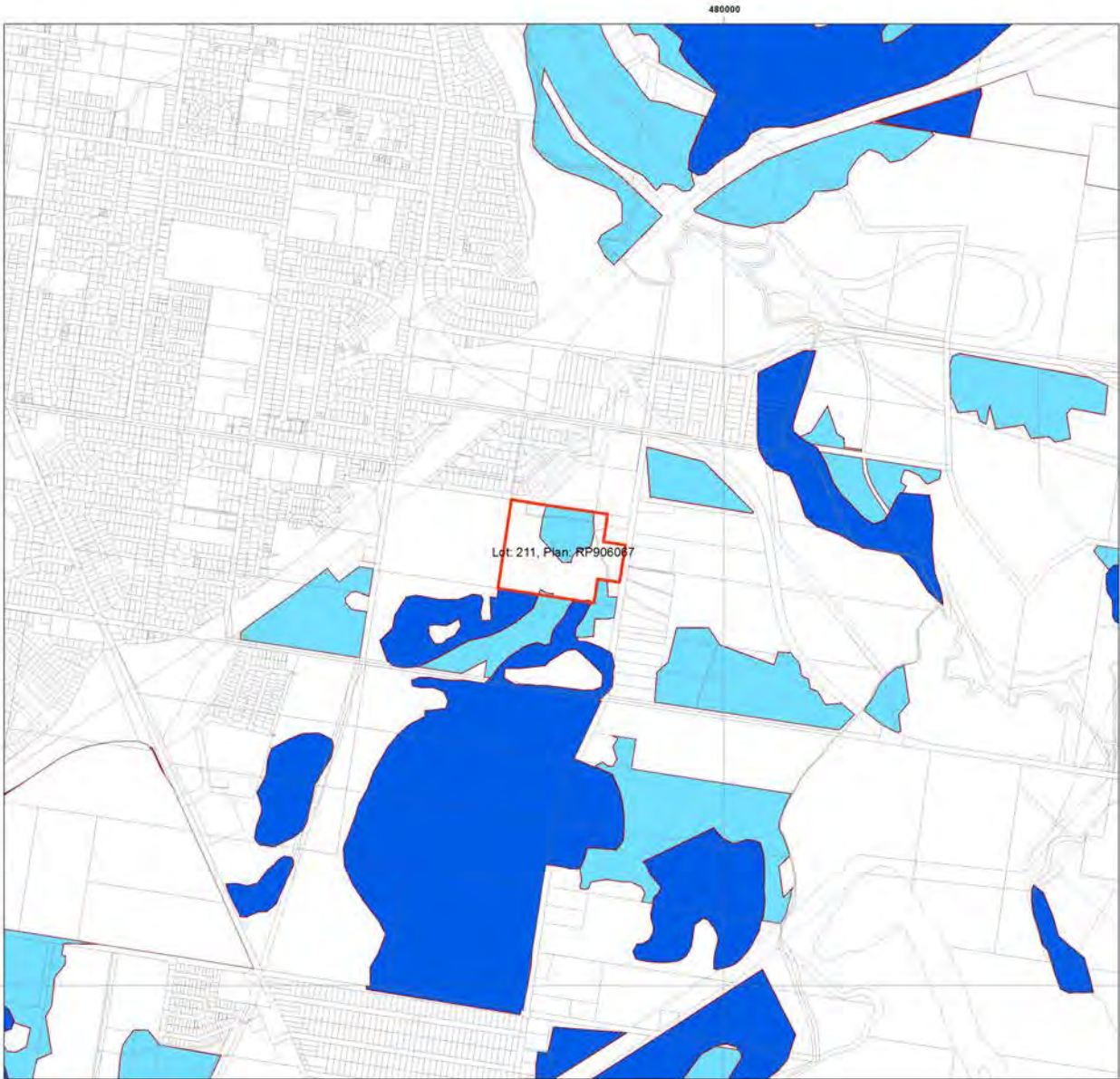
Records – The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens).

This number is output as 99999 if it equals or exceeds this value. The second number located after the / indicates the number of specimen records for the taxon.

This number is output as 999 if it equals or exceeds this value.

APPENDIX 2

Matters of State Environmental Significance Mapping



Regulated Vegetation Management Map

Legend

- Lot and Plan
- Category A area (Vegetation offsets/compliance notices/VDecs)
- Category B area (Remnant vegetation)
- Category C area (High-value regrowth vegetation)
- Category R area (Reef regrowth watercourse vegetation)
- Category X area (Exempt clearing work on Freehold, Indigenous and Leasehold land)
- Water
- Area not categorised
- Cadastral line
- Property boundaries shown are provided as a locational aid only



0 200 400 600 800 1,000 m

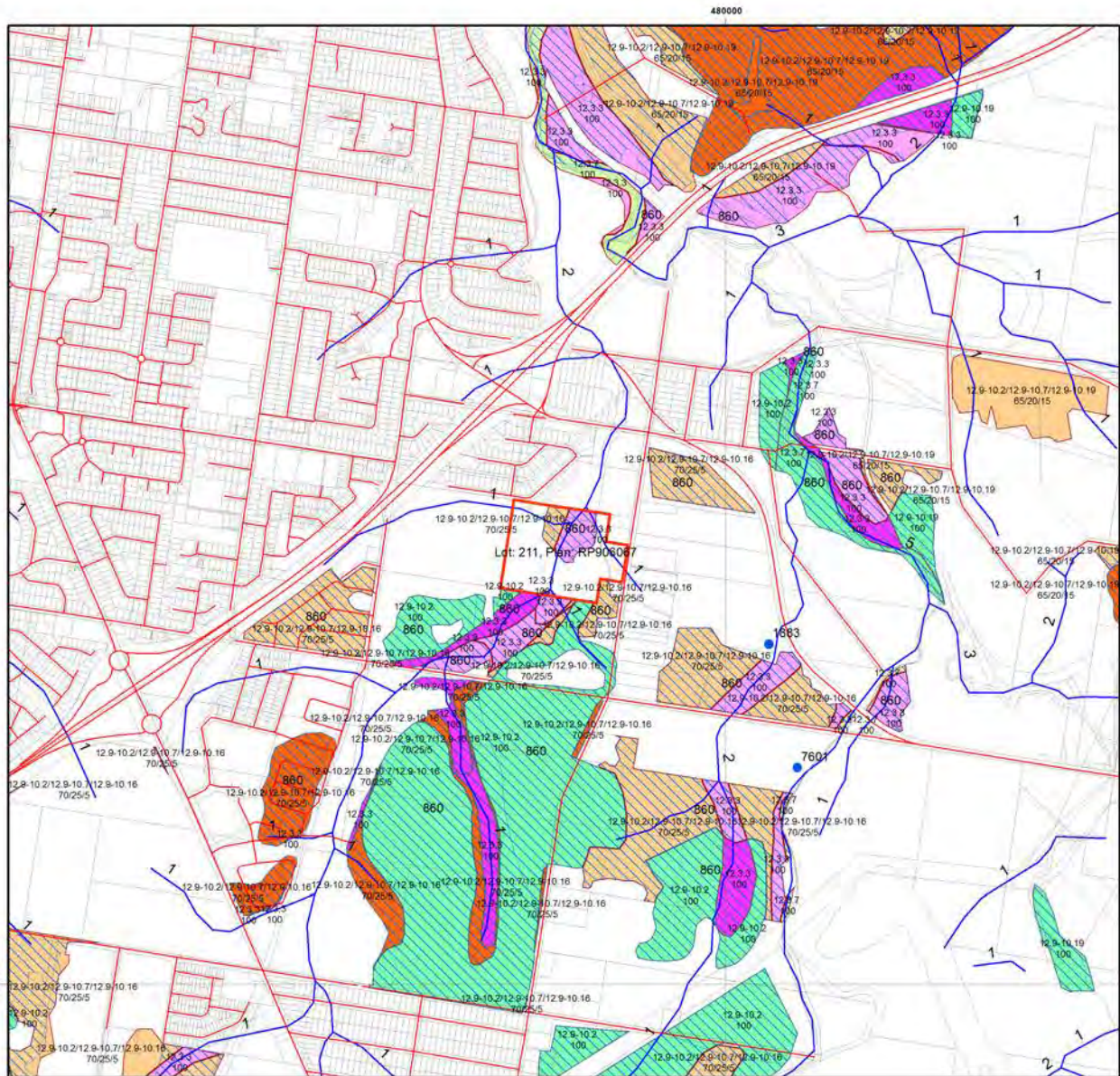
Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Natural Resources, Mines and Energy makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.dnrm.qld.gov.au or contact the Department of Natural Resources, Mines and Energy.

Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at <http://www.information.qld.gov.au/>

This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.





Vegetation Management Supporting Map

Legend

- Lot and Plan
- Category A or B area containing endangered regional ecosystems
- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem
- Category A or B area under Section 20AH
These areas are edged in yellow and filled with the remnant RE Status
- Category C area containing endangered regional ecosystems
- Category C area containing of concern regional ecosystems
- Category C area that is a least concern regional ecosystem
- Category C area under Section 20AI
These areas are edged in purple and filled with the remnant RE Status
- Non Remnant
- Water
- Wetland on the vegetation management wetlands map
- Essential habitat on the essential habitat map
- Essential habitat species record
- Watercourses and drainage features on the vegetation management watercourse and drainage features map
(Stream order shown as black number against stream where available)
- Roads
- National Parks, State Forest and other reserves
- Cadastral line
- Property boundaries shown are provided as a locational aid only



0 140 280 420 560 700 m

This product is projected into:
GDA 1994 MGA Zone 56

Labels for Essential Habitat are centred on the area of enquiry.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/- 100 metres.

Disclaimer:

While every care is taken to ensure the accuracy of this product, the Department of Natural Resources, Mines and Energy makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

Additional information may be required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.dnrm.qld.gov.au or contact the Department of Natural Resources, Mines and Energy.

Digital data for the vegetation management watercourse and drainage feature map, vegetation management wetlands map, essential habitat map and the vegetation management remnant and regional ecosystem map are available from the Queensland Spatial Portal at <http://www.information.qld.gov.au/>

Vegetation Management Act 1999 - Extract from the essential habitat database

Essential habitat is required for assessment under the:

- State Development Assessment Provisions - State Code 16: Native vegetation clearing which sets out the matters of interest to the state for development assessment under the *Planning Act 2016*, and
- Accepted development vegetation clearing codes made under the *Vegetation Management Act 1999*

Essential habitat for one or more of the following species is found on and within 1.1 km of the identified subject lot/s on the accompanying essential habitat map.

This report identifies essential habitat in Category A, B and Category C areas.

The numeric labels on the essential habitat map can be cross referenced with the database below to determine which essential habitat factors might exist for a particular species.

Essential habitat is compiled from a combination of species habitat models and buffered species records.

The Department of Natural Resources, Mines and Energy website (<http://www.dnrme.qld.gov.au>) has more information on how the layer is applied under the State Development Assessment Provisions - State Code 16: Native vegetation clearing and the *Vegetation Management Act 1999*.

Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated.

Essential habitat, for protected wildlife, means a category A area, a category B area or category C area shown on the regulated vegetation management map-

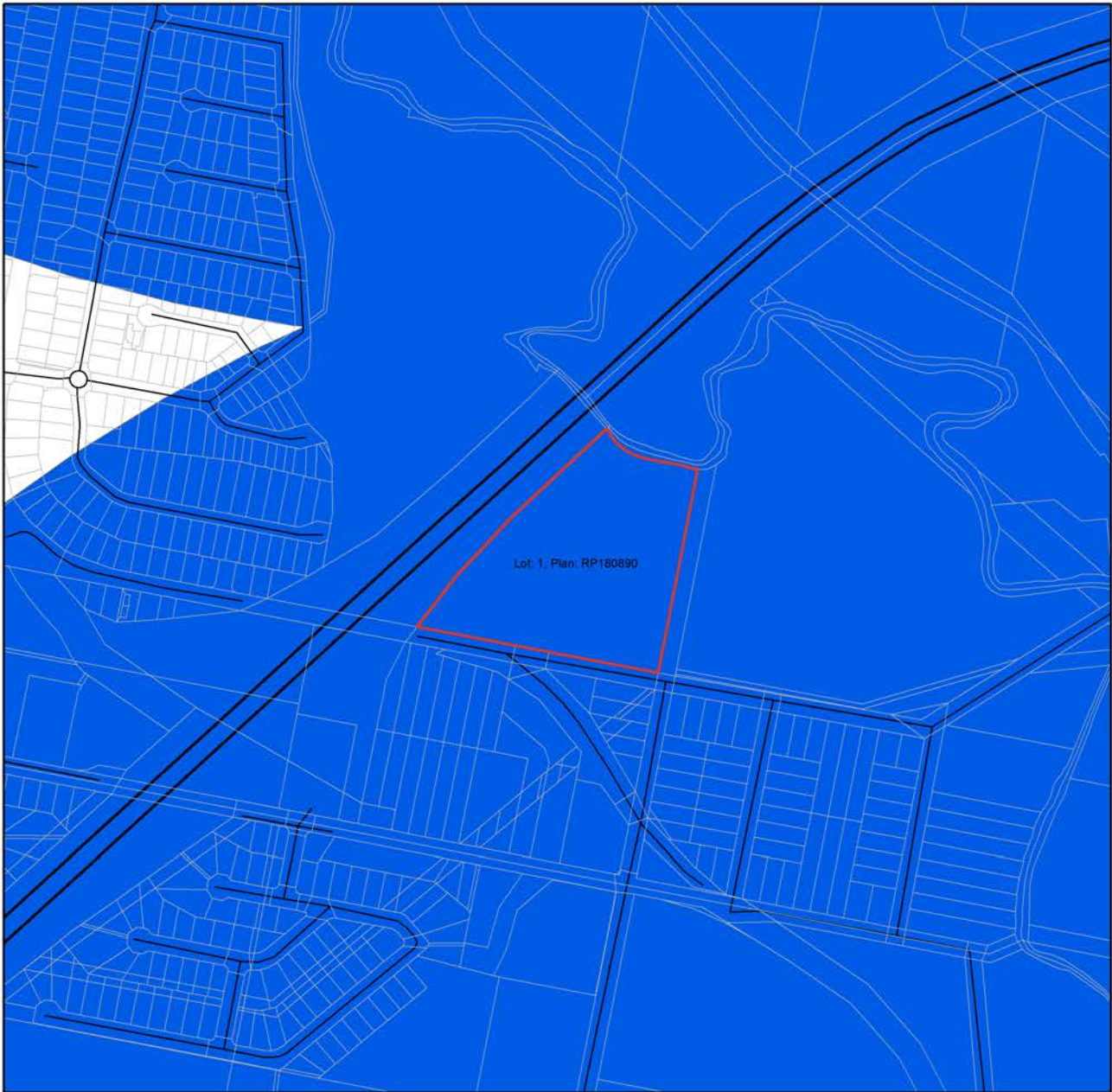
- 1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database; or
- 2) in which the protected wildlife, at any stage of its life cycle, is located.

Protected wildlife includes endangered, vulnerable or near-threatened native wildlife prescribed under the *Nature Conservation Act 1992*.

Essential habitat in Category A and/or Category B and/or Category C

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
860	Phascolarctos cinereus	koala	V	SEQ: Open eucalypt forest and woodland that has: a) multiple strata layers containing Eucalyptus, Corymbia, Angophora, Lophostemon or Melaleuca trees that-at 1.3 metres above the ground-have a diameter both greater and less than 30 centimetres; and b) at least 1 of the following species: Eucalyptus tereticornis, E. fibrosa, E. propinqua, E. umbra, E. grandis, E. microcorys, E. tindaliae, E. resinifera, E. populnea, E. robusta, E. nigra, E. racemosa, E. crebra, E. exserta, E. seana, Lophostemon confertus, L. suaveolens, Melaleuca quinquenervia. Outside SEQ: Open eucalypt forest and woodland that contains Eucalyptus &/or Corymbia spp. Tree species used for food varies across State and can include Eucalyptus tereticornis, E. camaldulensis, E. coolabah; E. drepanophylla, E. platyphylla, E. orgadophylla, E. thozeliana, E. melanophloia, E. populnea, E. melliodora, E. dealbata, E. microtheca, E. crebra, E. exserta, E. blakelyi, E. papuana, Corymbia tessellaris, C. citriodora, Melaleuca quinquenervia, M. leucadendra.	Sea level to 1000m.	None	Riparian areas, plains and hill/escarpment slopes.
1883	Rostratula australis	Australian painted snipe	V	Shallow ephemeral and permanent swamps, water meadows and damp lake margins with rushes, long grass and herbage (e.g. lignum, chenopods) in good condition, as well as areas of muddy ground; also uses saltmarsh, samphire flats and waterlogged grasslands with trees present (e.g. Eucalyptus camaldulensis, E. brownii). Nest in shallow grass-lined hollow in damp ground under low shrub or grass tussock near shallow water.	None	None	Associated with wetlands.
7601	Plectranthus habrophyllus	None	E	open woodland of Eucalyptus spp. on sandstone, occasionally near vine forest margins	0 to 300 m	skeletal to shallow sandy soil	on rock ledges along cliffline and rock outcrops near creek bank, often in shaded situations

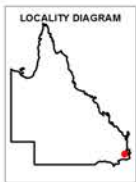
Label	Regional Ecosystem (mandatory unless otherwise specified)
860	SEQ: 11.3.2, 11.3.4, 11.3.25, 11.3.26, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.9.9, 12.2.5, 12.2.6, 12.2.7, 12.2.8, 12.2.10, 12.3.2, 12.3.3, 12.3.4, 12.3.5, 12.3.6, 12.3.7, 12.3.9, 12.3.10, 12.3.11, 12.3.14, 12.3.18, 12.3.19, 12.3.20, 12.5.1, 12.5.2, 12.5.3, 12.5.4, 12.5.6, 12.5.7, 12.5.10, 12.5.12, 12.8.1, 12.8.8, 12.8.9, 12.8.11, 12.8.12, 12.8.14, 12.8.16, 12.8.17, 12.8.20, 12.8.24, 12.8.25, 12.9-10.1, 12.9-10.2, 12.9-10.3, 12.9-10.4, 12.9-10.5, 12.9-10.7, 12.9-10.8, 12.9-10.11, 12.9-10.12, 12.9-10.14, 12.9-10.17, 12.9-10.18, 12.9-10.19, 12.9-10.21, 12.9-10.25, 12.9-10.26, 12.9-10.27, 12.9-10.28, 12.9-10.29, 12.11.2, 12.11.3, 12.11.5, 12.11.6, 12.11.7, 12.11.8, 12.11.9, 12.11.14, 12.11.16, 12.11.17, 12.11.18, 12.11.22, 12.11.23, 12.11.24, 12.11.25, 12.11.26, 12.11.27, 12.11.28, 12.12.2, 12.12.3, 12.12.5, 12.12.6, 12.12.7, 12.12.8, 12.12.9, 12.12.11, 12.12.12, 12.12.14, 12.12.15, 12.12.23, 12.12.24, 12.12.25, 12.12.28. Outside SEQ: 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.8, 4.3.10, 4.3.11, 4.4.1, 4.5.3, 4.5.5, 4.5.6, 4.5.8, 4.5.9, 4.7.1, 4.7.7, 4.7.8, 4.9.6, 4.9.10, 4.9.12, 4.9.17, 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5, 6.3.7, 6.3.8, 6.3.9, 6.3.11, 6.3.12, 6.3.17, 6.3.18, 6.3.22, 6.3.24, 6.3.25, 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.5.1, 6.5.2, 6.5.3, 6.5.5, 6.5.6, 6.5.7, 6.5.8, 6.5.9, 6.5.10, 6.5.11, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18, 6.5.19, 6.6.2, 6.7.1, 6.7.2, 6.7.5, 6.7.6, 6.7.7, 6.7.9, 6.7.11, 6.7.12, 6.7.13, 6.7.14, 6.7.17, 6.9.3, 7.2.3, 7.2.4, 7.2.7, 7.2.11, 7.3.7, 7.3.8, 7.3.9, 7.3.12, 7.3.13, 7.3.14, 7.3.16, 7.3.19, 7.3.20, 7.3.21, 7.3.25, 7.3.26, 7.3.39, 7.3.40, 7.3.42, 7.3.43, 7.3.44, 7.3.45, 7.3.47, 7.3.48, 7.3.50, 7.5.1, 7.5.2, 7.5.3, 7.5.4, 7.8.7, 7.8.8, 7.8.10, 7.8.15, 7.8.16, 7.8.17, 7.8.18, 7.8.19, 7.11.5, 7.11.6, 7.11.13, 7.11.14, 7.11.16, 7.11.18, 7.11.19, 7.11.20, 7.11.21, 7.11.31, 7.11.32, 7.11.33, 7.11.34, 7.11.35, 7.11.37, 7.11.41, 7.11.42, 7.11.43, 7.11.44, 7.11.45, 7.11.46, 7.11.47, 7.11.48, 7.11.49, 7.11.50, 7.11.51, 7.12.4, 7.12.5, 7.12.17, 7.12.21, 7.12.22, 7.12.23, 7.12.24, 7.12.25, 7.12.26, 7.12.27, 7.12.28, 7.12.29, 7.12.30, 7.12.33, 7.12.34, 7.12.35, 7.12.51, 7.12.52, 7.12.53, 7.12.54, 7.12.55, 7.12.56, 7.12.57, 7.12.58, 7.12.59, 7.12.60, 7.12.61, 7.12.62, 7.12.63, 7.12.65, 7.12.66, 7.12.69, 8.1.5, 8.2.3, 8.2.6, 8.2.7, 8.2.8, 8.2.11, 8.2.12, 8.2.13, 8.2.14, 8.3.1, 8.3.2, 8.3.3, 8.3.5, 8.3.6, 8.3.8, 8.3.10, 8.3.11, 8.3.13, 8.5.1, 8.5.2, 8.5.3, 8.5.5, 8.5.6, 8.5.7, 8.9.1, 8.10.1, 8.11.1, 8.11.3, 8.11.4, 8.11.5, 8.11.6, 8.11.8, 8.11.10, 8.11.12, 8.12.4, 8.12.5, 8.12.6, 8.12.7, 8.12.8, 8.12.9, 8.12.12, 8.12.14, 8.12.20, 8.12.22, 8.12.23, 8.12.25, 8.12.26, 8.12.27, 8.12.29, 8.12.31, 8.12.32, 9.3.1, 9.3.2, 9.3.3, 9.3.4, 9.3.5, 9.3.6, 9.3.7, 9.3.8, 9.3.10, 9.3.11, 9.3.13, 9.3.14, 9.3.15, 9.3.16, 9.3.17, 9.3.19, 9.3.20, 9.3.21, 9.3.22, 9.3.27, 9.4.1, 9.4.2, 9.4.3, 9.5.1, 9.5.3, 9.5.4, 9.5.5, 9.5.6, 9.5.7, 9.5.8, 9.5.9, 9.5.10, 9.5.11, 9.5.12, 9.5.15, 9.5.16, 9.5.17, 9.7.1, 9.7.2, 9.7.3, 9.7.4, 9.7.5, 9.7.6, 9.8.1, 9.8.2, 9.8.3, 9.8.4, 9.8.5, 9.8.9, 9.8.10, 9.8.11, 9.8.13, 9.10.1, 9.10.3, 9.10.4, 9.10.5, 9.10.7, 9.10.8, 9.11.1, 9.11.2, 9.11.3, 9.11.4, 9.11.5, 9.11.7, 9.11.10, 9.11.12, 9.11.13, 9.11.14, 9.11.15, 9.11.16, 9.11.17, 9.11.18, 9.11.19, 9.11.21, 9.11.22, 9.11.23, 9.11.24, 9.11.25, 9.11.26, 9.11.28, 9.11.29, 9.11.30, 9.11.31, 9.11.32, 9.12.1, 9.12.2, 9.12.3, 9.12.4, 9.12.5, 9.12.6, 9.12.7, 9.12.10, 9.12.11, 9.12.12, 9.12.13, 9.12.14, 9.12.15, 9.12.16, 9.12.17, 9.12.18, 9.12.19, 9.12.20, 9.12.21, 9.12.22, 9.12.23, 9.12.24, 9.12.25, 9.12.26, 9.12.27, 9.12.28, 9.12.29, 9.12.30, 9.12.31, 9.12.32, 9.12.33, 9.12.35, 9.12.36, 9.12.37, 9.12.38, 9.12.39, 9.12.44, 10.3.2, 10.3.3, 10.3.5, 10.3.6, 10.3.9, 10.3.10, 10.3.11, 10.3.12, 10.3.13, 10.3.14, 10.3.15, 10.3.17, 10.3.20, 10.3.27, 10.3.28, 10.4.3, 10.4.9, 10.5.1, 10.5.2, 10.5.4, 10.5.5, 10.5.7, 10.5.8, 10.5.9, 10.5.10, 10.5.11, 10.5.12, 10.7.1, 10.7.2, 10.7.3, 10.7.4, 10.7.5, 10.7.9, 10.7.10, 10.7.11, 10.7.12, 10.9.2, 10.9.3, 10.9.5, 10.10.1, 10.10.3, 10.10.4, 10.10.5, 10.10.7, 11.2.1, 11.2.5, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.5, 11.3.6, 11.3.7, 11.3.9, 11.3.10, 11.3.12, 11.3.13, 11.3.14, 11.3.15, 11.3.16, 11.3.17, 11.3.18, 11.3.19, 11.3.21, 11.3.23, 11.3.25, 11.3.26, 11.3.27, 11.3.28, 11.3.29, 11.3.30, 11.3.32, 11.3.33, 11.3.35, 11.3.36, 11.3.37, 11.3.38, 11.3.39, 11.4.2, 11.4.3, 11.4.7, 11.4.8, 11.4.9, 11.4.10, 11.4.12, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.4, 11.5.5, 11.5.7, 11.5.8, 11.5.9, 11.5.12, 11.5.13, 11.5.14, 11.5.17, 11.5.18, 11.5.20, 11.5.21, 11.7.1, 11.7.2, 11.7.3, 11.7.4, 11.7.6, 11.7.7, 11.8.1, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.8.11, 11.8.12, 11.8.14, 11.8.15, 11.9.1, 11.9.2, 11.9.3, 11.9.5, 11.9.6, 11.9.7, 11.9.9, 11.9.10, 11.9.11, 11.9.13, 11.9.14, 11.10.1, 11.10.2, 11.10.3, 11.10.4, 11.10.5, 11.10.6, 11.10.7, 11.10.9, 11.10.11, 11.10.12, 11.10.13, 11.11.1, 11.11.2, 11.11.3, 11.11.4, 11.11.6, 11.11.7, 11.11.8, 11.11.9, 11.11.10, 11.11.11, 11.11.12, 11.11.13, 11.11.14, 11.11.15, 11.11.16, 11.11.17, 11.11.19, 11.11.20, 11.12.1, 11.12.2, 11.12.3, 11.12.5, 11.12.6, 11.12.7, 11.12.8, 11.12.9, 11.12.10, 11.12.13, 11.12.14, 11.12.15, 11.12.16, 11.12.17, 11.12.19, 11.12.20, 13.3.1, 13.3.2, 13.3.3, 13.3.4, 13.3.5, 13.3.7, 13.9.2, 13.11.1, 13.11.2, 13.11.3, 13.11.4, 13.11.5, 13.11.6, 13.11.8, 13.11.9, 13.12.1, 13.12.2, 13.12.3, 13.12.4, 13.12.5, 13.12.6, 13.12.8, 13.12.9, 13.12.10.
1883	All regional ecosystems within the stream/wetland buffer as determined by VMA code.
7601	12.9-10.2, 12.9-10.7, 12.9-10.19



Protected Plants Flora Survey Trigger Map

Legend

- Lot and Plan
- High risk area
- Cadastral line
- Property boundaries shown are provided as a locational aid only
- Freeways / motorways / highways
- Secondary roads / streets



0 40 80 120 160 200 m

This product is projected into:
GDA 1994 Queensland Albers

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Science at palm@ehp.qld.gov.au

Disclaimer:
While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

Protected plants flora survey trigger map

The protected plants flora survey trigger map identifies 'high risk areas' where endangered, vulnerable or near threatened plants are known to exist or are likely to exist. Under the *Nature Conservation Act 1992* (the Act) it is an offence to clear protected plants that are 'in the wild' unless you are authorised or the clearing is exempt, for more information see [section 89](#) of the Act.

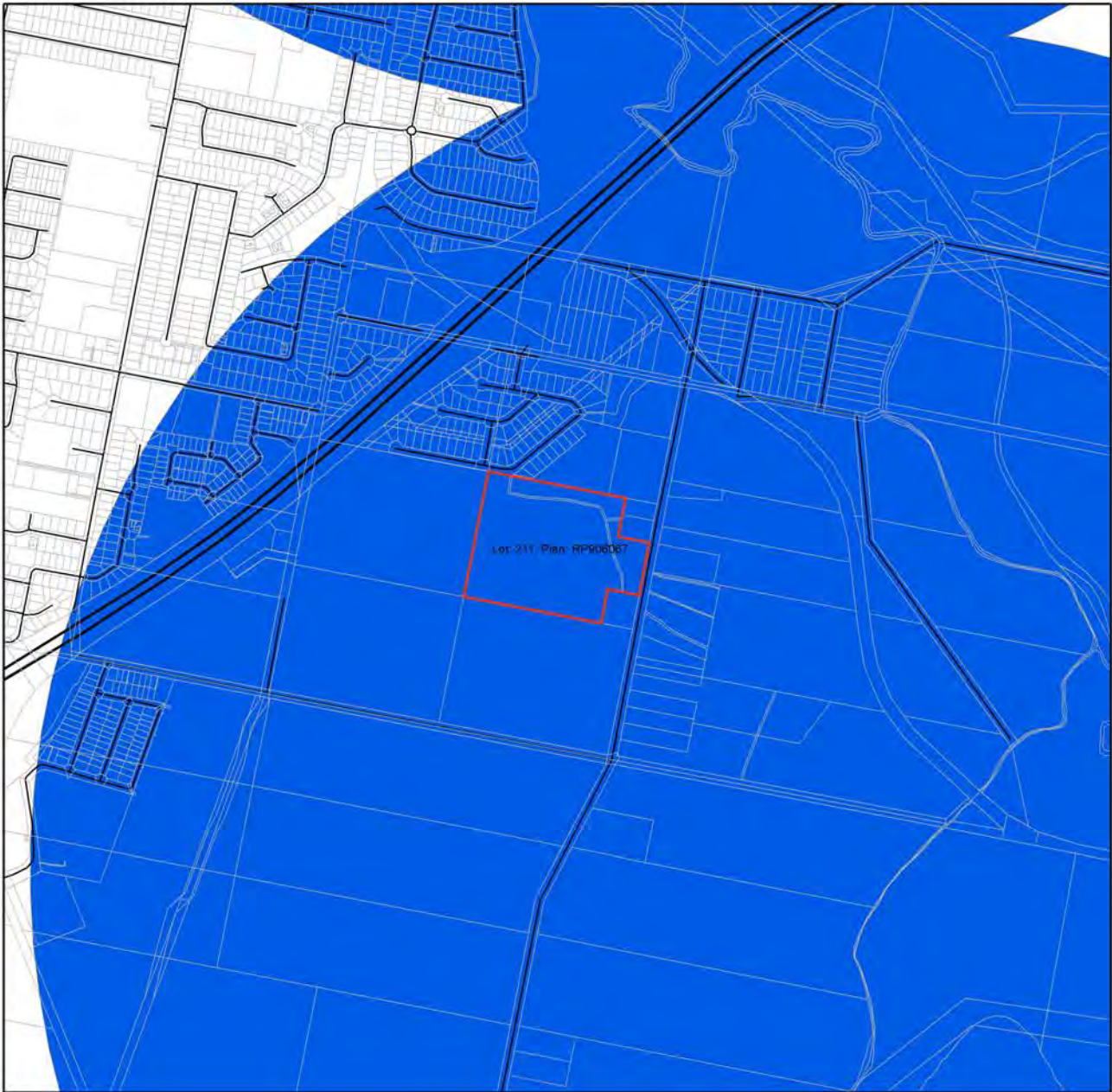
Please see the Department of Environment and Science webpage on the [clearing of protected plants](#) for information on what exemptions may apply in your circumstances, whether you may need to undertake a flora survey, and whether you may need a protected plants clearing permit.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information

Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the [Queensland Spatial Catalogue](#), the Department of Environment and Science does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of Environment and Science webpage on the [clearing of protected plants](#) for more information.



Protected Plants Flora Survey Trigger Map

Legend

- Lot and Plan
- High risk area
- Cadastral line
- Property boundaries shown are provided as a locational aid only
- Freeways / motorways / highways
- Secondary roads / streets



0 100 200 300 400 500 m

This product is projected into:
GDA 1994 Queensland Albers

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

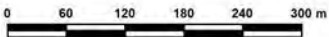
For further information or assistance with interpretation of this product, please contact the Department of Environment and Science at palm@ehp.qld.gov.au

Disclaimer:
While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.



Map of Referable Wetlands
Wetland Protection Areas

- Lot and Plan
- Cadastral Boundary
- Wetland Protection Areas
 - Wetland
 - Trigger Area



Note:
This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

The Department of State Development, Manufacturing, Infrastructure and Planning is the State Assessment Referral Agency (SARA) under Schedule 7 of the Sustainable Planning Regulation 2009 for assessable development involving high impact earthworks within wetland protection areas. The Department of Environment and Science is a technical agency.

The policy outcome and assessment criteria for assessing these applications are described in the State Development Assessment Provisions (SDAP) *Module 11: Wetlands and wild rivers*.

This map is produced at a scale relevant to the size of the lot on plan identified and should be printed at A4 size in portrait orientation. Consideration of the effects of mapped scale is necessary when interpreting data at a large scale.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Science, email planning.support@des.qld.gov.au.

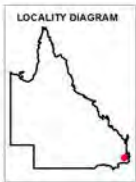
This product is projected into GDA 1994 MGA Zone 56

© The State of Queensland, 2019



Map of Referable Wetlands for the Environmental Protection Act 1994

- Lot and Plan
- Cadastral Boundary
- HES Wetland
- GES Wetland



Note:
This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

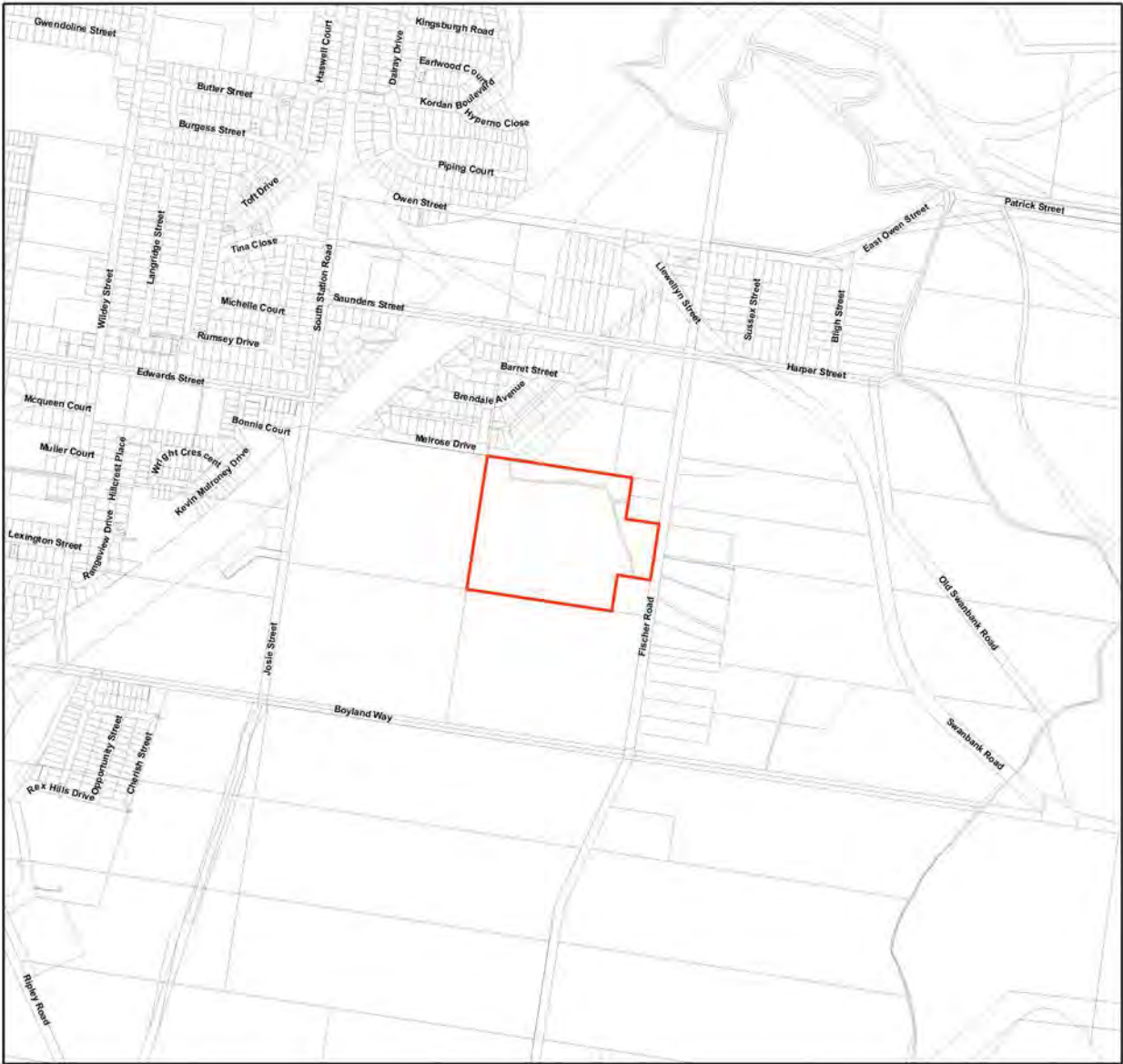
Wetlands are assessed for ecological significance using the environmental values for wetlands in section 81A of the Environmental Protection Regulation 2008. Wetlands are considered either High Ecological Significance (HES) or of General Ecological Significance (GES) for the purposes of the environmental values.

This map is produced at a scale relevant to the size of the lot on plan identified and should be printed at A4 size in portrait orientation. Consideration of the effects of mapped scale is necessary when interpreting data at a large scale.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Science, email planning.support@des.qld.gov.au.

This product is projected into GDA 1994 MGA Zone 56

© The State of Queensland, 2019



Map of Referable Wetlands
Wetland Protection Areas

- Lot and Plan
- Cadastral Boundary
- Wetland Protection Areas
 - Wetland
 - Trigger Area



This product is projected into GDA 1994 MGA Zone 56

Note:
This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

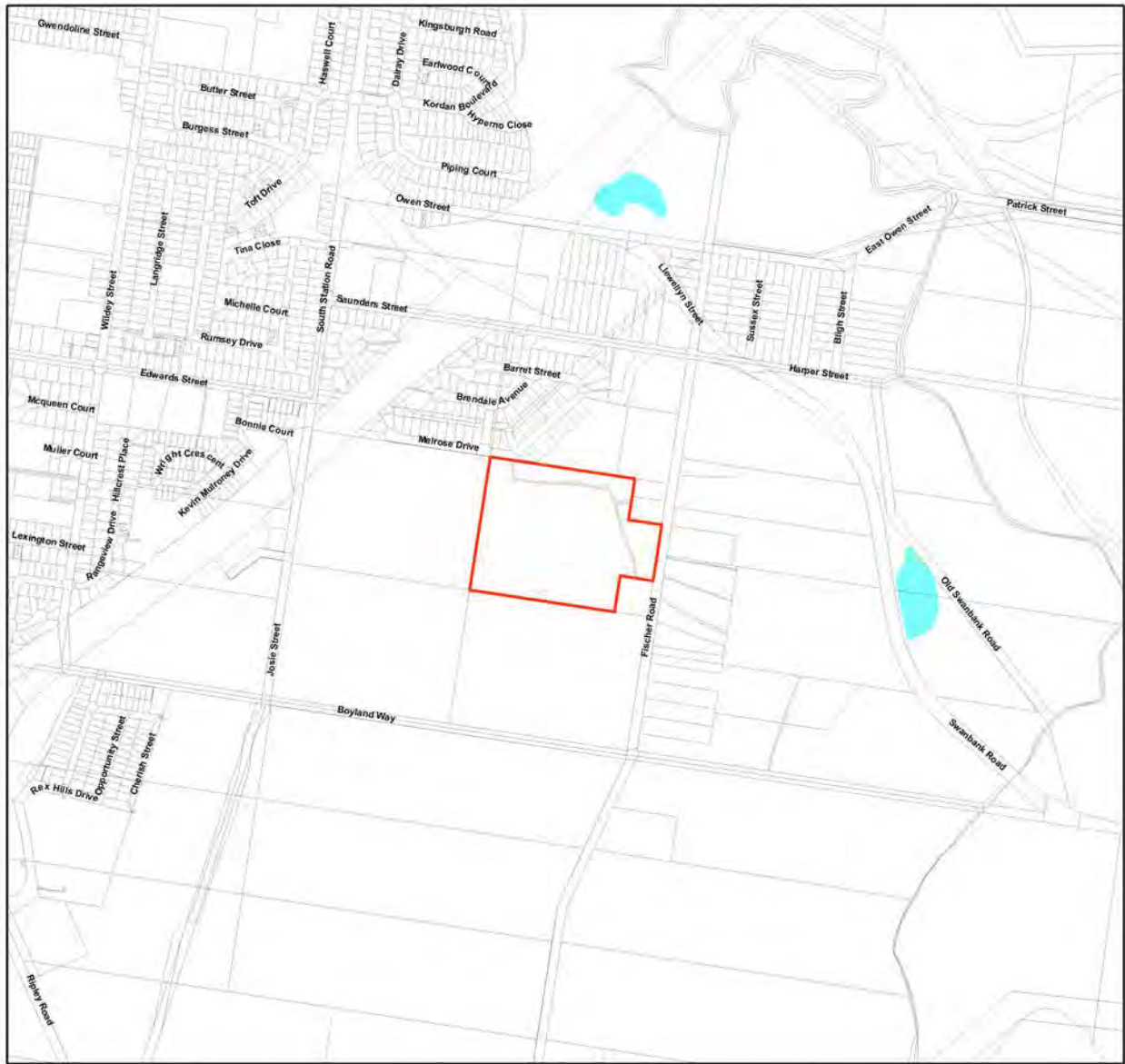
The Department of State Development, Manufacturing, Infrastructure and Planning is the State Assessment Referral Agency (SARA) under Schedule 7 of the Sustainable Planning Regulation 2009 for assessable development involving high impact earthworks within wetland protection areas. The Department of Environment and Science is a technical agency.

The policy outcome and assessment criteria for assessing these applications are described in the State Development Assessment Provisions (SDAP) *Module 11: Wetlands and wild rivers*.

This map is produced at a scale relevant to the size of the lot on plan identified and should be printed at A4 size in portrait orientation. Consideration of the effects of mapped scale is necessary when interpreting data at a large scale.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Science, email planning.support@des.qld.gov.au.

© The State of Queensland, 2019



Map of Referable Wetlands for the Environmental Protection Act 1994

- Lot and Plan
- Cadastral Boundary
- HES Wetland
- GES Wetland



Note:
This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

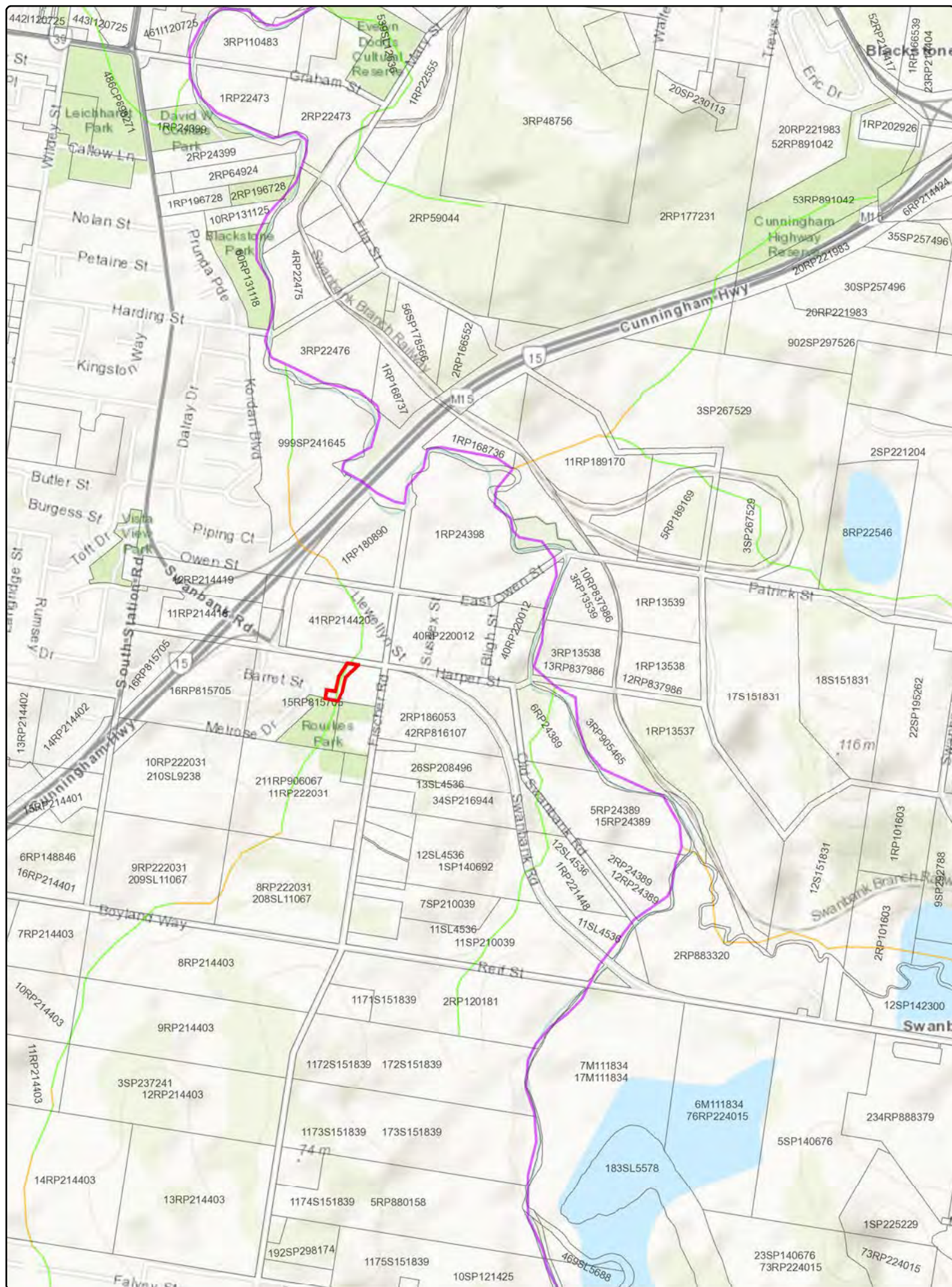
Wetlands are assessed for ecological significance using the environmental values for wetlands in section 81A of the Environmental Protection Regulation 2008. Wetlands are considered either High Ecological Significance (HES) or of General Ecological Significance (GES) for the purposes of the environmental values.

This map is produced at a scale relevant to the size of the lot on plan identified and should be printed at A4 size in portrait orientation. Consideration of the effects of mapped scale is necessary when interpreting data at a large scale.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Science, email planning.support@des.qld.gov.au.

© The State of Queensland, 2019

This product is projected into GDA 1994 MGA Zone 56



DA Mapping System – Print Screen

Date: 01/04/2019

0 290 580 870 1,160

Metres



Department of State
Development, Manufacturing,
Infrastructure and Planning

© The State of Queensland 2019.

Disclaimer:

This map has been generated from the information supplied to the Department of State Development, Manufacturing, Infrastructure and Planning for the purposes of the Development Assessment Mapping System. Note that this is a print screen only. The map generated has been prepared with due care based on the best available information at the time of publication. The State of Queensland holds no responsibility for any errors, inconsistencies or omissions within this document. Any decisions made by other parties based on this document are solely the responsibility of those parties. This information is supplied subject to the full terms and conditions available on the department's website.

Legend

Drawn Polygon Layer





Override 1

Cadastre (25k)



Cadastre (25k)

Queensland waterways for waterway barrier works

-  1 - Low
-  2 - Moderate
-  3 - High
-  4 - Major

DA Mapping System – Print Screen

Date: 01/04/2019

Disclaimer:

This map has been generated from the information supplied to the Department of State Development, Manufacturing, Infrastructure and Planning for the purposes of the Development Assessment Mapping System. Note that this is a print screen only. The map generated has been prepared with due care based on the best available information at the time of publication. The State of Queensland holds no responsibility for any errors, inconsistencies or omissions within this document. Any decisions made by other parties based on this document are solely the responsibility of those parties. This information is supplied subject to the full terms and conditions available on the department's website.



Department of State
Development, Manufacturing,
Infrastructure and Planning

© The State of Queensland 2019.



Koala Conservation in South East Queensland State Planning Regulatory Provisions

- Lot and Plan
- Priority Koala Assessable Development Areas
- Koala Assessable Development Areas
- Outside SPRP Koala Assessable Development Areas
- Koala SPRP - Identified Broad-Hectare Areas
- Koala SPRP - Identified Broad-Hectare Areas
- Koala SPRP - Habitat Values
- Bushland Habitat
 - High Value Bushland
 - Medium Value Bushland
 - Low Value Bushland
- Suitable for Rehabilitation
 - High Value Rehabilitation
 - Medium Value Rehabilitation
 - Low Value Rehabilitation
- Other Areas of Value
 - High Value Other
 - Medium Value Other
 - Low Value Other
 - Generally not suitable
 - Water
- Cadastral Boundaries
- Local Government Boundaries



This product is projected into GDA 1994 MGA Zone 56

While every care is taken to ensure the accuracy of this data, the State of Queensland makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the data being inaccurate or incomplete in any way and for any reason. Due to varying sources of data, spatial locations may not coincide when overlaid.

In consideration of the State permitting use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, reliability, completeness, currency or suitability) and accepts no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws.

Based on or contains data provided by the State of Queensland 2010.

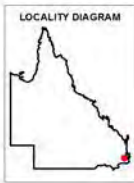
Note - These maps are not regulatory. Regulatory maps and requirements can be downloaded from the DES website. Further information in relation to regulatory requirements for development and planning activities should be sought from the relevant Local Government Authority or the Department of Environment and Science.

© The State of Queensland, 2019



Koala Habitat in South East Queensland

-  Lot and Plan
- Koala SPP - Habitat Values**
- Bushland Habitat**
-  High Value Bushland
 -  Medium Value Bushland
 -  Low Value Bushland
- Suitable for Rehabilitation**
-  High Value Rehabilitation
 -  Medium Value Rehabilitation
 -  Low Value Rehabilitation
- Other Areas of Value**
-  High Value Other
 -  Medium Value Other
 -  Low Value Other
 -  Generally not suitable
 -  Water
- South East Queensland Koala Habitat Values western SEQ**
-  Bushland Habitat
 -  Suitable for rehabilitation
 -  Other areas of value
 -  Generally not suitable
 -  Water
-  Cadastral Boundaries
-  Local Government Boundaries



This product is projected into GDA 1994 MGA Zone 56

While every care is taken to ensure the accuracy of this data, the State of Queensland makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the data being inaccurate or incomplete in any way and for any reason. Due to varying sources of data, spatial locations may not coincide when overlaid.

In consideration of the State permitting use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, reliability, completeness, currency or suitability) and accepts no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws.

Based on or contains data provided by the State of Queensland 2010.

Note - These maps are not regulatory. Regulatory maps and requirements can be downloaded from the DES website. Further information in relation to regulatory requirements for development and planning activities should be sought from the relevant Local Government Authority or the Department of Environment and Science.

APPENDIX 3

Protected Plant Survey Ecologist Qualifications and Certification Statement

14 May 2019

Conservation and Biodiversity Policy Unit
Department of Environment and Science

To whom it may concern,

RE: Certification by suitably qualified person, Protected Flora Survey

I, Shelley Trevaskis, Senior Ecologist at Biodiversity Assessment and Management Pty Ltd (BAAM), completed a targeted flora survey within areas of vegetation that may require clearing as a result of a proposed trunk sewer construction at Flinders View on 2nd May, 2019.

In accordance with the Queensland *Flora Survey Guidelines – Protected Plants* (Version 2.00, 2016), I hereby certify that:

- a) I have adhered to all statutory requirements and flora survey guideline requirements, and
- b) the flora survey report is an accurate and full account of the flora survey.

A copy of my CV is attached that demonstrates I have the necessary qualifications and experience to undertake flora survey in accordance with the Queensland *Flora Survey Guidelines – Protected Plants* (Version 2.00, 2016).

Yours sincerely



Shelley Trevaskis
Senior Ecologist
Biodiversity Assessment and Management Pty Ltd

SPECIALISATION

- Ecological Survey
- Protected Plant Survey
- Vegetation and Rehabilitation Management Plans
- Biocondition Assessment
- Environmental Planning
- Project Management

EDUCATION & PROFESSIONAL QUALIFICATIONS

BSc Environmental Studies, Griffith University(1995)
Certified Environmental Practitioner (CEnvP)



KEY EXPERIENCE

Shelley Trevaskis is a Senior Ecologist at BAAM Pty Ltd. Her areas of expertise are botanical and ecological survey, environmental planning and project management. Shelley has over 13 years' experience as an environmental consultant, with extensive experience in vegetation assessment, flora identification and fieldwork technique (BioCondition, Regional Ecosystem assessments, PMAVs, Protected Flora and Ecological surveys).

RECENT PROJECT EXPERIENCE

- Protected Flora Surveys undertaken in accordance with state guidelines – Rainbow Beach Fire Station, Logan Central Carpark Extension and Peachester Rural Fire Brigade (Public Safety Business Agency); Palm Beach and Robertson state schools (Hutchinson Builders); Beenleigh Quarry (Nucrush).
- Ecological Assessments to inform proposed resource, infrastructure and other development activities (flora components and groundtruthing of Regional Ecosystem mapping):
 - Oxenford Quarry (Nucrush);
 - Griffin - Henry Road Upgrade (Stantec on behalf of Moreton Bay Regional Council);
 - Molongle Creek Dredge Spoil site (Department of Transport and Main Roads);
 - Proposed new schools at Coomera, Pimpama and Mango Hill (Department of Housing and Public Works on behalf of Department of Education);

- BMC Dragline Move Project corridor (Advician on behalf of BMC); and
- Cooroy to Curra highway realignment (Jacobs on behalf of Department of Transport and Main Roads).
- BioCondition and Offset Site Assessments – Wolffdene Quarry (Hanson); Proposed Offset Sites for Dundowran Quarry and Burrum Quarry (Barro Group).
- Vegetation Management Plans and Rehabilitation Plans – Queensland Academy, Toowong (Department of Housing and Public Works on behalf of Department of Education); Rainbow Beach Fire Station and Logan Central Carpark Extension (Public Safety Business Agency).
- Ecological Monitoring – Woolgoolga to Ballina highway upgrade (Jacobs on behalf of Road and Maritime Safety NSW); Vance Mining Lease, North Stradbroke Island (Sibelco).





PROFESSIONAL HISTORY




2012- present	BAAM Pty Ltd Senior Ecologist and Project Manager
2011-2012	Department of Environment and Resource Management Customer Service Officer
2008-2010	Chenoweth Environmental Planning and Landscape Architecture Senior Ecologist
2004-2008	Lambert and Rehbein Pty Ltd Ecologist





APPENDIX 4





Flora Survey Data

Table A4.1. Description of Quaternary site vegetation.

Site	Habitat description	Representative photo
Q1	<p>Brief description: <u>Non-remnant vegetation subject to existing PMAV.</u></p> <p>Canopy (T1): Mid-dense/sparse. Height range 18-25; median height 25m. Co-dominant : <i>Corymbia intermedia</i>, <i>Angophora leiocarpa</i>, <i>Eucalyptus tereticornis</i> Sub-dominant: <i>Corymbia citriodora</i>, <i>Eucalyptus crebra</i></p> <p>Sub-canopy (T2): Sparse. Height range 6-10m; median height: 8m Co-dominant: <i>Acacia disparrima</i>, <i>Acacia leiocalyx</i>, <i>Angophora leiocarpa</i>, <i>Alphitonia excelsa</i> Sub-dominant: <i>Lophostemon suaveolens</i>, <i>Jacksonia scoparia</i>.</p> <p>Shrub: Sparse. Height range 1-3m; median height 2m. Dominant : <i>Alphitonia excelsa</i> Associated: <i>Lophostemon suaveolens</i>, <i>Acacia leiocalyx</i>.</p> <p>Groundcover: Mid-dense. Height range 0-1m; median height 1m. Dominant: <i>Megathyrsus maximus</i>* Sub-dominant: <i>Lantana montevidensis</i>*, <i>Melinis repens</i>*, <i>Cymbopogon refractus</i>.</p>	
Q2	<p>Brief description: <u>RE12.9-10.2</u></p> <p>Canopy (T1): Mid-dense/sparse. Height range 18-25; median height 25m. Dominant : <i>Corymbia citriodora</i> Sub-dominant: <i>Corymbia intermedia</i>, <i>Eucalyptus tereticornis</i></p> <p>Sub-canopy (T2): Mid-dense. Height range 6-10m; median height: 8m Co-dominant: <i>Acacia disparrima</i>, <i>Acacia leiocalyx</i>, <i>Angophora leiocarpa</i>, <i>Alphitonia excelsa</i>, <i>Jacksonia scoparia</i> Sub-dominant: <i>Eucalyptus crebra</i>.</p> <p>Shrub: Sparse. Height range 1-3m; median height 2m. Dominant : <i>Wikstroemia indica</i> Associated: <i>Alphitonia excelsa</i>, <i>Acacia leiocalyx</i>.</p> <p>Groundcover: Mid-dense. Height range 0-1m; median height 1m. Dominant: <i>Megathyrsus maximus</i>* Sub-dominant: <i>Lantana montevidensis</i>*, <i>Melinis repens</i>*</p>	
Q3	<p>Brief description: <u>RE12.9-10.2</u> – (features species reflective of the ecotone with RE12.3.3).</p> <p>Canopy (T1): Mid-dense. Height range 18-23; median height 20m. Co-dominant : <i>Eucalyptus tereticornis</i>, <i>Corymbia intermedia</i>, <i>Angophora leiocarpa</i>.</p> <p>Sub-canopy (T2): Dense. Height range 6-10m; median height: 10m Co-dominant: <i>Acacia disparrima</i>, <i>Alphitonia excelsa</i>, <i>Lophostemon suaveolens</i>, <i>Eucalyptus tereticornis</i>. Sub-dominant: <i>Petalostigma pubescens</i>.</p> <p>Shrub: Very sparse. Height range 0.5-1m; median height 0.5m. Co-dominant: <i>Alphitonia excelsa</i>, <i>Lantana camara</i>*, <i>Lophostemon suaveolens</i>.</p> <p>Groundcover: Very sparse. Height range 0.1-0.5; median height 0.3m. Dominant: <i>Megathyrsus maximus</i>* Sub-dominant: <i>Lantana montevidensis</i>*, <i>Melinis repens</i>*, <i>Passiflora suberosa</i>*, <i>Lomatia purpurascens</i>, <i>Cymbopogon refractus</i>.</p>	
Q4	<p>Brief description: <u>Non-remnant vegetation subject to existing PMAV.</u></p> <p>Canopy (T1): Mid-dense/sparse. Height range 18-25; median height 25m. Dominant : <i>Eucalyptus tereticornis</i> Sub-dominant: <i>Corymbia intermedia</i>, <i>Angophora leiocarpa</i>, <i>Eucalyptus crebra</i></p> <p>Sub-canopy (T2): Very sparse. Height range 13-16m; median height: 15m Dominant: <i>Eucalyptus tereticornis</i></p> <p>Shrub: Very sparse. Height range 0.1-1m; median height 1m. Dominant : <i>Alphitonia excelsa</i></p> <p>Groundcover: Mid-dense. Height range 0.5-1m; median height 0.5m. Co-dominant: <i>Lantana montevidensis</i>*, <i>Melinis repens</i>*, <i>Cymbopogon refractus</i>, <i>Hybanthus stellarioides</i>, <i>Alphitonia excelsa</i>, <i>Lophostemon suaveolens</i> (seedlings).</p>	

Site	Habitat description	Representative photo
Q5	<p>Brief description: <u>RE12.3.3 remnant.</u> This vegetation is mapped by the state as regrowth RE12.9-10.2/12.9-10.7/12.9-10.16 however site data supports a map change to RE12.3.3:</p> <ul style="list-style-type: none"> • Mapped drainage line and soggy ground layer as well as species associated with wetter environments indicates Land Zone 3 is applicable. • Transect data meets the T1 height (19m) and cover (92%) requirements of the remnant community. <p>Canopy (T1): Mid-dense/sparse. Height range 18-23; median height 19m. Dominant : <i>Eucalyptus tereticornis</i> Sub-canopy (T2): Very sparse. Height range 13-15m; median height: 14m Dominant: <i>Eucalyptus tereticornis</i> Associated species: <i>Lophostemon suaveolens</i> Shrub: Very sparse. Height range 0.1-0.5m; median height 0.5m. Co-dominant : <i>Alphitonia excelsa</i>, <i>Lantana camara</i>* Groundcover: Dense. Height range 0.1-1m; median height 1m. Co-dominant: <i>Chloris gayana</i>*, <i>Melinis repens</i>*, Associated: <i>Cynodon dactylon</i>, <i>Cyperus polystachyos</i>, <i>Bidens pilosa</i>*, <i>Murdannia graminea</i>, <i>Setaria sphacelata</i>*, <i>Ludwigia octovalvis</i>.</p>	
Q6	<p>Brief description: <u>RE12.3.3 remnant.</u> This vegetation is mapped by the state as regrowth RE12.9-10.2/12.9-10.7/12.9-10.16 however site data supports a map change to RE12.3.3:</p> <ul style="list-style-type: none"> • Mapped drainage line and identified watercourse as well as species associated with wetter environments indicates Land Zone 3 is applicable. • T1 canopy species and height are representative of RE12.3.3. Adjacent vegetation qualifies as RE12.3.3. <p>Canopy (T1): Mid-dense/sparse. Height range 15-23; median height 18m. Dominant : <i>Eucalyptus tereticornis</i> Sub-canopy (T2): Mid-dense. Height range 8-13m; median height: 10m Dominant: <i>Lophostemon suaveolens</i> Associated: <i>Celtis sinensis</i>* Shrub: Dense. Height range 1-2m; median height 1.5m. Dominant : <i>Lantana camara</i>* Groundcover: Dense. Height range 1-1.5m; median height 1m. Co-dominant: <i>Chloris gayana</i>*, Associated: <i>Cynodon dactylon</i>, <i>Cyperus polystachyos</i>, <i>Bidens pilosa</i>*, <i>Setaria sphacelata</i>*, <i>Ludwigia octovalvis</i>, <i>Typha</i> spp.</p>	
Q7	<p>Brief description: <u>RE12.3.3 remnant.</u> This vegetation is mapped by the state as non-remnant however site data supports a map change to RE12.3.3:</p> <ul style="list-style-type: none"> • Although the understorey has been completely cleared and modified, the canopy (T1) layer is dominated by <i>E. tereticornis</i>, representative of the RE12.3.3 community description. • Rourkes Park is low lying and forms the alluvial flats of a mapped watercourse that traverses this park - indicates Land Zone 3 is applicable. • Transect data meets the T1 height (25m) and cover (68%) requirements of the remnant community. <p>Canopy (T1): Mid-dense. Height range 18-25; median height 25m. Dominant : <i>Eucalyptus tereticornis</i> Sub-canopy (T2): Very sparse. Height range 12-15m; median height: 13m Dominant: <i>Lophostemon suaveolens</i> Associated species: <i>Eucalyptus tereticornis</i>, <i>Lophostemon suaveolens</i>, <i>Corymbia tessellaris</i>. Shrub: absent Groundcover: maintained (mown)</p>	

Site	Habitat description	Representative photo
Q8	<p>Brief description: <u>RE12.3.3 remnant.</u> This vegetation is mapped by the state as regrowthRe12.3.3 however site data supports a map change to RE12.3.3:</p> <ul style="list-style-type: none"> The canopy (T1) layer is dominated by <i>E. tereticornis</i>, representative of the RE12.3.3 community description. Vegetation meets the T1 height (25m) and cover (mid-dense open forest) requirements of the remnant community. <p>Canopy (T1): Mid-dense. Height range 18-25; median height 25m. Dominant : <i>Eucalyptus tereticornis</i> Sub-canopy (T2): Sparse. Height range 8-12m; median height: 12m Dominant: <i>Lophostemon suaveolens</i> Associated species: <i>Angophora leiocarpa</i>. Shrub: Dense. Height range 2-3m; median height 3m. Dominant : <i>Lantana camara</i>*, <i>Senna pendula</i>* Groundcover: Dense. Height range 0.5-2m; median height 1m. Co-dominant: <i>Chloris gayana</i>*, <i>Melinis repens</i>* Associated: <i>Cynodon dactylon</i>, <i>Cyperus polystachyos</i>, <i>Bidens pilosa</i>*, <i>Setaria sphacelata</i>*, <i>Ludwigia octovalvis</i>, <i>Typha spp.</i></p>	
Q9	<p>Brief description: <u>Non-remnant vegetation subject to existing PMAV.</u> Canopy (T1): Mid-dense. Height range 17-23; median height 20m. Dominant : <i>Eucalyptus tereticornis</i> Associated: <i>Angophora leiocarpa</i>, <i>Corymbia intermedia</i>, Sub-canopy (T2): Mid-dense. Height range 8-12m; median height: 10m Dominant: <i>Lophostemon suaveolens</i> Associated species: <i>Alphitonia excelsa</i>, <i>Celtis sinensis</i>*, <i>Acacia disparrima</i>. Shrub: Mid-dense. Height range 1- 2m; median height 1m. Dominant : <i>Lantana camara</i>*, Groundcover: Dense. Height range 0.5-1m; median height 1m. Co-dominant: <i>Chloris gayana</i>*, <i>Megathyrsus maximus</i>*, <i>Neonotonia wightii</i>*.</p>	
Q10	<p>Brief description: <u>RE12.3.3 remnant.</u> Canopy (T1): Mid-dense. Height range 17-23; median height 20m. Dominant : <i>Eucalyptus tereticornis</i> Associated: <i>Angophora leiocarpa</i>, <i>Corymbia intermedia</i>, <i>Eucalyptus crebra</i> Sub-canopy (T2): Mid-dense. Height range 8-15m; median height: 10m Dominant: <i>Lophostemon suaveolens</i> Associated species: <i>Angophora leiocarpa</i>, <i>Eucalyptus tereticornis</i>, <i>Corymbia intermedia</i>, <i>Acacia disparrima</i>. Shrub: Mid-dense. Height range 1- 2m; median height 1m. Dominant : <i>Lantana camara</i>*, Associated: <i>Lophostemon suaveolens</i>, <i>Acacia leiocalyx</i> Groundcover: Sparse. Height range 0.1-0.5m; median height 0.3m. Co-dominant: <i>Bryophyllum delagoense</i>*, <i>Cymbopogon refractus</i>, <i>Passiflora suberosa</i>*, <i>Imperata cylindrica</i>.</p>	
Q11	<p>Brief description: <u>RE12.3.3 regrowth.</u> Canopy (T1): Very sparse. Height range 23-25; median height 25m. Dominant : <i>Eucalyptus tereticornis</i> Associated: <i>Corymbia intermedia</i> Sub-canopy (T2): Mid-dense. Height range 14-17m; median height: 17m Dominant: <i>Eucalyptus tereticornis</i> Associated species: <i>Angophora leiocarpa</i>, <i>Corymbia intermedia</i>. Sub-canopy (T3): Mid-dense. Height range 6-9m; median height: 9m Dominant: <i>Lophostemon suaveolens</i> Associated species: <i>Acacia disparrima</i>, <i>Corymbia tessellaris</i> Shrub: Mid-dense. Height range 1- 2m; median height 1m. Dominant : <i>Lantana camara</i>*, Associated: <i>Alphitonia excelsa</i>, <i>Acacia leiocalyx</i> Groundcover: Mid-dense. Height range 0.1-0.5m; median height 0.3m. Co-dominant: <i>Bryophyllum delagoense</i>*, <i>Megathyrsus maximus</i>*, <i>Chloris gayana</i>*, <i>Imperata cylindrica</i>.</p>	

Site	Habitat description	Representative photo
Q12	<p>Brief description: RE12.3.3 remnant.</p> <p>Canopy (T1): Mid-dense. Height range 18-23; median height 20m. Dominant : <i>Eucalyptus tereticornis</i> Associated: <i>Angophora leiocarpa</i>, <i>Corymbia intermedia</i>,</p> <p>Sub-canopy (T2): Mid-dense. Height range 8-12m; median height: 10m Co-dominant: <i>Lophostemon suaveolens</i>, <i>Corymbia intermedia</i>, <i>Acacia disparrima</i>, <i>Acacia leiocalyx</i>, <i>Alphitonia excelsa</i>, Associated species: <i>Corymbia tessellaris</i>.</p> <p>Shrub: Mid-dense. Height range 1- 2m; median height 1m. Dominant : <i>Lantana camara</i>*, Associated: <i>Alphitonia excelsa</i></p> <p>Groundcover: Mid-dense. Height range 0.1-0.5m; median height 0.5m. Co-dominant: <i>Passiflora suberosa</i>*, <i>Lantana montevidensis</i>*, <i>Melinis repens</i>*, <i>Megathyrsus maximus</i>*,</p>	
Q13	<p>Brief description: RE12.9-10.2 – (features species reflective of the ecotone with RE12.3.3).</p> <p>Canopy (T1): Mid-dense. Height range 15-18; median height 17m. Co-dominant : <i>Eucalyptus tereticornis</i>, <i>Corymbia intermedia</i>, <i>Angophora leiocarpa</i>.,</p> <p>Sub-canopy (T2): Mid-dense. Height range 8-10m; median height: 9m Co-dominant: <i>Acacia disparrima</i>, <i>Alphitonia excelsa</i>, <i>Angophora leiocarpa</i>, <i>Eucalyptus tereticornis</i>.</p> <p>Shrub: Sparse. Height range 1-2m; median height 1m. Co-dominant: <i>Alphitonia excelsa</i>, <i>Acacia leiocalyx</i> Associated: <i>Lantana camara</i>*,</p> <p>Groundcover: Mid-dense. Height range 0.1-0.5; median height 0.3m. Dominant: <i>Megathyrsus maximus</i>* Sub-dominant: <i>Lantana montevidensis</i>*, <i>Melinis repens</i>*, <i>Chloris gayana</i>*</p>	
Q14	<p>Brief description: RE12.9-10.2</p> <p>Canopy (T1): Mid-dense. Height range 20-25m; median height 23m. Co-dominant : <i>Eucalyptus tereticornis</i>, <i>Corymbia intermedia</i>, <i>Angophora leiocarpa</i>., Associated: <i>Corymbia citriodora</i></p> <p>Sub-canopy (T2): Very sparse. Height range 4-6m; median height: 6m Co-dominant: <i>Alphitonia excelsa</i>, <i>Acacia leiocalyx</i></p> <p>Shrub: Sparse. Height range 1-2m; median height 1m. Co-dominant: <i>Alphitonia excelsa</i>, <i>Acacia leiocalyx</i></p> <p>Groundcover: Dense. Height range 0.1-0.5; median height 0.3m. Dominant: <i>Megathyrsus maximus</i>* <i>Melinis repens</i>*, <i>Chloris gayana</i>*.</p>	
Q15	<p>Brief description: RE12.3.3 remnant.</p> <p>Canopy (T1): Mid-dense. Height range 20-25; median height 23m. Co-dominant : <i>Eucalyptus tereticornis</i>, <i>Corymbia intermedia</i>, <i>Angophora leiocarpa</i>.,</p> <p>Sub-canopy (T2): Mid-dense. Height range 9-12m; median height: 10m Dominant: <i>Acacia disparrima</i> Associated species: <i>Angophora leiocarpa</i>, <i>Alphitonia excelsa</i>, <i>Eucalyptus tereticornis</i></p> <p>Shrub: Very sparse. Height range 1- 2m; median height 1m. Dominant : <i>Lantana camara</i>*, Associated: <i>Alphitonia excelsa</i>, <i>Acacia leiocalyx</i></p> <p>Groundcover: Very Sparse. Height range 0.1-0.5m; median height 0.3m. Co-dominant: <i>Megathyrsus maximus</i>*.</p>	

Site	Habitat description	Representative photo
Q16	Cleared land	
Q17	Cleared and maintained parkland	

APPENDIX 5

Identified Large Tree Data

The following table provides descriptions of trees with a diameter at breast height (DBH) >30 cm recorded within or within close proximity to the 20 m wide potential impact corridor. For multi-stemmed trees, the DBH is calculated using the square root of the sum of all stems squared; the results of which are shown in brackets.

Point	Species	DBH (cm)	TPZ (m)	Height (m)	Health	Features
1	<i>Corymbia intermedia</i>	33	4.29	14	poor	
2	<i>Eucalyptus tereticornis</i>	48	6.24	16	poor	
3	<i>Corymbia intermedia</i>	58	7.54	16	moderate	
4	<i>Corymbia intermedia</i>	47	6.11	22	moderate	
5	<i>Corymbia intermedia</i>	47	6.11	20	moderate	arboreal termite nest
6	<i>Corymbia intermedia</i>	47	6.11	16	moderate	
7	<i>Corymbia intermedia</i>	40	5.2	16	moderate	
8	<i>Corymbia intermedia</i>	54	7.02	18	good	
9	<i>Corymbia intermedia</i>	49	6.37	16	moderate	
10	<i>Corymbia intermedia</i>	52	6.76	16	moderate	
11	<i>Eucalyptus tereticornis</i>	58	7.54	20	good	
12	<i>Angophora leiocarpa</i>	42	5.46	17	moderate	
13	<i>Corymbia intermedia</i>	48	6.24	18	moderate	
14	<i>Angophora leiocarpa</i>	34	4.42	16	moderate	
15	<i>Angophora leiocarpa</i>	31	4.03	17	moderate	
16	<i>Corymbia intermedia</i>	42	5.46	18	moderate	
17	<i>Corymbia intermedia</i>	60	7.8	20	good	
18	<i>Eucalyptus tereticornis</i>	39	5.07	20	good	
19	<i>Eucalyptus tereticornis</i>	38	4.94	20	moderate	
20	<i>Eucalyptus tereticornis</i>	38	4.94	18	moderate	
21	<i>Corymbia citriodora</i>	50	6.5	20	good	
22	<i>Corymbia citriodora</i>	32	4.16	16	moderate	
23	<i>Corymbia citriodora</i>	33	4.29	17	good	
24	<i>Eucalyptus tereticornis</i>	53	6.89	16	moderate	
25	<i>Eucalyptus crebra</i>	37	4.8	15	good	
26	<i>Corymbia citriodora</i>	33	4.29	17	good	
27	<i>Corymbia citriodora</i>	33	4.29	15	good	
28	<i>Eucalyptus tereticornis</i>	64	8.32	20	moderate	
29	<i>Corymbia citriodora</i>	30	3.9	15	good	
30	<i>Eucalyptus tereticornis</i>	39	5.07	14	moderate	
31	<i>Corymbia citriodora</i>	49	6.37	20	good	
32	<i>Eucalyptus tereticornis</i>	33	4.29	12	poor	
33	<i>Eucalyptus tereticornis</i>	44	5.72	15	moderate	
34	<i>Eucalyptus tereticornis</i>	50	6.5	28	moderate	
35	<i>Eucalyptus tereticornis</i>	54	7.02	18	moderate	
36	<i>Eucalyptus tereticornis</i>	40	5.2	16	moderate	

Point	Species	DBH (cm)	TPZ (m)	Height (m)	Health	Features
37	<i>Eucalyptus tereticornis</i>	34	4.42	12	poor	
38	<i>Eucalyptus tereticornis</i>	36	4.68	15	poor	
39	<i>Eucalyptus tereticornis</i>	44	5.72	16	poor	
40	<i>Eucalyptus tereticornis</i>	53	6.89	16	poor	small hollows
41	<i>Eucalyptus tereticornis</i>	36	4.68	16	moderate	
42	<i>Eucalyptus tereticornis</i>	44	5.72	18	moderate	
43	<i>Eucalyptus tereticornis</i>	65	8.45	20	good	
44	<i>Eucalyptus tereticornis</i>	40	5.2	22	moderate	small hollows
45	<i>Eucalyptus tereticornis</i>	45	5.85	25	moderate	
46	<i>Eucalyptus tereticornis</i>	40	5.2	18	moderate	
47	<i>Eucalyptus tereticornis</i>	64	8.32	25	moderate	small hollows
48	<i>Eucalyptus tereticornis</i>	51	6.63	22	moderate	small hollows
49	<i>Eucalyptus tereticornis</i>	30;20;40 (54)	6.5	25	moderate	
50	<i>Eucalyptus tereticornis</i>	80	10.4	20	moderate	small hollows
51	<i>Eucalyptus tereticornis</i>	47;20 (51)	6.63	25	moderate	
52	<i>Eucalyptus tereticornis</i>	58	7.54	20	moderate	small hollows
53	<i>Eucalyptus tereticornis</i>	58	7.54	22	moderate	
54	<i>Eucalyptus tereticornis</i>	30	3.9	10	poor	
55	<i>Eucalyptus tereticornis</i>	46	5.98	25	moderate	small hollows
56	<i>Eucalyptus tereticornis</i>	38	4.94	18	poor	
57	<i>Eucalyptus tereticornis</i>	36	4.68	25	poor	
58	<i>Eucalyptus tereticornis</i>	45;18 (48)	6.24	22	moderate	
59	<i>Eucalyptus tereticornis</i>	103	13.39	25	moderate	hollows
60	<i>Eucalyptus tereticornis</i>	51	6.63	25	moderate	hollows
61	<i>Eucalyptus tereticornis</i>	60	7.8	25	moderate	small hollows/stick nest
62	<i>Eucalyptus tereticornis</i>	67	8.71	25	moderate	small hollows
63	<i>Eucalyptus tereticornis</i>	41	5.33	20	moderate	
64	<i>Eucalyptus tereticornis</i>	56	7.28	20	moderate	
65	<i>Eucalyptus tereticornis</i>	67	8.71	22	moderate	small hollows
66	<i>Eucalyptus tereticornis</i>	114	14.82	20	good	small hollows
67	<i>Eucalyptus tereticornis</i>	48	6.24	18	moderate	
68	<i>Eucalyptus tereticornis</i>	67	8.71	20	moderate	small hollows
69	<i>Eucalyptus tereticornis</i>	88	11.44	25	moderate	
70	<i>Eucalyptus tereticornis</i>	61	7.93	25	good	
71	<i>Eucalyptus tereticornis</i>	56	7.28	20	moderate	
72	<i>Eucalyptus tereticornis</i>	39	5.07	18	moderate	
73	<i>Eucalyptus tereticornis</i>	74	9.62	22	moderate	
74	waterway		0			waterway
75	<i>Eucalyptus tereticornis</i>	54;54;32 (79)	10.27	22	moderate	scratches
76	<i>Eucalyptus tereticornis</i>	103	13.39	22	good	hollow in base

Point	Species	DBH (cm)	TPZ (m)	Height (m)	Health	Features
77	<i>Eucalyptus tereticornis</i>	53	6.89	25	moderate	
78	<i>Eucalyptus tereticornis</i>	77	10.01	25	moderate	
79	<i>Eucalyptus tereticornis</i>	107	13.91	25	moderate	hollows
80	<i>Eucalyptus tereticornis</i>	65	8.45	20	moderate	small hollows
81	9007		0			survey peg
82	<i>Eucalyptus tereticornis</i>	49	6.37	20	moderate	
83	<i>Eucalyptus tereticornis</i>	57	7.41	25	good	
84	<i>Eucalyptus tereticornis</i>	42;22;19 (51)	6.63	22	moderate	
85	<i>Eucalyptus tereticornis</i>	37	4.81	25	moderate	
86	<i>Eucalyptus tereticornis</i>	47	6.11	25	moderate	
87	<i>Eucalyptus tereticornis</i>	41	5.33	25	moderate	
88	<i>Eucalyptus tereticornis</i>	37;26 (45)	5.85	20	poor	
89	<i>Eucalyptus tereticornis</i>	31	4.03	22	moderate	
90	<i>Eucalyptus tereticornis</i>	63	8.19	25	good	
91	<i>Eucalyptus tereticornis</i>	35	4.55	18	good	
92	<i>Eucalyptus tereticornis</i>	50	6.5	25	good	
93	<i>Eucalyptus tereticornis</i>	38	4.94	22	good	
94	<i>Eucalyptus tereticornis</i>	49	6.37	25	moderate	
95	<i>Angophora leiocarpa</i>	34	4.42	18	good	
96	<i>Eucalyptus tereticornis</i>	35	4.55	18	moderate	
97	<i>Eucalyptus tereticornis</i>	30	4.55	18	moderate	
98	<i>Angophora leiocarpa</i>	35	3.9	1	moderate	
99	<i>Angophora leiocarpa</i>	30	3.9	15	moderate	
100	<i>Corymbia intermedia</i>	33;32 (46)	5.98	18	moderate	arboreal termite nest
101	<i>Eucalyptus tereticornis</i>	31	4.03	18	moderate	
102	<i>Corymbia intermedia</i>	28;28;26 (47)	6.11	12	good	
103	<i>Corymbia intermedia</i>	74	9.62	22	good	arboreal termite nest
104	<i>Corymbia intermedia</i>	67	8.71	22	moderate	hollows
105	<i>Corymbia citriodora</i>	34	4.42	25	good	
106	<i>Corymbia citriodora</i>	95	12.35	25	good	hollows
107	<i>Angophora leiocarpa</i>	53	6.89	20	good	
108	<i>Eucalyptus tereticornis</i>	31	4.03	18	moderate	
109	<i>Angophora leiocarpa</i>	44	5.72	25	good	
110	<i>Angophora leiocarpa</i>	43	5.59	22	good	
111	<i>Corymbia intermedia</i>	45	5.85	16	good	
112	<i>Angophora leiocarpa</i>	41	5.33	25	good	small hollows
113	<i>Eucalyptus tereticornis</i>	36	4.68	12	good	
114	<i>Angophora leiocarpa</i>	30	4.55	16	good	
115	<i>Eucalyptus tereticornis</i>	36	4.03	12	good	
116	<i>Eucalyptus tereticornis</i>	35	6.37	20	moderate	

Point	Species	DBH (cm)	TPZ (m)	Height (m)	Health	Features
117	<i>Angophora leiocarpa</i>	31	4.03	20	good	
118	<i>Angophora leiocarpa</i>	49	4.03	25	good	
119	<i>Angophora leiocarpa</i>	31	4.03	25	good	
120	<i>Angophora leiocarpa</i>	31	4.94	18	good	
121	<i>Corymbia intermedia</i>	31;30;25 (50)	6.5	15	moderate	
122	<i>Corymbia intermedia</i>	38	4.42	15	moderate	arboreal termite nest
123	<i>Angophora leiocarpa</i>	35	4.81	16	good	
124	<i>Eucalyptus tereticornis</i>	34	8.06	16	good	
125	<i>Eucalyptus tereticornis</i>	37	10.92	16	good	
126	<i>Eucalyptus tereticornis</i>	62	8.06	20	moderate	small hollows
127	<i>Eucalyptus tereticornis</i>	84	8.45	25	good	hollows/arboreal termite nest
128	<i>Eucalyptus tereticornis</i>	54;54 (76)	9.88	18	good	hollows
129	<i>Eucalyptus tereticornis</i>	65	8.45	20	good	
130	<i>Angophora leiocarpa</i>	42	5.46	18	good	hollows
131	<i>Eucalyptus tereticornis</i>	68	8.84	14	moderate	
132	<i>Eucalyptus tereticornis</i>	45	5.85	12	moderate	
133	<i>Eucalyptus tereticornis</i>	47	6.11	15	moderate	
134	<i>Eucalyptus tereticornis</i>	59	7.67	17	moderate	
135	<i>Eucalyptus tereticornis</i>	58	7.54	17	moderate	
136	<i>Eucalyptus tereticornis</i>	60	7.8	17	moderate	
137	<i>Eucalyptus tereticornis</i>	57	7.41	17	moderate	
138	<i>Eucalyptus tereticornis</i>	65	8.45	16	moderate	

MEMO

TO: Urban Utilities
FROM: Doug Mohr
SUBJECT: **Swanbank Stage 3 Sewer Augmentation: Significant Impact Assessment for Koala**
OUR REF: DW-ICNES-0056-EV-MEM-00001 RevC.docx
DATE: 9 March 2021

1. INTRODUCTION AND PURPOSE

Urban Utilities is within the Early Contractor Involvement (ECI) phase of the Swanbank Stage 3 Sewer Augmentation (the Project). To assist with project planning, Urban Utilities requested the preparation of an assessment against the *Environment and Biodiversity Conservation Act 1999 (EPBC Act) Referral Guidelines for the Vulnerable Koala* (DoE, 2014) (Koala Referral Guideline) (DoE 2014) and a Significant Impact Assessment (SIA) for the Koala (*Phascolarctos cinereus*), listed as a vulnerable within the EPBC Act, in accordance with the *Matters of National Environmental Significance - Significant Impact Guidelines 1.1* (SIA Guideline) (DoE, 2013). Both assessments provide an early indication, as to whether the Project should be referred to the Commonwealth Minister of the Environment under the provisions of the EPBC Act.

For the purposes of this report, the following terminology is used:

- Project: Urban Utilities' Swanbank Stage 3 sewer augmentation project
- Construction Access Area (CAA): the total spatial extent required to construct the Project, including access and laydown areas, roughly 3.2 ha, consisting of approximately 2.8 ha of Koala habitat.
- Proposed action: The clearing, construction and operation associated with the Project and CAA.

The purpose of this SIA is to address the risk of project related impacts upon Matters of National Environmental Significance (MNES).

The current extent of the Project's CAA is shown on Figure 1.

Portions of the CAA are contained within the clearing area associated with an urban development on lots:

- 1 and 2 RP203690
- 515 SL7870
- 2 and 211 RP906067, and

— 208 and 209 SL11067.

Ipswich City Council has requested advice on whether Urban Utilities has undertaken due diligence under the EPBC Act for impact to the Koala. The development will clear Koala habitat that overlaps with the CAA.

This assessment assumes that all clearing within the CAA is a result of the Project.

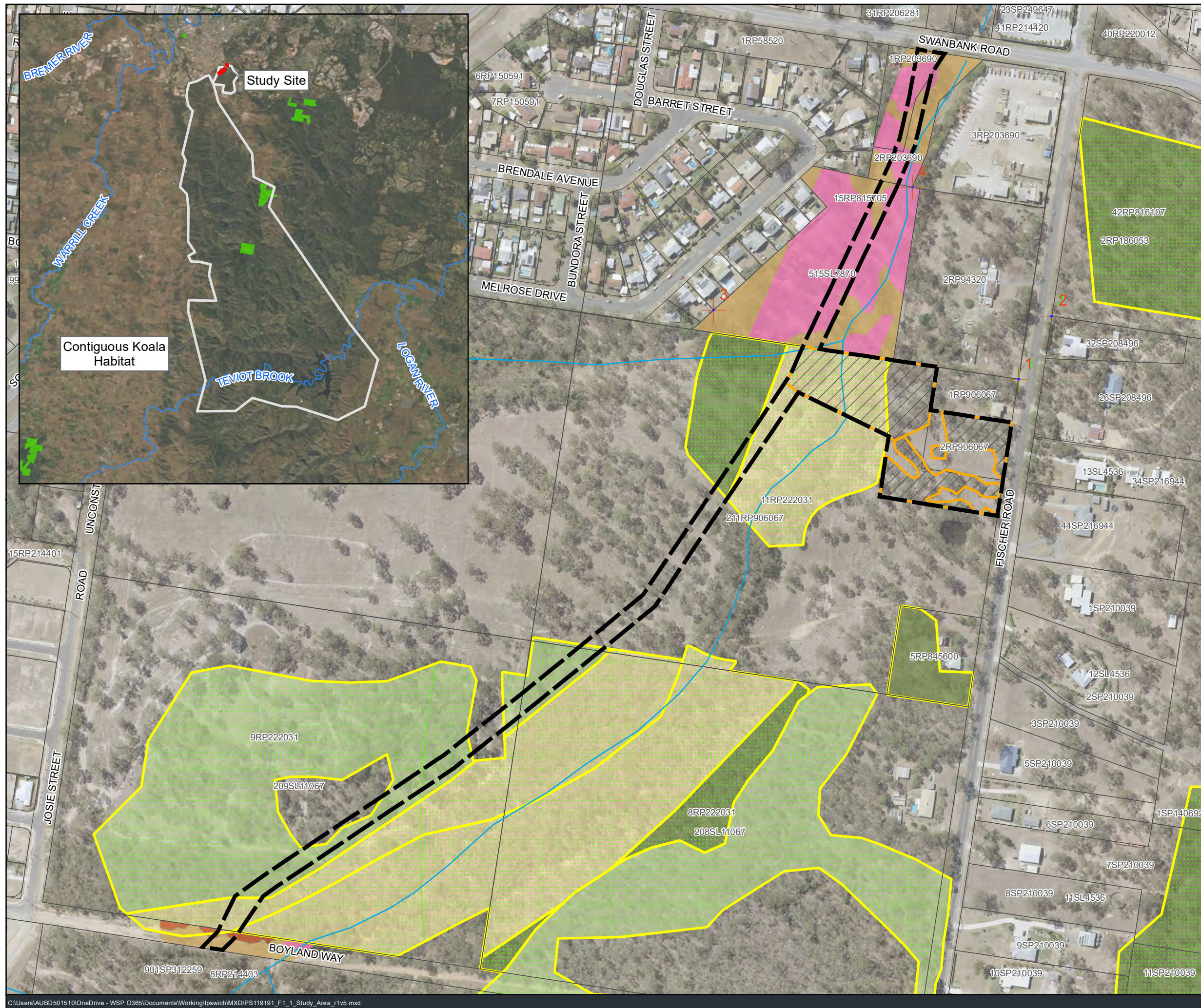
2. STUDY LIMITATIONS

The SIA presented herein is based on the findings of ecological field surveys and the extent of potential project-related impacts associated with the current CAA extents.

The SIA has been specifically prepared to inform project planning based on the current engineering design. The findings of the SIA may change in response to modifications of the design and overall final extent of the CAA for the Project.

The SIA utilises the assessment frameworks provided in the SIA Guideline (DoE, 2013) and the Koala Referral Guideline (DoE 2014).

Both assessments will determine whether an EPBC Referral should be prepared of the Project or not.



Swankbank Stage 3 Sewer Augmentation

Figure 1.1
Study Area

Legend

Predicted Koala Habitat

Construction Access

Essential Habitat

Field Verified Vegetation

Non

12.9-10.7a

12.3.3

MSES - Koala Core Habitat Areas

State-mapped Regional Ecosystems

12.3.3

12.9-10.2

12.9-10.2/12.9-10.7/12.9-10.16



0 0.08 0.16 km



Coordinate system: GDA 1994 MGA Zone 56

Scale ratio correct when printed at A3

1:3,365

Date: 3/5/2021

Data sources: - DNRME, TMR, Translink, Geoscience Australia

© WSP Australia Pty Ltd ("WSP") Copyright in the drawings, information and data recorded ("the information") is the property of WSP. This document and the information are solely for the use of the authorised recipient and this document may not be used, copied or reproduced in whole or part for any purpose other than that which it was supplied by WSP. WSP makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this document or the information. NCSI Certified Quality System to ISO 9001. © APPROVED FOR AND ON BEHALF OF WSP Australia Pty Ltd.

3. RECOMMENDED IMPACT MITIGATION AND MANAGEMENT MEASURES

The recommended impact mitigation and management measures outlined below, form part of the Project design, and are incorporated to minimise impacts and reduce permanent residual impacts to the Koala. As such, these measures have informed the SIA for the Koala:

- where possible, large eucalypts that include Koala habitat and feed trees will be avoided and the majority of the canopy will be retained
- develop a Construction Environmental Management Plan (CEMP) for the Project, which will be specifically applied to areas of MNES being impacted by the Project
- soil management, including return of soil horizons and final surface levels
- weed management to be applied pre-construction and post construction to facilitate natural regeneration of koala habitat.

Other measures that may minimise and reduce permanent residual impacts where practical, include:

- minimise the extent/length of permanent maintenance access tracks to specific access points
- rehabilitate temporary access tracks for construction purposes with tree species and groundcovers representative of pre-existing vegetation communities
- re-align CAA, to avoid or minimise impacts to Koala habitat.

The implementation of some or all the above recommendations reduces the significance of impacts to MNES and the potential need to prepare an EPBC Referral for the Project, and associated time delays and any potential environmental offset implications.

4. OUTCOME OF KOALA REFERRAL GUIDELINE ASSESSMENT

Table 1 presents the outcomes for the Koala referral guideline assessment prepared for the Koala. Appendix A presents the complete assessment.

Table 1 Summary of Koala Referral Guideline assessment

MATTER	EPBC ACT STATUS	CONCLUSION
Koala Habitat	Vulnerable	<p>The Koala Referral Guideline considers habitats with a score greater or equal to five under the Koala habitat assessment to contain habitat critical to the survival of the Koala.</p> <p>The assessment has demonstrated that approximately 2.8 ha of Koala habitat with a score of 5 will be impacted.</p> <p>The Koala Referral Guidelines state that for impact areas between 2-20 ha and habitat scores lesser or equal to 8 that impacts are uncertain, and referral decisions depend on the characteristics of the action.</p> <p>The assessed characteristics of the Proposed action are determined to be low risk of significant impact. Subsequently, a referral is not necessary for the Project within the context of the Koala Referral Guidelines.</p>

5. OUTCOME OF SIGNIFICANT IMPACT ASSESSMENT

Table 2 presents the outcomes for the SIA prepared for the Koala. Appendix A presents the complete SIA.

Table 2 Summary of significant impact assessment

MATTER	EPBC ACT STATUS	CONCLUSION
Koala Habitat	Vulnerable	<p>The Proposed action is located within patches of habitat that comprise of high to low vegetation quality, within the fringes of a habitat complex as potentially containing an important population.</p> <p>While the Proposed action may result in some incremental habitat loss for a potential important population of the Koala at the local scale, the Proposed action will only remove less than 0.2% of the 2,200 ha habitat in the greater landscape, which includes the Flinders Goolman Conservation Estate (FGCE).</p> <p>The Proposed action is unlikely to fragment or isolate available habitat, or contribute to the increase of key threats to the species, such as existing vehicle strike, dog attack, or incidence or spread of disease.</p>

MATTER	EPBC ACT STATUS	CONCLUSION
		The assessment determined that the Proposed action is unlikely to significantly impact the Koala within the meaning of the SIA Guideline.

6. RECOMMENDED ACTIONS

Based on this assessment, an EPBC Referral to the Commonwealth Department of Agriculture, Water and the Environment is not deemed necessary, as impacts to the local Koala population are minimal in extent and located on the edge of Koala habitat, and therefore, do not constitute a significant impact within the meaning of the SIA Guideline and Koala Referral Guideline.

It will be necessary to adopt the recommended impact mitigation and management measures outlined in Section 3, into the design and CEMP for the Project, to be implemented during construction to reduce temporary and permanent impacts to the Koala and its supporting habitat.

The findings of the Koala Referral Guideline assessment and the SIA may change in response to modifications to Project design, and re-assessment should be undertaken if impacts relating to the Project increase.

Doug Mohr
Senior Ecologist



APPENDIX A

A.1 KOALA (*PHASCOLARCTOS CINEREUS*)

A.1.1 CONSERVATION STATUS

The Koala is listed as Vulnerable under the EPBC Act and the NC Act.

A.1.2 DESCRIPTION

The Koala is found in Australia from north-eastern Queensland to the south-eastern corner of South Australia, with translocated sub-populations also occurring outside of the Koalas usual range. Their range is discontinuous, and highly dependent on environmental variables, including altitude, temperature, and at the western and northern ends of their range, leaf moisture (DAWE, 2020).

A.1.3 THREATS

Primary threats to the Koala in coastal regions according to Section 3, table 1 of the Koala Referral Guideline, include:

- Loss, fragmentation and degradation of habitat, including dispersal habitat due to logging, vegetation clearing and urban expansion
- Mortality due to dog attack and vehicle strike
- Mortality due to diseases including chlamydiosis and Koala Retrovirus

Additional threats include but are not limited to:

- Climate change leading to drought (DAWE, 2020).

These threats are compounded by continued land clearing for urban development, particularly in South East Queensland (SEQ). Habitat loss is reported to be the most significant cause of Koala population decline, which is estimated to be up to 80% in areas of SEQ between 1996 and 2014 (Queensland Government, 2019).

A.2 ASSESSMENT AGAINST THE KOALA REFERRAL GUIDELINES

During site visits undertaken by WSP in 2020, the following was observed:

- traces of Koalas were detected (trunk scratches)
- the habitat observed within proximity to the impact area or Construction Access Area (CAA) was *Eucalyptus tereticornis* on alluvium, which in combination with the observed Koala traces, and knowledge of key Koala habitats led to this vegetation type being assigned as Koala habitat
- the bulk of the CAA is contained within koala habitat, with an estimated 2.8 ha of Koala habitat being impacted by the Proposed action.

An assessment of the potential impact on Koala habitat within the CAA was conducted in accordance with the *EPBC Act referral guidelines for the vulnerable koala* (DoE, 2014) (Koala Referral Guideline).

In reference to the Koala Referral Guideline, primary and secondary Koala food trees are considered those species listed in the NSW Office of Environment and Heritage's (OEH) *Koala habitat and feed trees*. The list provided by OEH includes the primary and secondary food trees for the North Coast, which is applicable to South East Queensland.

Refer to OEH website: <https://www.environment.nsw.gov.au/topics/animals-and-plants/native-animals/native-animal-facts/Koala/Koala-habitat>

An assessment has been prepared in accordance with the Koala Referral Guideline (refer Table A.1), to provide preliminary advice as to whether the Proposed action may impact habitat critical to the survival of the Koala, and as to whether a referral to DAWE is required.

Section 7 of the Koala Referral Guideline state that Proposed actions with an impact area possessing a habitat score greater or equal than five (≥ 5), contain habitat critical to the survival of the Koala. Proposed actions with impact areas less than 20 ha with a habitat score less than eight, are assessed as impacts uncertain, and the decision of the referral depends on the nature of the Proposed action.

According to the Koala Referral Guideline, characteristics of the Proposed action that are likely to adversely affect habitat critical to the survival of the Koala include:

- the score calculated for the impact area (higher scores have greater risk of significant impact)
- amount of habitat being cleared
- method of clearing (i.e. clear felling or selectively felling)
- the density or abundance of Koalas
- level of fragmentation caused by the clearing

Factors should be considered case by case. The upper and lower thresholds presented in the Koala Referral Guideline determine whether a Proposed action will be significant or not. For example, per the Koala Referral Guideline, a significant impact would be expected if 25 ha of habitat scoring six or seven was cleared. Or if 100 ha of habitat score five was completely cleared. Conversely, a significant impact would not be expected if 5 ha of habitat scoring nine or ten was selectively cleared.

The results presented in Table A.1 determined a habitat score of five for the 2.8 ha of Koala habitat within the CAA.

Therefore, the habitat within the CAA contains habitat critical to the survival of the Koala and the Project impacts are uncertain and referral decisions depend by the nature of the Project, presented in Table A.2.

The Koala Referral Guideline assessments outlined in Table A.1 and Table A.2 have determined that there is a low risk of significant impact to the Koala. Subsequently, an EPBC referral is not deemed necessary for the Proposed action, according to the Koala Referral Guideline. Despite this outcome, a full assessment under the SIA Guideline has been undertaken in the subsequent section, in support of the Koala Referral Guideline determination.

Table A.1 Koala habitat assessment in accordance with the Koala referral guidelines

ATTRIBUTE	SCORE	ASSESSMENT AGAINST COASTAL HABITAT CHARACTERISTICS
Koala occurrence	+1 (medium)	Evidence of one or more Koalas within the last 2 years. A Koala record from 2019 is present within 2 km of the Proposed action.
Vegetation composition	+2 (high)	The Study Area supports primary and secondary Koala food tree species (OEH, 2016), including: Primary: Forest Red Gum (<i>Eucalyptus tereticornis</i>) Secondary: Pink Bloodwood (<i>Corymbia intermedia</i>) Based on the current CAA, primary and secondary Koala food tree species are included in the areas of potential disturbance.
Habitat connectivity	+2 (high)	Most of the Study Area is in a fragmented landscape having been previously cleared and largely modified in association with historical clearing and peri-urban development. However, the Koala habitat intersecting the Study Area (refer Figure 1) is part of contiguous habitat that is greater than 500 ha in size at the landscape scale.
Key existing threats	0 (low)	Traffic incidents and dog attacks are listed as a key existing threat within strategic planning documentation for the Koala in the Ipswich City Council Area (ICC) (ICC, 2015). According to ICC, vehicle strikes near major highways, such as the Cunningham Highway, adjacent to the Proposed action, has local significant impact on the species. Additionally, dog attacks have been recorded throughout the region in both urban and rural areas. The ICC suggests that many dog attacks go unrecorded and that the impact is greater than what is known.
Recovery value	+ 0 (medium)	Movement is most likely occurring to and from the White Rock National Park and Flinders Goolman Conservation Estate (FGCE) and the surrounding matrix of suitable habitat, which is known to sustain a population of Koalas (Australian Living Atlas, 2021). However, the habitat impacted within the CAA: — is not of sufficient size to operate as a viable sub-population — is not free of disease as chlamydia bacteria in Koalas and Koala Retrovirus is already present across most of Southeast Queensland (DECC, 2008). — is unlikely used to for breeding.
Score	5	

ATTRIBUTE	SCORE	ASSESSMENT AGAINST COASTAL HABITAT CHARACTERISTICS
Conclusion		<p>The Koala Referral Guideline considers habitats with a score greater or equal to five under the Koala habitat assessment to contain habitat critical to the survival of the Koala.</p> <p>Therefore, the habitat within the CAA contains habitat critical to the survival of the Koala. The Koala Referral Guidelines state that for impact areas less than 20 ha and habitat scores lesser or equal to 8 that impacts are uncertain, and referral decisions depend on the nature of the action.</p> <p>An assessment of the characteristics of the Proposed action impacting approximately 2.8 ha of Koala habitat and a habitat score of 5 are found in Table A.2</p>

Table A.2 *Uncertain Impacts Assessment*

ATTRIBUTE	RISK	ASSESSMENT AGAINST UNCERTAIN IMPACTS
Habitat score	Low	The Koala Referral Guidelines has determined that the impact area has a habitat score of 5, the lowest habitat score determined as habitat critical to the survival of the koala.
Habitat to be cleared	Low	The Proposed action will remove 2.8 of Koala habitat, less than 0.2% of the FGCA (2,200 ha) habitat in the greater landscape, which includes the Flinders Goolman Conservation Estate (FGCE). This relatively small impact will have a low risk of impact on Koalas in the greater landscape.
Method of clearing	Low	The Proposed action largely consist of linear infrastructure that is recommended to avoid large koala habitat trees and retain canopy where possible. The CAA extension, consist of a laydown area that contains mostly clear areas with portions of Predicted Koala habitat that will be impacted by the Proposed action.
Density or abundance of Koalas	Medium	Evidence of one or more Koalas within the last 2 years are present. The QLD Biomaps identifies Koala records from 2019 within 2 km of the Proposed action.

ATTRIBUTE	RISK	ASSESSMENT AGAINST UNCERTAIN IMPACTS
Level of Fragmentation	Low	<p>The Proposed action is located on the fringe of the FGCE habitat complex.</p> <p>The Proposed action can be described as a sewer pipeline alignment that requires a narrow band of clearing, approximately 20 m wide along the outer edge of the FGCE. Additionally, it contains a laydown area that currently contains portions of Predicted Koala Habitat.</p> <p>Koalas will cross active roads or large cleared areas within their range (Goldingay, 2013). Post-construction, the narrow band to be cleared will not have traffic and will be allowed to naturally regenerate allowing Koalas to safely pass through post construction.</p> <p>The laydown area will have limited traffic, mostly restricted to day time hours when Koalas are less active.</p> <p>Therefore, the Proposed action will not act as a post-construction barrier to the Koala and is unlikely to fragment existing populations into two or more populations.</p>
Conclusion		<p>The Koala Referral Guideline considers Proposed actions with habitats with a score greater or equal to five under the Koala habitat assessment with impact areas greater than 2 ha, to have uncertain impacts. EPBC referral decisions depend on the nature of the Proposed action, as assessed above.</p> <p>The assessed characteristics of the Proposed action are determined to be low risk of significant impact. Subsequently, a referral is not necessary for the Project within the context of the Koala Referral Guidelines.</p>

A.3 KOALA SIGNIFICANT IMPACT ASSESSMENT

Under the EPBC Act, a person proposing to take an action must refer the Proposed action if it has, will have, or is likely to have a ‘significant impact’ on a MNES. A ‘significant impact’ on a MNES is an impact which is important, notable, or of consequence, having regard to its context or intensity.

The purpose of the *Matters of National Environmental Significance Significant Impact Guidelines 1.1 EPBC Act* (DoE 2013) (SIA Guidelines) is to inform proponents who propose to undertake an action (development), to decide whether or not they should submit a referral to the Department of Agriculture, Water and the Environment (DAWE). Once referred to DAWE a decision is made by the Minister of Environment, as to whether assessment and approval is required under the EPBC Act. Under the EPBC Act a Proposed action will require approval

from the Minister if the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance (MNES).

This significant impact assessment is limited to Koala (*Phascolarctos cinereus*), listed as a vulnerable under the EPBC Act, has been undertaken in accordance with the SIA Guidelines. It supports the outcome of the assessment against the Koala Referral Guidelines.

A.3.1 SIGNIFICANT IMPACT ASSESSMENT DEFINITIONS

The SIA Guidelines provides specific definitions for ‘*important population*’ and ‘*habitat critical to the survival of a species or ecological community*’. This definition is a key consideration when conducting significant impact assessments for a threatened species or ecological community listed under the EPBC Act. The definitions are presented below.

A.3.1.1 IMPORTANT POPULATION

An ‘*important population*’ is defined by the SIA Guidelines as:

“An ‘*important population*’ is a population that is necessary for a species’ long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:

- key source populations either for breeding or dispersal;
- populations that are necessary for maintaining genetic diversity; and/or
- populations that are near the limit of the species range.

A.3.1.2 HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES OR ECOLOGICAL COMMUNITY

The SIA Guidelines provide the following definition for ‘*habitat critical to the survival of a species*’:

“*Habitat critical to the survival of a species or ecological community*’ refers to areas that are necessary:

- *for activities, such as foraging, breeding, roosting, or dispersal*
- *for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)*
- *to maintain genetic diversity and long term evolutionary development, or*
- *for the reintroduction of populations or recovery of the species or ecological community.*
- *Such habitat may be, but is not limited to:*
 - *habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/ or*
 - *habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act.”*

Critical habitat can be further explained as an identified area of viable habitat that contains habitat attributes that are essential for the conservation of a threatened species. These areas are typically under a regime of special protection and management to ensure the critical habitat remains a stronghold for the species to ensure its long-term survival and viability in the wild. Critical habitat may also include an area of land not currently occupied by the species, but can

act as a sanctuary by possessing the necessary habitat attributes to facilitate the recovery of a declining population of the species.

A.3.2 SPECIFIC IMPACTS

The Proposed action proposes to clear approximately 2.8 ha of Koala habitat that contains primary and secondary feed trees. A likelihood of occurrence assessment, determined, due to the high density of primary and secondary Koala feed trees, that Koalas are likely to utilise the vegetation within the Proposed action. This included, eucalypt forest habitat proposed to be impacted by the Proposed action.

A.3.3 SIGNIFICANT IMPACT ASSESSMENT

AN ACTION IS LIKELY TO HAVE A SIGNIFICANT IMPACT ON A VULNERABLE SPECIES IF THERE IS A REAL CHANCE OR POSSIBILITY THAT IT WILL:

Criterion 1: Lead to a long-term decrease in the size of an important population

There are no 'important populations' outlined in the SPRAT profile or DES profile for the Koala, as important populations for this species should be considered on a case by case basis relative to the local population or sub-population (DAWE, 2020). However, the SPRAT profile describes areas throughout Queensland where large or significant Koala populations have been identified.

The Proposed action is not within the limit of the Koala range as the Koalas range extends to north of Cairns in tropical QLD, throughout the Brigalow Belt and east coast down the south coast of Victoria, reaching into the southeast corner of South Australia (Australian Living Atlas, 2021). The Proposed action is located within SEQ and not near the limits of the species range.

Koala habitat that will be impacted is recognised as containing a key source population either for breeding or dispersal, as it is along the edge of the FGCE, which a large patch of habitat that contains numerous recent Koala records (Australian Living Atlas, 2021). This suggests, the habitat that will be impacted by the Proposed action is on the fringe of a habitat complex containing an important population of the Koala.

Not accounting for future clearing within the greater region, the Proposed action is however not considered to lead to a long term decrease in the size of the local Koala population that is a key source population for breeding. The Proposed action's impact on Koala habitat is relatively small (2.8 ha) and is on the edge of the relatively large FGCE patch. The Proposed action is clearing a linear strip approximately 20 m wide at its widest part, and post construction will not contain any infrastructure that acts as a barrier for Koala dispersal or breeding. Additionally, it contains a laydown area that currently contains portions of Predicted Koala Habitat. The laydown area will have limited traffic, mostly restricted to daylight hours when Koalas are less active.

Subsequently, over the long-term the Proposed action is not likely lead to a decrease in the local Koala population associated with the FGCE.

Even though, the edge of the FGCE that is recognised as potentially supporting an important population of the Koala, will be impacted by the Proposed action, the removal of 2.8 ha of fringe Koala habitat is unlikely to lead to a long-term decrease in the size of an important population, as the impact area is small in comparison to the FGCE habitat to be retained.

Criterion 2: Reduce the area of occupancy of an important population

The Proposed action is located on the fringe of the FGCE habitat complex that is recognised as potentially containing an important population of the Koala, refer to Criterion 1.

However, the Proposed action's clearing of 2.8 ha of Koala habitat will not substantially reduce the area of occupancy of this population as the nature of the Proposed action is a linear strip approximately 20 m wide at its widest part, with a connected laydown area. Post construction the narrow strip will not contain any infrastructure that acts as a barrier for occupancy. Post construction, the laydown area that currently contains portions of Predicted Koala Habitat will have low traffic, mostly restricted to day time hours when Koalas are less active.

Therefore, the Proposed action is unlikely to reduce the overall area of occupancy of the potential important population associated with the FGCE.

Criterion 3: Fragment an existing important population into two or more populations

The Proposed action is located on the fringe of the FGCE habitat complex that is recognised as potentially containing an important population, refer to Criterion 1.

The Proposed action can be described as a narrow band of clearing, approximately 20 m wide, with a connected laydown area along the outer edge of the FGCE. Koalas will cross active roads or large cleared areas within their range (Goldingay, 2013). Post-construction, the narrow cleared strip within the Proposed action will not have traffic and will be allowed to naturally regenerate allowing Koalas to safely pass through the CAA post construction. The laydown area will have low traffic, predominately restricted to day time hours when Koalas are less active. Therefore, the Proposed action will not act as a post-construction barrier to Koala and is unlikely to fragment an existing important population into two or more populations.

Criterion 4: Adversely affect habitat critical to the survival of a species

A habitat assessment against the Koala Referral guidelines determined a habitat score of 5, thus critical to the survival of the koala. However, the Koala Referral Guidelines identified the Proposed action as low risk of significant impact to the Koala.

The Proposed action's impact is:

- limited to approximately 2.8 ha of fringing habitat, which is a relatively small portion (<0.2%) of the suitable habitat within the greater landscape, including the FGCE (2,200 ha)
- a linear strip up to 20 m wide at its widest part and will avoid large tree species recognised as primary and secondary Koala feed trees, thus limiting adverse impacts to the species mobility and habitat usage post-construction
- a connected laydown area that contains areas of maintained grassland and portions of predicted koala habitat. Post-construction the laydown area is to be used predominately during hours in which the Koala is not active, thus limiting adverse impacts to the species mobility.
- to be mitigated by post construction management include weed control, allowing for passive habitat restoration that will decrease the overall extent of habitat permanently impacted by the Proposed action.

It is unlikely the Proposed action will adversely affect habitat critical to the survival of the Koala due to the low level of impacts and mitigation measures proposed.

Criterion 5: Disrupt the breeding cycle of an important population

The Proposed action is located on the fringe of the FGCE habitat complex that is recognised as potentially containing an important population, refer to Criterion 1.

The Koala is not recognised as having specific breeding habitat or requirements, other than needing to disperse during the breeding season to find an appropriate mate. Additionally, Koalas have been known to cross suburban roads and open areas successfully (Goldingay, 2013). The narrow strip within the CAA of the Proposed action will be up to 20 m wide at its widest part, thus allowing for the canopy trees will be retained. Post-construction, the narrow strip will have no traffic, allowing for safe passage of Koalas. The laydown area within the CAA will remain cleared post-construction, however traffic will be limited and restricted to day time hours when Koalas are less active.

The Proposed action will not disrupt the breeding cycle of an important population due to the retention of the adjacent FGCE and other adjacent habitats to the CAA, where Koalas can continue to effectively breed and raise young, and for those offspring to effectively disperse further afield.

Criterion 6: Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The Proposed action will clear 2.8 ha of Koala habitat. It is comprised of a narrow strip of clearing required for a sewer pipeline alignment. The Proposed action also contains a laydown area required for construction purposes. This narrow strip contains vegetation comprised of Regional Ecosystem (RE) 12.3.3, whilst the laydown area contains predicted koala habitat. Both the RE and predicted koala habitat contains primary and secondary Koala feed trees, including but not limited to:

- Forest Red Gum (*Eucalyptus tereticornis*)
- Pink Bloodwood (*Corymbia intermedia*)

Areas to the south that are connected to the Proposed action by corridors include the FGCE, a large continuous tract (>2,200 ha) of habitat managed by ICC, that contains suitable habitat for the Koala.

The immediate surrounding vegetation, and strong linkages to the FGCE decrease the risk of species decline if the Proposed action is undertaken. Additionally, the Proposed action, where possible, will retain canopy trees and will have no permanent surface infrastructure inside the narrow strip, to decrease the natural regeneration of Koala habitat and feed trees beyond the extent of the pipeline, which is to maintained as grassland or as part of the existing access track.

The Proposed action will not modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline due to:

- relatively small area of Koala habitat to be cleared within the Proposed action (2.8 ha)
- the retention of adjacent vegetation classified as viable Koala habitat
- the large continuous and connected habitat to the south, containing suitable Koala habitat.

Criterion 7: Result in invasive species that are harmful to a Vulnerable species becoming established in the Vulnerable species' habitat

Domestic and feral dogs have been identified as a key threatening process for the Koala (DAWE 2020), while some woody weed species can affect Koala habitat quality.

Adhering to mitigation measures such as weed control should minimise the risk of invasive weeds establishing following construction.

The area containing the Proposed action is surrounded by urban development and is likely to already contain domestic and feral dogs. The Proposed action is not likely to result in a long term increase in dog attacks or interactions, as the Project will not provide infrastructure (e.g. new housing development) that will lead to an increase in the number of domestic dogs within the area. Additionally, the Project is not considered likely to increase the incidence in vertebrate pests including wild dogs.

The implementation of weed control and the nature of the Proposed action should not result in invasive species becoming established that are harmful to the Koala.

Criterion 8: Introduce disease that may cause the species to decline

It is unlikely that the Proposed action will fragment a Koala population to the point where dispersal is limited and therefore disease transmission between individuals is increased, such as a population bottleneck.

The Chlamydia bacteria in Koalas and Koala Retrovirus is primarily transmitted between Koala individuals and is already present across most of Southeast Queensland (DECC, 2008). The Proposed action is unlikely to increase the spread and infection of these already present diseases.

It is unlikely that the Proposed action will introduce a disease that may cause the species to decline and the nature of the clearing will not increase transmission of Chlamydia or Retrovirus in the local area.

Criterion 9: Interfere substantially with the recovery of the species

Table A.3 outlines the impacts defined in Section 8 of the Koala Referral Guideline that are likely to substantially interfere with the recovery of the Koala.

These impacts are mirrored within the South East Queensland Koala Conservation Strategy 2020–2025 (DES 2020).

These potential impacts that are recognised as having the potential to substantially interfere with the recovery of the Koala have been evaluated against the actual impacts associated with the Proposed action, as listed in **Table A.3**

Table A.3 Impacts that interfere substantially with recovery of the Koala

IMPACTS	ASSESSMENT	OUTCOME
Increasing koala fatalities in habitat critical to the survival of the koala due to dog attacks to a level that is likely to result in multiple, ongoing mortalities.	The Proposed action is located within suburbia, and the current potential for fatal dog/koala interactions is high. Further, the Proposed action does not include any infrastructure (housing) that increases the potential for more dogs.	The Proposed action will not lead to increasing fatalities in habitat critical to the survival of the koala due to dog attacks to a level that is likely to result in multiple, ongoing mortalities.
Increasing koala fatalities in habitat critical to the survival of the koala due to vehicle-strikes to a level that is likely to result in multiple, ongoing mortalities.	The Proposed action is currently bounded by a major highway. Subsequently, the risk for vehicle strikes is already prevalent. The Proposed action does not include any permanent high flow traffic.	The Proposed action will not lead to increasing fatalities in habitat critical to the survival of the koala due to vehicle-strikes to a level that is likely to result in multiple, ongoing mortalities.

IMPACTS	ASSESSMENT	OUTCOME
Facilitating the introduction or spread of disease or pathogens for example Chlamydia or <i>Phytophthora cinnamomi</i> , 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.	<p>It is unlikely that the Proposed action will fragment a Koala population to the point where dispersal is limited and therefore disease transmission between individuals is increased, such as a population bottleneck.</p> <p>The Proposed action is immediately surrounded by suitable koala habitat and is connected to the FGCE, a large patch of habitat, decreasing the risk of population bottlenecks due to fragmented habitat.</p> <p>Koalas have been known to successfully cross quiet roads and open areas (Goldingay, 2013). Post construction, the Proposed action will allow Koalas to safely move through the CAA between habitats, decreasing the risk of population bottleneck and disease transmission.</p>	The Proposed action will not facilitate the introduction or spread of disease or pathogens for example Chlamydia or <i>Phytophthora cinnamomi</i> that are likely to significantly reduce the reproductive output of Koalas or reduce the carrying capacity of the habitat.
Creating 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	<p>The Proposed action is comprised of a narrow corridor up to 20 m wide at its widest point and a laydown area containing 2.8 ha of Koala habitat. Post-construction the Proposed action will maintain safe passages for the Koala through the CAA between habitats.</p> <p>Additionally, the Proposed action, where possible is to retain large canopy trees. This collectively suggest that Koalas will not be impeded by the Proposed action post-construction, allowing for genetic drift between Koalas and access to viable habitat.</p>	The Proposed action will not create a barrier to movement to, between or within Koala habitat, and is unlikely to result in a long-term reduction in genetic fitness or access to surrounding viable habitat.
Changing hydrology which degrades habitat critical to the survival of the koala to the extent that the carrying capacity of the habitat is reduced in the long-term	<p>The Proposed action requires substantial trenching and excavation of soil to build a sewage augmentation.</p> <p>The Koala habitat within the Proposed action's CAA is healthy with no signs of degradation due to altered hydrology. This is likely to remain the same post-construction, as the Proposed action will reinstate soil profiles surface levels, allowing for sufficient groundwater and surface water movement.</p>	The Proposed action will not change the hydrology in Koala habitat and is unlikely to reduce the carrying capacity of the retained habitat.
Conclusion	The above assessment indicates that the Proposed action will not substantially interfere with the recovery of the Koala, as defined by that Koala Referral Guidelines.	

Table A.3 outlines how the Proposed action will not interfere substantially with the recovery of the Koala due to the limited nature of impacts.

CONCLUSION.

While the Proposed action may result in minor incremental habitat loss for the Koala on the fringes of a habitat complex recognised as potentially containing an important population, the above assessment has determined that the Proposed action is unlikely to significantly impact the Koala within the meaning of the SIA Guideline.

Appendix 10

Impact Mapping for Vegetation Clearing Undertaken In Support of for Trunk Sewer Upgrades By Urban Utilities Contractors



Flinders View Residential Development

Urban Utility Tree Removal 2022
(Aerial 2)

28 South Project Ref: C:\Users\Mitch\Dropbox\Projects\2018\2018-079
(Flinders View - Ecology)\Data\GIS\Flinders_View.qgs

Data Sources: Qld Globe (SIPS 2016); Digital Cadastre Database (Dept. Natural Resources and Mines, 2021); Roads (DNRME, 2020); Watercourse (DNRME, 2020); Contours (DNRME 2016).

28°S

ENVIRONMENTAL

Site Boundary

Urban Utility Impact Area

Tree removed by Urban Utility 2022 [149]

Tree not impacted by Urban Utility 2022

Issue Date

25-05-2023

Dwg No.

Author

MO

Approved

AD

Revision Note

(A3) GDA 2020 MGA 56

1:850

0

25

50

75 m

N



Flinders View Residential Development

Urban Utility Tree Removal 2022
(Aerial 3)

28 South Project Ref: C:\Users\Mitch\Dropbox\Projects\2018\2018-079
(Flinders View - Ecology)\Data\GIS\Flinders_View.qgs

Data Sources: Qld Globe (SIPS 2016); Digital Cadastre Database (Dept. Natural Resources and Mines, 2021); Roads (DNRME, 2020); Watercourse (DNRME, 2020); Contours (DNRME 2016).

28°S

ENVIRONMENTAL

Site Boundary

Urban Utility Impact Area

Tree removed by Urban Utility 2022 [149]

Tree not impacted by Urban Utility 2022

Issue Date

25-05-2023

Dwg No.

Author

MO

Approved

AD

Revision Note

(A3) GDA 2020 MGA 56

1:500

0

25

50 m

N

Tree ID	Binomial name	DBH (mm)	Multi stem	Tree Height (m)	Tree Health	Health Comment	Tree Structure	Structure Comment	Habitat Features	Status	Comments	TPZ (m)	Removal Location
497	<i>Eucalyptus tereticornis</i>	325	2 stems	15	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	310, 100	3.9	Southern Conservation Area
519	<i>Corymbia intermedia</i>	510	1 stem	22	Fair	Epicormic Shoots	Fair	Crown Wound	No visible habitat features	Removed Urban Utilities 2022	Lightning strike evidence	6.12	Southern Conservation Area
1643	<i>Lophostemon suaveolens</i>	300	1 stem	9	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.6	Southern Conservation Area
2006	<i>Corymbia intermedia</i>	360	3 stems	14	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	260, 190, 160	4.32	Southern Conservation Area
2010	<i>Eucalyptus tereticornis</i>	350	1 stem	20	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.2	Southern Conservation Area
1208	<i>Eucalyptus tereticornis</i>	320	1 stem	19	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.84	Northern Conservation Area
1209	<i>Eucalyptus tereticornis</i>	480	1 stem	20	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.76	Northern Conservation Area
1669	<i>Eucalyptus tereticornis</i>	380	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.56	Northern Conservation Area
1670	<i>Eucalyptus tereticornis</i>	470	1 stem	22	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.64	Northern Conservation Area
1671	<i>Corymbia intermedia</i>	310	1 stem	15	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.72	Northern Conservation Area
1678	<i>Eucalyptus tereticornis</i>	260	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.12	Northern Conservation Area
1679	<i>Lophostemon suaveolens</i>	260	1 stem	8	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.12	Northern Conservation Area
1680	<i>Eucalyptus tereticornis</i>	460	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.52	Northern Conservation Area
1681	<i>Eucalyptus tereticornis</i>	470	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.64	Northern Conservation Area
1682	<i>Eucalyptus tereticornis</i>	450	2 stems	19	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	390, 220	5.4	Northern Conservation Area
1683	<i>Eucalyptus tereticornis</i>	320	1 stem	20	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.84	Northern Conservation Area
1684	<i>Eucalyptus tereticornis</i>	480	3 stems	22	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	400, 2-- , 170	5.76	Northern Conservation Area
1685	<i>Eucalyptus tereticornis</i>	280	1 stem	16	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.36	Northern Conservation Area
1687	<i>Eucalyptus tereticornis</i>	290	1 stem	9	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.48	Northern Conservation Area
1694	<i>Eucalyptus tereticornis</i>	320	1 stem	12	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.84	Northern Conservation Area
1699	<i>Eucalyptus tereticornis</i>	380	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.56	Northern Conservation Area
1700	<i>Eucalyptus tereticornis</i>	390	1 stem	19	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.68	Northern Conservation Area
1701	<i>Eucalyptus tereticornis</i>	210	1 stem	9	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.52	Northern Conservation Area
1706	<i>Eucalyptus tereticornis</i>	360	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.32	Northern Conservation Area
1707	<i>Eucalyptus tereticornis</i>	430	1 stem	19	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.16	Northern Conservation Area
1708	<i>Eucalyptus tereticornis</i>	230	1 stem	7	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.76	Northern Conservation Area
1709	<i>Eucalyptus tereticornis</i>	440	1 stem	19	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.28	Northern Conservation Area
1727	<i>Eucalyptus tereticornis</i>	670	2 stems	22	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	480, 470	8.04	Northern Conservation Area
1728	<i>Eucalyptus tereticornis</i>	410	2 stems	15	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	300, 280	4.92	Northern Conservation Area
1729	<i>Eucalyptus tereticornis</i>	620	1 stem	22	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		7.44	Northern Conservation Area
1730	<i>Eucalyptus tereticornis</i>	450	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.4	Northern Conservation Area
1731	<i>Eucalyptus tereticornis</i>	550	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		6.6	Northern Conservation Area
1732	<i>Eucalyptus tereticornis</i>	380	1 stem	14	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.56	Northern Conservation Area
1733	<i>Eucalyptus tereticornis</i>	560	1 stem	22	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		6.72	Northern Conservation Area
1734	<i>Eucalyptus tereticornis</i>	750	1 stem	24	Good	Typical	Good	Typical	Medium Hollow	Removed Urban Utilities 2022		9	Northern Conservation Area
1735	<i>Eucalyptus tereticornis</i>	480	1 stem	22	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.76	Northern Conservation Area
2751	<i>Eucalyptus tereticornis</i>	370	1 stem	16	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.44	Northern Conservation Area
2752	<i>Eucalyptus tereticornis</i>	330	1 stem	16	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.96	Northern Conservation Area

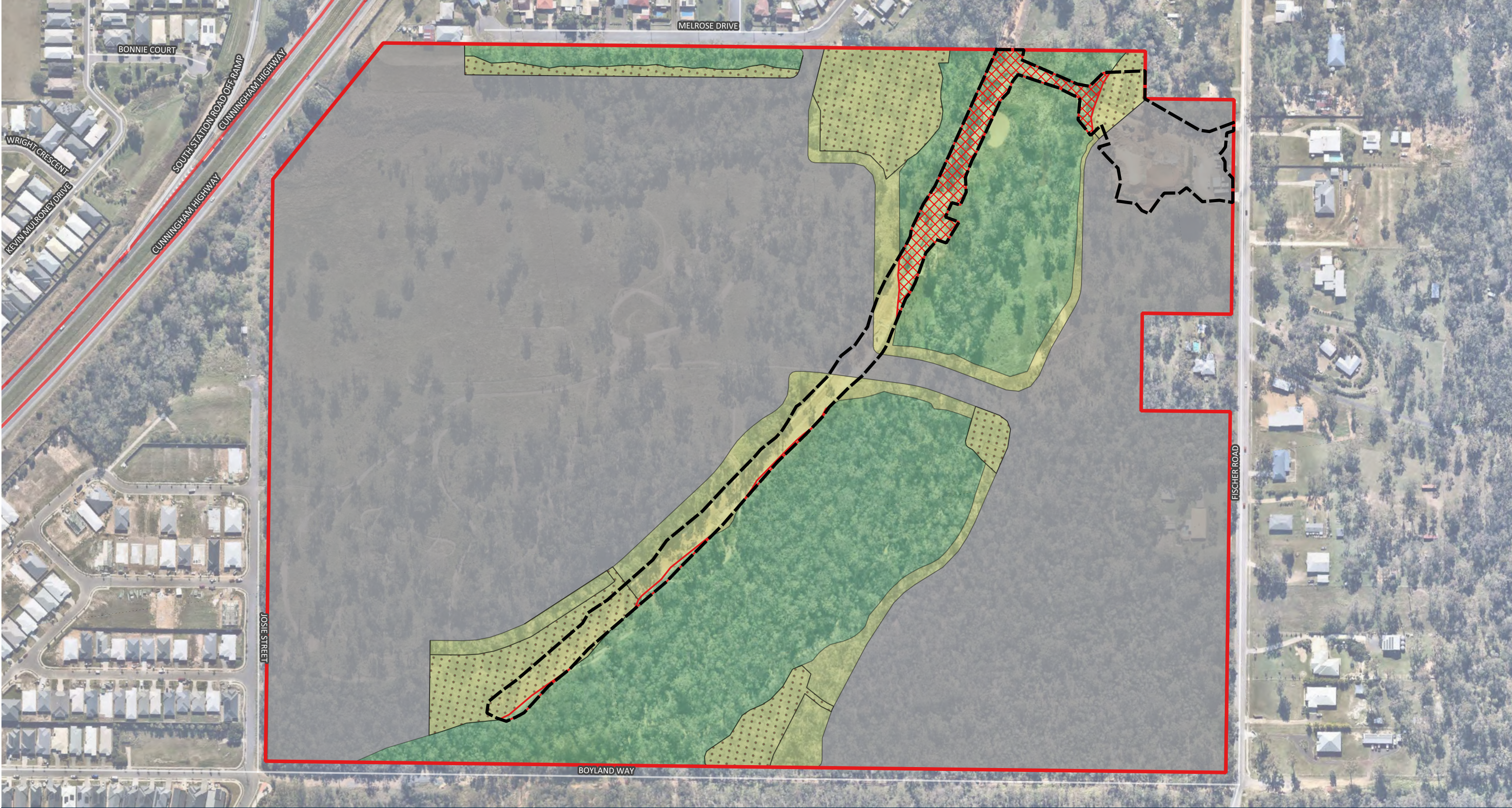
Tree ID	Binomial name	DBH (mm)	Multi stem	Tree Height (m)	Tree Health	Health Comment	Tree Structure	Structure Comment	Habitat Features	Status	Comments	TPZ (m)	Removal Location
2756	Eucalyptus tereticornis	290	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.48	Northern Conservation Area
2757	Angophora leiocarpa	240	1 stem	16	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.88	Northern Conservation Area
2758	Eucalyptus tereticornis	560	3 Stems	19	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	340 330 300	6.72	Northern Conservation Area
2759	Eucalyptus tereticornis	420	2 Stems	19	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	320 270	5.04	Northern Conservation Area
2770	Eucalyptus tereticornis	230	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.76	Northern Conservation Area
2771	Eucalyptus tereticornis	240	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.88	Northern Conservation Area
3262	Eucalyptus tereticornis	530	1 stem	18	Good	Typical	Good	Trunk Wound	No visible habitat features	Removed Urban Utilities 2022		6.36	Northern Conservation Area
3296	Eucalyptus tereticornis	560	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		6.72	Northern Conservation Area
488	Eucalyptus tereticornis	250	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3	Development Area
489	Eucalyptus tereticornis	220	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.64	Development Area
490	Corymbia intermedia	250	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3	Development Area
491	Lophostemon suaveolens	230	2 stems	15	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	200, 120	2.76	Development Area
492	Angophora leiocarpa	260	1 stem	15	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.12	Development Area
493	Angophora leiocarpa	200	1 stem	14	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.4	Development Area
494	Angophora leiocarpa	260	1 stem	14	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.12	Development Area
495	Corymbia intermedia	200	2 stems	10	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	160, 120	2.4	Development Area
496	Angophora leiocarpa	365	2 stems	15	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	210, 300	4.38	Development Area
498	Angophora leiocarpa	380	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.56	Development Area
499	Angophora leiocarpa	430	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.16	Development Area
500	Angophora leiocarpa	340	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.08	Development Area
501	Eucalyptus tereticornis	200	1 stem	16	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.4	Development Area
502	Angophora leiocarpa	250	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3	Development Area
503	Angophora leiocarpa	420	1 stem	19	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.04	Development Area
505	Corymbia intermedia	450	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.4	Development Area
506	Eucalyptus tereticornis	270	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.24	Development Area
507	Angophora leiocarpa	420	1 stem	19	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.04	Development Area
508	Angophora leiocarpa	330	2 stems	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	260, 200	3.96	Development Area
510	Eucalyptus tereticornis	310	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.72	Development Area
511	Eucalyptus tereticornis	300	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.6	Development Area
520	Corymbia intermedia	570	1 stem	12	Fair	Epicormic Shoots	Fair	Crown Wound	No visible habitat features	Removed Urban Utilities 2022	Canopy failure/storm damage	6.84	Development Area
521	Corymbia intermedia	550	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		6.6	Development Area
522	Eucalyptus tereticornis	580	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		6.96	Development Area
523	Corymbia intermedia	520	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		6.24	Development Area
638	Angophora leiocarpa	390	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.68	Development Area
639	Corymbia intermedia	790	1 stem	19	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		9.48	Development Area
640	Angophora leiocarpa	380	1 stem	19	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.56	Development Area
655	Corymbia intermedia	800	1 stem	19	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		9.6	Development Area
1216	Eucalyptus tereticornis	550	1 stem	22	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		6.6	Development Area

Tree ID	Binomial name	DBH (mm)	Multi stem	Tree Height (m)	Tree Health	Health Comment	Tree Structure	Structure Comment	Habitat Features	Status	Comments	TPZ (m)	Removal Location
1217	Eucalyptus tereticornis	450	1 stem	20	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.4	Development Area
1218	Eucalyptus tereticornis	390	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.68	Development Area
1221	Eucalyptus tereticornis	500	1 stem	22	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		6	Development Area
1268	Angophora leiocarpa	390	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.68	Development Area
1269	Angophora leiocarpa	430	1 stem	21	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.16	Development Area
1270	Eucalyptus tereticornis	390	1 stem	24	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.68	Development Area
1271	Angophora leiocarpa	400	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.8	Development Area
1272	Angophora leiocarpa	290	1 stem	7	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.48	Development Area
1273	Angophora leiocarpa	200	1 stem	10	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.4	Development Area
1274	Angophora leiocarpa	390	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.68	Development Area
1275	Angophora leiocarpa	510	1 stem	19	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		6.12	Development Area
1276	Eucalyptus tereticornis	440	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.28	Development Area
1277	Eucalyptus tereticornis	410	1 stem	15	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.92	Development Area
1278	Eucalyptus tereticornis	210	1 stem	9	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.52	Development Area
1608	Lophostemon suaveolens	220	1 stem	8	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.64	Development Area
1609	Eucalyptus tereticornis	360	1 stem	20	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.32	Development Area
1610	Angophora leiocarpa	300	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.6	Development Area
1611	Angophora leiocarpa	290	1 stem	14	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.48	Development Area
1612	Angophora leiocarpa	400	1 stem	16	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.8	Development Area
1613	Eucalyptus tereticornis	250	1 stem	13	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3	Development Area
1614	Lophostemon suaveolens	240	1 stem	8	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.88	Development Area
1628	Eucalyptus tereticornis	250	1 stem	15	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3	Development Area
1635	Corymbia variegata	350	1 stem	14	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.2	Development Area
1636	Corymbia intermedia	445	2 stems	16	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	320, 310	5.34	Development Area
1637	Eucalyptus tereticornis	300	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.6	Development Area
1638	Lophostemon suaveolens	295	4 stems	9	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	210, 180, 70, 70	3.54	Development Area
1639	Dead tree	460	1 stem	11	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.52	Development Area
1640	Lophostemon suaveolens	280	2 stems	11	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	210, 190	3.36	Development Area
1641	Lophostemon suaveolens	200	1 stem	8	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.4	Development Area
1642	Corymbia intermedia	440	3 stems	15	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	260, 260, 240	5.28	Development Area
1646	Corymbia intermedia	620	1 stem	20	Good	Typical	Good	Typical	Small Hollow	Removed Urban Utilities 2022		7.44	Development Area
1663	Angophora leiocarpa	320	2 stems	15	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	220, 230	3.84	Development Area
2005	Corymbia intermedia	200	1 stem	7	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.4	Development Area
2007	Angophora leiocarpa	300	1 stem	15	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.6	Development Area
2008	Eucalyptus tereticornis	200	1 stem	11	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.4	Development Area
2009	Corymbia intermedia	200	1 stem	7	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.4	Development Area
2013	Corymbia intermedia	390	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.68	Development Area
2014	Eucalyptus tereticornis	280	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.36	Development Area

Tree ID	<i>Binomial name</i>	DBH (mm)	Multi stem	Tree Height (m)	Tree Health	Health Comment	Tree Structure	Structure Comment	Habitat Features	Status	Comments	TPZ (m)	Removal Location
2772	<i>Eucalyptus tereticornis</i>	320	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.84	Development Area
2834	<i>Eucalyptus tereticornis</i>	310	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.72	Development Area
2835	<i>Eucalyptus tereticornis</i>	460	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.52	Development Area
2836	<i>Angophora leiocarpa</i>	230	1 stem	15	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.76	Development Area
2837	<i>Eucalyptus tereticornis</i>	450	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		5.4	Development Area
2838	<i>Lophostemon suaveolens</i>	300	1 stem	14	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.6	Development Area
2839	<i>Lophostemon suaveolens</i>	305	2 stems	14	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022	230 200	3.66	Development Area
2840	<i>Eucalyptus tereticornis</i>	360	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.32	Development Area
2841	<i>Eucalyptus tereticornis</i>	300	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.6	Development Area
2842	<i>Angophora leiocarpa</i>	370	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.44	Development Area
2843	<i>Angophora leiocarpa</i>	380	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.56	Development Area
2844	<i>Eucalyptus tereticornis</i>	290	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.48	Development Area
2845	<i>Eucalyptus tereticornis</i>	270	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.24	Development Area
2846	<i>Eucalyptus tereticornis</i>	300	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.6	Development Area
2847	<i>Angophora leiocarpa</i>	300	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.6	Development Area
2848	<i>Angophora leiocarpa</i>	310	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.72	Development Area
3184	<i>Eucalyptus tereticornis</i>	320	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.84	Development Area
3185	<i>Angophora leiocarpa</i>	320	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.84	Development Area
3186	<i>Corymbia intermedia</i>	320	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.84	Development Area
3187	<i>Angophora leiocarpa</i>	350	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.2	Development Area
3188	<i>Lophostemon suaveolens</i>	230	1 stem	14	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		2.76	Development Area
3223	<i>Eucalyptus tereticornis</i>	270	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.24	Development Area
3224	<i>Angophora leiocarpa</i>	350	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.2	Development Area
3225	<i>Eucalyptus siderophloia</i>	310	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.72	Development Area
3226	<i>Angophora leiocarpa</i>	330	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.96	Development Area
3227	<i>Eucalyptus tereticornis</i>	530	1 stem	18	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		6.36	Development Area
3235	<i>Angophora leiocarpa</i>	330	1 stem	19	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		3.96	Development Area
3236	<i>Angophora leiocarpa</i>	350	1 stem	17	Good	Typical	Good	Typical	No visible habitat features	Removed Urban Utilities 2022		4.2	Development Area
3237	<i>Eucalyptus tereticornis</i>	620	1 stem	18	Good	Typical	Good	Trunk Wound	No visible habitat features	Removed Urban Utilities 2022		7.44	Development Area
3243	<i>Angophora leiocarpa</i>	260	1 stem	16	Good	Typical	Good	Trunk Wound	No visible habitat features	Removed Urban Utilities 2022		3.12	Development Area
3244	<i>Angophora leiocarpa</i>	320	2 stems	16	Good	Typical	Good	Trunk Wound	No visible habitat features	Removed Urban Utilities 2022	290 140	3.84	Development Area
3245	<i>Eucalyptus tereticornis</i>	400	1 stem	17	Good	Typical	Good	Trunk Wound	No visible habitat features	Removed Urban Utilities 2022		4.8	Development Area
3246	<i>Angophora leiocarpa</i>	500	1 stem	18	Good	Typical	Good	Trunk Wound	No visible habitat features	Removed Urban Utilities 2022		6	Development Area
3250	<i>Eucalyptus tereticornis</i>	330	1 stem	18	Good	Typical	Good	Trunk Wound	No visible habitat features	Removed Urban Utilities 2022		3.96	Development Area
3251	<i>Eucalyptus tereticornis</i>	410	1 stem	17	Good	Typical	Good	Trunk Wound	No visible habitat features	Removed Urban Utilities 2022		4.92	Development Area

Appendix 10.2

Disturbance Footprint Calculation



Flinders View Residential Development

Trunk Sewer Upgrade Area

28 South Project Ref: 2018-079

Data Sources: Aerial Imagery (Nearmap/Qld Globe); Digital Cadastre Database (DNRME, 2021); Roads (DNRME, 2020); Watercourse (DNRME, 2020); Contours (DNRME 2016).

28°S

ENVIRONMENTAL

Legend

Site Boundary

Major Road Infrastructure

Roads & Tracks

Trunk Sewer Upgrade Impact Area [2.34ha]

Area of Proposed Vegetation Retention

Area Affected by Urban Utilities [0.61ha]

Avoidance Area

Retained Vegetation

Mitigated Disturbance Area

Stormwater Detention Basins and Drainage Reserve

Rehabilitated Batters

Permanent Disturbance (Area of Residual Significant Impact)

Development Area

Issue Date

Dwg No.

Author

August 2023

2018-079-008

LH

Approved

Revision Note

AD

GDA2020 MGA 56

1:3,100

0

50

100

150 m

N

Appendix 11

Terrestrial Vertebrate Survey



RIPLEY GATEWAY NORTH

Terrestrial Vertebrate Survey

PREPARED FOR 28 South Environmental
April 2020



Ripley Gateway North

Terrestrial Vertebrate Survey

April 2020

ECOSMART ECOLOGY
48 Streeton Parade
Everton Park QLD 4053 Australia

Tel: +61 7 3162 1161

COPYRIGHT: The concepts, information, photos, schedules, annexures and/or appendices contained in this document are the property of EcoSmart Ecology and subject to copyright pursuant to the *Copyright Act 1968*. Reproduction, publication or communication of this document, in whole or in part, without the written permission of EcoSmart Ecology constitutes an infringement of copyright.

INTENDED USE: EcoSmart Ecology has prepared this report at the request of 28 South Environmental. Information and recommendations contain herein are purpose and project specific and EcoSmart Ecology accepts no liability for the use or interpretation of any information contained in this report for any other purposes other than intended.

The report should be read in its entirety. No responsibility is accepted for portions of text taken out of context. This report does not provide legal advice. Legal advice should only be sort from qualified practitioners.

DOCUMENT CONTROL

Name of Project:	Ripley Gateway North Terrestrial Vertebrate Assessment
Project Number:	28S_2002
Project Manager:	Mark Sanders
Document Author(s):	Mark Sanders
Name of Document:	Terrestrial Vertebrate Assessment Report
File Name:	S:\Projects\Active Projects\28 Sth\28S_2002 (Ripley Gateway Nth)\Report & Assoc files\Ripley Gateway Nth_Fauna survey.docx
Version:	Version 1.0

TABLE OF CONTENTS

1.0	INTRODUCTION	5
2.0	SITE LOCATION AND DESCRIPTION	6
3.0	METHODS AND SURVEY CONDITIONS	8
3.1	'PRIORITY' SPECIES LIKELIHOOD ASSESSMENT	8
3.2	FIELD SURVEY METHODS AND SUITABILITY	9
3.2.1	Field Survey Methods.....	9
3.2.2	Field Survey Suitability	11
3.3	SURVEY TIMING AND LIMITATIONS.....	11
4.0	RESULTS	12
4.1	THREATENED SPECIES LIKELIHOOD ASSESSMENT	12
4.2	EXISTING VERTEBRATE COMMUNITIES AND GENERAL HABITAT VALUES	13
4.3	SIGNIFICANT VERTEBRATE VALUES.....	14
4.3.1	Matters of National Environmental Significance (MNES).....	14
4.3.1.1	<i>Swift Parrot (Lathamus discolor)</i>	14
4.3.1.2	<i>White-throated Needletail (Hirundapus caudacutus)</i>	14
4.3.1.3	<i>Koala Phascolarctos cinereus</i>	16
4.3.1.4	<i>Grey-headed Flying-fox (Pteropus poliocephalus)</i>	16
4.3.1.5	<i>Migratory Species</i>	16
4.3.2	Matters of State Environmental Significance	17
4.3.2.1	<i>Tusked Frog Adelotus brevis</i>	17
4.3.2.2	<i>Essential Habitat</i>	18
4.3.3	Matters of Local Environmental Significance	18
4.4	CORRIDORS AND CONNECTIVITY.....	19
5.0	SUMMATION AND CONCLUDING REMARKS.....	21
6.0	REFERENCES	22

GLOSSARY

EPBC Act	– Environment Protection and Biodiversity Conservation Act 1999
NC Act	– Nature Conservation Act 1992
MNES	– Matter of National Environmental Significance
MSES	– Matter of State Environmental Significance
MLES	– Matter of Local Environmental Significance
ICC	– Ipswich City Council
VC	– Vegetation Community
'Priority' species	– Species considered to be MNES, MSES or MLES

1.0 INTRODUCTION

The proposed Ripley Gateway North development will see the reconfiguration of four lots (Lot 208 on SL11067, Lot 209 on SL11067, Lot 210 on SL9238 and Lot 211 on RP906067) to allow the construction of 541 residential lots/dwellings. Previous ecological assessment of the proposed development site, **hereafter referred to as the 'site',** has been undertaken by 28 South Environmental (28 South). Following submission of this assessment Ipswich City Council (ICC) has asked for additional information in order to better understand the existing values and potential impacts. EcoSmart Ecology has been contracted to address selected items of the information request relating to baseline conditions for fauna species/communities and their habitats. Relevant items of the information request include:

5. (b) "...The applicant is requested to undertake appropriate targeted aquatic and terrestrial survey for all potential fauna using the site in accordance with State Government guidelines. The assessment methodology should include, but not be limited to the following:

- (i) Nocturnal and call playback assessments at appropriate timing for species.*
- (ii) Targeted survey for all fauna assemblages.*
- (iii) An assessment of areas appropriate for development and areas to be avoided.*
- (iv) The mitigation measures to be implemented to minimise impacts (including timing of works).*

...

The applicant should review the survey data and provide a comprehensive assessment of the proposed impacts, how these have been minimised, and appropriately define the location of the wildlife/waterway corridor boundaries...

Accordingly, the primary aim of this survey is to collect and report on existing (baseline) vertebrate communities, species and their habitats, with particular focus on values which are of conservation significance. Values which are considered significant include **'Matters of National Environmental Significance (MNES), Matters of State Environmental Significance, (MSES) and Matters of Local Environmental Significance (MLES)'. This includes 'priority' species** (species listed under the EPBC Act, NC Act or significant local species in ICC), Migratory species and connectivity/corridor values.

Detailed assessment of potential impacts and mitigation measures will be provided by 28 South, however we have noted areas/habitats that are of higher importance or significant impacts which should be addressed. This may include selected mitigation recommendations.

Other items raised in point 5 (**'Environmental Values'**) of ICC's information request will be considered separately by 28 South using, where appropriate, results from both ecological assessments.

It is understood that this report will append, or be included within, other documentation prepared by 28 South, and as such details regarding the proposed actions have not been covered here. It is also understood that 28 South will address compliance of the development against Koala legislation; our purpose is to report on the likely occurrence of the species and identify areas are of highest conservation priority. No impact assessment or mitigation recommendations for this species are included.

2.0 SITE LOCATION AND DESCRIPTION

The site is located in the northern extent of the Ripley Valley Priority Development Area and is approximately defined by Boyland Way in the south, Fischer Rd in the west, Melrose Drive in the north and new development adjacent to the Cunningham Highway in the west (Figure 2.1).

Vegetation surveys of the site has identified the following communities:

- Vegetation Community (VC1) – Queensland Blue Gum on alluvial flats. This vegetation includes a mix of remnant and regrowth open forest (28°S Environmental 2020),
- VC2 – Regrowth open forest on slopes,
- VC3 – Advanced regrowth open forest over exotic grasses,
- VC4 – Open paddocks.

The location of these communities is illustrated in Figure 2.1 and a detailed description of their composition and condition is provided in 28 South (28 South 2019). The site is currently partially cleared with the balance in various stages of regrowth; it is obvious that much of the site has been historically cleared or heavily thinned.

The site has a gently sloping topography draining to a central creekline which runs in a south-westerly direction through the central portions of the site. Deep, steeply incised pools along the creekline and vegetation consistent with permanent water suggest water may be present in all but the most severe droughts. A second smaller creekline which is dominated by thick exotic grasses and weeds runs along the northern boundary. Three dams are located in the northern portion of the site and are likely permanent.



Figure 2.1

Site boundary, waterways and vegetation communities

0 0.0375 0.075 0.15 0.225 0.3 Kilometers

Client: 28South Environmental
Project: Ripley Gateway North



48 Streeton Parade, Everton Park, QLD, 4053
www.EcoSmart Ecology.com.au

3.0 METHODS AND SURVEY CONDITIONS

3.1 'PRIORITY' SPECIES LIKELIHOOD ASSESSMENT

Desktop information, in the form of a Wildlife Online Extract and EPBC Act Protected Matters Search Report, has been gathered by 28 South (28 South 2019) based on a 5 km radius. This information formed the basis for further assessment with habitats present at the site evaluated for their suitability against locally known 'priority' fauna identified in the search results.

Visual assessment of vegetation and habitats was undertaken between the 16th and 20th Mar 2020 (inclusive). This assessment considered factors such as vegetation structure (shrub and tree density), ground cover (including vegetation and debris, fallen logs, etc), the presence of water features, the abundance of hollow-bearing trees, weed infestations and features important to individual species (e.g., specific foraging resources).

Utilising local records and perceived habitat suitability, 'priority' fauna was **evaluated as 'Known', 'Likely', 'Possible', 'Unlikely', 'Will not Occur' or 'Transient' based on their perceived probability of inhabiting/frequenting the site** (Table 3.1).

Table 3.1. Likelihood Assessment Criteria

Assessment	Habitat Criteria	Local Record Criteria	Perceived Probability
Known	The species has been confirmed as present within the site, and those record(s) are unlikely to represent transient or vagrant individual(s).		100%
Likely	Habitat is considered moderate to good quality and similar to other locations where the species is found	There is a number (~5 or greater) of local (≤ 5 km from the site), contemporary (post 1990) records of the species, or There is strong evidence that a cryptic species (which may not be frequently recorded in databases) has a nearby resident population(s).	>50%
Possible	Habitat is marginal to moderate	The species is known by a few local contemporary records and is not a transient species.	20-50%
Unlikely	The habitat is marginal	There are few, if any, local contemporary records, or local records separated by a significant natural movement barrier.	$\leq 19\%$
Will not Occur	The habitat is unsuitable	There are few, if any, local contemporary records.	0%
Transient	The habitat is suitable, marginal or good quality	The species is highly mobile and vagrant. They may infrequently appear in the local area over a long timeframe (e.g, 100+years), but are never resident or frequent visitors (e.g., return migrants). These species are typically birds which, while having some probability of occurring, are unlikely rely on the site for their lifecycle or maintaining populations.	N/A

3.2 FIELD SURVEY METHODS AND SUITABILITY

3.2.1 Field Survey Methods

Field surveys were undertaken between the 16th and 20th March 2020 and included:

- An early morning bird survey on the 16th and 20th March. The surveys, which were undertaken by two observers, involved meandering throughout the site and each vegetation community. All three dams and the central creekline was also inspected. Birds were identified by direct observation or call. It is estimated that a total of 10 person hours of bird survey was conducted over these two mornings.
- A late afternoon bird survey on the 17th, 18th and 19th March. Similar to the morning bird surveys meander searches were conducted before sunset but generally shorter in duration and covered less area. It is estimate that a total of six person hours of bird survey was conducted over the three afternoons.
- Spotlighting was conducted on the nights of the 17th, 18th and 19th along meander transects throughout the site and in each vegetation community. Two observers detected vertebrates by sound, sight (including eye-shine) or movement. It is estimated that a total of 17 person hours of spotlighting was conducted at the site.
- Call Playback was undertaken at single location on three nights following the completion of spotlighting. Powerful Owl calls were broadcast from two elevated positions and a third close to riparian/blue gum vegetation. Calls were played in 5-minute intervals separated by periods of silence.
- Habitat searches involving the rolling of rocks, logs and other debris was undertaken in the late morning on the 16th and 20th March. Scat searches around the base of suitable feed eucalypts were also undertaken for evidence of Koala. In total two observers undertook approximately 10 person hours of search and inspected around 100 eucalypt trees. Searches were undertaken concurrently or shortly after bird surveys.
- Two Anabat units were used to record bat activity over six sequential nights (23nd – 28th Mar inclusive). The units were deployed at two spatially separate locations considered likely to attract or support high bat abundance due to features such as waterbodies, abundant hollows and suitable flyways. Call analysis was undertaken by Greg Ford, a qualified and experienced Anabat analysis expert.
- Four infra-red motion sensor cameras were operational over four sequential nights from the 16th to the 20th March. Cameras were baited with chicken necks and peanut to lure a variety of vertebrates including nocturnal mammals (Dasyurids, rodents, possums, kangaroos etc) and diurnal birds (crows, brush turkey etc).

The location of the above survey methods is illustrated in Figure 3.1.

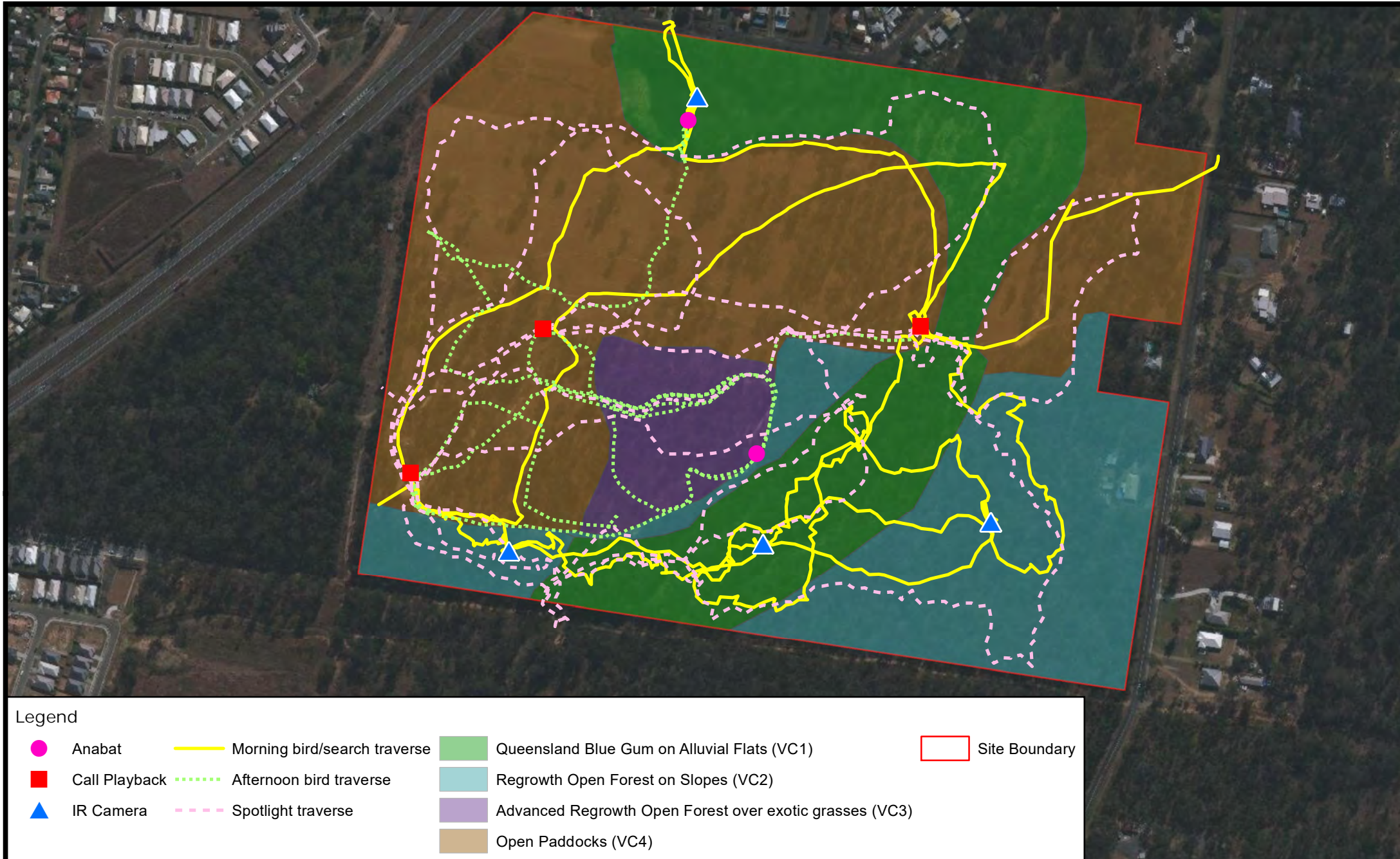


Figure 3.1

Winter/spring flowering tree species compared to the development impact area

0 0.0375 0.075 0.15 0.225 0.3 Kilometers

Client: 28South Environmental
Project: Ripley Gateway North



48 Streeton Parade, Everton Park, QLD, 4053
www.EcoSmart Ecology.com.au

3.2.2 Field Survey Suitability

The above survey methods do not strictly comply with state fauna survey guidelines (Eyre *et al* 2018) as labour intensive methods such as pitfall, cage, funnel, harp and Elliot trapping are not included. However Eyre *et al* (2018) recommends survey design and site selection be guided by the study aim and purpose (see Section 2.1 of Eyre *et al* 2018). This study aims to evaluate and identify significant environmental values – ‘priority’ species, their habitats, and corridors - which require conservation and protection. Trapping trap methods are **not suitable for the detection of ‘priority’ species which might occur at the site** (see Appendix B). **Further, ‘priority’ species which might have been overlooked due to survey limitations (e.g., seasonality) will be assumed present if suitable habitat occurs and the species is known from the local area.** This ensures habitat values are assessed and impacts considered for species such as the Swift Parrot. While the exclusion of these methods might overlook some common species, it is not expected to affect the conservation or impact assessment outcome.

3.3 SURVEY TIMING AND LIMITATIONS

Survey Timing and Weather Conditions

The surveys were conducted between the 16th and 20th March 2020 (inclusive). No rain fell during the surveys though 230 mm fell in February and a further 92 mm in the two weeks preceding the surveys (Australian Bureau of Meteorology, Harding St station). Maximum daily temperatures ranged between approximately 27°C and 30°C while the minimum overnight temperatures were between 12°C to 17°C. All spotlighting was completed while temperatures were above 20°C.

These conditions are suitable for the detection of most terrestrial fauna groups, only frogs might have been more abundant had rain fallen during the surveys. With the exception of Tusked Frog, weather conditions were suitable for the detection of all ‘priority’ species with some potential to occur based on local occurrence and habitat suitability.

Survey/Assessment Limitations

The below assessment limitations are noted:

- No rain fell during the survey and hence frog activity, particularly calling, is likely to have been suppressed. This may have affected the detection of some frog species.
- The survey did not include trapping methods and as such some common terrestrial species (e.g., lizards) may not have been detected. The omission of trapping methods will not have affected the detection of ‘priority’ taxa and therefore conservation outcomes (see discussion in Section 3.2.2).
- Surveys were conducted during early Autumn when the dominant tree species were not flowering. At other times, such as late winter, flowering is likely to attract additional species. This could include ‘priority’ species such as Swift Parrot and Grey-headed Flying-fox.
- The survey coincided with a period when winter visitors such as the Swift Parrot are absent from south-east Queensland.

Limitations on the detection of threatened species (e.g., Grey-headed Flying-fox, Swift Parrot) were overcome by taking a precautionary approach and assuming their presence if habitats were suitable and local records noted.

4.0 RESULTS

4.1 THREATENED SPECIES LIKELIHOOD ASSESSMENT

The database search identified 29 'priority' species as occurring, or having potential to occur, within the local area. This included 22 MNES, 19 MSES and six MLES species. However, it should be noted that the EPBC Act Protect Matters Search is predictive and may include species which are not local known.

Table 4.1 shows species which have some possibility of occurring based on local records and habitat characteristics. Initial desktop investigations suggested the Greater Glider (*Petauroides volans*) might also possibly occur, but it was later excluded based on field survey results. In the Grafton/Casino area Greater Gliders are absent from habitats with a hollow density of <6 per hectare while in southern Queensland 2-4 den trees per two hectares of habitat is required (TSSC 2016). At the site maximum den tree density was estimated at approximately one per hectare in VC1 and at the south-east corner of VC2. Den trees were even less abundant elsewhere. Greater Gliders are also easy to locate during suitable spotlighting conditions, they have excellent eye-shine and tend to freeze when illuminated. The lack of any records despite 17 hours of spotlighting, combined with low denning opportunities, suggest this species is unlikely or does to occur.

All other 'priority' species identified in the database searches are not known to have occurred in the local area or the habitat is considered poor to unsuitable (see Appendix A). None of the 'priority' species that might occur require trapping for detection.

Habitat amenity and important values for those species which are considered possible, likely or are known to occur are discussed in Section 4.3.

Table 4.1. The Likelihood of 'priority' fauna occurring based on habitat suitability and local occurrence.

Species	Status			Notes
	EPBC	NCA	ICC*	
<i>Adelotus brevis</i> Tusked Frog		Vul	X	Likely along the central creekline. Habitat less suitable but still possible around the three dams.
<i>Lathamus discolor</i> Swift parrot	End	End	X	Low possibility of occurring in association with large Queensland Blue Gum (<i>Eucalyptus tereticornis</i>) flowering events in VC1. In south-east Qld the species is rarely, if ever, recorded at a location in subsequent years.
<i>Hirundapus caudacutus</i> White-throated Needle-tail	Vul		X	Highly likely, or expected to occur at some stage, when foraging over the site.
<i>Phascolarctos cinereus</i> Koala	Vul	Vul	X	This species is known to occur. Areas of best habitat are associated with denser stands of Queensland Blue Gum (i.e., VC1).
<i>Pteropus poliocephalus</i> Grey-headed flying-fox	Vul	LC	X	Likely to occur when flowering resources are abundant. While possible throughout the site habitats of highest value are associated with large Queensland Blue Gum. No known roosts on-site.
<i>Meliphaga gularis gularis</i> Black-chinned Honeyeater		LC	X	Typically associated with drier vegetation types but has some low potential to occur during mass flowering events of <i>E. tereticornis</i> .
<i>Petaurus norfolcensis</i> Squirrel Glider		LC	X	Habitat value is marginal with infrequent hollow bearing trees and likely den competition with other hollow fauna (e.g., Brushtail Possum). The presence of the related sugar glider suggests there is potential Squirrel Gliders could occur.

* A species of Local Environmental Significance in the Ipswich City Council area.

4.2 EXISTING VERTEBRATE COMMUNITIES AND GENERAL HABITAT VALUES

Fauna diversity at the site was low to poor with a total of 68 species recorded, as detailed in Appendix C. This included five frogs, five reptiles, 37 birds and 21 mammals. Twelve insectivorous bats identified on the anabat, though unresolved calls potentially representing additional taxa were noted.

No 'priority' species were recorded during the survey, though the Greater Broad-nosed Bat (*Scoteanax rueppellii*) is infrequently recorded in the greater Brisbane/Ipswich area. All remaining species are abundant and common within urban bushland habitats in the Ipswich area.

Habitat values range across the site range from low to moderate. A brief overview of the habitats is provided below. An overview of habitats is also provided in 28 South (2019).

Open Paddocks with Scattered Mature Canopy Trees (VC4) and Advanced Regrowth Vegetation Over Grassy Paddocks (VC3)

Open paddocks with scattered mature canopy trees (VC4) is the dominate habitat type within the site, while advanced regrowth vegetation over grassy paddocks (VC3) is restricted to small area in the central south-west. Both are structurally similar, except the canopy is more overlapping and shrubs more abundant in VC3. However vertical complexity is still poor and these habitats have low value for small native bird species. Rather, aggressive edge species are common such as Noisy Miner, Blue-faced Honeyeater, Butcherbirds, Magpies, and Kookaburras. Fallen debris and sheltering opportunities for ground-dwelling reptiles are also poor. While these areas support a number of hollow-bearing trees, without a dense canopy or shrub layer they are likely to be monopolised by cosmopolitan taxa such as Rainbow Lorikeets and Common Brushtail Possums.

Within these habitats large individual Queensland Blue Gums provide the highest value to fauna, though they are scattered and at lower densities than the lower slopes and alluvial areas (e.g., VC1). During periods of peak flowering Queensland Blue Gums are likely to attract nomadic/seasonal nectivorous vertebrates including honeyeaters and bats. This is likely to include the Grey-headed Flying-fox and possibly the Swift Parrot. Queensland Blue Gum is also a primary food tree for the Koala, which will readily traverse open areas to access forage trees.

Regrowth Open Forest on Slopes (VC2)

In comparison to the above habitats these areas have a denser shrub and sub-canopy layer. This provides greater vertical complexity and will support more common small native bird species. Throughout the habitat large hollow-bearing trees are rare and scattered; few, if any, stags were noted. A notable exception is the very south-eastern corner of the site where hollow density was estimated at about one per hectare.

While ground cover was not over-run with exotic grasses, large fallen debris and dense leaf litter was uncommon. Some areas had obvious evidence of historical surface disturbance and others were dominated by *Lantana montevidensis*. Terrestrial vertebrate sheltering opportunities are low compared to analogous remnant vegetation.

Within these habitats the highest fauna values are scattered larger Queensland Blue Gums which provide seasonal nectar resources for birds and bats and food for Koala; hollow-bearing trees are also of value in the south-west.

Queensland Blue Gum on Alluvial Flats (VC1)

Large Queensland Blue Gums dominate the lower slopes and alluvial areas along the central waterway and northern boundary of the site. These habitats provide the greatest value for fauna at Ripley Gateway North. The denser canopy is more suitable for arboreal species, and while hollow density varies, it commonly approaches one per hectare in the south. The higher density of Queensland Blue Gum will

provide abundant seasonal nectar resources for birds and bats, including Grey-headed Flying-fox and Swift Parrot. Koala foraging resources are also more abundant here.

The southern portion of VC1 has a dense layer of shrubs and sub-canopy trees, though this often includes exotic *Lantana camera*. Yellow-faced Honeyeaters, Eastern Yellow Robins, Variegated Fairy-wrens and Striated Pardalotes were almost exclusively observed in the south. Fallen debris is higher to the south, though larger logs and log piles are rare compared to analogous remnant habitats.

By comparison, habitat amenity in the northern portion of the community has been affected by clearing or thinning of the understorey. Here, logs are largely absent or smothered by thick exotic grasses.

The waterway which winds through VC1 has small steeply incised pools which, based on the type of aquatic vegetation present, is likely to be permanent or near-permanent. Piles of debris which were caught during flood events is abundant. These areas will provide the best habitat for amphibian species and is suitable for the Tusked Frog.

During the survey a distinct sulphur odour consistent with septic water was noted at the creek near the southern boundary of the site. The close proximity of the sewage main suggests some overflow/spill may be affecting water hydrology and quality.

4.3 SIGNIFICANT VERTEBRATE VALUES

4.3.1 Matters of National Environmental Significance (MNES)

4.3.1.1 Swift Parrot (*Lathamus discolor*)

Critically Endangered – *Environment Protection and Biodiversity Conservation Act 1999*
Endangered – *Nature Conservation Act 1992*.

The Swift Parrot nests in Tasmania and returns to mainland Australia during winter with the majority of the population frequenting eucalyptus woodland and forests in NSW and Vic. It is an infrequent visitor to the greater Brisbane/Ipswich area and is rarely, if ever, observed repeatedly at a single location between years.

Swift Parrots preferentially forage in stands of very large mature trees that provide a more reliable and abundant foraging resource than younger trees (Saunders and Tzaros 2011). A number of Eucalypt species have been identified as key resources within south-east Queensland (Saunders and Tzaros 2011) with only Queensland Blue Gum occurring commonly at Ripley Gateway North. On site these trees are most abundant in association with low-lying areas (VC1) and are generally moderate to large in size which, on balance, are likely to be less attractive than larger trees within the local area. However their possible amenity for the species, particularly in the future, cannot be completely discounted and as such the species is considered to have some low potential to occur.

Current plans suggest that the development will result in the loss of Queensland Blue Gum trees from across the site (see Figure 4.1), but includes smaller individuals which are unlikely to provide foraging resources. Larger trees are common in VC1 and much of this community protected.

4.3.1.2 White-throated Needletail (*Hirundapus caudacutus*)

Vulnerable – *Environment Protection and Biodiversity Act 1999*

The White-throated Needletail breeds in the northern hemisphere and is a regular visitor to Australia during summer. They are almost exclusively aerial, and while probably most often recorded over forested habitats can be observed over most land-types including urban areas and grazing land. Roosting has been recorded in dense foliage or hollows of large emergent trees (Tarburton 1993), though they may also roost aurally (Schulz and Kristensen 1994).

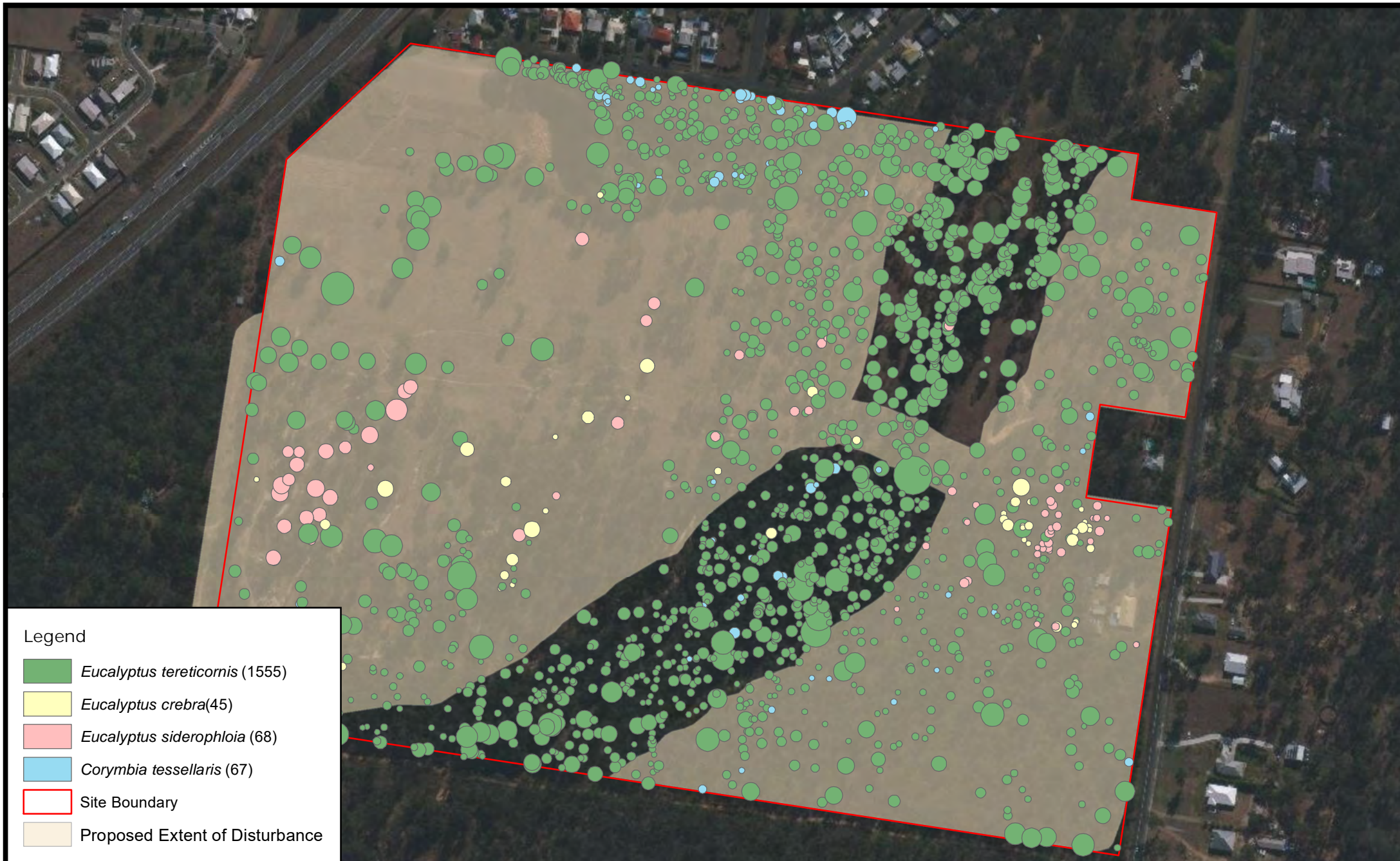


Figure 4.1

Winter/spring flowering tree species compared to the development impact area

0 0.03 0.06 0.12 0.18 0.24
Kilometers

Client: 28South Environmental
Project: Ripley Gateway North



48 Streeton Parade, Everton Park, QLD, 4053
www.EcoSmartEcology.com.au

As this species is almost exclusively aerial and covers extremely large distances, no one habitat type within the site will be more important than others. Further, the site itself will represent only a fraction of this species area of activity. Ground changes to vegetation are likely to have little, if any, impact. Roosting on-site is unlikely due to the low number of emergent trees.

4.3.1.3 Koala Phascolarctos cinereus

Vulnerable – *Environment Protection and Biodiversity Act 1999*

Vulnerable – *Nature Conservation Act 1992*

While no Koala evidence was located during the survey it has been previously confirmed as present by 28 South (2019) who found low to moderate evidence of activity.

High quality Koala habitat is located on the lower slopes and in riparian vegetation along the central creekline where Queensland Blue Gum is dominant (VC1). This primary browse species is also scattered on the upper slopes, and as the Koala will readily move across open ground, all Queensland Blue Gum trees could provide some habitat amenity. Further assessment of Koala values, impacts and mitigation are assessed by 28 South (28 South 2019).

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

Vulnerable – *Environment Protection and Biodiversity Act 1999*

Least Concern – *Nature Conservation Act 1992*

Grey-headed Flying-foxes roost in temporary or permanent camps during the day and traverses up to 50 km at night in search of food. No Flying-fox camps are present at the site though five are located within 7 km at Redbank Plains, Woodend, Yamanto, Ipswich Nature Centre and Bundamba. These camps are frequented erratically or seasonally (winter) by Grey-headed Flying-foxes with the greatest number, approximately 11,000 individuals, recorded from Bundamba in May 2019 (DES 2020).

They prefer to feed on Eucalypt blossom, followed by the blossom of other native tree species such as *melaleuca* and *Banksia* and native fruits. They will take exotic fruit's but these are less favoured. In south-east Queensland flowering Queensland Blue Gums seem to be particularly important, providing a valuable resource during a period food scarcity (winter). The loss of large Queensland Blue Gum stands from low-lying flood plains have caused many camps to become temporary, or resulted in individuals needing to traverse larger distances.

Current plans suggest that approximately 56% of all Queensland Blue Gum trees will be lost for development (see Figure 4.1), though the bulk large Blue Gum trees are protected in VC1. Development plans include an open space and ecological corridor zone which will retain 7.14 ha (68.8%) of the community. Blue Gum supplementary planting will also occur in this corridor, though these trees will take decades to achieve a size where abundant foraging resources are provided. For comparison, approximately 12,137 ha of remnant vegetation with Queensland Blue Gum listed as a dominant or co-dominant canopy species occurs within 30 km of the site (Table 4.2). The extent of lost habitat therefore represents 0.0006% of similar local resources.

4.3.1.5 Migratory Species

No Migratory species, as listed under the EPBC Act, were noted during the assessment. Based on habitat the following species have some likelihood of occurring:

- White-throated Needletail (*Hirundapus caudacutus*), and
- Rufous Fantail (*Rhipidura rufifrons*).

Values for, and impacts to, the White-throated Needletail are discussed in Section 0. Rufous Fantails, should they occur, will not frequent the site **at sufficiently high densities to be considered an 'important population' under the EPBC.**

Table 4.2. Extent of RE with Queensland Blue Gum (*E. tereticornis*) as a dominant or sub-dominant canopy species. Extent of heterogeneous polygons calculated based on their documented ratios.

RE	Short description	Extent (ha)
12.3.3	<i>Eucalyptus tereticornis</i> woodland on Quaternary alluvium	1,228.16
12.3.6	<i>Melaleuca quinquenervia</i> +/- <i>Eucalyptus tereticornis</i> , <i>Lophostemon suaveolens</i> , <i>Corymbia intermedia</i> open forest on coastal alluvial plains	505.24
12.3.7	<i>Eucalyptus tereticornis</i> , <i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i> +/- <i>Melaleuca</i> spp. fringing woodland	2,244.42
12.3.11	<i>Eucalyptus tereticornis</i> +/- <i>Eucalyptus siderophloia</i> , <i>Corymbia intermedia</i> open forest on alluvial plains usually near coast	1,655.27
12.3.19	<i>Eucalyptus moluccana</i> and/or <i>Eucalyptus tereticornis</i> and <i>E. crebra</i> open forest to woodland, with a sparse to mid-dense understorey of <i>Melaleuca irbyana</i> on alluvial plains	195.46
12.3.20	<i>Melaleuca quinquenervia</i> , <i>Casuarina glauca</i> +/- <i>Eucalyptus tereticornis</i> , <i>E. siderophloia</i> open forest on low coastal alluvial plains	10.40
12.5.2	<i>Corymbia intermedia</i> , <i>Eucalyptus tereticornis</i> open forest on remnant Tertiary surfaces, usually near coast. Usually deep red soils	47.00
12.8.14	<i>Eucalyptus eugenioides</i> , <i>E. biturbinata</i> , <i>E. melliodora</i> +/- <i>E. tereticornis</i> , <i>Corymbia intermedia</i> open forest on Cainozoic igneous rocks	3.27
12.8.16	<i>Eucalyptus crebra</i> +/- <i>E. melliodora</i> , <i>E. tereticornis</i> woodland on Cainozoic igneous rocks	263.43
12.8.17	<i>Eucalyptus melanophloia</i> +/- <i>E. crebra</i> , <i>E. tereticornis</i> , <i>Corymbia tessellaris</i> woodland on Cainozoic igneous rocks	684.77
12.9-10.27	<i>Corymbia citriodora</i> subsp. <i>variegata</i> and/or <i>E. moluccana</i> , <i>E. tereticornis</i> , <i>E. crebra</i> open forest with <i>Melaleuca irbyana</i> understorey on sedimentary rocks	321.57
12.9-10.7	<i>Eucalyptus crebra</i> +/- <i>E. tereticornis</i> , <i>Corymbia tessellaris</i> , <i>Angophora</i> spp., <i>E. melanophloia</i> woodland on sedimentary rocks	4,329.29
12.11.14	<i>Eucalyptus crebra</i> , <i>E. tereticornis</i> , <i>Corymbia intermedia</i> woodland on metamorphics +/- interbedded volcanics	84.60
12.11.9	<i>Eucalyptus tereticornis</i> subsp. <i>tereticornis</i> or <i>E. tereticornis</i> subsp. <i>basaltica</i> open forest on metamorphics +/- interbedded volcanics. Usually higher altitudes	40.92
12.12.12	<i>Eucalyptus tereticornis</i> , <i>Corymbia intermedia</i> , <i>E. crebra</i> +/- <i>Lophostemon suaveolens</i> woodland on Mesozoic to Proterozoic igneous rocks	179.25
12.12.23	<i>Eucalyptus tereticornis</i> subsp. <i>tereticornis</i> or <i>E. tereticornis</i> subsp. <i>basaltica</i> +/- <i>E. eugenioides</i> woodland to open forest on crests, upper slopes and elevated valleys and plains on Mesozoic to Proterozoic igneous rocks	344.18
Total		12,137.25

4.3.2 Matters of State Environmental Significance

4.3.2.1 Tusked Frog *Adelotus brevis*

Not Listed – *Environment Protection and Biodiversity Conservation Act 1999*

Vulnerable – *Nature Conservation Act 1992*

The Tusked Frog inhabits a variety of waterbodies including streams and less frequently artificial dams, particularly those surrounded by mesic vegetation. While it can be found in fast-flowing streams, it is more often associated with backwaters or slow-flowing sections where debris accumulates providing shelter and cover. Debris or emergent, thick, broad-leaved grasses or falcate sedges are important for sheltering. The species is infrequently found around dams where these plants are replaced by lilies or tall cumbungi. While Tusk frogs can occur in semi-permanent waters, they are most often found around

more permanent waters. They can tolerate reduced water quality and are found in urban creeklines (e.g., Ithaca and Ennoggera Creek, M.Sanders *pers obs*).

Suitable habitat at Ripley Gateway North is located along the central creekline, particularly in association with deeper pools that are likely to hold water throughout most years. All three dams could provide habitat but are considered to have lower habitat amenity. Both the creekline and three dams were investigated during spotlighting but no Tusked Frogs were detected. However survey limitations might have affected the calling activity of frogs (see Section 3.3) and further work would be required to confirm the species absence.

Proposed development plans indicate that areas of highest habitat amenity will be retained. Only the three dams will be lost. Retained habitats will be sufficient to support a sizable population should the species occur.

4.3.2.2 Essential Habitat

Areas of vegetation within VC1, VC2 and VC3 are mapped as Essential Habitat, possibly for one or all of the following species, the Australian Painted Snipe, Koala, and/or and *Coleus habrophyllus* (a plant). Unfortunately, Essential Habitat mapping does not allow the polygons to be inspected to determine which of these species it refers.

The Essential habitat database describes suitable **vegetation for the Australian Painted Snipe as 'Shallow ephemeral and permanent swamps, water meadows and damp lake margins with rushes, long grass and herbs (e.g., lignum, chenopods) in good condition, as well as areas of muddy ground; also uses saltmarshes, samphire flats and waterlogged grasslands with trees present...'**. This is not consistent with waterways onsite which are surrounded by tall dense forest and has scattered, deeply incised small pools. Vegetation around the dams is dominated by thick exotic grasses which would inhibit the species foraging. The Australian Painted Snipe is not expected to occur.

4.3.3 Matters of Local Environmental Significance

Two species of local environmental significance have been identified as having some potential to occur, Black-chinned Honeyeater (*Melithreptus gularis gularis*) and Squirrel Glider (*Petaurus norfolcensis*).

The Black-chinned Honeyeater occurs sporadically in the greater Ipswich/Brisbane area and is typically associated with drier vegetation, though there is some potential for it to occur at the site during periods of abundant flower. Areas of highest habitat amenity are associated with Queensland Blue Gum dominated communities (VC1). Current plans suggest the development will result in the loss of 56% of Queensland Blue Gum trees (see Figure 4.1), however this calculation includes smaller individuals which are unlikely to provide foraging resources. The majority of large Blue Gums are contained within VC1 where 68.8% of the community will be protected. Blue Gum supplementary planting will benefit the species once trees have gained sufficient time to provide abundant flowering resources.

Squirrel Gliders are known from larger urban tracts of dry eucalypt vegetation with hollow-bearing trees throughout the greater Brisbane/Ipswich area. Habitat within the site is suitable and there are records from vegetation nearby, however the species was not recorded during surveys. Suitable hollow-bearing trees in which the species may shelter are predominantly located along the lower slopes and riparian vegetation (VC1), though trees with hollows were also noted in regrowth vegetation to the south-east. Hollow-bearing trees in the open paddock communities will not be suitable due to the lack of a canopy. Impacts from the loss of hollow-bearing trees to this, and other arboreal mammals, may be reduced if hollows are harvested and distributed throughout retained areas of VC1. Any relocated hollows should be capped at one end and attached using long-lasting materials resilient to degradation such as stainless steel or galvanised metal straps.

4.4 CORRIDORS AND CONNECTIVITY

No state significant corridors or locally important corridors recognised under the Ipswich Conservation Strategy 2015 are mapped over or adjacent to the site. Closer examination of the spatial landscape suggests there is some potential for a local rural movement path through the site. This would connect vegetation north and south of the site via the central creekline (Figure 4.2). However there are several significant movement barriers to the north, most notably the Cunningham Highway, which suggests this passage might be restricted to highly vagile species such as birds and bats. Further, vegetation north of the site becomes increasingly fragmented and isolated. This movement passage is of low strategic value.

Current development plans show the retention of a 120m wide riparian corridor along the central creekline. Considering the types of fauna likely to move in north/south direction this is likely to be sufficient to maintain existing movement patterns.



5.0 SUMMATION AND CONCLUDING REMARKS

Key findings of this report are as follows:

- This study comprised of more than 33 person hours of field survey effort and included bird surveys, spotlighting, call playback, habitat searches. Motion activated cameras were operational for 16 survey nights and Anabat recording for 12 nights.
- With the exception of the Greater Broad-nosed Bat (*Scoteanax rueppellii*) all recorded vertebrate species are common and abundant in and around larger urban bushland reserves; the Greater Broad-nosed Bat is infrequently recorded.
- No MNES, MSES or MLES species were located during survey however the Koala, a species of National significance, has been previously confirmed as present.
- The following **'priority' species are likely to occur based on habitat** amenity and local records:
 - White-throated Needletail (*Hirundapus caudacutus*), and
 - Grey-headed Flying-fox (*Pteropus poliocephalus*).
- The following **'priority' species have some, albeit low, potential to occur based on habitat** amenity and local records:
 - Swift Parrot (*Lathamus discolor*),
 - Tusked Frog (*Adelotus brevis*),
 - Black-chinned Honeyeater (*Melithreptus gularis gularis*), and
 - Squirrel Glider (*Petaurus norfolcensis*)
- The majority of the site has been affected by historic disturbance and this has affected fauna habitat values which are low to moderate compared to analogous remnant habitats. Fallen debris and hollows, for example, are uncommon to rare.
- Highest densities of hollow-bearing trees occur within VC1 and in the south-east corner of the site. In these areas potential den trees approach densities of about one per hectare.
- Highest fauna values are associated with larger Queensland Blue Gum trees, these could potentially provide habitat and resources for many **'priority'** species including Swift Parrot, Koala, Grey-headed Flying-fox, and Black-chinned Honeyeater. Many larger Queensland Blue Gum trees are contained within VC1 and this community has the highest habitat amenity for fauna at the Ripley Gateway North site.
- No significant wildlife corridors pass through, or adjacent to, the site. Some vagile fauna species may use riparian vegetation along the central creekline (VC1) for movement, though this corridor is compromised to the north. Current development plans are not anticipated to affect existing fauna moving along this pathway.

Key Mitigation Measures

The following key mitigation measures are recommended:

- Offsets should be provided for the loss of Queensland Blue Gums.
- Impacts from hollow loss in the south-east corner may be reduced if hollows are harvested, capped at one end and distributed throughout retained areas of VC1. Any relocated hollows should be attached using long-lasting materials resilient to degradation such as stainless steel or galvanised metal straps.

6.0 REFERENCES

- 28 South Environmental (2019). Ecological Assessment Report, Proposed Ripley Gateway North Residential Development at Flinders View. Prepared for GLAG Pty Ltd.
- Department of Environment and Science (2020). Flying-fox monitoring Data – April-June 2019. Available from the QLD Open Data Portal https://www.data.qld.gov.au/dataset/flying-fox-monitoring-program/resource/bf437195-2f6e-4f57-b805-0f550b824c14?truncate=30&inner_span=True. Accessed 10 Apr 2020.
- Department of the Environment (2014). EPBC Act referral guidelines for the vulnerable Koala (combined populations of Queensland, New South Wales and Australian Capital Territory). Commonwealth of Australia. Available at: <http://www.environment.gov.au/system/files/resources/dc2ae592-ff25-4e2c-ada3-843e4dea1dae/files/koala-referral-guidelines.pdf>
- Eyre T. J., Ferguson D. J., Hourigan C. L., Smith G. C., Mathieson M. T., Kelly, A. L., Venz M. F., Hogan L. D. and Rowland, J. (2018). Terrestrial Vertebrate Fauna Survey Assessment Guidelines for Queensland. Department of Environment and Science, Queensland Government, Brisbane
- Saunders, D.L. and Tzaros, C.L. (2011). National Recovery Plan for the Swift Parrot *Lathamus discolor*, Birds Australia, Melbourne
- Eyre, T. J. (2004). Distribution and conservation status of the possums and gliders of southern Queensland. In *The Biology of Australian Possums and Gliders* (eds R. L. Goldingay & S. M. Jackson), pp. 1-25. Surrey Beatty & Sons, Chipping Norton.
- Schulz M. and Kristensen, K. (1994). Notes on selected bird species on the south-western coast of Tasmania, between Port Davey and Cape Sorell. *Australian Bird Watcher*, 15, 265-272.
- McKay G M 2008. Greater Glider *Petauroides volans*. In *The Mammals of Australia*. Third edition. (Eds S Van Dyck & R Strahan), 240-242. Reed New Holland, Sydney
- Van Dyck S. & Strahan R. (2008) *The Mammals of Australia*. New Holland, Chatswood, Australia.
- Tarburton M. K. (1993). Radiotracking a White-throated Needle-tail to roost. *Emu*, 93, 121-124.
- Threatened Species Scientific Committee (2016). Conservation Advice for *Petauroides volans*, Greater Glider. Available at <http://www.environment.gov.au/biodiversity/threatened/species/pubs/254-conservation-advice-20160525.pdf>.

Appendix A.
Priority Species Likelihood
Assessment

Species of National and State Environmental Significance

The table below lists fauna species, or their habitats, identified in the Wildlife Online Extract and EPBC online Protected Matters search as occurring, or having potential to occur, within 5 km of the Site. The Likelihood assessment has been based on a 100 year timeframe.

Scientific Name Common Name	Status#		Typical Habitat	Habitat within Ripley Gateway Nth	Relevant Local Records	Likelihood Assessment
	EPBC	NCA				
FROGS						
<i>Adelotus brevis</i> Tusked Frog		Vul	More permanent ponds and streams in rainforest to wet and dry forests including suitable modified and artificial waterbodies (Anstis 2013)	Suitable habitat can be located at all three dams and along the central waterway, particularly in associated with deeper pools which are likely to retain water for longer periods.	Four contemporary (1992-93) records located approximately 10 km to the east around Bellbird Park.	Likely
<i>Delma torquata</i> Collared Delma	Vul	Vul	Rocky outcrops in dry, open eucalypt-acacia woodlands with an understorey of grass and shrubs. Can be found in disturbed habitats (Chapple 2017).	While VC2 and VC3 are broadly suitable, both have suffered previous disturbance. This may have contributed to a lack of fallen timber and debris, rocks are very rare. Due to the lack of diverse and abundant micro-habitat, habitat value for Collared Delma is considered low.	One recent (2019) record south of the Brisbane river approximately 16.5 km to the ENE at Richlands. Numerous records north of the Brisbane River around Karana Downs, Anstead and Pullenvale.	Unlikely
<i>Furina dunmalli</i> Dunmall’s Snake	Vul	Vul	Inhabits areas with brigalow (<i>Acacia harpophylla</i>) and eucalyptus forests, and moist to dry sclerophyll woodland growing on sandy soil, cracking black clay and clay loam soils (Chapple 2017)	Vegetation communities VC2 and VC3 are broadly suitable for this species, however fallen timber and debris is uncommon. The lack of diverse and abundant micro-habitat suggest habitat value for this species is low.	No local records. The closest records are located on the western slopes around Dalby and Yarraman.	Unlikely
BIRDS						

Scientific Name Common Name	Status#		Typical Habitat	Habitat within Ripley Gateway Nth	Relevant Local Records	Likelihood Assessment
	EPBC	NCA				
<i>Anthochaera phrygia</i> Regent Honeyeater	CEnd	End	Forests and woodlands of ironbark, box, swamp mahogany and river oak.	While these birds may rarely forage in large flowering <i>E. tereticornis</i> , this is not considered a key forage resource (DoE 2016)	The species has been recorded a number of times around the Ipswich region. Details of the precise location and distance from the site are masked by database rounding of this species.	Unlikely/ Transient
<i>Botaurus poiciloptilus</i> Australasian Bittern	End	LC	Freshwater wetlands with dense vegetation, particularly reeds and sedges.	Very poor, all dams are small and on balance lack extensive tall reeds and sedges.	Two records without details located north of the site. Precise location masked by database rounding and records have not associated date.	Will not occur
<i>Calidris ferruginea</i> Curlew Sandpiper	CEnd	End	Saline and freshwater wetlands, saltmarshes, estuaries, mudflats. Prefers areas with exposed mud for foraging.	None, all habitats are dry eucalypt woodlands.	Commonly recorded from Moreton Bay and Bribie Island Passage, approximately 25 km to the east.	Will not occur
<i>Dasyornis brachypterus</i> Eastern Bristlebird	End	End	The south-east QLD/northern NSW population of Eastern Bristlebird occurs in moist mountain ranges where they inhabit forests with a mosaic of dense clumping grasses interspersed with shrubs, ferns and fallen logs.	While the site has areas of regrowth forest, it is not considered suitable due to historic disturbance and the lack of dense clumping grasses with ferns and fallen logs.	None, all records >100 km north of south.	Will not occur
<i>Erythrotriorchis radiata</i> Red goshawk	Vul	End	Open forests, woodlands, wetlands, rainforest fringes. Most commonly associated with larger tracts of in-tact vegetation.	Marginal, while areas have stands of regrowth eucalypt forest the site has been subject to historic disturbance and is located in a highly fragmented landscape.	One reputable record (2009) located ~20 km west near Marburg. Precise location details not known due to database rounding. Other local records questionable or >25 years old.	Unlikely

Scientific Name Common Name	Status#		Typical Habitat	Habitat within Ripley Gateway Nth	Relevant Local Records	Likelihood Assessment
	EPBC	NCA				
<i>Geophaps scripta scripta</i> Squatter Pigeon	Vul	Vul	Occurs mainly in open dry grassy eucalypt woodlands and open forests and also inhabits cypress pine (<i>Callitris</i> spp.) and Acacia dominated woodlands (Frith 1982). Also observed in artificial grasslands (i.e., grazing land) but typically avoids tall thick grasses.	Marginal. All areas of grassy woodland are artificial and dominated by tall thick grasses.	Two records in 2013 located ~16 km to the north-west around Pine Mountain. Most other records located north of the Brisbane River around Coominya.	Unlikely
<i>Lathamus discolor</i> Swift parrot	CEnd	End	Flowering trees in forests and woodlands. Sporadically appears in south-east Queensland where it is typically associated with stands of large flowering <i>E. tereticornis</i> .	Areas of tall <i>Eucalyptus tereticornis</i> (VC1) could provide foraging habitat for this species when in flower. The species nests only in Tasmania.	Recently (2019) recorded ~13 km to the east around Springfield Lakes. Also observed near Kenmore in 2004 (~20 km NE) and Bardon in 2002 (~28 km NE). Generally a sporadic visitor to the greater Brisbane/Ipswich area.	Possible/ Transient
<i>Grantiella picta</i> Painted Honeyeater	Vul	Vul	Inhabits mistletoes in eucalypt forests/woodlands, riparian woodlands of black box and river red gum, box-ironbark-yellow gum woodlands, acacia-dominated woodlands, paperbarks, casuarinas, callitris, and trees on farmland or gardens. The species prefers woodlands which contain a higher number of mature trees, as these host more mistletoes (Garnett <i>et al</i> 2011)	Little value due to the lack of abundant mistletoe	A single bird observed in 2017 at Hemmant approximately 40 km NE.	Will not occur
<i>Hirundapus caudacutus</i> White-throated Needletail	Vul	LC	An aerial forager possible over all land types	All air space above the site	Frequently recorded flying above the Ipswich/Brisbane area	Likely (fly-over)
<i>Numenius madagascariensis</i> Eastern Curlew	CEnd	End	Saline wetlands, saltmarshes, estuaries, mudflats. Prefers areas with exposed mud for foraging.	None, all habitats are dry eucalypt woodlands.	Frequently recorded along the coast, some records associated with the lower stretches of the Brisbane river.	Will not occur

Scientific Name Common Name	Status#		Typical Habitat	Habitat within Ripley Gateway Nth	Relevant Local Records	Likelihood Assessment
	EPBC	NCA				
<i>Rostratula australis</i> Australian Painted Snipe	End	End	Found in a wide range of habitats including ephemeral swamps, dams, rice paddocks, waterlogged grasslands, roadside drains and even brackish waterways (Marchant and Higgins 1993). Prefers a mosaic of open mud flats, one which individuals can forage, and denser vegetation for shelter.	None, the farm dams present do not have open muddy areas favoured by this species for foraging.	Scattered sporadic records in the local area including from Swanbank (1991), Rosewood Wetland (2011), and Oxley (2012).	Will not occur
<i>Turnix melanogaster</i> Black-breasted button-quail	Vul	Vul	Leaf litter in drier rainforests, vine thickets, lantana on rainforest edges, hoop pine plantation	None, all vegetation types are dry eucalypt woodlands.	Most records to the north of the Brisbane River. Scattered local records including from White Mountains (2013) and Flinders Peak (2010)	Will not occur
MAMMALS						
<i>Chalinolobus dwyeri</i> Large-eared Pied Bat	Vul	Vul	Often observed along ecotones on rainforest edges or in association with sandstone escarpments (DAWE 2020).	Marginal and located in a fragmented landscape. No rocky escarpments.	Closest record >50 km to the SE associated with the mountainous Main Range National Park.	Will not occur
<i>Dasyurus hallucatus</i> Northern Quoll	End	LC	Most common in rocky eucalypt woodland and open forest within 200 kilometres of the coast.	While vegetation is broadly consistent the site has been historically disturbed with few large fallen logs or rock outcrops for shelter.	All records > 50km away or >50 years old.	Will not occur
<i>Dasyurus maculatus maculatus</i> Spotted-tailed quoll	End	Vu	Inhabits a variety of forested habitats including subtropical and temperate rainforests, vine thickets, wet and dry sclerophyll forests, woodland and coastal scrub.	While vegetation is broadly consistent the site has been historically disturbed with few large fallen logs or rock outcrops for shelter.	Scattered records between 2003 and 2015 from around the Greenbank Reserve/Park Ridge South area.	Unlikely

Scientific Name Common Name	Status#		Typical Habitat	Habitat within Ripley Gateway Nth	Relevant Local Records	Likelihood Assessment
	EPBC	NCA				
<i>Petauroides volans</i> Greater Glider	Vul	Vul	Mainly restricted to eucalypt forests and woodlands where they typically occur in highest abundance in taller, montane, moist eucalypt forests with larger, relatively old trees and abundant hollows (Eyre 2004). In areas west of the Great Dividing Range, they are found in low woodlands (McKay 2008).	Marginal, large hollow bearing trees are infrequent and few stags were observed. Sheltering opportunities are therefore limited and competition with other hollow fauna (e.g., Bushtail Possum) is likely.	Scattered records, mostly to the east, with the closest from White Mountains in 2001.	Unlikely (following results from spotlighting surveys)
<i>Petrogale penicillata</i> Brush-tailed Rock-wallaby	Vul	Vul	Inhabits rock piles and cliff lines in vegetation ranging from rainforest to dry sclerophyll forests.	No rock piles or cliff-like structures.	One population known from Flinders Peak, approximately 15 km to the south	Will not occur
<i>Phascolarctos cinereus</i> Koala	Vul	Vul	Found in a diversity of habitats including temperate, sub-tropical and tropical forest, woodland and semi-arid communities, and sclerophyll forest, on foothills, plains and in coastal areas (Dyck & Stratham 2008). On the western side of the Great Dividing Range at the western edges of their range, the species is often associated with riparian vegetation although are not restricted to them (Melzer et al. 2000; Sullivan et al. 2003).	All areas of the property have some Koala value, however the highest density of favoured food tree species is associated with VC1 (Blue Gum forest). This species has been confirmed based on field surveys (28 South 2019).	Many local records including one 1.3 km to the south-west (2019), numerous ~6 km to the north-east (2015) and many around White Rock.	Known

Scientific Name Common Name	Status [#]		Typical Habitat	Habitat within Ripley Gateway Nth	Relevant Local Records	Likelihood Assessment
	EPBC	NCA				
<i>Potorous tridactylus tridactylus</i> Long-nosed Potoroo	Vul	Vul	Can be found in wet eucalypt forests to coastal heaths and scrubs. The main factors would appear to be access to some form of dense vegetation for shelter and the presence of an abundant supply of fungi for food (DAWE 2020).	While the broad vegetation is suitable (eucalypt forests), the habitat is considered unsuitable due to its historic land use and the lack of dense vegetation for shelter.	None, all records >50 km from the site or >40 years old	Will not occur
<i>Pteropus poliocephalus</i> Grey-headed flying-fox	Vul	LC	Foraging habitat includes rainforests, open eucalypt forests, woodlands, Melaleuca swamps and Banksia woodlands. Roosts are commonly within dense vegetation close to water, primarily rainforest patches, stands of Melaleuca, mangroves or riparian vegetation (Nelson 1965).	All areas of the property have some foraging value for the Grey-headed Flying-fox, however VC1 (Blue Gum forest) is likely to provide the best habitat when larger <i>E. tereticornis</i> trees are in flower.	Frequently observed in the local area. The Barbara St Flying-fox camp located <15 km to the east often has roosting Grey-headed Flying-fox.	Likely

[#] LC = Least Concern, NT = Near Threatened, Vul = Vulnerable, E = Endangered, CE = Critically Endangered, Mig = Migratory

Species of Local Environmental Significance

Scientific Name Common Name	Typical Habitat	Habitat within Ripley Gateway Nth	Relevant Local Records	Likelihood Assessment
<i>Ephippiorhynchus asiaticus</i> Black-necked Stork	Wetlands, particularly floodplains of major river systems (Clancy and Andren 2010), but a range of permanent and semi-permanent water sources including small river floodplains, swamps and dams, particularly those with shallow water in which birds can wade and forage. Tall trees with a broad canopy and good vantage are essential as nest trees.	Suitable habitat is largely restricted to the large dam in NW corner of site with other dams either too small or not suitable. The larger dam is itself sub-optimal as Black-necked Storks are more frequently observed hunting in open water away from dense aquatic vegetation.	Multiple recent records (2015 – 2020) at nearby dams, lakes and floodplains of Brisbane River, Bremer River, Oxley Creek and Warrill Creek within 15km of site. If this species should occur at all individuals are likely to be transient – the site is not necessary or important for the local population.	Unlikely/ Transient
<i>Melithreptus gularis gularis</i> Black-chinned Honeyeater	<i>Eucalyptus</i> woodlands, especially box woodland, with tall, mature trees for foraging for nectar, invertebrates and lerp and for nest-building (Lollback et al. 2008)	Marginal habitat value can be found on site. Much of the woodland on site is secondary growth and likely not at a level of maturity preferable to the species. Large <i>Eucalyptus tereticornis</i> and paddock trees provide the most likely foraging habitat on site.	One recent (2019) record from northern part of Flinders Goolman Conservation Estate near Deebling Heights (~9km S). One recent (2018) record from Augustine Heights near Augusta State School (~9km E). Clusters of recent records (>2014) from Pine Mountain, Moggill Conservation Park and D'Aguiar National Park (~15-20km N across Brisbane River)	Possible
<i>Pomatostomus temporalis</i> Grey-crowned Babbler	Open <i>Eucalyptus</i> woodland with suitable ground cover of grasses, forbs and shrubs (DSE 2003). Trees preferably with peeling bark to support suitable numbers of invertebrate prey.	Marginal habitat value may be found in some areas of woodland on site, but in general the lack of a grass/forb layer and the density of trees is unsuitable for this species.	Several recent (>2016) records from northern part of Flinders Goolman Conservation Estate near Deebling Heights (~9km S). Two recent (>2015) records from White Rock Conservation Estate and adjoining Spring Mountain Reserve (~15km SE).	Unlikely
<i>Macropus dorsalis</i> Black-striped Wallaby	Dry eucalypt and acacia forests with a dense understorey, including areas of lantana.	While dense lantana is present within VC1 this vegetation is too mesic. The species typically avoids thick exotic grasslands.	Records within 50km of site are sparse. One reliable recent record (2019) from Flinders Goolman Conservation Estate (~13km S). Intervening habitat is largely contiguous bushland or grassland/pastureland.	Unlikely

Scientific Name Common Name	Typical Habitat	Habitat within Ripley Gateway Nth	Relevant Local Records	Likelihood Assessment
<i>Petaurus norfolcensis</i> Squirrel Glider	Dry sclerophyll forest at low altitudes, consisting of mature, hollow-bearing trees and high density of standing dead trees from a range of <i>Eucalyptus</i> , <i>Corymbia</i> and <i>Angophora</i> spp. (Rowston et al. 2002; Smith and Murray 2003; Beyer et al. 2008)	Marginal, large hollow bearing trees are infrequent and few stags were observed. Sheltering opportunities are therefore limited and competition with other hollow fauna (e.g., Brushtail Possum) is likely. The related sugar glider was observed while spotlighting on site suggesting that there is potential it could occur.	One recent record (2019) on eastern boundary of White Rock Conservation Estate (~12km ESE), but with considerable spatial uncertainty; one record (1999) from Castle Hill Blackstone Reserve (~2km N) and one record (2001) from White Rock Conservation Estate (~6km SE).	Possible
<i>Phascogale tapoatafa</i> Brush-tailed Phascogale	Treed areas with a sparse understorey supporting a large number of hollow-bearing trees, stags or stumps, typically dominated by rough-barked trees (e.g. ironbarks; DSE 1997). Large areas of unfragmented woodland or forest are required to support a viable population due to the large, non-overlapping home ranges of females (Soderquist 1995).	Marginal, large hollow bearing trees are infrequent and few stags were observed. Sheltering opportunities are therefore limited and competition with other hollow fauna (e.g., Brushtail Possum) is likely.	One record (2012) from Spring Mountain Forest Park (~11km ESE); one record (2015) on private land (~14km ESE); one record (2014) from bushland south of White Rock (~16km SE). All are camera trap records. Other recent reliable records are to the north in D'Aguilar National Park across the Brisbane River .	Unlikely

References

- 28°S Environmental (2019). Ecological Assessment Report, Proposed Ripley Gateway North Residential Development at Flinders View. Prepared for GLAG Pty Ltd.
- Anstis, M. (2013). Tadpoles and Frogs of Australia. New Holland, Sydney.
- Beyer, G. L., Goldingay, R. L. and Sharpe, D. J. (2008). The characteristics of squirrel glider (*Petaurus norfolcensis*) den trees in subtropical Australia. *Australian Journal of Zoology*, 56, 13-21.
- Chapple, D. G., Tingley, R., Mitchell, N. J., Macdonald, S. L., Keogh, J. S., Shea, G. M., Bowles, P., Cox, N. A. and Woinarski, J. C. Z. (2017). The Action Plan for Australian Lizards and Snakes 2017. CSIRO Publishing, Melbourne.
- Clancy, G. P. and Andren, M. (2010). The habitat distribution and population size of the black-necked stork *Ephippiorhynchus asiaticus australis* in New South Wales. *Corella*, 34, 81-91.

- Department of Agriculture, Water and the Environment (2020). *Potorous tridactylus tridactylus* - Long-nosed Potoroo (SE Mainland). Species Profile and Threats Database, Department of the Environment, Canberra. Available from: <http://www.environment.gov.au/sprat>. Accessed 2 Apr 2020.
- Department of Agriculture, Water and the Environment (2020). Threatened Species Profile and Threats Database, *Anthochaera phrygia* Regent Honeyeater. Accessed Apr 2020. Available from: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=82338
- Department of Agriculture, Water and the Environment (2020). Threatened Species Profile and Threats Database, *Chalinolobus dwyeri* Large-eared Pied Bat. Accessed Apr 2020. Available from: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=183
- Department of Sustainability and Environment (1997). Fauna and Flora Guarantee Act Action Statement No. 79. Brush-tailed Phascogale *Phascogale tapoatafa*. Victorian Government, Melbourne. Available from: https://www.environment.vic.gov.au/_data/assets/pdf_file/0018/32337/Brush-tailed_Phascogale_Phascogale_tapoatafa.pdf
- Department of Sustainability and Environment (2003). Fauna and Flora Guarantee Act Action Statement No. 34. Grey-crowned Babbler *Pomatostomus temporalis*. Victorian Government, Melbourne. Available from: https://www.environment.vic.gov.au/_data/assets/pdf_file/0025/32866/Grey-crowned_Babbler_Pomatostomus_temporalis.pdf
- Frith, H.J. (1982). *Pigeons and Doves of Australia*. Melbourne: Rigby.
- Garnett S. T., Szabo J. K. and Dutson G (2011). The Action Plan for Australian Birds 2010. Birds Australia, CSIRO Publishing, Melbourne
- Lollback, G. W., Ford, H. A. and Cairns, S. C. (2008). Is the uncommon Black-chinned Honeyeater a more specialised forager than the co-occurring and common Fuscous Honeyeater? *Emu*, 108, 125-132.
- Marchant, S. and Higgins P. J., eds. (1993). *Handbook of Australian, New Zealand and Antarctic Birds. Volume 2 - Raptors to Lapwings*. Melbourne, Victoria: Oxford University Press.
- Rowston, C., Catterall, C. P. and Hurst, C. (2002). Habitat preferences of squirrel gliders, *Petaurus norfolcensis*, in the fragmented landscape of southeast Queensland. *Forest Ecology and Management*, 164, 197-209.
- Smith, A. P. and Murray, M. (2003). Habitat requirements of the squirrel glider (*Petaurus norfolcensis*) and associated possums and gliders on the New South Wales central coast. *Wildlife Research*, 30, 291-301.
- Soderquist, T. (1995). Spatial organization of the arboreal carnivorous marsupial *Phascogale tapoatafa*. *Journal of Zoology*, 237, 385-398.

Appendix B.

Survey Methods Analysis

Suitable survey techniques for significant species identified in the desktop analysis. Each method is rated as high (H) or low (L) value based on its documented detection suitability; suitable methods for species without documented survey guidelines are indicated by X.

Significant species	Possible Occurrence ¹	Survey Technique											Survey Guidelines
		Elliot	Cage	Pitfall	Funnel	Harp	Camera/Hair Tube	Visual Survey ²	Habitat Search	Spotlight	Call Playback	Audio Recording ³	
FROGS													
<i>Adelotus brevis</i> Tusked Frog	Likely			L	L					H	H	H	Rowland 2013
REPTILES													
<i>Delma torquata</i> Collared Delma	Unlikely			L	L				H				SEWPAC 2011a
<i>Furina dunmalli</i> Dunmall's Snake	Unlikely			H	X				H				SEWPAC 2011a
BIRDS													
<i>Pseophotus cristatus</i> Paradise Parrot	Will not occur							X					None
<i>Anthochaera phrygia</i> Regent Honeyeater	Unlikely/ Transient							H					DEWHA 2010a
<i>Botaurus poiciloptilus</i> Brown Bittern	Will not occur							X			X		None
<i>Calidris ferruginea</i> Curlew Sandpiper	Will not occur							X					None
<i>Numenius madagascariensis</i> Eastern Curlew	Will not occur							X					None
<i>Rostratula australis</i> Australian Painted Snipe	Will not occur							H					DEWHA 2010a
<i>Dasyornis brachypterus</i> Eastern Bristlebird	Will not occur							H			H		DEWHA 2010a
<i>Erythroriorchis radiatus</i> Red Goshawk	Unlikely							H	L (for nests)				DEWHA 2010a
<i>Geophaps scripta scripta</i> Squatter Pigeon	Unlikely							H					DEWHA 2010a
<i>Grantiella picta</i> Painted Honeyeater	Will not occur							X			X		Rowland 2012
<i>Hirundapus caudacutus</i> White-throated Needletail	Likely							X					None

Significant species	Possible Occurrence ¹	Survey Technique											Survey Guidelines
		Elliot	Cage	Pitfall	Funnel	Harp	Camera/Hair Tube	Visual Survey ²	Habitat Search	Spotlight	Call Playback	Audio Recording ³	
<i>Lathamus discolor</i> Swift Parrot	Possible/ Transient							H					DEWHA 2010a
<i>Turnix melanogaster</i> Black-breasted Button-quail	Will not occur							H	H				DEWHA 2010a
MAMMALS													
<i>Chalinolobus dwyeri</i> Large-eared Pied Bat	Will not occur					L						H	DEWHA 2010b
<i>Dasyurus hallucatus</i> Northern Quoll	Will not occur	H	H				H		L	L			SEWPAC 2011b
<i>Dasyurus maculatus</i> Spotted-tailed Quoll	Unlikely						H		H				SEWPAC 2011b
<i>Petauroides volans</i> Greater Glider	Unlikely									X			None
<i>Petrogale penicillata</i> Brush-tailed Rock-wallaby	Will not occur						H		H				SEWPAC 2011b
<i>Phascolarctos cinereus</i> Koala (SE OLD)	Known						L		H	L/H	L		DoE 2014
<i>Potorous Tridactylus</i> Long-nosed Potoroo	Will not occur						H		L				SEWPAC 2011b
<i>Pteropus poliocephalus</i> Grey-headed Flying-fox	Likely									H			DEWHA 2010b
<i>Ephippiorhynchus asiaticus</i> Black-necked Stork	Unlikely/ Transient							X					None
<i>Melithreptus gularis gularis</i> Black-chinned Honeyeater	Possible							X			X		None
<i>Pomatostomus temporalis</i> Grey-crowned Babbler	Unlikely							X			X		None
<i>Macropus dorsalis</i> Black-striped Wallaby	Unlikely						X	X		X			None
<i>Petaurus norfolcensis</i> Squirrel Glider	Possible						X	X		X			None
<i>Phascogale tapoatafa</i> Brush-tailed Phascogale	Unlikely						L	L		H			VicForests 2015

¹ Based on local records and habitat suitability; see Section 4.1 and Appendix A.

² including bird surveys, strip surveys, random meanders and water body/den watches

³ including Anabat

Department of Sustainability, Environment, Water, Population and Communities (2011b). **Survey Guidelines for Australia's Threatened Mammals**. Commonwealth Government, Canberra.

Department of Sustainability, Environment, Water, Population and Communities (2011a). **Survey Guidelines for Australia's Threatened Reptiles**. Commonwealth Government, Canberra.

Department of the Environment (2014). EPBC Act referral Guidelines for the vulnerable Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory, Commonwealth of Australia, Canberra.

Department of the Environment, Water, Heritage and the Arts (2010a). **Survey Guidelines for Australia's Threatened Birds**. Commonwealth Government, Canberra.

Department of the Environment, Water, Heritage and the Arts (2010b). **Survey Guidelines for Australia's Threatened Bats**. Commonwealth Government, Canberra.

Rowland, J. (2013). Tusked Frog, *Adelotus brevis*. Targeted species survey guidelines. Queensland Herbarium, Department of Environment and Science, Brisbane.

Rowland, J. (2012). Painted Honeyeater, *Grantiella picta*. Targeted species survey guidelines. Queensland Herbarium, Department of Environment and Science, Brisbane.

VicForests (2015). VicForests procedure: pre-harvest fauna survey procedure (v1.7). VicForests, Victorian Government, Melbourne.

Appendix C.

Observed Fauna

Appendix C: Recorded Vertebrate Species

GROUP	<i>Scientific Name</i>	Common Name
AMPHIBIANBS		
	<i>Limnodynastes peronii</i>	Striped Marsh Frog
	<i>Litoria caerulea</i>	Green Tree Frog
	<i>Litoria fallax</i>	Common Sedge Frog
	<i>Platyplectrum ornatum</i>	Ornate Burrowing Frog
	<i>Rhinella marina</i>	Cane Toad
REPTILES		
	<i>Carlia vivax</i>	
	<i>Cryptoblepharus pulcher</i>	Wall Skink
	<i>Furina diadema</i>	Red-naped Snake
	<i>Intellagama lesueurii</i>	Eastern Water Dragon
	<i>Lampropholis delicata</i>	
BIRDS		
	<i>Alectura lathamii</i>	Australian Brush Turkey
	<i>Ardeotis australis</i>	Australian Magpie
	<i>Caligavis chrysops</i>	Yellow-faced Honeyeater
	<i>Centropus phasianinus</i>	Pheasant Coucal
	<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike
	<i>Corvus orru</i>	Torresian Crow
	<i>Cracticus nigrogularis</i>	Pied Butcherbird
	<i>Cracticus torquatus</i>	Grey Butcherbird
	<i>Dacelo novaeguineae</i>	Laughing Kookaburra
	<i>Entomyzon cyanotis</i>	Blue-faced Honeyeater
	<i>Eopsaltria australis</i>	Eastern Yellow Robin
	<i>Gallinula tenebrosa</i>	Dusky Moorhen
	<i>Gallirallus philippensis</i>	Buff-banded Rail
	<i>Geopelia humeralis</i>	Bar-shouldered Dove
	<i>Geopelia placida</i>	Peaceful Dove
	<i>Gerygone albogularis</i>	White-throated Gerygone
	<i>Glossopsitta pusilla</i>	Little Lorikeet
	<i>Grallina cyanoleuca</i>	Magpie-lark
	<i>Hirundo neoxena</i>	Welcome Swallow
	<i>Lichmera indistincta</i>	Brown Honeyeater
	<i>Lonchura castaneothorax</i>	Chestnut-breasted Mannikin
	<i>Malurus lamberti</i>	Variegated Fairy-wren
	<i>Malurus melanocephalus</i>	Red-backed Fairy-wren
	<i>Manorina melanocephala</i>	Noisy Miner
	<i>Megalurus timoriensis</i>	Tawny Grassbird
	<i>Melithreptus albogularis</i>	White-throated Honeyeater
	<i>Pardalotus striatus</i>	Striated Pardalote
	<i>Philemon corniculatus</i>	Noisy Friarbird
	<i>Platycercus adscitus</i>	Pale-headed Rosella
	<i>Podargus strigoides</i>	Tawny Frogmouth
	<i>Porphyrio porphyrio</i>	Purple Swamphen
	<i>Strepera graculina</i>	Pied Currawong
	<i>Taeniopygia bichenovii</i>	Double-barred Finch

GROUP	
<i>Scientific Name</i>	Common Name
<i>Todiramphus sanctus</i>	Sacred Kingfisher
<i>Trichoglossus chlorolepidotis</i>	Scaly-breasted Lorikeet
<i>Trichoglossus haematodus</i>	Rainbow Lorikeet
<i>Zosterops lateralis</i>	Silvereye
MAMMALS	
<i>Austromonopus australis</i>	White-striped Freetail Bat
<i>Canis familiaris</i>	Feral Dog
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat
<i>Chalinolobus morio</i>	Chocolate Wattled Bat
<i>Felis catus</i>	Feral Cat
<i>Isodon macrourus</i>	Northern Brown Bandicoot
<i>Lepus europeus</i>	European Hare
<i>Macropus giganteus</i>	Eastern Grey Kangaroo
<i>Miniopterus australis</i>	Little Bentwing Bat
<i>Miniopterus orianae</i>	Common Bentwing Bat
<i>Nyctophilus sp</i>	A Long-eared Bat
<i>Ozimops lumsdenae</i>	
<i>Ozimops ridei</i>	
<i>Petaurus breviceps</i>	Sugar Glider
<i>Rattus sp</i>	
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail Bat
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat
<i>Scotorepens greyii</i>	Little Broad-nosed Bat
<i>Scotorepens orion</i>	Eastern Broad-nosed Bat
<i>Trichosurus vulpecula</i>	Common Brushtail Possum

Appendix 12

Flora Species List

Family	Botanical Name	Common Name	EPBC Act 1999	NC Act 1992
Native Species				
Mimosaceae	<i>Acacia disparrima</i> subsp. <i>disparrima</i>	Hickory Wattle	NL	LC
Mimosaceae	<i>Acacia leiocalyx</i>		NL	LC
Mimosaceae	<i>Acacia maidenii</i>	Maiden's Wattle	NL	LC
Mimosaceae	<i>Acacia podalyriifolia</i>		NL	LC
Casuarinaceae	<i>Allocasuarina littoralis</i>	Black She-oak	NL	LC
Rhamnaceae	<i>Alphitonia excelsa</i>	Red Ash	NL	LC
Apocynaceae	<i>Alstonia constricta</i>	Bitterbark	NL	LC
Amaranthaceae	<i>Alternanthera denticulata</i>	Lesser Joyweed	NL	LC
Myrtaceae	<i>Angophora leiocarpa</i>	Smooth-barked Apple	NL	LC
Poaceae	<i>Aristida</i> sp.	a grass	NL	LC
Poaceae	<i>Arundinella nepalensis</i>	Reed Grass	NL	LC
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>		NL	LC
Phyllanthaceae	<i>Breynia oblongifolia</i>	Coffee Bush	NL	LC
Cyperaceae	<i>Carex</i> sp.		NL	LC
Asteraceae	<i>Cassinia</i> sp.		NL	LC
Lauraceae	<i>Cassytha</i> sp.		NL	LC
Asteraceae	<i>Chrysocephalum apiculatum</i>	Golden Yellow Buttons	NL	LC
Myrtaceae	<i>Corymbia citriodora</i> subsp. <i>variegata</i>	Spotted Gum	NL	LC
Myrtaceae	<i>Corymbia intermedia</i>	Pink Bloodwood	NL	LC
Myrtaceae	<i>Corymbia tessellaris</i>	Carbeen	NL	LC
Myrtaceae	<i>Corymbia torelliana</i>	Cadaghi	NL	LC
Sapindaceae	<i>Cupaniopsis anacardioides</i>	Tuckeroo	NL	LC
Asteraceae	<i>Cyanthillium cinereum</i>		NL	LC
Thelypteridaceae	<i>Cyclosorus interruptus</i>		NL	LC
Poaceae	<i>Cymbopogon refractus</i>	Barbed Wire Grass	NL	LC
Cyperaceae	<i>Cyperus gracilis</i>	Whisker Grass	NL	LC
Cyperaceae	<i>Cyperus polystachyos</i>	Bunchy Sedge	NL	LC
Loranthaceae	<i>Dendrophthoe glabrescens</i>	Orange Mistletoe	NL	LC
Fabaceae	<i>Desmodium rhytidophyllum</i>	Hairy Tre-foil	NL	LC
Hemerocallidaceae	<i>Dianella brevipedunculata</i>		NL	LC
Chenopodiaceae	<i>Einadia hastata</i>	(a) Saltbush	NL	LC
Cyperaceae	<i>Eleocharis</i> sp.		NL	LC
Poaceae	<i>Eragrostis</i> sp.		NL	LC
Poaceae	<i>Eragrostis</i> sp.		NL	LC
Myrtaceae	<i>Eucalyptus crebra</i>	Narrow-leaved Red Ironbark	NL	LC
Myrtaceae	<i>Eucalyptus seeana</i>	Narrow-leaved Bluegum	NL	LC
Myrtaceae	<i>Eucalyptus tereticornis</i>	Queensland Blue Gum	NL	LC
Laxmanniaceae	<i>Eustrephus latifolius</i>	Wombat Berry	NL	LC
Santalaceae	<i>Exocarpos cupressiformis</i>		NL	LC
Moraceae	<i>Ficus coronata</i>	Creek Sandpaper Fig	NL	LC

Family	Botanical Name	Common Name	EPBC Act 1999	NC Act 1992
Cyperaceae	<i>Gahnia aspera</i>	Red-fruited Saw Sedge	NL	LC
Geraniaceae	<i>Geranium solanderi</i>	Native Geranium	NL	LC
Phyllanthaceae	<i>Glochidion ferdinandi</i>	Cheese Tree	NL	LC
Fabaceae	<i>Glycine clandestina</i>		NL	LC
Poaceae	<i>Heteropogon contortus</i>	Black Speargrass	NL	LC
Araliaceae	<i>Hydrocotyle laxiflora</i>	Pennyweed	NL	LC
Dennstaedtiaceae	<i>Hypolepis muelleri</i>	Harsh Ground Fern	NL	LC
Poaceae	<i>Imperata cylindrica</i>	Blady Grass	NL	LC
Fabaceae	<i>Jacksonia scoparia</i>		NL	LC
Juncaceae	<i>Juncus planifolius</i>		NL	LC
Juncaceae	<i>Juncus usitatus</i>	Common Rush	NL	LC
Asteraceae	<i>Lagenophora</i> sp.		NL	LC
Laxmanniaceae	<i>Laxmannia gracilis</i>	Slender Wire Lily	NL	LC
Poaceae	<i>Leersia hexandra</i>	Swamp Ricegrass	NL	LC
Campanulaceae	<i>Lobelia concolor</i>		NL	LC
Campanulaceae	<i>Lobelia purpurascens</i>	White Root	NL	LC
Campanulaceae	<i>Lobelia stenophylla</i>		NL	LC
Laxmanniaceae	<i>Lomandra laxa</i>		NL	LC
Laxmanniaceae	<i>Lomandra longifolia</i>	Spiny-headed Mat Rush	NL	LC
Laxmanniaceae	<i>Lomandra</i> sp.		NL	LC
Myrtaceae	<i>Lophostemon suaveolens</i>	Swamp Box	NL	LC
Onagraceae	<i>Ludwigia octovalvis</i>	Native Willow Primrose	NL	LC
Moraceae	<i>Maclura cochinchinensis</i>	Cockspur Vine	NL	LC
Marsileaceae	<i>Marsilea</i> sp.		NL	LC
Meliaceae	<i>Melia azedarach</i>	White Cedar	NL	LC
Poaceae	<i>Microlaena stipoides</i>	Weeping Meadow Grass	NL	LC
Haloragaceae	<i>Myriophyllum gracile</i>		NL	LC
Menyanthaceae	<i>Nymphoides indica</i>		NL	LC
Poaceae	<i>Ottochloa gracillima</i>	Graceful Grass	NL	LC
Poaceae	<i>Panicum</i> sp.		NL	LC
Apocynaceae	<i>Parsonsia brisbanensis</i>		NL	LC
Apocynaceae	<i>Parsonsia straminea</i>	Monkey Rope	NL	LC
Poaceae	<i>Paspalum</i> sp.		NL	LC
Polygonaceae	<i>Persicaria attenuata</i>	Smartweed	NL	LC
Polygonaceae	<i>Persicaria decipiens</i>	Slender Knotweed	NL	LC
Polygonaceae	<i>Persicaria orientalis</i>	Prince's Feather	NL	LC
Proteaceae	<i>Persoonia</i> sp.		NL	LC
Picrodendraceae	<i>Petalostigma pubescens</i>	Quinine Bush	NL	LC
Philydraceae	<i>Philydrum lanuginosum</i>	Woolly Frogmouth	NL	LC
Phyllanthaceae	<i>Phyllanthus</i> sp.		NL	LC
Asteraceae	<i>Pterocaulon redolens</i>		NL	LC
Phyllanthaceae	<i>Sauropus hirtellus</i>		NL	LC
Cyperaceae	<i>Scleria</i> sp.		NL	LC
Fabaceae	<i>Sesbania</i> sp.		NL	LC
Poaceae	<i>Sporobolus</i> sp.		NL	LC
Ulmaceae	<i>Trema aspera</i>		NL	LC
Typhaceae	<i>Typha orientalis</i>		NL	LC

Family	Botanical Name	Common Name	EPBC Act 1999	NC Act 1992
Exotic Species				
Asteraceae	<i>Ageratum houstonianum</i>	Blue Billygoat Weed	NL	*
Apocynaceae	<i>Asclepias curassavica</i>	Tropical Milkweed	NL	*
Asteraceae	<i>Aster subulatus</i>	Wild aster	NL	*
Asteraceae	<i>Bidens pilosa</i>	Cobbler's Pegs	NL	*
Poaceae	<i>Brachiaria decumbens</i>	Signal grass	NL	*
Commelinaceae	<i>Callisia fragrans</i>		NL	*
Commelinaceae	<i>Callisia repens</i>	Money Plant	NL	*
Bignoniaceae	<i>Campsis radicans</i>		NL	*
Cannaceae	<i>Canna indica</i>		NL	*
Apocynaceae	<i>Catharanthus roseus</i>	Pink Periwinkle	NL	*
Chenopodiaceae	<i>Chenopodium album</i>		NL	*
Poaceae	<i>Chloris gayana</i>	Rhodes Grass	NL	*
Arecaceae	<i>Syagrus romanzoffiana</i>	Cocos Palm	NL	*
Poaceae	<i>Cortaderia selloana</i>		NL	*
Lythraceae	<i>Cuphea carthagenensis</i>	Columbian Waxweed	NL	*
Poaceae	<i>Cynodon dactylon</i>	Couch	NL	*
Poaceae	<i>Digitaria didactyla</i>	Blue Couch	NL	*
Poaceae	<i>Digitaria violascens</i>		NL	*
Chenopodiaceae	<i>Dysphania ambrosioides</i>		NL	*
Asteraceae	<i>Eclipta prostrata</i>	White Eclipta	NL	*
Asteraceae	<i>Emilia sonchifolia</i>	Emilia	NL	*
Poaceae	<i>Eragrostis curvula</i>		NL	*
Asteraceae	<i>Erechtites valerianifolius</i>		NL	*
Apocynaceae	<i>Gomphocarpus physocarpus</i>	Balloon Cotton Bush	NL	*
Poaceae	<i>Hyparrhenia rufa</i>		NL	*
Asteraceae	<i>Hypochaeris radicata</i>	Flatweed	NL	*
Bignoniaceae	<i>Jacaranda mimosifolia</i>	Jacaranda	NL	*
Myrsinaceae	<i>Lysimachia arvensis</i>		NL	*
Fabaceae	<i>Macroptilium atropurpureum</i>	Siratro	NL	*
Fabaceae	<i>Macroptilium lathyroides</i>	Phasey Bean	NL	*
Poaceae	<i>Megathyrsus maximus</i> var. <i>pubiglumis</i>	Green Panic	NL	*
Poaceae	<i>Melinis repens</i>	Red Natal Grass	NL	*
Moraceae	<i>Morus alba</i>		NL	*
Cactaceae	<i>Opuntia tomentosa</i>	Velvety Tree Pear	NL	*
Passifloraceae	<i>Passiflora suberosa</i>	Corky Passionvine	NL	*
Plantaginaceae	<i>Plantago lanceolata</i>		NL	*
Acanthaceae	<i>Ruellia simplex</i>		NL	*
Polygonaceae	<i>Rumex crispus</i>		NL	*
Plantaginaceae	<i>Scoparia dulcis</i>		NL	*
Caesalpiniaceae	<i>Senna pendula</i> var. <i>glabrata</i>		NL	*
Poaceae	<i>Setaria sphacelata</i>		NL	*
Malvaceae	<i>Sida cordifolia</i>		NL	*
Malvaceae	<i>Sida rhombifolia</i>		NL	*
Solanaceae	<i>Solanum seaforthianum</i>		NL	*
Verbenaceae	<i>Verbena bonariensis</i>		NL	*
Asteraceae	<i>Ambrosia artemisiifolia</i>	Annual Ragweed	NL	*(RI)
Asparagaceae	<i>Asparagus africanus</i>	Asparagus Fern	NL	*(RI)
Asteraceae	<i>Baccharis halimifolia</i>	Groundsel Bush	NL	*(RI)
Crassulaceae	<i>Bryophyllum delagoense</i>	Mother of Millions	NL	*(RI)

Family	Botanical Name	Common Name	EPBC Act 1999	NC Act 1992
Ulmaceae	<i>Celtis sinensis</i>	Chinese Celtis	NL	*(RI)
Lauraceae	<i>Cinnamomum camphora</i>	Camphor Laurel	NL	*(RI)
Verbenaceae	<i>Lantana camara</i>	Common Lantana	NL	*(RI)
Verbenaceae	<i>Lantana montevidensis</i>	Creeping Lantana	NL	*(RI)
Anacardiaceae	<i>Schinus terebinthifolius</i>	Broad-leaved Pepper Tree	NL	*(RI)
Asteraceae	<i>Senecio madagascariensis</i>	Fireweed	NL	*(RI)

Appendix 13

**BioCondition Data Sheets
for Impact Site**

Date:	19/08/20	Collector:	Justin Armstrong and Amelia Spring			SITE: Impact Site 1			
Time:	08:20	Job No.	2018-079						
Mapped RE:	12.9-10.2		Description:	Regrowth forest dominated by semi-mature Queensland blue gum with associated smooth-barked apple and pink bloodwood.					
Field RE:									
Slope:	Aspect:	Landform (local):		Landform (broad):					
2-3°	West	Lower slope		Undulating gentle rise					
Slope Shape:	Concave								
Soils:	Sandy red alluvium			Soil Core Photo:	-				
				Surface Soils Photo:					
Litter:	77%	Bare Soil:	10%	Timber:	<1%	Rock:	<1%	Groundcover:	12%
Notes:									
REMNANT		Non-remnant		Zone:	56J	Coordinates:	See Biocondition Assessment Site Map		
Stratum	Median	Height range	Intercept		Dominance	Scientific Name			
E									
T1	19	18 – 26	S	C	<i>Corymbia intermedia</i>				
				C	<i>Eucalyptus tereticornis</i>				
					<i>Corymbia citriodora</i>				
T2	12	10 – 15	M	C	<i>Alphitonia excelsa</i>				
				C	<i>Lophostemon suaveolens</i>				
				A	<i>Acacia spp.</i>				
				A	<i>Corymbia intermedia</i>				
T3									
S1	3	1-5	M	D	<i>Lantana camara</i> *				
				S	<i>Alphitonia excelsa</i>				
				S	<i>Acacia spp.</i>				
S2									
G	0.1	<0.5	V	D	<i>Sida spp.</i> *				
Herbarium Definitions Dominance: D – dominant, C – co-dominant, A – associated, S – suppressed									
Crown Cover Intercept: I: Isolated (0.2-2%), V: Very sparse (2-20%), S: Sparse (20-50%), M: Mid-dense (50-80%), D: Dense (80-100%).									
Walter and Hopkins Classes: 1-3m Dwarf, 3-6m – Low, 6-12m mid-high, 12-20m tall, 20-35m very tall, >35m extremely tall									
Walter and Hopkins Crown Cover Classes: <0.2% - isolated trees or clumps; 0.2-20% - open woodland; 20-50% - woodland, 50-80% - open forest, 80-100% - closed forest									
Basal Area (fixed point Bitterlich technique: factor 1cm)					Condition				
Species	S1	T3	T2	T1	Type	Severity (0 to 3)			
					Fire (& Height in m)	0 (>15 years ago)			
					Clearing	0			
					Thinning/Ringbarking	2			
					Grazing	0			
					Exotic Flora	2			
					Canopy Dieback	0			
					Erosion	0			
					Recruitment				
					Drought	0			

BIO-CONDITION PARAMETERS				DATE	19/08/2020		SITE		T1		
GROUNDCOVER (ten 1 x 1m plots)											
Ground Cover type	1	2	3	4	5	6	7	8	9	10	Mean
Native grass	5	5	0	2	0						2.4
Native herbs & forbs	2	1	0	1	0						0.8
Native shrubs (<1m in height)	0	0	1	0	15						3.2
Non-native grass	0	0	5	0	2						1.4
Non-native <u>annual</u> grass and herbs (for TECs)											
Non-native herbs & shrubs	1	0	0	0	20						4.2
Aquatic Vegetation (floating)											
Aquatic Vegetation (submerged)											
Aquatic Vegetation (emergent)											
Non-aquatic sedges											
Ferns	3	0	0	0	0						0.6
Litter	60	80	85	97	63						77
Rock	0	0	0	0	0						0
Bare ground	29	14	5	0	0						9.6
Other (e.g. timber, inorganic refuse)	0	0	4	0	0						0.8
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Species Habitat Notes (if applicable)						Hollows tally [Plot: 50 x 20m]			Weed cover [Plot: 100 x 50/20m]		
Fallen Woody Material (length of fallen woody logs >10cm diameter and >0.5m [Plot: 50 x 20m])	Count tally (metres per log)					<10cm wide			m		
						0					
						>10cm wide					
						0					
TOTAL	27 m (270m per hectare)										

WOODY RECRUITMENT	75% (dominated by <i>Corymbia intermedia</i>)			TOTAL	0	m²	
TOTAL WEEDS	40%						
LARGE TREES (Eucalypts >30cm DBH and Non-eucalypts >20cm)				PLOT SIZE	100x50m	100x20m	50x10m
Species		DBH size (cm)					
<i>Corymbia intermedia</i>		3 trunks (100, 250, 290), 390,430					
<i>Eucalyptus tereticornis</i>		400					
<i>Corymbia citriodora</i>		2 trunks (300, 280)					
Eucalypts		Average DBH (above threshold) = 38 cm, large trees per hectare = 6					
Non-eucalypts		Average DBH (above threshold) = n/a cm, large trees per hectare = 0					
Crown Cover Intercept (Native species only)					SITE		Site 1
Species	Strata	Height (m)	Intercept Range (m)			Cover (m)	
<i>Acacia concurrens</i>	S1	5	0-0.6			0.6	
<i>Acacia leiocalyx</i>	S1	2	0-0.3			0.3	
<i>Acacia concurrens</i>	T2	13	0.8-2			1.2	
<i>Lophostemon suaveolens</i>	T2	15	2.7-5			2.3	
<i>Eucalyptus tereticornis</i>	T1	26	4-9			5	
<i>Acacia disparrima</i>	S1	2	6-6.6			0.6	
<i>Lophostemon suaveolens</i>	T2	8	7.3-8.3			1	
<i>Lophostemon suaveolens</i>	S1	4	8-9.2			1.2	
<i>Acacia concurrens</i>	T2	14	7-10			3	
<i>Lophostemon suaveolens</i>	T2	13	10-11.6			1.6	
<i>Lophostemon suaveolens</i>	T2	10	12.3-15.3			2	
<i>Acacia disparrima</i>	S1	4.5	18.2-20			1.8	
<i>Alphitonia excelsa</i>	S1	3	21.3-22.5			1.2	
<i>Corymbia intermedia</i>	T1	25	26-35.5			9.5	
<i>Eucalyptus tereticornis</i>	T1	23	35.7-44			8.3	
<i>Alphitonia excelsa</i>	S1	0.8	36.4-37.2			0.8	
<i>Acacia concurrens</i>	S1	3	37.6-38.2			0.6	
<i>Acacia concurrens</i>	T2	13	42.4-43.6			1.2	

<i>Acacia concurrens</i>	T2	12	44.3-47		2.7
<i>Lophostemon suaveolens</i>	S1	5	43-45.5		2.5
<i>Lophostemon suaveolens</i>	S1	6	45.5-47		1.5
<i>Lophostemon suaveolens</i>	S1	1.8	49-49.8		0.8
<i>Lophostemon suaveolens</i>	S1	7	51.5-52.4		0.9
<i>Lophostemon suaveolens</i>	S1	6	53.5-56		2.5
<i>Alphitonia excelsa</i>	S1	3.5	56.6-57.6		1
<i>Lophostemon suaveolens</i>	S1	4	57.7-59		1.3
<i>Corymbia intermedia</i>	S1	2	59.3-60.4		1.1
<i>Acacia concurrens</i>	T2	14	61-64		3
<i>Acacia concurrens</i>	T2	16	68.8-73.5		4.7
<i>Acacia concurrens</i>	T2	15	74-76.5		2.5
<i>Acacia disparrima</i>	S1	1.5	74-75.8		1.8
<i>Acacia disparrima</i>	S1	1.2	76-77.3		1.3
<i>Acacia disparrima</i>	T2	12	76-78.8		2.8
<i>Alphitonia excelsa</i>	S1	3	77-77.6		0.6
<i>Alphitonia excelsa</i>	T2	13	77.8-79		1.2
<i>Acacia disparrima</i>	S1	1.8	79-80.7		1.7
<i>Corymbia citriodora</i>	T1	26	76-88		12
<i>Alphitonia excelsa</i>	S1	6	80-82.5		2.5
<i>Alphitonia excelsa</i>	S1	8	82-83.7		1.7
<i>Acacia maidenii</i>	T2	16	89-95		6
<i>Lophostemon suaveolens</i>	T2	16	95-98		3
<i>Alphitonia excelsa</i>	T2	16	98-100		2
				T1 % Cover	34.8
				T2 % Cover	38.7
				S % Cover	26.5
Random Meander (native species only)					
Species (cont'd)	Presence	Strata	Species	Presence	Strata
<i>Eucalyptus tereticornis</i>		T1	<i>Commelina diffusa</i>		G

<i>Corymbia intermedia</i>		T1	<i>Lomandra sp</i>		G
<i>Corymbia citriodora</i>		T1	<i>Poranthera microphylla</i>		G
<i>Lophostemon suaveolens</i>		T3	<i>Aristida sp</i>		G
<i>Acacia concurrens</i>		T3	<i>Ottochloa gracillima</i>		G
<i>Alphitonia excelsa</i>		T3	<i>Digitaria parviflora</i>		G
<i>Acacia disparrima</i>		S1	<i>Acacia fimbriata</i>		S1
<i>Persoonia sp</i>		S1	<i>Cyanthillium cinereum</i>		G
<i>Cheilanthes sieberi</i>		G			
<i>Paspalidium sp</i>		G			
<i>Eragrostis sp</i>		G			
<i>Fimbristylis sp</i>		G			
<i>Microlaena stipoides</i>		G			
<i>Glycine tabacina</i>		G			
<i>Cymbopogon refractus</i>		G			



Site 1 Start of Transect



Site 1 End of Transect



Northern View from Centre of Transect



Eastern View from Centre of Transect



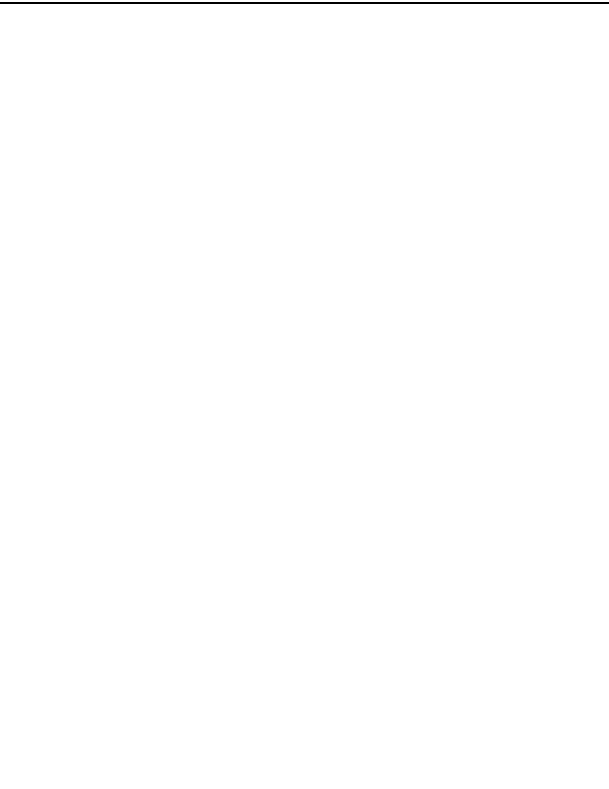
Southern View from Centre of Transect



Western View from Centre of Transect



Ground View from Centre of Transect



Date:	19/08/20	Collector:	Justin Armstrong and Amelia Spring			SITE: Impact Site 2			
Time:	11:00	Job No.	2018-079						
Mapped RE:	12.3.3		Description:	Remnant Queensland blue gum open forest on alluvial of creek.					
Field RE:	As above								
Slope:	Aspect:	Landform (local):		Landform (broad):					
<1	Flat	Alluvial flats and terraces							
Slope Shape:									
Soils:				Sandy red alluvium.		Soil Core Photo:		-	
						Surface Soils Photo:			
Litter:	54%	Bare Soil:	2%	Timber:	<1%	Rock:	<1%	Groundcover:	43%
Notes:									
REMNANT		Remnant		Zone:	56J	Coordinates:		See Biocondition Site Map	
Stratum	Median	Height range		Intercept		Dominance	Scientific Name		
E									
T1	24	22 – 28		M		D	<i>Eucalyptus tereticornis</i>		
						A	<i>Angophora leiocarpa</i>		
T2	18	16-20		S		D	<i>Lophostemon suaveolens</i>		
						S	<i>Corymbia tessellaris</i>		
						S	<i>Angophora leiocarpa</i>		
T3	12	10 – 15		S		D	<i>Lophostemon suaveolens</i>		
						A	<i>Acacia disparrima</i>		
						A	<i>Acacia concurrens</i>		
S1	6	1-9		D		A	<i>Allocasuarina littoralis</i>		
						A	<i>Acacia leiocalyx</i>		
						A	<i>Acacia disparrima</i>		
						S	<i>Alphitonia excelsa</i>		
S2						S	<i>Allocasuarina littoralis</i>		
G	0.5	<1		M		D	<i>Lomandra sp*</i>		
Herbarium Definitions		Dominance: D – dominant, C – co-dominant, A – associated, S – suppressed							
Crown Cover Intercept: I: Isolated (0.2-2%), V: Very sparse (2-20%), S: Sparse (20-50%), M: Mid-dense (50-80%), D: Dense (80-100%).									
Walter and Hopkins Classes: 1-3m Dwarf, 3-6m – Low, 6-12m mid-high, 12-20m tall, 20-35m very tall, >35m extremely tall									
Walter and Hopkins Crown Cover Classes: <0.2% - isolated trees or clumps; 0.2-20% - open woodland; 20-50% - woodland, 50-80% - open forest, 80-100% - closed forest									
Basal Area (fixed point Bitterlich technique: factor 1cm)						Condition			
Species	S1	T3	T2	T1	Type	Severity (0 to 3)			
					Fire (& Height in m)	0			
					Clearing	0			
					Thinning/Ringbarking	0			
					Grazing	0			
					Exotic Flora	2			
					Canopy Dieback	0			
					Erosion	2			
					Recruitment	1			
					Drought	<1			

BIO-CONDITION PARAMETERS				DATE	19/08/2020	SITE			T2		
GROUNDCOVER (ten 1 x 1m plots)											
Ground Cover type	1	2	3	4	5	6	7	8	9	10	Mean
Native grass	0	0	0	0	0						0
Native herbs & forbs	2	50	1	0	1						10.8
Native shrubs (<1m in height)	0	0	10	0	50						12
Non-native grass	5	5	20	2	25						11.4
Non-native <u>annual</u> grass and herbs (for TECs)											
Non-native herbs & shrubs	10	10	5	20	5						10
Aquatic Vegetation (floating)											
Aquatic Vegetation (submerged)											
Aquatic Vegetation (emergent)											
Non-aquatic sedges											
Ferns	0	0	0	0	0						0
Litter	83	25	64	78	19						53.8
Rock	0	0	0	0	0						0
Bare ground	0	10	0	0	0						2
Other (e.g. timber, inorganic refuse)	0	0	0	0	0						0
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Species Habitat Notes (if applicable)						Hollows tally [Plot: 50 x 20m]			Weed cover [Plot: 100 x 50/20m]		
Fallen Woody Material (length of fallen woody logs >10cm diameter and >0.5m [Plot: 50 x 20m])	Count tally (metres per log)					<10cm wide			m		
						0					
	2.2, 1, 1.2, 3.6, 2, 2, 9					>10cm wide					
						0					
TOTAL	21.6 m (216m/ha)										

WOODY RECRUITMENT	% (Allocasuarina littoralis, Corymbia intermedia, Eucalyptus tereticornis, Lophostemon suaveolens)			TOTAL	0	m²
TOTAL WEEDS	55%					
LARGE TREES (Eucalypts >47cm DBH and Non-eucalypts >20cm)			PLOT SIZE	100x50m	100x20m	50x10m
Species	DBH size (cm)					
<i>Lophostemon suaveolens</i>	480, 580					
<i>Eucalyptus tereticornis</i>	600, 470, 700, 720					
Eucalypts	Average DBH (above threshold) = 47 cm, large trees per hectare = 8					
Non-eucalypts	Average DBH (above threshold) = n/a cm, large trees per hectare = 4					
Crown Cover Intercept				SITE		
Species	Strata	Height (m)	Intercept Range (m)		Cover (m)	
<i>Acacia leiocalyx</i>	S1	8	0-2		2	
<i>Lophostemon suaveolens</i>	T3	15	1.7-4.2		2.5	
<i>Acacia leiocalyx</i>	S1	4	3.5-5.9		2.4	
<i>Lophostemon suaveolens</i>	T2	20	6.2-12		5.8	
<i>Allocasuarina littoralis</i>		5	10.4-11.9		1.5	
<i>Acacia leiocalyx</i>		4	11.6-13.4		1.8	
<i>Eucalyptus tereticornis</i>	T1	27	10.5-20		9.5	
<i>Lophostemon suaveolens</i>		10	16.6-18.5		1.9	
<i>Acacia disparrima</i>	S1	3	17-18.6		1.6	
<i>Lophostemon suaveolens</i>	S1	3	18.2-19		0.8	
<i>Lophostemon suaveolens</i>	T3	13	18.1-22.5		4.4	
<i>Lophostemon suaveolens</i>	S1	2	19.3-20.3		1	
<i>Lophostemon suaveolens</i>	S1	4	20.4-23		2.6	
<i>Lophostemon suaveolens</i>	S1	3	21.3-22		0.7	
<i>Lophostemon suaveolens</i>	T2	18	26-31		5	
<i>Allocasuarina littoralis</i>	T3	15	27.5-30.7		3.2	
<i>Eucalyptus tereticornis</i>	T2	21	32.5-38.2		5.7	
<i>Allocasuarina littoralis</i>	S1	2.5	36.7-38.7		2	

<i>Acacia leiocalyx</i>	S1	3	36.8-37.7		1.9
<i>Lophostemon suaveolens</i>	T2	17	37.3-40.6		3.3
<i>Acacia maidenii</i>	S1	2	39.2-40.2		1
<i>Eucalyptus tereticornis</i>	T1	22	38.6-42.2		3.6
<i>Lophostemon suaveolens</i>	T3	14	40.6-42		1.4
<i>Lophostemon suaveolens</i>	T3	14	42-43.5		1.5
<i>Lophostemon suaveolens</i>	T3	14	44.2-47		2.8
<i>Eucalyptus tereticornis</i>	T1	28	46-55.5		9.5
<i>Angophora leiocarpa</i>	S1	3	46.6-47.4		0.8
<i>Acacia disparrima</i>	S1	3.5	46-48		2
<i>Acacia disparrima</i>	S1	4	48-50.8		2.8
<i>Lophostemon suaveolens</i>	S1	7	50-52.8		2.8
<i>Acacia concurrens</i>	S1	5	50-54		4
<i>Alphitonia excelsa</i>	S1	2.5	53.7-55		1.3
<i>Acacia disparrima</i>	S1	5	54-55		1
<i>Angophora leiocarpa</i>	S1	7	55-56.2		1.2
<i>Lophostemon suaveolens</i>	S1	8	55-59.5		4.5
<i>Eucalyptus tereticornis</i>	T3	15	58-60		2
<i>Lophostemon suaveolens</i>	S1	8	59-61.4		2.4
<i>Angophora leiocarpa</i>	T1	23	60-64.9		4.9
<i>Lophostemon suaveolens</i>	S1	7	61-62		1
<i>Alphitonia excelsa</i>	S1	3	63.5-65.2		1.7
<i>Lophostemon suaveolens</i>	S1	2	64-65		1
<i>Acacia leiocalyx</i>	S1	3	64.5-66.5		1
<i>Lophostemon suaveolens</i>	S1	3	66.9-69		2.1
<i>Lophostemon suaveolens</i>	S1	3	68.5-70		1.5
<i>Lophostemon suaveolens</i>	S1	5	69-72		3
<i>Lophostemon suaveolens</i>	T2	17	70-72		2
<i>Acacia leiocalyx</i>	S1	8	72-74		2
<i>Lophostemon suaveolens</i>	T3	10	74.2-75		0.8
<i>Lophostemon suaveolens</i>	T3	14	73.5-76.5		3
<i>Eucalyptus tereticornis</i>	T3	14	74-76.5		2.5

<i>Lophostemon suaveolens</i>	S1	2	76.9-77.5		0.6
<i>Lophostemon suaveolens</i>	S1	8	79-81		2
<i>Acacia leiocalyx</i>	T3	13	81-82.5		1.5
<i>Eucalyptus tereticornis</i>	T2	20	84.4-85.8		1.4
<i>Lophostemon suaveolens</i>	S1	3	83-84.9		1.9
<i>Lophostemon suaveolens</i>	T3	15	84-86.7		2.7
<i>Lophostemon suaveolens</i>	T2	16	86.3-89		2.7
<i>Lophostemon suaveolens</i>	S1	4	87.7-90		2.3
<i>Eucalyptus tereticornis</i>	T1	27	88-98		10
<i>Lophostemon suaveolens</i>	S1	5	90.6-93		2.4
<i>Lophostemon suaveolens</i>	S1	8	93.6-96.3		2.7
<i>Acacia leiocalyx</i>	S1	7	95-96.4		1.4
<i>Acacia disparrima</i>	S1	7	97.7-100		2.3
<i>Acacia leiocalyx</i>	S1	5	98-99.2		1.2
				T1 % Cover	
				T2 % Cover	
				S1 % Cover	
Random Meander					
Species (cont'd)	Presence	Strata	Species	Presence	Strata
<i>Imperata cylindrica</i>		G			
<i>Juncus usitatus</i>		G			
<i>Eustrephus latifolius</i>		G			
<i>Dianella sp</i>		G			
<i>Aristida sp A</i>		G			
<i>Desmodium rhytidophyllum</i>		G			
<i>Eragrostis sp</i>		G			
<i>Aristida sp B</i>		G			
<i>Acacia maidenii</i>		S			



Site 1 Start of Transect



Site 1 End of Transect



Northern View from Centre of Transect



Eastern View from Centre of Transect



Southern View from Centre of Transect



Western View from Centre of Transect



Ground View from Centre of Transect



Date:	19/08/20	Collector:	Justin Armstrong and Amelia Spring				SITE: T3		
Time:		Job No.	2018-079						
Mapped RE:	12.9-10.2		Description:	Advanced regrowth over pasture grasses on localised hill dominated by spotted gum and Queensland blue gum.					
Field RE:	Non-remnant								
Slope:	Aspect:	Landform (local):		Landform (broad):					
3-4°	East	Localised hill/spur		Gently undulating topography					
Slope Shape:	Concave								
Soils:		Coarse sediments			Soil Core Photo:		-		
					Surface Soils Photo:				
Litter:	65%	Bare Soil:	23%	Timber:	<1%	Rock:	<1%	Groundcover:	10%
Notes:		Disturbance from illegal motor bike riding was noted throughout this area causing localised track establishment.							
REMNANT		No – Advanced Regrowth		Zone:	56J	Coordinates:		See Biocondition Site Map	

Stratum	Median	Height range	Intercept	Dominance	Scientific Name
T1	24	20 – 27	M	C	<i>Eucalyptus tereticornis</i>
				A	<i>Angophora leiocarpa</i>
				A	<i>Corymbia intermedia</i>
				S	<i>Corymbia henryii</i>
				C	<i>Corymbia citriodora</i>
T2	10	10-20	S	D	<i>Eucalyptus crebra</i>
				A	<i>Acacia concurrens</i>
				A	<i>Allocasuarina littoralis</i>
T3					
S1	3	<3	S	D	<i>Lophostemon suaveolens</i>
				A	<i>Acacia disparrima</i>
				S	<i>Jacksonia scoparia</i>
				S	<i>Alphitonia excelsa</i>
				S	<i>Alstonia constricta</i>
				S	<i>Allocasuarina littoralis</i>
S2					
G	0.5	<1	D	D	<i>Chloris gayana</i> *
				A	<i>Melinis repens</i> *

Herbarium Definitions Dominance: D – dominant, C – co-dominant, A – associated, S – suppressed
Crown Cover Intercept: I: Isolated (0.2-2%), V: Very sparse (2-20%), S: Sparse (20-50%), M: Mid-dense (50-80%), D: Dense (80-100%).
Walter and Hopkins Classes: 1-3m Dwarf, 3-6m – Low, 6-12m mid-high, 12-20m tall, 20-35m very tall, >35m extremely tall
Walter and Hopkins Crown Cover Classes: <0.2% - isolated trees or clumps; 0.2-20% - open woodland; 20-50% - woodland, 50-80% - open forest, 80-100% - closed forest

Basal Area (fixed point Bitterlich technique: factor 1cm)					Condition	
Species	S1	T3	T2	T1	Type	Severity (0 to 3)
					Fire (& Height in m)	<1
					Clearing	2 (Historic)
					Thinning/Ringbarking	2 (Historic)
					Grazing	2
					Exotic Flora	1
					Canopy Dieback	0
					Erosion	2
					Recruitment	0
					Drought	0

BIO-CONDITION PARAMETERS					DATE	19/08/2020		SITE		T3	
GROUNDCOVER (ten 1 x 1m plots)											
Ground Cover type	1	2	3	4	5	6	7	8	9	10	Mean
Native grass	5	5	1	5	5						4.2
Native herbs & forbs	12	2	2	0	2						3.6
Native shrubs (<1m in height)	0	5	0	0	0						1
Non-native grass	0	8	0	5	2						3
Non-native <u>annual</u> grass and herbs (for TECs)											
Non-native herbs & shrubs	5	5	5	2	0						3.4
Aquatic Vegetation (floating)											
Aquatic Vegetation (submerged)											
Aquatic Vegetation (emergent)											
Non-aquatic sedges											
Ferns	0	0	0	0	0						0
Litter	70	70	62	68	51						64.2
Rock	0	0	0	0	10						2
Bare ground	8	5	30	20	30						18.6
Other (e.g. timber, inorganic refuse)	0	0	0	0	0						0
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Species Habitat Notes (if applicable)						Hollows tally [Plot: 50 x 20m]				Weed cover [Plot: 100 x 50/20m]	
Fallen Woody Material (length of fallen woody logs >10cm diameter and >0.5m [Plot: 50 x 20m])	Count tally (metres per log)					<10cm wide				m	
						0					
						>10cm wide					
						0					
TOTAL	0m										

WOODY RECRUITMENT	% (Corymbia citriodora, Corymbia intermedia, Eucalyptus tereticornis)			TOTAL	0	m²	
TOTAL WEEDS	30%						
LARGE TREES (Eucalypts >30cm DBH and Non-eucalypts >20cm)				PLOT SIZE	100x50m	100x20m	50x10m
Species		DBH size (cm)					
Corymbia intermedia		600, 420, 380					
Corymbia henryii		400					
Eucalypts		Average DBH (above threshold) = 38 cm, large trees per hectare = 8					
Non-eucalypts		Average DBH (above threshold) = n/a cm, large trees per hectare = 0					
Crown Cover Intercept					SITE		
Species	Strata	Height (m)	Intercept Range (m)			Cover (m)	
Alphitonia excelsa	T2	5	0			1.2	
Corymbia citriodora	T1	27	0			5.5	
Alphitonia excelsa	T2	3	6.7			8.1	
Corymbia intermedia	T1	20	7.5			14.1	
Corymbia intermedia	T1	25	12			20.5	
Alphitonia excelsa	S1	3	12.5			13.2	
Alstonia constricta	S1	1.5	13.4			17.2	
Jacksonia scoparia	S1	3	13.6			15.6	
Alstonia constricta	S1	1	17.6			18.4	
Acacia disparrima	T2	4	20.1			22.2	
Acacia leiocalyx	T2	7	21.5			24.5	
Alphitonia excelsa	S1	2	23.6			24.5	
Alphitonia excelsa	S1	1	27.2			27.9	
Lophostemon suaveolens	T2	5	30.3			32.1	
Acacia leiocalyx	T2	3.5	31.4			32.2	
Corymbia citriodora	T1	26	31.5			45.6	
Acacia leiocalyx	T2	6	37.5			39.4	
Acacia leiocalyx	T2	8	40.3			41.6	

<i>Alphitonia excelsa</i>	T2	4	41.5	42.8	1.3
<i>Acacia leiocalyx</i>	S1	3	43	45	2
<i>Alphitonia excelsa</i>	S1	3	46.2	48.3	2.1
<i>Acacia leiocalyx</i>	T2	7	49.3	51.5	2.2
<i>Acacia sp</i>	T2	5	52.6	55.3	2.7
<i>Corymbia citriodora</i>	T1	23	58	60.4	2.4
<i>Acacia leiocalyx</i>	S1	2	58.5	59.2	0.7
<i>Corymbia henryii</i>	T1	25	63.4	71.2	7.8
<i>Acacia leiocalyx</i>	T2	4	67.7	69.2	1.5
<i>Acacia concurrens</i>	T2	5	71.6	73.4	1.8
<i>Acacia concurrens</i>	T2	7	73.6	75	1.4
<i>Alphitonia excelsa</i>	S1	2	86.4	87.4	1
<i>Alphitonia excelsa</i>	S1	3	89	90.7	1.7
<i>Acacia concurrens</i>	T2	8	92	94.5	2.5
<i>Angophora leiocarpa</i>	T1	25	93	100	7
<i>Alphitonia excelsa</i>	S1	2	97	97.7	0.7
<i>Alphitonia excelsa</i>	S1	2	97.7	98.5	0.8
<i>Alphitonia excelsa</i>	T2	3	98.4	100	1.6
				T1 % Cover	49.8
				T2 % Cover	68.5
				S1 % Cover	15.9
Random Meander					
Species (cont'd)	Presence	Strata	Species	Presence	Strata
<i>Lomandra sp</i>		G	<i>Heteropogon contortus</i>		G
<i>Lomandra laxa</i>		G			
<i>Aristida sp</i>		G			
<i>Aristida sp</i>					
<i>Glycine clandestina</i>		G			
<i>Goodenia rotundifolia</i>		G			
<i>Pseuderanthemum variabile</i>		G			

<i>Cassytha pubescens</i>		G			
<i>Parsonsia straminea</i>		G			
<i>Chrysocephalum apiculatum</i>		G			
<i>Poaceae sp</i>		G			
<i>Lomandra longifolia</i>		G			
<i>Dianella brevipedunculata</i>					
<i>Microlaena stipoides</i>					
<i>Eustrephus latifolius</i>					



Site 3 Start of Transect



Site 3 End of Transect



Northern View from Centre of Transect



Eastern View from Centre of Transect



Southern View from Centre of Transect



Western View from Centre of Transect



Ground View from Centre of Transect

Date:	19/08/20	Collector:	Justin Armstrong and Amelia Spring			SITE: T4			
Time:	14:39	Job No.	2018-079						
Mapped RE:	12.9-10.2		Description:	Expanse of open paddock with scattered mature native canopy trees.					
Field RE:	Non-remnant								
Slope:	Aspect:	Landform (local):		Landform (broad):					
1-3°	North			Mid-slope					
Slope Shape:									
Soils: Coarse sediments tending to finer sediments and alluvium at lower slope.				Soil Core Photo:		-			
				Surface Soils Photo:					
Litter:	23%	Bare Soil:	60%	Timber:	0%	Rock:	2%	Groundcover:	5%
Notes:									
REMNANT				Zone:			Coordinates:		
Stratum	Median	Height range	Intercept		Dominance	Scientific Name			
E									
T1	22	18-28	S		D	<i>Eucalyptus tereticornis</i>			
					<i>Corymbia intermedia</i>				
					<i>Angophora leiocarpa</i>				
					<i>Eucalyptus crebra</i>				
T2									
T3									
S1									
S2									
G	0.8	0.5-1	D		D	<i>Chloris gayana</i> *			
					A	<i>Melinis repens</i> *			
Herbarium Definitions Dominance: D – dominant, C – co-dominant, A – associated, S – suppressed									
Crown Cover Intercept: I: Isolated (0.2-2%), V: Very sparse (2-20%), S: Sparse (20-50%), M: Mid-dense (50-80%), D: Dense (80-100%).									
Walter and Hopkins Classes: 1-3m Dwarf, 3-6m – Low, 6-12m mid-high, 12-20m tall, 20-35m very tall, >35m extremely tall									
Walter and Hopkins Crown Cover Classes: <0.2% - isolated trees or clumps; 0.2-20% - open woodland; 20-50% - woodland, 50-80% - open forest, 80-100% - closed forest									
Basal Area (fixed point Bitterlich technique: factor 1cm)					Condition				
Species	S1	T3	T2	T1	Type	Severity (0 to 3)			
					Fire (& Height in m)	<1			
					Clearing	2			
					Thinning/Ringbarking	2			
					Grazing	2			
					Exotic Flora	1			
					Canopy Dieback	0			
					Erosion	1			
					Recruitment	0			
					Drought	<1			

BIO-CONDITION PARAMETERS					DATE	19/08/2020		SITE	T3		
GROUNDCOVER (ten 1 x 1m plots)											
Ground Cover type	1	2	3	4	5	6	7	8	9	10	Mean
Native grass	5	0	0	0	1						1.2
Native herbs & forbs	10	1	1	1	0						2.6
Native shrubs (<1m in height)	10	0	0	0	0						2
Non-native grass	15	10	25	10	10						14
Non-native <u>annual</u> grass and herbs (for TECs)											
Non-native herbs & shrubs	0	0	0	0	0						0
Aquatic Vegetation (floating)											
Aquatic Vegetation (submerged)											
Aquatic Vegetation (emergent)											
Non-aquatic sedges											
Ferns	0	0	0	0	0						0
Litter	15	15	15	20	30						19
Rock	0	0	0	0	10						2
Bare ground	45	74	59	69	49						59.2
Other (e.g. timber, inorganic refuse)	0	0	0	0	0						0
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Species Habitat Notes (if applicable)						Hollows tally [Plot: 50 x 20m]			Weed cover [Plot: 100 x 50/20m]		
Fallen Woody Material (length of fallen woody logs >10cm diameter and >0.5m [Plot: 50 x 20m])	Count tally (metres per log)					<10cm wide			m		
						1					
	0					>10cm wide					
						1					
TOTAL	0m										

WOODY RECRUITMENT	% (Angophora leiocarpa, Corymbia intermedia, Eucalyptus tereticornis)			TOTAL	0	m²
TOTAL WEEDS	60%					
LARGE TREES (Eucalypts >30cm DBH and Non-eucalypts >20cm)			PLOT SIZE	100x50m	100x20m	50x10m
Species		DBH size (cm)				
Corymbia intermedia		560, 430, 550, 530, 550, 400, 450				
Eucalyptus crebra		580				
Eucalyptus tereticornis		400, 750, 480, 380, 630				
Angophora leiocarpa		430, 800, 450				
Eucalypts		Average DBH (above threshold) = 38 cm, large trees per hectare = 32				
Non-eucalypts		Average DBH (above threshold) = n/a cm, large trees per hectare = 0				
Crown Cover Intercept				SITE		
Species	Strata	Height (m)	Intercept Range (m)		Cover (m)	
Corymbia intermedia	T1	23	0		7	7
Eucalyptus crebra	T1	24	12		15	3
Eucalyptus tereticornis	S	1.5	28.5		29.9	1.4
Alphitonia excelsa	S	1	29.5		30.7	1.2
Angophora leiocarpa	T1	28	35		41	6
Angophora leiocarpa	T1	26	50.6		69.4	13.4
Eucalyptus tereticornis	T1	27	56		70.4	14.4
Alphitonia excelsa	S	1	73		74	1
Corymbia intermedia	S	1.5	74.5		76	1.5
Corymbia intermedia	T1	28	84		95.9	11.9
					T1 % Cover	54.7
					S1 % Cover	4.7
Random Meander						
Species (cont'd)	Presence	Strata	Species	Presence	Strata	
Wahlenbergia sp		G				
Imperata cylindrica		G				

<i>Chrysocephalum apiculatum</i>		G			
<i>Lomandra longifolia</i>		G			
<i>Goodenia rotundifolia</i>		G			
<i>Desmodium rhytidophyllum</i>		G			
<i>Alphitonia excelsa</i>		S			
<i>Lophostemon suaveolens</i>		S			
<i>Acacia leiocalyx</i>		S			
<i>Dianella sp</i>		G			
<i>Lomandra multiflora</i>		G			
<i>Cynodon dactylon</i>		G			
<i>Eragrostis sp</i>		G			
<i>Aristida sp</i>		G			



Site 4 Start of Transect



Site 4 End of Transect



Northern View from Centre of Transect



Eastern View from Centre of Transect



Southern View from Centre of Transect



Western View from Centre of Transect

HABITAT QUALITY ASSESSMENT

Date:	23 March 2023	Collector:	J Armstrong M Quaife-Larson			Site 5			
Time:		Job No.							
Pre-clear	RE12.9-10.2		Field Description:	<i>Corymbia citriodora</i> subsp. <i>variegata</i> , <i>Eucalyptus tereticornis</i> , <i>Eucalyptus siderophloia</i> open forest, regeneration of canopy species abundant. Groundcover composed of exotic grasses.					
Mapped RE:	Non Remnant								
Field RE:	Non Remnant								
Slope:	Aspect:	Landform (local):		Landform (broad):					
3 degrees	east	sandy slope		old sand plain					
Slope Shape:	Bearing 290 degrees								
Litter:		Bare Soil:		Timber:		Rock:		Groundcover:	
Notes:	Habitat description: canopy height: subcanopy height: emergent height:								
Datum:	GDA94	Zone:	56	Coordinates:	Start: Middle: Finish:				

50x20m Area	All logs >10cm, >0.5m with 50 x 20m plot boundary		100x50m Area	(NB: *Ecologically Dominant Layer. Tree defined as single stemmed over 2m. All tree species in the 100 x 50m (not just EDL species) – Specify species	
Coarse Woody Debris	Site Total: Per ha Total:	0m per Site 0m per ha	Total Native Tree Spp. Richness	Eucalyptus tereticornis, Corymbia citriodora, Eucalyptus siderophloia,	
				Proportion of EDL species with evidence of recruitment (Specify recruiting species)	Eucalyptus tereticornis, Corymbia citriodora, Eucalyptus siderophloia,
				100%	
50x10m area	Native plant species richness		(NB: List species if known or count if unknown. Shrub is defined as single stemmed below 2m or multi-stemmed from base or below 20cm)		Total
Shrub	<i>Lophostemon suaveolens</i> , <i>Alphitonia excelsa</i> , <i>Eucalyptus tereticornis</i> , <i>Acacia maidenii</i> , <i>Acacia leiocalyx</i>				6
Grass	<i>Heteropogon contortus</i> , <i>Imperata cylindrica</i> , <i>Cymbopogon refractus</i> , <i>Aristida</i> sp.				4
Forb	<i>Aeschynomene indica</i> , <i>Sida hackettiana</i> , <i>Cyanthillium cinereum</i> , <i>Dianella brevipedunculata</i> , <i>Sauropus hirtellus</i> , <i>Chrysocephalum apiculatum</i>				6
Non-native plant cover					90%

Five 1x1m plots	*attributes are essential to assess as used in scoring, however assessment of all attributes improves your ability to more accurately visualise proportions of each of the attributes					
Ground Cover type	1	2	3	4	5	Ave.
Native perennial ('decreaser') grass cover*	0	0	15	0	15	6
Native other grass (if relevant)*	0	0	0	0	0	0
Native forbs and other species (non-grass)	0	0	0	0	2	0.4
Native shrubs (<1m in height)	0	0	2	0	0	0.4
Non-native grass	85	65	70	80	68	73.6
Non-native forbs and shrubs	0	5	3	0	3	2.2
Litter	15	30	10	20	12	17.4
Rock	0	0	0	0	0	0
Bare ground	0	0	0	0	0	0
Other (e.g. timber, inorganic refuse)	0	0	0	0	0	0
TOTAL	100%	100%	100%	100%	100%	100%

100x50m Area:	*from benchmark doc
----------------------	---------------------

Eucalypt large tree DBH:	380	No. of large eucalypt trees in plot:	5	Total Large Trees (ha):	10
Non-eucalypt large tree DBH:	N/A	No. of large non-eucalypt trees in plot:	N/A		

100m Transect Tree Canopy Cover Intercept		(Only assess Emergent (E) or Subcanopy (S) layers if the benchmark document stipulates that layers are present. *If trees are in the same layer and continuous along the transect group them)			
Species	Strata (C or S or E)	Height (m)	Intercept Range (m)		Cover (m)
			start:	end:	
<i>Corymbia citriodora</i>	C (T1)	28	26	42	31
<i>Corymbi citriodora</i>	C (T1)	26	42	54.5	
<i>Cortmbia citriodora</i>	C (T1)	27	43	57	
<i>Corymbia citriodora</i>	S (T2)	3	36	37.5	1.5
<i>Alphitonia excelsa</i>	S (T2)	3	48.5	50	1.5
<i>Corymbia citriodora</i>	S (T2)	4	65	66.5	1.5
<i>Corymbia citriodora</i>	S (T2)	6	70.6	72.3	1.7
<i>Corymbia citriodora</i>	S (T2)	5	72.5	76	3.5
Total Canopy (T1)				Intercept: 31.0 m Cover: 31.0% Median Height: 27 m	
Total Sub-canopy (T2)				Intercept: 9.7 m Cover: 9.7% Median Height: 4 m	

100m Transect Shrub canopy cover		* denote as native or exotic. Only native shrub cover is used in the scoring.			
Species	Strata (C or S or E)	Height (m)	Intercept Range (m)		Cover (m)
			start:	end:	
<i>Eucalyptus tereticornis</i>	Shrub	2	31	32.5	1.5
<i>Corymbia tessellaris</i>	Shrub	2	84.9	86.3	1.4
Total Shrub cover				Intercept: 2.9 m Cover: 2.9% Median Height: 2 m	

Site Photos



Start of Transect



End of Transect



Northern View from Centre of Transect



Eastern View from Centre of Transect



HABITAT QUALITY ASSESSMENT

Date:	23 March 2023	Collector:	J Armstrong, M Quaife-Larson			Site 6			
Time:		Job No.							
Preclear RE:	12.9-10.2		Description:	Open area with a sparse canopy of Eucalyptus tereticornis, Angophora leiocarpa and Corymbia intermedia. Regrowth of Lophostemon suaveolens and all canopy species to 7m. Alphitonia excelsa present as a shrub to 5m.					
Mapped RE:	Non-remnant								
Field RE:	Non-remnant								
Slope:	Aspect:	Landform (local):			Landform (broad):				
2 degrees	west	sandy slope			old sand plain				
Slope Shape:	Bearing 41 degrees								
Litter:		Bare Soil:		Timber:		Rock:		Groundcover:	
Notes:	Habitat description: canopy height: subcanopy height: emergent height:								
Datum:	GDA94	Zone:	56	Coordinates:	Start: Middle: Finish:				

50x20m Area	All logs >10cm, >0.5m with 50 x 20m plot boundary		100x50m Area	(NB: *Ecologically Dominant Layer. Tree defined as single stemmed over 2m. All tree species in the 100 x 50m (not just EDL species) – Specify species	
Coarse Woody Debris	Site Total:	3m per Site	Total Native Tree Spp. Richness	Eucalyptus tereticornis, Angophora leiocarpa, Corymbia intermedia, Corymbia tessellaris, Lophostemon suaveolens	
	Per ha Total:	30m per ha		Proportion of EDL species with evidence of recruitment (Specify recruiting species)	Eucalyptus tereticornis, Angophora leiocarpa, Lophostemon suaveolens
				66%	
50x10m area	Native plant species richness		(NB: List species if known or count if unknown. Shrub is defined as single stemmed below 2m or multi-stemmed from base or below 20cm)		Total
Shrub	<i>Lophostemon suaveolens, Eucalyptus tereticornis, Angophora leiocarpa, Alphitonia excelsa, Acacia leiocalyx</i>				5
Grass	<i>Aristida sp., Paspalidium sp., Aristida sp., Aristida sp., Eragrostis sp., Heteropogon contortus,</i>				6
Forb	<i>Chrysocephalum apiculatum, Murdannia graminea, Cyperus polystachyos, Wahlenbergia gracilis, Sphaeromorphaea australis, Zornia dyctiocarpa,</i>				6
Non-native plant cover					90%

Five 1x1m plots	*attributes are essential to assess as used in scoring, however assessment of all attributes improves your ability to more accurately visualise proportions of each of the attributes					
Ground Cover type	1	2	3	4	5	Ave.
Native perennial ('decreaser') grass cover*	0	1	5	0	0	1.2
Native other grass (if relevant)*	0	0	0	0	0	0
Native forbs and other species (non-grass)	2	9	0	0	0	2.2
Native shrubs (<1m in height)	20	0	0	0	5	5
Non-native grass	75	85	63	85	75	76.6
Non-native forbs and shrubs	0	0	2	0	0	0.4
Litter	3	5	30	15	20	14.6
Rock	0	0	0	0	0	0
Bare ground	0	0	0	0	0	0
Other (e.g. timber, inorganic refuse)	0	0	0	0	0	0
TOTAL	100%	100%	100%	100%	100%	100%

100x50m Area:	*from benchmark doc
----------------------	---------------------

Eucalypt large tree DBH:	540	No. of large eucalypt trees in plot:	3	Total Large Trees (ha):	6
Non-eucalypt large tree DBH:	N/A	No. of large non-eucalypt trees in plot:	N/A		

100m Transect Tree Canopy Cover Intercept		(Only assess Emergent (E) or Subcanopy (S) layers if the benchmark document stipulates that layers are present. *If trees are in the same layer and continuous along the transect group them)			
Species	Strata (C or S or E)	Height (m)	Intercept Range (m)		Cover (m)
			start:	end:	
<i>Corymbia intermedia</i>	C (T1)	23	65	78.8	20.5
<i>Angophora leiocarpa</i>	C (T1)	21	78	85.5	
<i>Eucalyptus tereticornis</i>	C (T1)	18	88.9	98	9.1
<i>Eucalyptus tereticornis</i>	S (T2)	3	15.7	17.3	1.6
<i>Angophora leiocarpa</i>	S (T2)	4	55.2	56.7	5.5
<i>Acacia disparrima</i>	S (T2)	5	56	57.7	
Total Canopy (T1)				Intercept: 29.6 m Cover: 29.6% Median Height: 21 m	
Total Sub-canopy (T2)				Intercept: 7.1 m Cover: 7.1% Median Height: 4 m	

100m Transect Shrub canopy cover		* denote as native or exotic. Only native shrub cover is used in the scoring.			
Species	Strata (C or S or E)	Height (m)	Intercept Range (m)		Cover (m)
			start:	end:	
<i>Eucalyptus tereticornis</i>	Shrub	2	0	1.5	2.3
<i>Eucalyptus tereticornis</i>	Shrub	1.5	1.5	2.3	
<i>Eucalyptus tereticornis</i>	Shrub	1	11	12	1
<i>Eucalyptus tereticornis</i>	Shrub	1.5	13.8	14	0.2
<i>Angophora leiocarpa</i>	Shrub	2	14.4	15.5	1.1
<i>Lophostemon suaveolens</i>	Shrub	2	32.4	33.4	1
<i>Lophostemon suaveolens</i>	Shrub	2	36	37	1
<i>Lophostemon suaveolens</i>	Shrub	1.5	40.6	41.2	0.6
<i>Alphitonia excelsa</i>	Shrub	2	70.8	72	1.2
Total Native Shrub				Intercept: 8.4 m Cover: 8.4% Median Height: 2 m	

Site Photos

	
Start of Transect	End of Transect
	
Northern View from Centre of Transect	Eastern View from Centre of Transect
	
Southern View from Centre of Transect	Western View from Centre of Transect
<DELETE IF NOT USED>	<DELETE IF NOT USED>
Ground View from Centre of Transect	Soil View from Centre of Transect
<DELETE IF NOT USED>	<DELETE IF NOT USED>
Spot Photo	Landscape Photo

HABITAT QUALITY ASSESSMENT

Date:	23 March 2023	Collector:	J Armstrong, M Quaife-Larson			Site 7	
Time:		Job No.					
Pre-clear RE:	12.3.3	Field Description:	<i>Eucalyptus tereticornis</i> open forest to 28m, <i>Lophostemon suaveolens</i> to 15m. Midstorey of <i>Alphitonia excelsa</i> , <i>Angophora leiocarpa</i> to 12m. The pest weeds <i>Lantana camara</i> and <i>Celtis sinensis</i> are present as infrequent shrubs.				
Mapped RE:	12.3.3						
Field RE:	12.3.3						
Slope:	Aspect:	Landform (local):		Landform (broad):			
Nil	Nil	watercourse		Old sand plain			
Slope Shape:	Bearing 38 degrees						
Litter:		Bare Soil:		Timber:		Rock:	
Notes:	Habitat description:						
	canopy height: subcanopy height: emergent height:						
Datum:	GDA94	Zone:	56	Coordinates:	Start: Middle: Finish:		

50x20m Area	All logs >10cm, >0.5m with 50 x 20m plot boundary		100x50m Area	(NB: *Ecologically Dominant Layer. Tree defined as single stemmed over 2m. All tree species in the 100 x 50m (not just EDL species) – Specify species	
Coarse Woody Debris	Site Total: Per ha Total:	53m per Site 530m per ha	Total Native Tree Spp. Richness	Eucalyptus tereticornis, , Corymbia intermedia, Angophora leiocarpa (present as canopy species)	Lophostemon suaveolens, Allocasuarina littoralis, Acacia disparrima, Acacia maidenii, Acacia leiocalyx, Alphitonia excelsa, Corymbia tessellaris
				Proportion of EDL species with evidence of recruitment (Specify recruiting species)	Species: Eucalyptus tereticornis Angophora leiocarpa
				40%	
50x10m area	Native plant species richness		(NB: List species if known or count if unknown. Shrub is defined as single stemmed below 2m or multi-stemmed from base or below 20cm)		Total
Shrub	Allocasuarina littoralis, Cupaniopsis anarcardioides, Eucalyptus tereticornis			3	
Grass	Capillipedium spicigerum, Oplismenus aemulus, Aristida sp., Eragrostis sp., Cymbopogon refractus, Leersia hexandra,			6	
Forb	Geitonoplesium cymosum, Hygrophila angustifolia, Dianella brevipedunculata, Cyperus polystachyos, Haloragis heterophylla, Eclipta platyglossa, Centella asiatica, Lobelia purpurascens, Eleocharis plana, Juncus usitatus, Philydrum lanuginosum, Murdannia graminea, Ludwigia octovalvis, Persicaria decipiens, Glycine tabacina, Cyperus sp.,			16	
Non-native plant cover				80%	

Five 1x1m plots	*attributes are essential to assess as used in scoring, however assessment of all attributes improves your ability to more accurately visualise proportions of each of the attributes					
Ground Cover type	1	2	3	4	5	Ave.
Native perennial ('decreaser') grass cover*	0	0	0	30	0	6
Native other grass (if relevant)*	0	0	0	0	0	0
Native forbs and other species (non-grass)	5	0	2	5	8	4
Native shrubs (<1m in height)	0	0	0	0	0	0
Non-native grass	60	80	40	47	30	51.4
Non-native forbs and shrubs	5	3	20	10	20	11.6
Litter	10	10	10	8	42	16
Rock	0	0	0	0	0	0
Bare ground	20	7	28	0	0	11
Other (e.g. timber, inorganic refuse)	0	0	0	0	0	0
TOTAL	100%	100%	100%	100%	100%	100%

100x50m Area:	*from benchmark doc				
Eucalypt large tree DBH:	540	No. of large eucalypt trees in plot:	12	Total Large Trees (ha):	24
Non-eucalypt large tree DBH:	N/A	No. of large non-eucalypt trees in plot:	N/A		

100m Transect Tree Canopy Cover Intercept	(Only assess Emergent (E) or Subcanopy (S) layers if the benchmark document stipulates that layers are present. *If trees are in the same layer and continuous along the transect group them)				
Species	Strata (C or S or E)	Height (m)	Intercept Range (m)		Cover (m)
			start:	end:	
<i>Lophostemon suaveolens</i>	S (T2)	13	7	11.3	7.7
<i>Lophostemon suaveolens</i>	S (T2)	12	11.3	14.7	
<i>Eucalyptus tereticornis</i>	S (T2)	16	15	17.2	4.4
<i>Lophostemon suaveolens</i>	S (T2)	16	14.7	19.4	
<i>Lophostemon suaveolens</i>	S (T2)	10	21	24	3
<i>Allocasuarina littoralis</i>	S (T2)	10	27	30	3
<i>Lophostemon suaveolens</i>	S (T2)	10	38	39.7	15.0
<i>Lophostemon suaveolens</i>	S (T2)	16	39.5	45.5	
<i>Lophostemon suaveolens</i>	S (T2)	15	45.4	50.7	
<i>Lophostemon suaveolens</i>	S (T2)	16	50.4	53	
<i>Lophostemon suaveolens</i>	S (T2)	12	72.5	75.1	2.9
<i>Angophora leiocarpa</i>	S (T2)	17	72	75.4	
<i>Lophostemon suaveolens</i>	S (T2)	16	76.4	79	2.6
<i>Eucalyptus tereticornis</i>	S (T2)	17	82	87	5
<i>Acacia disparrima</i>	S (T2)	12	91.6	93.7	2.1
<i>Lophostemon suaveolens</i>	S (T2)	13	95	100	5
<i>Eucalyptus tereticornis</i>	C (T1)	22	0	6	6
<i>Eucalyptus tereticornis</i>	C (T1)	27	31.4	40	8.6
<i>Eucalyptus tereticornis</i>	C (T1)	21	51.5	55.7	4.2
<i>Eucalyptus tereticornis</i>	C (T1)	26	76.5	87	10.5
<i>Eucalyptus tereticornis</i>	C (T1)	28	88.4	94	5.6
<i>Eucalyptus tereticornis</i>	C (T1)	21	98	100	2
Total Canopy (T1)				Intercept: 36.9 m Cover:(36.9%) Median Height: 24 m	
Total Sub-canopy (T2)				Intercept: 45.7 m Cover: 45.7% Median Height: 15 m	

100m Transect Shrub canopy cover	* denote as native or exotic. Only native shrub cover is used in the scoring.				
Species	Strata (C or S or E)	Height (m)	Intercept Range (m)		Cover (m)
			start:	end:	
<i>Angophora leiocarpa</i>	Shrub	2	6.4	7.4	1
<i>Ochna serrulata</i>*	Shrub	1.5	11.7	12.1	(0.4)
<i>Lophostemon suaveolens</i>	Shrub	2	24.4	26	1.6
<i>Allocasuarina littoralis</i>	Shrub	1.5	32.8	34	1.2
<i>Allocasuarina littoralis</i>	Shrub	1	33.3	34	0.7
<i>Acacia maidenii</i>	Shrub	2	33.2	34	0.8
<i>Baccharis halimifolia</i>*	Shrub	2	36	37.5	(1.5)

<i>Celtis sinensis</i>	Shrub	2	38.7	39.3	0.6
<i>Acacia leiocalyx</i>	Shrub	2	44.5	45.6	1.1
<i>Lophostemon suaveolens</i>	Shrub	2	54.5	57	2.5
<i>Alphitonia excelsa</i>	Shrub	2	71	74	3
<i>Alphitonia excelsa</i>	Shrub	2	74.6	75.5	0.9
<i>Lantana camara</i> *	Shrub	2	77	88	(11)
<i>Alphitonia excelsa</i>	Shrub	2	84	86.5	2.5
<i>Acacia leiocalyx</i>	Shrub	4	87.3	88.5	1.2
<i>Acacia leiocalyx</i>	Shrub	2	94.7	95.6	0.9
Total native shrub				Intercept: 36.9 m Cover: 36.9% Median Height:	

Site Photos



Start of Transect

End of Transect



Northern View from Centre of Transect

Eastern View from Centre of Transect



Southern View from Centre of Transect

Western View from Centre of Transect

<DELETE IF NOT USED>

<DELETE IF NOT USED>

Ground View from Centre of Transect

Soil View from Centre of Transect

<DELETE IF NOT USED>

<DELETE IF NOT USED>

Spot Photo

Landscape Photo

Appendix 14

Regulated Vegetation Management Report



Vegetation management report

For Lot: 211 Plan: RP906067

Current as at 12/10/2020

This publication has been compiled by Operations Support, Department of Natural Resources, Mines and Energy.

© State of Queensland, (2020)

The Queensland Government supports and encourages the dissemination and exchange of its information. The copyright in this publication is licensed under a Creative Commons - Attribution 4.0 International (CC BY) licence.

Under this licence you are free, without having to seek our permission, to use this publication in accordance with the licence terms.



You must keep intact the copyright notice and attribute the State of Queensland as the source of the publication.

Note: Some content in this publication may have different licence terms as indicated.

For more information on this licence, visit <https://creativecommons.org/licenses/by/4.0/>

The information contained herein is subject to change without notice. The Queensland Government shall not be liable for technical or other errors or omissions contained herein. The reader/user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using this information.

Recent changes

Updated mapping

Updated vegetation mapping was released on 6 April 2020 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, wetland, high-value regrowth and essential habitat mapping.

Improvements to the format of the report were made in July 2020 to more clearly delineate the three regulatory frameworks of vegetation management, protected plants and koala habitat protection. The Vegetation Management Pre-clear Regional Ecosystem map was also removed from the Vegetation Management Report but can still be requested as a separate map.

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:

Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Natural Resources Mines and Energy who administer the framework;

Vegetation management framework details for the specified Lot on Plan including:

- the vegetation management categories on the property;
- the vegetation management regional ecosystems on the property;
- vegetation management watercourses or drainage features on the property;
- vegetation management wetlands on the property;
- vegetation management essential habitat on the property;
- whether any area management plans are associated with the property;
- whether the property is coastal or non-coastal; and
- whether the property is mapped as Agricultural Land Class A or B;

Protected plant framework - an explanation of the application of the framework and contact details for the Department of Environment and Science who administer the framework, including:

- high risk areas on the protected plant flora survey trigger map for the property;

Koala protection framework - an explanation of the application of the framework and contact details for the Department of Environment and Science who administer the framework; and

Koala protection framework details for the specified Lot on Plan including:

- the koala district the property is located in;
- koala priority areas on the property;
- core and locally refined koala habitat areas on the property;
- whether the lot is located in an identified koala broad-hectare area; and
- koala habitat regional ecosystems on the property for core koala habitat areas.

This information will assist you to determine your options for managing vegetation under:

- the vegetation management framework, which may include:

- exempt clearing work;
- accepted development vegetation clearing code;
- an area management plan;
- a development approval;

- the protected plant framework, which may include:

- the need to undertake a flora survey;
- exempt clearing;
- a protected plant clearing permit;

- the koala protection framework, which may include:

- exempted development;
- a development approval;
- the need to undertake clearing sequentially and in the presence of a koala spotter.

Other laws

The clearing of native vegetation is regulated by both Queensland and Australian legislation, and some local governments also regulate native vegetation clearing. You may need to obtain an approval or permit under another Act, such as the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Section 9 of this guide provides contact details of other agencies you should confirm requirements with, before commencing vegetation clearing.

Table of Contents

1. Property details	6
1.1 Tenure and title area	6
1.2 Property location	6
2. Vegetation management framework (administered by the Department of Natural Resources, Mines and Energy (DNRME))	7
2.1 Exempt clearing work	7
2.2 Accepted development vegetation clearing codes	7
2.3 Area management plans	8
2.4 Development approvals	8
2.5. Contact information for DNRME	8
3. Vegetation management framework for Lot: 211 Plan: RP906067	9
3.1 Vegetation categories	9
3.2 Regional ecosystems	10
3.3 Watercourses	10
3.4 Wetlands	10
3.5 Essential habitat	10
3.6 Area Management Plan(s)	12
3.7 Coastal or non-coastal	12
3.8 Agricultural Land Class A or B	12
4. Vegetation management framework maps	14
4.1 Regulated vegetation management map	15
4.2 Vegetation management supporting map	16
4.3 Coastal/non-coastal map	17
4.4 Agricultural Land Class A or B map	18
5. Protected plants framework (administered by the Department of Environment and Science (DES))	19
5.1 Clearing in high risk areas on the flora survey trigger map	19
5.2 Clearing outside high risk areas on the flora survey trigger map	19
5.3 Exemptions	19
5.4 Contact information for DES	19
5.5 Protected plants flora survey trigger map	20
6. Koala protection framework (administered by the Department of Environment and Science (DES))	22
6.1 Koala mapping	22
6.2 Koala habitat planning controls	23
6.3 Koala Conservation Plan clearing requirements	24
6.4 Contact information for DES	24
7. Koala protection framework details for Lot: 211 Plan: RP906067	24
7.1 Koala districts	24
7.2 Koala priority area, koala habitat area and identified koala broad-hectare area map	25
7.3 Koala habitat regional ecosystems for core koala habitat areas	26
8. Other relevant legislation contacts list	27

1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 211 Plan: RP906067, including links to relevant Smart Maps, are listed in Table 1. The tenure of the property (whether it is freehold, leasehold, or other) may be viewed by clicking on the Smart Map link(s) provided.

Table 1: Lot, plan, tenure and title area information for the property

Lot	Plan	Tenure	Link to property on SmartMap	Property title area (sq metres)
11	RP222031	Below the Depth Plans	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=11\RP222031	121,406
211	RP906067	Freehold	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=211\RP906067	108,255
A	RP906067	Easement	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=A\RP906067	2,011

The tenure of the land may affect whether clearing is considered exempt clearing work or may be carried out under an accepted development vegetation clearing code.

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 211 Plan: RP906067, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)
Ipswich City

Bioregion(s)	Subregion(s)
Southeast Queensland	Moreton Basin

Catchment(s)
Brisbane

2. Vegetation management framework (administered by the Department of Natural Resources, Mines and Energy (DNRME))

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2012, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenures under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing or clearing vegetation on these tenures may require approvals under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem prescribed under Schedule 5 of the Vegetation Management Regulation 2012; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify DNRME or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 4.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work and does not require notification or development approval under the vegetation management framework. For all other land tenures, contact DNRME before commencing clearing to ensure that the proposed activity is exempt clearing work.

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at

<https://www.qld.gov.au/environment/land/vegetation/exemptions/>.

Exempt clearing work may be affected if the proposed clearing area is subject to development approval conditions, a covenant, an environmental offset, an exchange area, a restoration notice, or an area mapped as Category A. Exempt clearing work may require approval under other Commonwealth, State or Local Government laws, or local government planning schemes. Contact DNRME prior to clearing in any of these areas.

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at

<https://www.qld.gov.au/environment/land/vegetation/codes/>

If you intend to clear vegetation under an accepted development vegetation clearing code, you must notify DNRME before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at

<https://apps.dnrm.qld.gov.au/vegetation/>

2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing under the vegetation management framework. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

On 8 March 2020, AMPs ended for fodder harvesting, managing thickened vegetation and managing encroachment. New notifications cannot be made for these AMPs. You will need to consider options for fodder harvesting, managing thickened vegetation or encroachment under a relevant accepted development vegetation clearing code or apply for a development approval.

New notifications can be made for all other AMPs. These will continue to apply until their nominated end date.

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the DNRME and then follow the conditions and requirements listed in the AMP.

<https://www.qld.gov.au/environment/land/vegetation/area-plans/>

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at

<https://www.qld.gov.au/environment/land/management/vegetation/development>

2.5. Contact information for DNRME

For further information on the vegetation management framework:

Phone 135VEG (135 834)

Email vegetation@dnrme.qld.gov.au

Visit <https://www.dnrme.qld.gov.au/?contact=vegetation> to submit an online enquiry.

3. Vegetation management framework for Lot: 211 Plan: RP906067

3.1 Vegetation categories

The vegetation categories on your property are shown on the regulated vegetation management map in section 4.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property. Total area: 10.9ha

Vegetation category	Area (ha)
Category B	< 0.1
Category C	2.7
Category X	8.2

Table 4: Description of vegetation categories

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	Special conditions apply to Category A areas. Before clearing, contact DNRME to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Exempt clearing work, or notification and compliance with accepted development vegetation clearing codes, area management plans or development approval.
C	light blue	High-value regrowth areas	Exempt clearing work, or notification and compliance with managing Category C regrowth vegetation accepted development vegetation clearing code.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the Great Barrier Reef catchment areas	Exempt clearing work, or notification and compliance with managing Category R regrowth accepted development vegetation clearing code or area management plans.
X	white	Clearing on freehold land, indigenous land and leasehold land for agriculture and grazing purposes is considered exempt clearing work under the vegetation management framework. Contact DNRME to clarify whether a development approval is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A development approval may be required for some State land tenures.

Property Map of Assessable Vegetation (PMAV)

The following Property Map of Assessable Vegetation (PMAVs) may be present on this property:

Reference number

2019/003387

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 4.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/>

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
12.3.3	Endangered	B	0.02	Eucalyptus tereticornis woodland on Quaternary alluvium	Sparse
12.3.3	Endangered	C	1.84	Eucalyptus tereticornis woodland on Quaternary alluvium	Sparse
12.9-10.16	Of concern	C	0.04	Araucarian microphyll to notophyll vine forest on Cainozoic and Mesozoic sediments	Dense
12.9-10.2	Least concern	B	0.04	Corymbia citriodora subsp. variegata +/- Eucalyptus crebra open forest on sedimentary rocks	Mid-dense
12.9-10.2	Least concern	C	0.57	Corymbia citriodora subsp. variegata +/- Eucalyptus crebra open forest on sedimentary rocks	Mid-dense
12.9-10.7	Of concern	C	0.21	Eucalyptus crebra +/- E. tereticornis, Corymbia tessellaris, Angophora spp., E. melanophloia woodland on sedimentary rocks	Sparse
non-rem	None	X	8.18	None	None

Please note:

1. All area and area derived figures included in this table have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work;
- accepted development vegetation clearing codes;
- performance outcomes in State Code 16 of the State Development Assessment Provisions (SDAP).

3.3 Watercourses

Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 4.2.

3.4 Wetlands

There are no vegetation management wetlands present on this property.

3.5 Essential habitat

Under the VMA, essential habitat for protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA) as critically endangered, endangered, vulnerable or near-threatened wildlife.

Essential habitat for protected wildlife includes suitable habitat on the lot, or where a species has been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 4.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife, means an area of vegetation shown on the Regulated Vegetation Management Map -

- 1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or
- 2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

Category A and/or Category B and/or Category C

Table 6: Essential habitat in Category A and/or Category B and/or Category C

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
860	Phascolarctos cinereus	koala	V	SEQ: Open eucalypt forest and woodland that has: a) multiple strata layers containing Eucalyptus, Corymbia, Angophora, Lophostemon or Melaleuca trees that-at 1.3 metres above the ground-have a diameter both greater and less than 30 centimetres; and b) at least 1 of the following species: Eucalyptus tereticornis, E. fibrosa, E. propinqua; E. umbra, E. grandis, E. microcorys, E. tindalliae, E. resinifera, E. populnea, E. robusta, E. nigra, E. racemosa, E. crebra, E. exserta, E. seeana, Lophostemon confertus, L. suaveolens, Melaleuca quinquenervia. Outside SEQ: Open eucalypt forest and woodland that contains Eucalyptus &/or Corymbia spp. Tree species used for food varies across State and can include Eucalyptus tereticornis, E. camaldulensis, E. coolabah; E. drepanophylla, E. platyphylla, E. orgadophilla, E. thozetiana, E. melanophloia, E. populnea, E. melliodora, E. dealbata, E. microtheca, E. crebra, E. exserta, E. blakelyi, E. papuana, Corymbia tessellaris, C. citriodora, Melaleuca quinquenervia, M. leucadendra.	Sea level to 1000m.	None	Riparian areas, plains and hill/escarpment slopes.
1883	Rostratula australis	Australian painted snipe	E	Shallow ephemeral and permanent swamps, water meadows and damp lake margins with rushes, long grass and herbage (e.g. lignum, chenopods) in good condition, as well as areas of muddy ground; also uses saltmarsh, samphire flats and waterlogged grasslands with trees present (e.g. Eucalyptus camaldulensis, E. brownii). Nest in shallow grass-lined hollow in damp ground under low shrub or grass tussock near shallow water.	None	None	Associated with wetlands.
41024	Coleus habrophyllus	None	E	open woodland of Eucalyptus spp. on sandstone, occasionally near vine forest margins	0 to 300 m	skeletal to shallow sandy soil	on rock ledges along cliffline and rock outcrops near creek bank, often in shaded situations

Label	Regional Ecosystem (mandatory unless otherwise specified)
860	<p>SEQ: 11.3.2, 11.3.4, 11.3.25, 11.3.26, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.9.9, 12.2.5, 12.2.6, 12.2.7, 12.2.8, 12.2.10, 12.3.2, 12.3.3, 12.3.4, 12.3.5, 12.3.6, 12.3.7, 12.3.9, 12.3.10, 12.3.11, 12.3.14, 12.3.18, 12.3.19, 12.3.20, 12.5.1, 12.5.2, 12.5.3, 12.5.4, 12.5.6, 12.5.7, 12.5.10, 12.5.12, 12.8.1, 12.8.8, 12.8.9, 12.8.11, 12.8.12, 12.8.14, 12.8.16, 12.8.17, 12.8.20, 12.8.24, 12.8.25, 12.9-10.1, 12.9-10.2, 12.9-10.3, 12.9-10.4, 12.9-10.5, 12.9-10.7, 12.9-10.8, 12.9-10.11, 12.9-10.12, 12.9-10.14, 12.9-10.17, 12.9-10.18, 12.9-10.19, 12.9-10.21, 12.9-10.25, 12.9-10.26, 12.9-10.27, 12.9-10.28, 12.9-10.29, 12.11.2, 12.11.3, 12.11.5, 12.11.6, 12.11.7, 12.11.8, 12.11.9, 12.11.14, 12.11.15, 12.11.16, 12.11.17, 12.11.18, 12.11.22, 12.11.23, 12.11.24, 12.11.25, 12.11.26, 12.11.27, 12.11.28, 12.12.2, 12.12.3, 12.12.5, 12.12.6, 12.12.7, 12.12.8, 12.12.9, 12.12.11, 12.12.12, 12.12.14, 12.12.15, 12.12.23, 12.12.24, 12.12.25, 12.12.28, Outside SEQ: 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.8, 4.3.10, 4.3.11, 4.4.1, 4.5.3, 4.5.5, 4.5.6, 4.5.8, 4.5.9, 4.7.1, 4.7.7, 4.7.8, 4.9.6, 4.9.10, 4.9.12, 4.9.17, 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5, 6.3.7, 6.3.8, 6.3.9, 6.3.11, 6.3.12, 6.3.17, 6.3.18, 6.3.22, 6.3.24, 6.3.25, 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.5.1, 6.5.2, 6.5.3, 6.5.5, 6.5.6, 6.5.7, 6.5.8, 6.5.9, 6.5.10, 6.5.11, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18, 6.5.19, 6.6.2, 6.7.1, 6.7.2, 6.7.5, 6.7.6, 6.7.7, 6.7.9, 6.7.11, 6.7.12, 6.7.13, 6.7.14, 6.7.17, 6.9.3, 7.2.3, 7.2.4, 7.2.7, 7.2.11, 7.3.7, 7.3.8, 7.3.9, 7.3.12, 7.3.13, 7.3.14, 7.3.16, 7.3.19, 7.3.20, 7.3.21, 7.3.25, 7.3.26, 7.3.39, 7.3.40, 7.3.42, 7.3.43, 7.3.44, 7.3.45, 7.3.47, 7.3.48, 7.3.50, 7.5.1, 7.5.2, 7.5.3, 7.5.4, 7.8.7, 7.8.8, 7.8.10, 7.8.15, 7.8.16, 7.8.17, 7.8.18, 7.8.19, 7.11.5, 7.11.6, 7.11.13, 7.11.14, 7.11.16, 7.11.18, 7.11.19, 7.11.20, 7.11.21, 7.11.31, 7.11.32, 7.11.33, 7.11.34, 7.11.35, 7.11.37, 7.11.41, 7.11.42, 7.11.43, 7.11.44, 7.11.45, 7.11.46, 7.11.47, 7.11.48, 7.11.49, 7.11.50, 7.11.51, 7.12.4, 7.12.5, 7.12.17, 7.12.21, 7.12.22, 7.12.23, 7.12.24, 7.12.25, 7.12.26, 7.12.27, 7.12.28, 7.12.29, 7.12.30, 7.12.33, 7.12.34, 7.12.35, 7.12.51, 7.12.52, 7.12.53, 7.12.54, 7.12.55, 7.12.56, 7.12.57, 7.12.58, 7.12.59, 7.12.60, 7.12.61, 7.12.62, 7.12.63, 7.12.65, 7.12.66, 7.12.69, 8.1.5, 8.2.3, 8.2.6, 8.2.7, 8.2.8, 8.2.11, 8.2.12, 8.2.13, 8.2.14, 8.3.1, 8.3.2, 8.3.3, 8.3.5, 8.3.6, 8.3.8, 8.3.10, 8.3.11, 8.3.13, 8.5.1, 8.5.2, 8.5.3, 8.5.5, 8.5.6, 8.5.7, 8.9.1, 8.10.1, 8.11.1, 8.11.3, 8.11.4, 8.11.5, 8.11.6, 8.11.8, 8.11.10, 8.11.12, 8.12.4, 8.12.5, 8.12.6, 8.12.7, 8.12.8, 8.12.9, 8.12.12, 8.12.14, 8.12.20, 8.12.22, 8.12.23, 8.12.25, 8.12.26, 8.12.27, 8.12.29, 8.12.31, 8.12.32, 9.3.1, 9.3.2, 9.3.3, 9.3.4, 9.3.5, 9.3.6, 9.3.7, 9.3.8, 9.3.10, 9.3.11, 9.3.13, 9.3.14, 9.3.15, 9.3.16, 9.3.17, 9.3.19, 9.3.20, 9.3.21, 9.3.22, 9.3.27, 9.4.1, 9.4.2, 9.4.3, 9.5.1, 9.5.3, 9.5.4, 9.5.5, 9.5.6, 9.5.7, 9.5.8, 9.5.9, 9.5.10, 9.5.11, 9.5.12, 9.5.15, 9.5.16, 9.5.17, 9.7.1, 9.7.2, 9.7.3, 9.7.4, 9.7.5, 9.7.6, 9.8.1, 9.8.2, 9.8.3, 9.8.4, 9.8.5, 9.8.9, 9.8.10, 9.8.11, 9.8.13, 9.10.1, 9.10.3, 9.10.4, 9.10.5, 9.10.7, 9.10.8, 9.11.1, 9.11.2, 9.11.3, 9.11.4, 9.11.5, 9.11.7, 9.11.10, 9.11.12, 9.11.13, 9.11.14, 9.11.15, 9.11.16, 9.11.17, 9.11.18, 9.11.19, 9.11.21, 9.11.22, 9.11.23, 9.11.24, 9.11.25, 9.11.26, 9.11.28, 9.11.29, 9.11.30, 9.11.31, 9.11.32, 9.12.1, 9.12.2, 9.12.3, 9.12.4, 9.12.5, 9.12.6, 9.12.7, 9.12.10, 9.12.11, 9.12.12, 9.12.13, 9.12.14, 9.12.15, 9.12.16, 9.12.17, 9.12.18, 9.12.19, 9.12.20, 9.12.21, 9.12.22, 9.12.23, 9.12.24, 9.12.25, 9.12.26, 9.12.27, 9.12.28, 9.12.29, 9.12.30, 9.12.31, 9.12.32, 9.12.33, 9.12.35, 9.12.36, 9.12.37, 9.12.38, 9.12.39, 9.12.44, 10.3.2, 10.3.3, 10.3.5, 10.3.6, 10.3.9, 10.3.10, 10.3.11, 10.3.12, 10.3.13, 10.3.14, 10.3.15, 10.3.17, 10.3.20, 10.3.27, 10.3.28, 10.4.3, 10.4.9, 10.5.1, 10.5.2, 10.5.4, 10.5.5, 10.5.7, 10.5.8, 10.5.9, 10.5.10, 10.5.11, 10.5.12, 10.7.1, 10.7.2, 10.7.3, 10.7.4, 10.7.5, 10.7.9, 10.7.10, 10.7.11, 10.7.12, 10.9.2, 10.9.3, 10.9.5, 10.10.1, 10.10.3, 10.10.4, 10.10.5, 10.10.7, 11.2.1, 11.2.5, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.5, 11.3.6, 11.3.7, 11.3.9, 11.3.10, 11.3.12, 11.3.13, 11.3.14, 11.3.15, 11.3.16, 11.3.17, 11.3.18, 11.3.19, 11.3.21, 11.3.23, 11.3.25, 11.3.26, 11.3.27, 11.3.28, 11.3.29, 11.3.30, 11.3.32, 11.3.33, 11.3.35, 11.3.36, 11.3.37, 11.3.38, 11.3.39, 11.4.2, 11.4.3, 11.4.7, 11.4.8, 11.4.9, 11.4.10, 11.4.12, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.4, 11.5.5, 11.5.7, 11.5.8, 11.5.9, 11.5.12, 11.5.13, 11.5.14, 11.5.17, 11.5.18, 11.5.20, 11.5.21, 11.7.1, 11.7.2, 11.7.3, 11.7.4, 11.7.6, 11.7.7, 11.8.1, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.8.11, 11.8.12, 11.8.14, 11.8.15, 11.9.1, 11.9.2, 11.9.3, 11.9.5, 11.9.6, 11.9.7, 11.9.9, 11.9.10, 11.9.11, 11.9.13, 11.9.14, 11.10.1, 11.10.2, 11.10.3, 11.10.4, 11.10.5, 11.10.6, 11.10.7, 11.10.9, 11.10.11, 11.10.12, 11.10.13, 11.11.1, 11.11.2, 11.11.3, 11.11.4, 11.11.6, 11.11.7, 11.11.8, 11.11.9, 11.11.10, 11.11.11, 11.11.12, 11.11.13, 11.11.14, 11.11.15, 11.11.16, 11.11.17, 11.11.19, 11.11.20, 11.12.1, 11.12.2, 11.12.3, 11.12.5, 11.12.6, 11.12.7, 11.12.8, 11.12.9, 11.12.10, 11.12.13, 11.12.14, 11.12.15, 11.12.16, 11.12.17, 11.12.19, 11.12.20, 13.3.1, 13.3.2, 13.3.3, 13.3.4, 13.3.5, 13.3.7, 13.9.2, 13.11.1, 13.11.2, 13.11.3, 13.11.4, 13.11.5, 13.11.6, 13.11.8, 13.11.9, 13.12.1, 13.12.2, 13.12.3, 13.12.4, 13.12.5, 13.12.6, 13.12.8, 13.12.9, 13.12.10.</p>
1883	All regional ecosystems within the stream/wetland buffer as determined by VMA code.
41024	12.9-10.2, 12.9-10.7, 12.9-10.19

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

For the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP), this property is regarded as*

Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

The following can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code:

Does this lot contain land that is mapped as Agricultural Land Class A or B in the State Planning Interactive Mapping System?

No Class A

No Class B

Note - This confirms Agricultural Land Classes as per the State Planning Interactive Mapping System only. This response does not include Agricultural Land Classes identified under local government planning schemes. For further information, check the Planning Scheme for your local government area.

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 211 Plan: RP906067.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:

<https://www.dnrme.qld.gov.au/qld/environment/land/vegetation/vegetation-map-request-form>

Regulated vegetation management map

The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new [property maps of assessable vegetation \(PMAV\)](#).

Vegetation management supporting map

The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

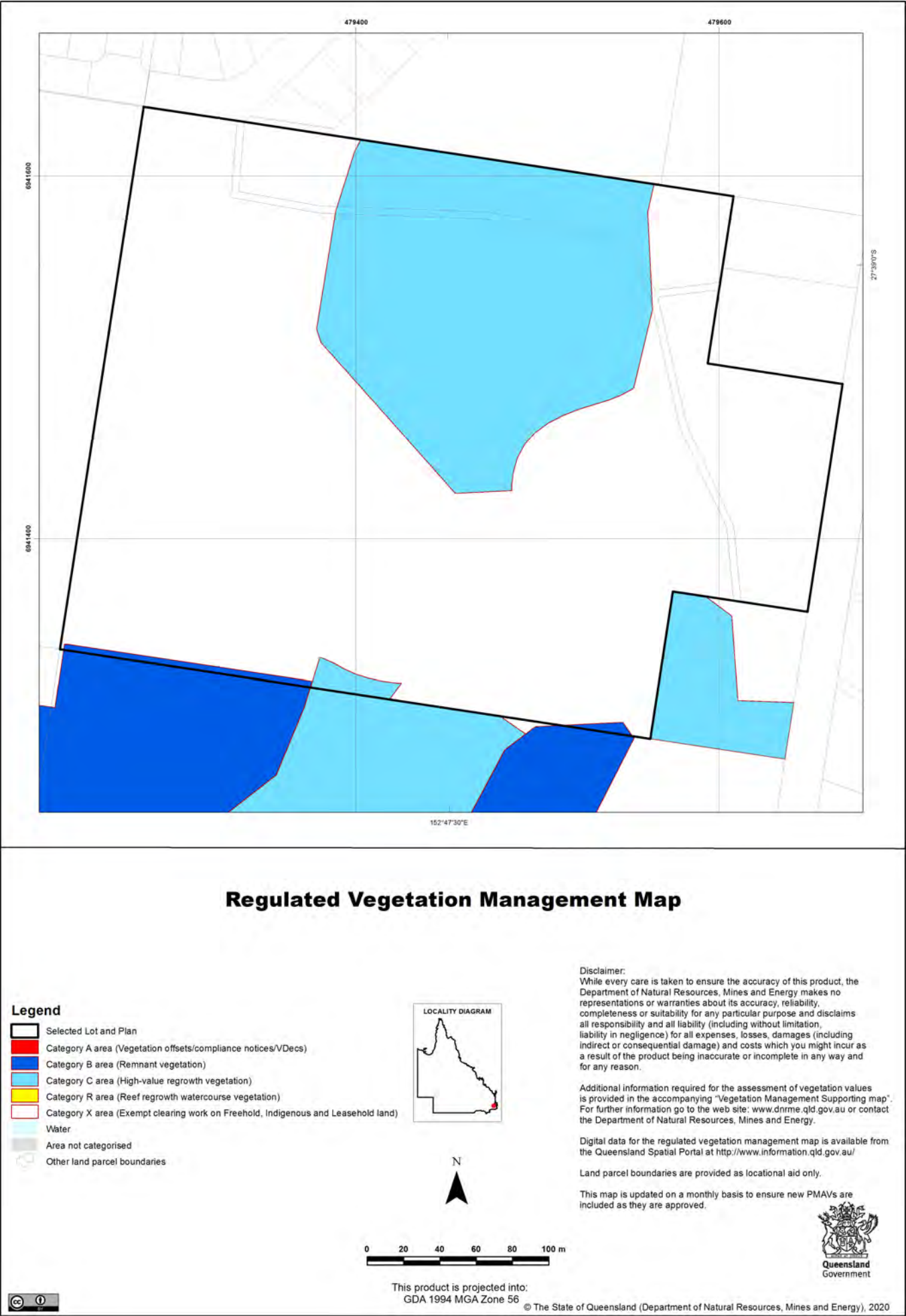
Coastal/non-coastal map

The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP).

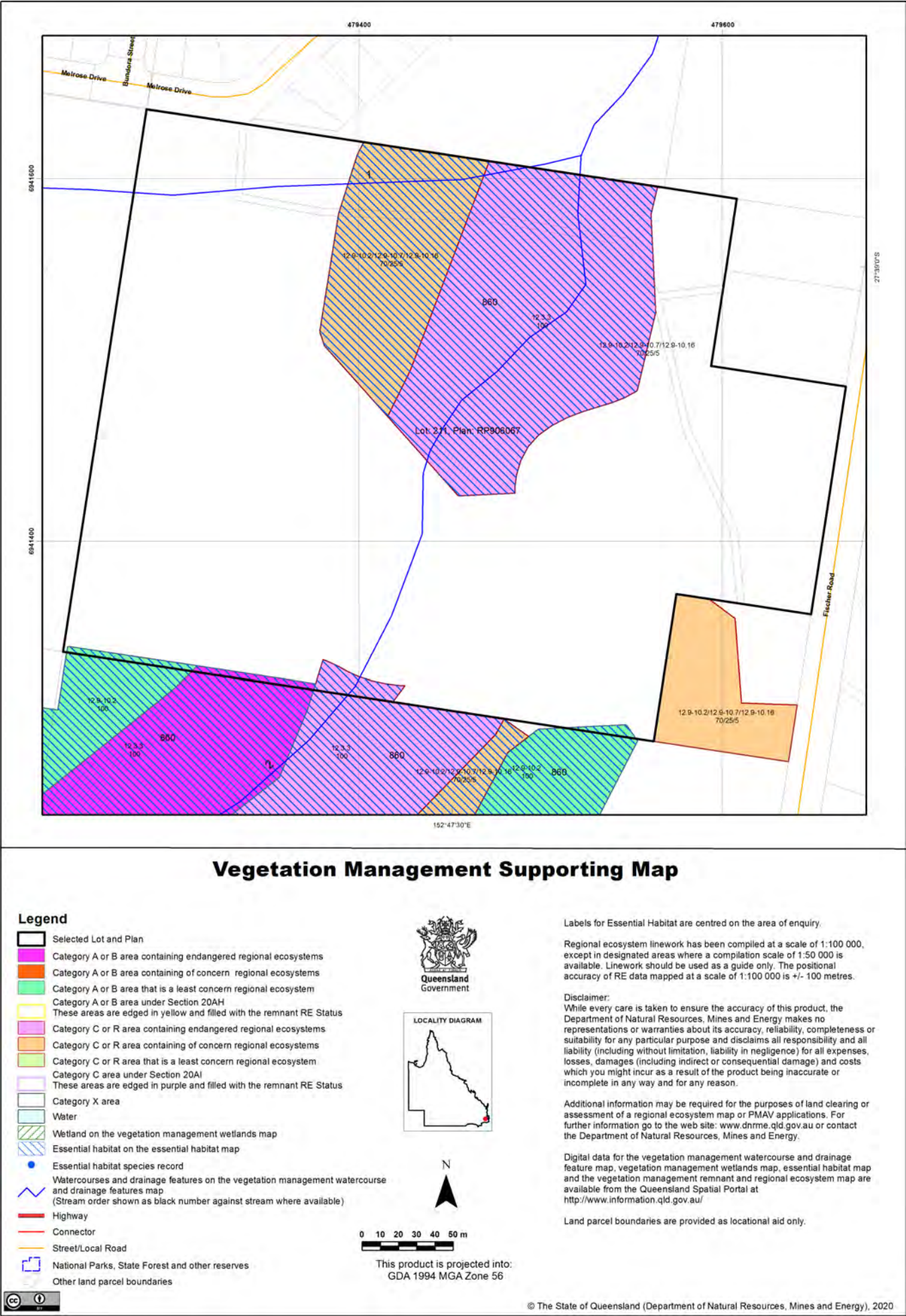
Agricultural Land Class A or B

The Agricultural Land Class map confirms the location and extent of land mapped as Agricultural Land Classes A or B as identified on the State Planning Interactive Mapping System. Please note that this map does not include areas identified as Agricultural Land Class A or B in local government planning schemes. This map can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code.

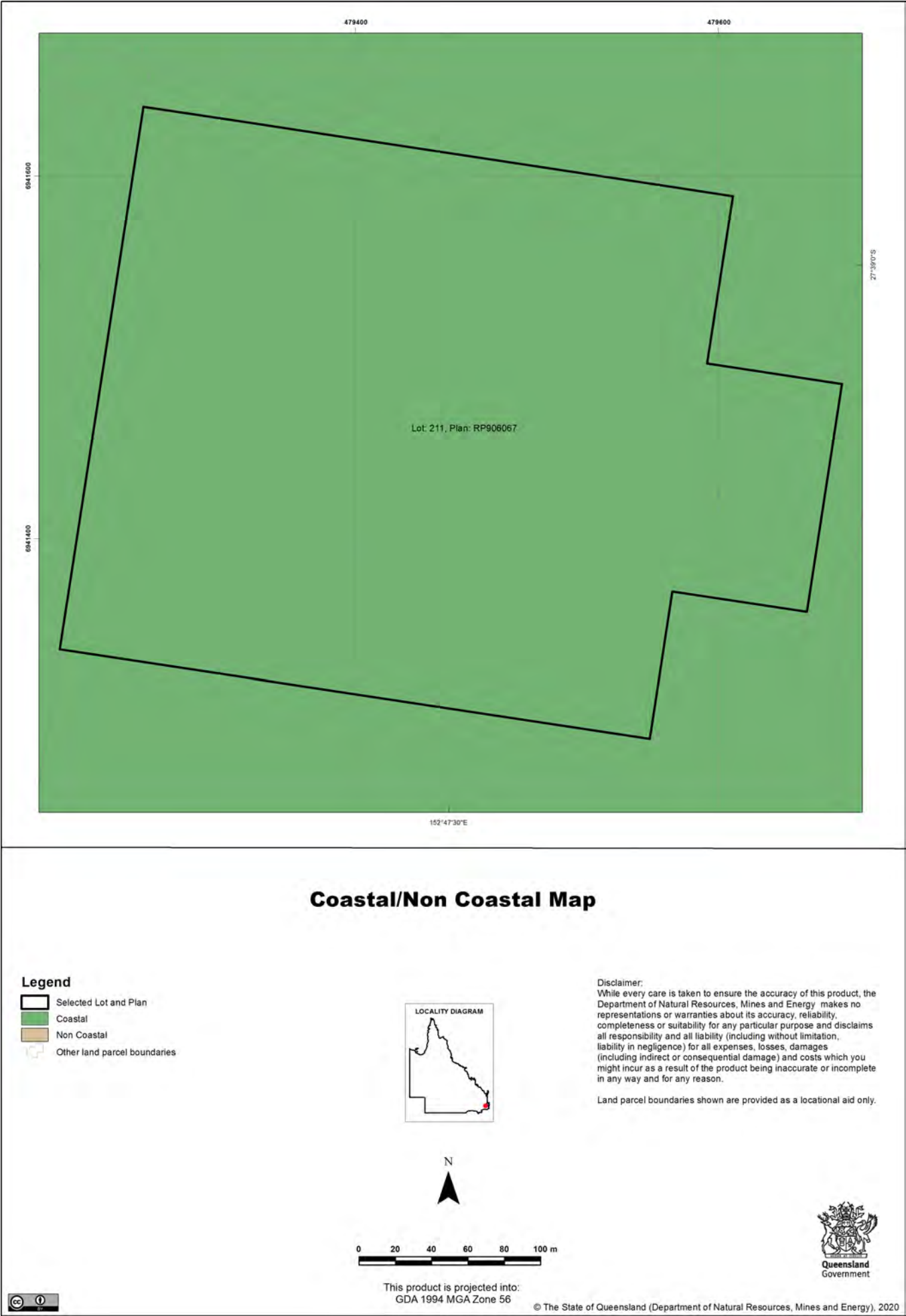
4.1 Regulated vegetation management map



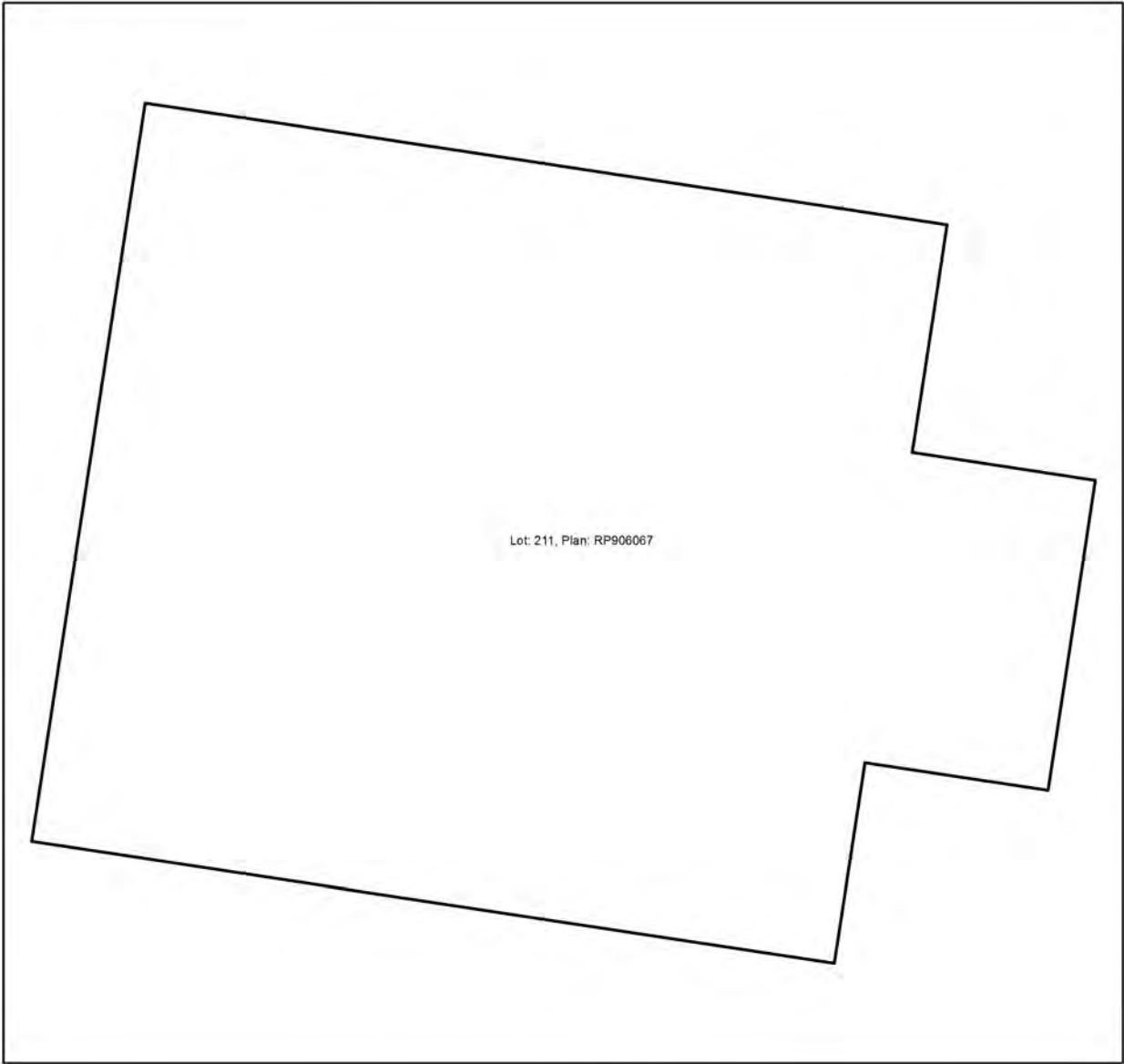
4.2 Vegetation management supporting map



4.3 Coastal/non-coastal map









4.4 Agricultural Land Class A or B map



Agricultural Land Class A or B

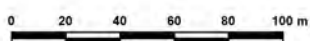
Legend

-  Selected Lot and Plan
 Towns
 Arterial roads
 Rivers and creeks
 Agricultural land class A or B
 A
 B
 Not class A or B



Disclaimer

Whilst every care is taken to ensure the accuracy of these details all data custodians and/or the State of Queensland makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses damages (including indirect or consequential damage) and costs to which you might incur as a result of the data being inaccurate or incomplete in any way and for any reason.



This product is projected into GDA 1994 MGA Zone 56

© The State of Queensland, 2020

5. Protected plants framework (administered by the Department of Environment and Science (DES))

In Queensland, all plants that are native to Australia are protected plants under the [Nature Conservation Act 1992](#) (NCA). The NCA regulates the clearing of protected plants 'in the wild' (see [Operational policy: When a protected plant in Queensland is considered to be 'in the wild'](#)) that are listed as critically endangered, endangered, vulnerable or near threatened under the Act.

Please note that the protected plant clearing framework applies irrespective of the classification of the vegetation under the *Vegetation Management Act 1999* and any approval or exemptions given under another Act, for example, the *Vegetation Management Act 1999* or *Planning Regulation 2017*.

5.1 Clearing in high risk areas on the flora survey trigger map

The 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. The flora survey trigger map for this property is provided in section 5.5.

If you are proposing to clear an area shown as high risk on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken by a suitably qualified person in accordance with the [Flora survey guidelines](#). The main objective of a flora survey is to locate any EVNT plants that may be present in the clearing impact area.

If the flora survey identifies that EVNT plants are not present within the clearing impact area or clearing within 100m of EVNT plants can be avoided, the clearing activity is exempt from a permit. An [exempt clearing notification form](#) must be submitted to the Department of Environment and Science, with a copy of the flora survey report, at least one week prior to clearing.

If the flora survey identifies that EVNT plants are present in, or within 100m of, the area to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the [application form clearing permit](#).

5.2 Clearing outside high risk areas on the flora survey trigger map

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that EVNT plants are present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

5.3 Exemptions

Many activities are 'exempt' under the protected plant clearing framework, which means that clearing of native plants that are in the wild can be undertaken for these activities with no need for a flora survey or a protected plant clearing permit. The Information sheet - General exemptions for the take of protected plants provides some of these exemptions.

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) under the *Vegetation Management Act 1999* (i.e. listed in Schedule 21 of the Planning Regulations 2017) while some are different.

5.4 Contact information for DES

For further information on the protected plants framework:

Phone 1300 130 372 (and select option four)

Email palm@des.qld.gov.au

Visit <https://www.qld.gov.au/environment/plants-animals/plants/protected-plants>

5.5 Protected plants flora survey trigger map

This map included may also be requested individually at: <https://apps.des.qld.gov.au/map-request/flora-survey-trigger/>.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information

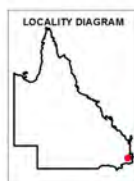
Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the [Queensland Spatial Catalogue](#), the Department of Environment and Science does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of Environment and Science webpage on the [clearing of protected plants](#) for more information.



Protected Plants Flora Survey Trigger Map

Legend

- Selected Lot and Plan
- High risk area
- Other land parcel boundaries
- Freeways / motorways / highways
- Secondary roads / streets



0 10 20 30 40 50 m

This product is projected into:
GDA 1994 MGA Zone 56

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Science at palm@ehp.qld.gov.au

Disclaimer:
While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

© The State of Queensland (Department of Environment and Science), 2020

6. Koala protection framework (administered by the Department of Environment and Science (DES))

The koala (*Phascolarctos cinereus*) is listed in Queensland as vulnerable by the Queensland Government under *Nature Conservation Act 1992* and by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Queensland Government's koala protection framework is comprised of the *Nature Conservation Act 1992*, the Nature Conservation (Animals) Regulation 2020, the Nature Conservation (Koala) Conservation Plan 2017, the *Planning Act 2016* and the Planning Regulation 2017.

6.1 Koala mapping

6.1.1 Koala districts

The parts of Queensland where koalas are known to occur has been divided into three koala districts - koala district A, koala district B and koala district C. Each koala district is made up of areas with comparable koala populations (e.g. density, extent and significance of threatening processes affecting the population) which require similar management regimes.

Section 7.1 identifies which koala district your property is located in.

6.1.2 Koala habitat areas

Koala habitat areas are areas of vegetation that have been determined to contain koala habitat that is essential for the conservation of a viable koala population in the wild based on the combination of habitat suitability and biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water). In order to protect this important koala habitat, clearing controls have been introduced into the Planning Regulation 2017 for development in koala habitat areas.

Please note that koala habitat areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

There are two different categories of koala habitat area (core koala habitat area and locally refined koala habitat), which have been determined using two different methodologies. These methodologies are described in the document [Spatial modelling in South East Queensland](#).

Section 7.2 shows any koala habitat area that exists on your property.

Under the Nature Conservation (Koala) Conservation Plan 2017, an owner of land (or a person acting on the owner's behalf with written consent) can request to make, amend or revoke a koala habitat area determination if they believe, on reasonable grounds, that the existing determination for all or part of their property is incorrect.

More information on requests to make, amend or revoke a koala habitat area determination can be found in the document [Guideline - Requests to make, amend or revoke a koala habitat area determination](#).

The koala habitat area map will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

Changes to the koala habitat area map which occur between annual updates because of a request to make, amend or revoke a koala habitat area determination can be viewed on the register of approved requests to make, amend or revoke a koala habitat area available at: <https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/koalamaps>. The register includes the lot on plan for the change, the date the decision was made and the map issued to the landholder that shows areas determined to be koala habitat areas.

6.1.3 Koala priority areas

Koala priority areas are large, connected areas that have been determined to have the highest likelihood of achieving conservation outcomes for koalas based on the combination of habitat suitability, biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water) and a koala conservation cost benefit analysis.

Conservation efforts will be prioritised in these areas to ensure the conservation of viable koala populations in the wild including a focus on management (e.g. habitat protection, habitat restoration and threat mitigation) and monitoring. This includes a prohibition on clearing in koala habitat areas that are in koala priority areas under the Planning Regulation 2017 (subject to some exemptions).

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley,

Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

Section 7.2 identifies if your property is in a koala priority area.

6.1.4 Identified koala broad-hectare areas

There are seven identified koala broad-hectare areas in SEQ. These are areas of koala habitat that are located in areas committed to meet development targets in the SEQ Regional Plan to accommodate SEQ's growing population including bring-forward Greenfield sites under the Queensland Housing Affordability Strategy and declared master planned areas under the repealed *Sustainable Planning Act 2009* and the repealed *Integrated Planning Act 1997*.

Specific assessment benchmarks apply to development applications for development proposed in identified koala broad-hectare areas to ensure koala conservation measures are incorporated into the proposed development.

Section 7.2 identifies if your property is in an identified koala broad-hectare area.

6.2 Koala habitat planning controls

On 7 February 2020, the Queensland Government introduced new planning controls to the Planning Regulation 2017 to strengthen the protection of koala habitat in South East Queensland (i.e. koala district A).

More information on these planning controls can be found here:

<https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy>.

As a high-level summary, the koala habitat planning controls make:

- development that involves interfering with koala habitat (defined below) in an area that is both a koala priority area and a koala habitat area, prohibited development (i.e. development for which a development application cannot be made);
- development that involves interfering with koala habitat (defined below) in an area that is a koala habitat area but is not a koala priority area, assessable development (i.e. development for which development approval is required); and
- development that is for extractive industries where the development involves interfering with koala habitat (defined below) in an area that is both a koala habitat area and a key resource area, assessable development (i.e. development for which development approval is required).

Interfering with koala habitat means:

- 1) Removing, cutting down, ringbarking, pushing over, poisoning or destroying in anyway, including by burning, flooding or draining native vegetation in a koala habitat area; but
- 2) Does not include destroying standing vegetation stock or lopping a tree.

However, these planning controls do not apply if the development is exempted development as defined in Schedule 24 of the [Planning Regulation 2017](#). More information on exempted development can be found here:

<https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy>.

There are also assessment benchmarks that apply to development applications for:

- building works, operational works, material change of use or reconfiguration of a lot where:
 - the local government planning scheme makes the development assessable;
 - the premises includes an area that is both a koala priority area and a koala habitat area; and
 - the development does not involve interfering with koala habitat (defined above); and
- development in identified koala broad-hectare areas.

The [Guideline - Assessment Benchmarks in relation to Koala Habitat in South East Queensland assessment benchmarks](#) outlines these assessment benchmarks, the intent of these assessment benchmarks and advice on how proposed development may meet these assessment benchmarks.

6.3 Koala Conservation Plan clearing requirements

Section 10 and 11 of the [Nature Conservation \(Koala\) Conservation Plan 2017](#) prescribes requirements that must be met when clearing koala habitat in koala district A and koala district B.

These clearing requirements are independent to the koala habitat planning controls introduced into the Planning Regulation 2017, which means they must be complied with irrespective of any approvals or exemptions offered under other legislation.

Unlike the clearing controls prescribed in the Planning Regulation 2017 that are to protect koala habitat, the clearing requirements prescribed in the Nature Conservation (Koala) Conservation Plan 2017 are in place to prevent the injury or death of koalas when koala habitat is being cleared.

6.4 Contact information for DES

For further information on the koala protection framework:

Phone 13 QGOV (13 74 68)

Email koala.assessment@des.qld.gov.au

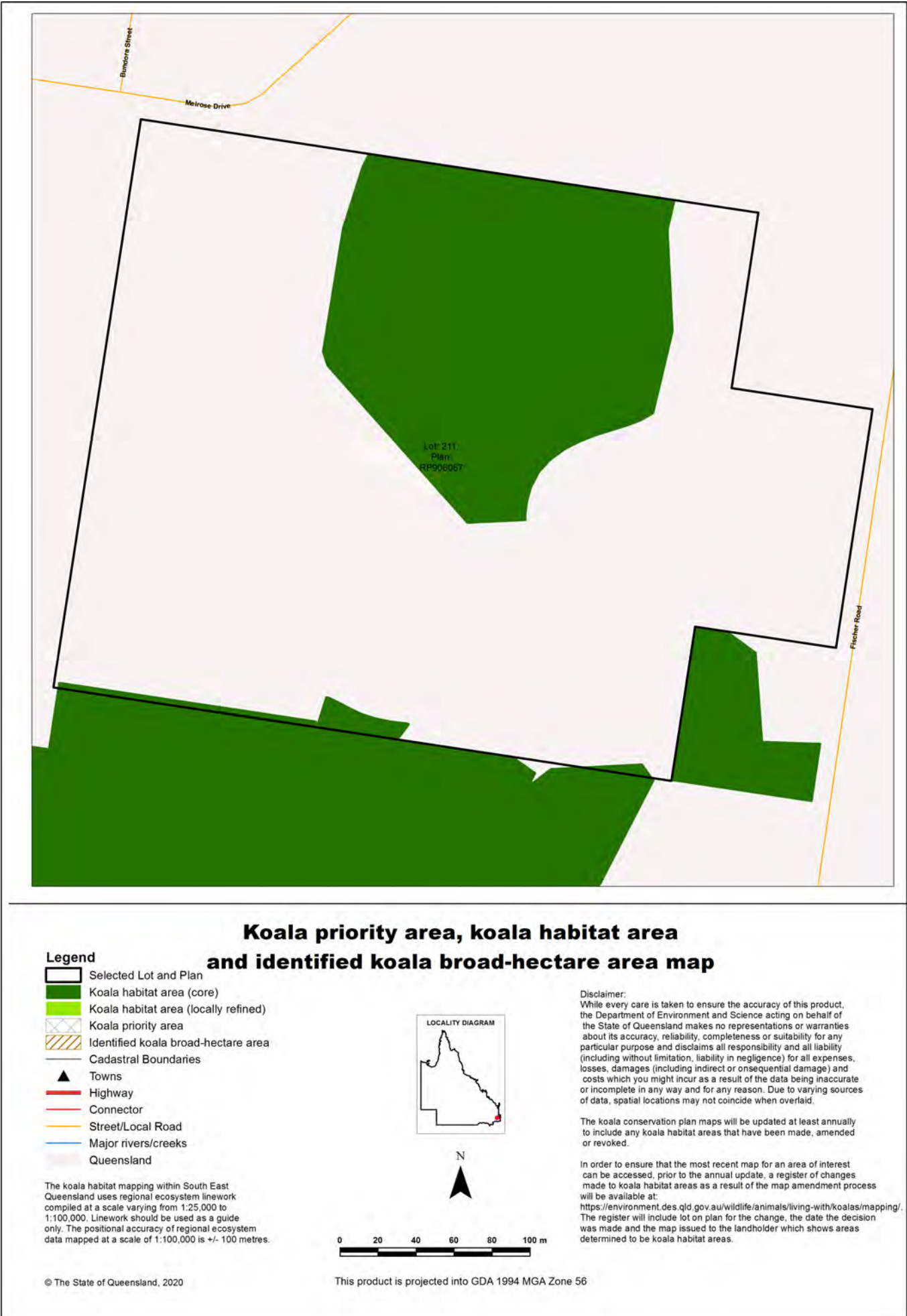
Visit <https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping>

7. Koala protection framework details for Lot: 211 Plan: RP906067

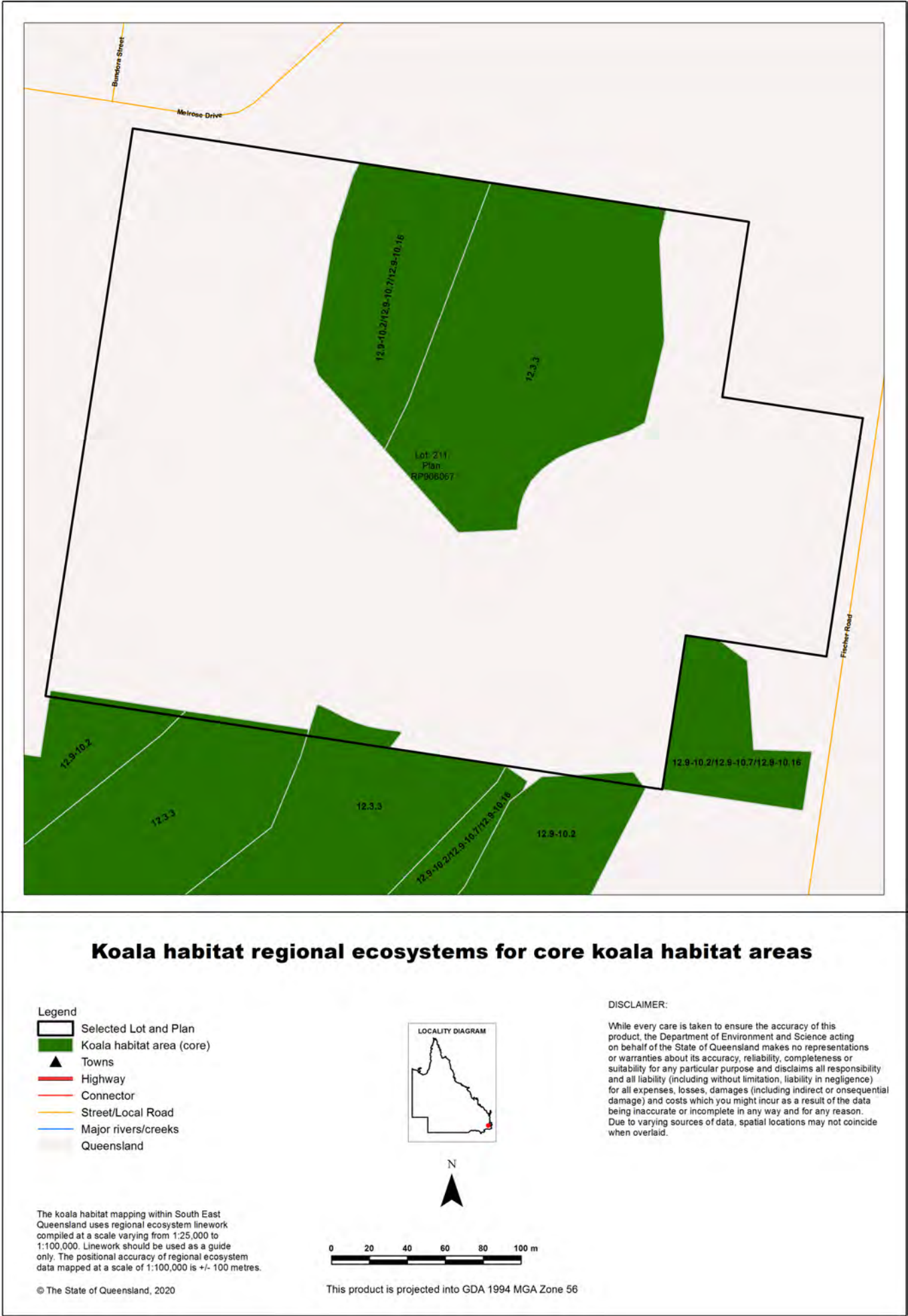
7.1 Koala districts

Koala District A

7.2 Koala priority area, koala habitat area and identified koala broad-hectare area map



7.3 Koala habitat regional ecosystems for core koala habitat areas



8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
<ul style="list-style-type: none"> • Interference with overland flow • Earthworks, significant disturbance 	<i>Water Act 2000</i> <i>Soil Conservation Act 1986</i>	Department of Natural Resources, Mines and Energy (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dnrme.qld.gov.au
<ul style="list-style-type: none"> • Indigenous Cultural Heritage 	<i>Aboriginal Cultural Heritage Act 2003</i> <i>Torres Strait Islander Cultural Heritage Act 2003</i>	Department of Aboriginal and Torres Strait Islander Partnerships (Queensland Government)	Ph: 13 QGOV (13 74 68) www.datsip.qld.gov.au
<ul style="list-style-type: none"> • Mining and environmentally relevant activities • Infrastructure development (coastal) • Heritage issues • Protected areas 	<i>Environmental Protection Act 1994</i> <i>Coastal Protection and Management Act 1995</i> <i>Queensland Heritage Act 1992</i> <i>Nature Conservation Act 1992</i>	Department of Environment and Science (Queensland Government)	Ph: 13 QGOV (13 74 68) www.des.qld.gov.au
<ul style="list-style-type: none"> • Interference with fish passage in a watercourse, mangroves • Forestry activities on State land tenures 	<i>Fisheries Act 1994</i> <i>Forestry Act 1959</i>	Department of Agriculture and Fisheries (Queensland Government)	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
<ul style="list-style-type: none"> • Matters of National Environmental Significance including listed threatened species and ecological communities 	<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Department of the Environment (Australian Government)	Ph: 1800 803 772 www.environment.gov.au
<ul style="list-style-type: none"> • Development and planning processes 	<i>Planning Act 2016</i> <i>State Development and Public Works Organisation Act 1971</i>	Queensland Treasury Department of State Development, Tourism and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dsdmip.qld.gov.au www.statedevelopment.qld.gov.au
<ul style="list-style-type: none"> • Local government requirements 	<i>Local Government Act 2009</i> <i>Planning Act 2016</i>	Department of Local Government, Racing and Multicultural Affairs (Queensland Government)	Ph: 13 QGOV (13 74 68) Your relevant local government office



Vegetation management report

For Lot: 209 Plan: SL11067

Current as at 12/10/2020

This publication has been compiled by Operations Support, Department of Natural Resources, Mines and Energy.

© State of Queensland, (2020)

The Queensland Government supports and encourages the dissemination and exchange of its information. The copyright in this publication is licensed under a Creative Commons - Attribution 4.0 International (CC BY) licence.

Under this licence you are free, without having to seek our permission, to use this publication in accordance with the licence terms.



You must keep intact the copyright notice and attribute the State of Queensland as the source of the publication.

Note: Some content in this publication may have different licence terms as indicated.

For more information on this licence, visit <https://creativecommons.org/licenses/by/4.0/>

The information contained herein is subject to change without notice. The Queensland Government shall not be liable for technical or other errors or omissions contained herein. The reader/user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using this information.

Recent changes

Updated mapping

Updated vegetation mapping was released on 6 April 2020 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, wetland, high-value regrowth and essential habitat mapping.

Improvements to the format of the report were made in July 2020 to more clearly delineate the three regulatory frameworks of vegetation management, protected plants and koala habitat protection. The Vegetation Management Pre-clear Regional Ecosystem map was also removed from the Vegetation Management Report but can still be requested as a separate map.

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:

Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Natural Resources Mines and Energy who administer the framework;

Vegetation management framework details for the specified Lot on Plan including:

- the vegetation management categories on the property;
- the vegetation management regional ecosystems on the property;
- vegetation management watercourses or drainage features on the property;
- vegetation management wetlands on the property;
- vegetation management essential habitat on the property;
- whether any area management plans are associated with the property;
- whether the property is coastal or non-coastal; and
- whether the property is mapped as Agricultural Land Class A or B;

Protected plant framework - an explanation of the application of the framework and contact details for the Department of Environment and Science who administer the framework, including:

- high risk areas on the protected plant flora survey trigger map for the property;

Koala protection framework - an explanation of the application of the framework and contact details for the Department of Environment and Science who administer the framework; and

Koala protection framework details for the specified Lot on Plan including:

- the koala district the property is located in;
- koala priority areas on the property;
- core and locally refined koala habitat areas on the property;
- whether the lot is located in an identified koala broad-hectare area; and
- koala habitat regional ecosystems on the property for core koala habitat areas.

This information will assist you to determine your options for managing vegetation under:

- the vegetation management framework, which may include:

- exempt clearing work;
- accepted development vegetation clearing code;
- an area management plan;
- a development approval;

- the protected plant framework, which may include:

- the need to undertake a flora survey;
- exempt clearing;
- a protected plant clearing permit;

- the koala protection framework, which may include:

- exempted development;
- a development approval;
- the need to undertake clearing sequentially and in the presence of a koala spotter.

Other laws

The clearing of native vegetation is regulated by both Queensland and Australian legislation, and some local governments also regulate native vegetation clearing. You may need to obtain an approval or permit under another Act, such as the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Section 9 of this guide provides contact details of other agencies you should confirm requirements with, before commencing vegetation clearing.

Table of Contents

1. Property details	6
1.1 Tenure and title area	6
1.2 Property location	6
2. Vegetation management framework (administered by the Department of Natural Resources, Mines and Energy (DNRME))	7
2.1 Exempt clearing work	7
2.2 Accepted development vegetation clearing codes	7
2.3 Area management plans	8
2.4 Development approvals	8
2.5. Contact information for DNRME	8
3. Vegetation management framework for Lot: 209 Plan: SL11067	9
3.1 Vegetation categories	9
3.2 Regional ecosystems	10
3.3 Watercourses	10
3.4 Wetlands	10
3.5 Essential habitat	10
3.6 Area Management Plan(s)	12
3.7 Coastal or non-coastal	12
3.8 Agricultural Land Class A or B	12
4. Vegetation management framework maps	14
4.1 Regulated vegetation management map	15
4.2 Vegetation management supporting map	16
4.3 Coastal/non-coastal map	17
4.4 Agricultural Land Class A or B map	18
5. Protected plants framework (administered by the Department of Environment and Science (DES))	19
5.1 Clearing in high risk areas on the flora survey trigger map	19
5.2 Clearing outside high risk areas on the flora survey trigger map	19
5.3 Exemptions	19
5.4 Contact information for DES	19
5.5 Protected plants flora survey trigger map	20
6. Koala protection framework (administered by the Department of Environment and Science (DES))	22
6.1 Koala mapping	22
6.2 Koala habitat planning controls	23
6.3 Koala Conservation Plan clearing requirements	24
6.4 Contact information for DES	24
7. Koala protection framework details for Lot: 209 Plan: SL11067	24
7.1 Koala districts	24
7.2 Koala priority area, koala habitat area and identified koala broad-hectare area map	25
7.3 Koala habitat regional ecosystems for core koala habitat areas	26
8. Other relevant legislation contacts list	27

1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 209 Plan: SL11067, including links to relevant Smart Maps, are listed in Table 1. The tenure of the property (whether it is freehold, leasehold, or other) may be viewed by clicking on the Smart Map link(s) provided.

Table 1: Lot, plan, tenure and title area information for the property

Lot	Plan	Tenure	Link to property on SmartMap	Property title area (sq metres)
9	RP222031	Below the Depth Plans	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=9\RP222031	121,406
209	SL11067	Freehold	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=209\SL11067	121,410

The tenure of the land may affect whether clearing is considered exempt clearing work or may be carried out under an accepted development vegetation clearing code.

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 209 Plan: SL11067, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)
Ipswich City

Bioregion(s)	Subregion(s)
Southeast Queensland	Moreton Basin

Catchment(s)
Brisbane

2. Vegetation management framework (administered by the Department of Natural Resources, Mines and Energy (DNRME))

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2012, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenures under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing or clearing vegetation on these tenures may require approvals under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem prescribed under Schedule 5 of the Vegetation Management Regulation 2012; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify DNRME or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 4.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work and does not require notification or development approval under the vegetation management framework. For all other land tenures, contact DNRME before commencing clearing to ensure that the proposed activity is exempt clearing work.

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at

<https://www.qld.gov.au/environment/land/vegetation/exemptions/>.

Exempt clearing work may be affected if the proposed clearing area is subject to development approval conditions, a covenant, an environmental offset, an exchange area, a restoration notice, or an area mapped as Category A. Exempt clearing work may require approval under other Commonwealth, State or Local Government laws, or local government planning schemes. Contact DNRME prior to clearing in any of these areas.

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at

<https://www.qld.gov.au/environment/land/vegetation/codes/>

If you intend to clear vegetation under an accepted development vegetation clearing code, you must notify DNRME before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at

<https://apps.dnrm.qld.gov.au/vegetation/>

2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing under the vegetation management framework. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

On 8 March 2020, AMPs ended for fodder harvesting, managing thickened vegetation and managing encroachment. New notifications cannot be made for these AMPs. You will need to consider options for fodder harvesting, managing thickened vegetation or encroachment under a relevant accepted development vegetation clearing code or apply for a development approval.

New notifications can be made for all other AMPs. These will continue to apply until their nominated end date.

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the DNRME and then follow the conditions and requirements listed in the AMP.

<https://www.qld.gov.au/environment/land/vegetation/area-plans/>

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at

<https://www.qld.gov.au/environment/land/management/vegetation/development>

2.5. Contact information for DNRME

For further information on the vegetation management framework:

Phone 135VEG (135 834)

Email vegetation@dnrme.qld.gov.au

Visit <https://www.dnrme.qld.gov.au/?contact=vegetation> to submit an online enquiry.

3. Vegetation management framework for Lot: 209 Plan: SL11067

3.1 Vegetation categories

The vegetation categories on your property are shown on the regulated vegetation management map in section 4.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property. Total area: 12.24ha

Vegetation category	Area (ha)
Category B	5.8
Category C	1.5
Category X	4.9

Table 4: Description of vegetation categories

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	Special conditions apply to Category A areas. Before clearing, contact DNRME to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Exempt clearing work, or notification and compliance with accepted development vegetation clearing codes, area management plans or development approval.
C	light blue	High-value regrowth areas	Exempt clearing work, or notification and compliance with managing Category C regrowth vegetation accepted development vegetation clearing code.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the Great Barrier Reef catchment areas	Exempt clearing work, or notification and compliance with managing Category R regrowth accepted development vegetation clearing code or area management plans.
X	white	Clearing on freehold land, indigenous land and leasehold land for agriculture and grazing purposes is considered exempt clearing work under the vegetation management framework. Contact DNRME to clarify whether a development approval is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A development approval may be required for some State land tenures.

Property Map of Assessable Vegetation (PMAV)

The following Property Map of Assessable Vegetation (PMAVs) may be present on this property:

Reference number

2019/003387

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 4.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/>

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
12.3.3	Endangered	B	0.97	Eucalyptus tereticornis woodland on Quaternary alluvium	Sparse
12.3.3	Endangered	C	1.53	Eucalyptus tereticornis woodland on Quaternary alluvium	Sparse
12.9-10.2	Least concern	B	4.85	Corymbia citriodora subsp. variegata +/- Eucalyptus crebra open forest on sedimentary rocks	Mid-dense
non-rem	None	X	4.89	None	None

Please note:

1. All area and area derived figures included in this table have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work;
- accepted development vegetation clearing codes;
- performance outcomes in State Code 16 of the State Development Assessment Provisions (SDAP).

3.3 Watercourses

Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 4.2.

3.4 Wetlands

There are no vegetation management wetlands present on this property.

3.5 Essential habitat

Under the VMA, essential habitat for protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA) as critically endangered, endangered, vulnerable or near-threatened wildlife.

Essential habitat for protected wildlife includes suitable habitat on the lot, or where a species has been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 4.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife, means an area of vegetation shown on the Regulated Vegetation Management Map -

- 1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or
- 2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

Category A and/or Category B and/or Category C

Table 6: Essential habitat in Category A and/or Category B and/or Category C

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
860	<i>Phascolarctos cinereus</i>	koala	V	SEQ: Open eucalypt forest and woodland that has: a) multiple strata layers containing <i>Eucalyptus</i> , <i>Corymbia</i> , <i>Angophora</i> , <i>Lophostemon</i> or <i>Melaleuca</i> trees that-at 1.3 metres above the ground-have a diameter both greater and less than 30 centimetres; and b) at least 1 of the following species: <i>Eucalyptus tereticornis</i> , <i>E. fibrosa</i> , <i>E. propinqua</i> ; <i>E. umbra</i> , <i>E. grandis</i> , <i>E. microcorys</i> , <i>E. tindaliae</i> , <i>E. resinifera</i> , <i>E. populnea</i> , <i>E. robusta</i> , <i>E. nigra</i> , <i>E. racemosa</i> , <i>E. crebra</i> , <i>E. exserta</i> , <i>E. seeana</i> , <i>Lophostemon confertus</i> , <i>L. suaveolens</i> , <i>Melaleuca quinquenervia</i> . Outside SEQ: Open eucalypt forest and woodland that contains <i>Eucalyptus</i> &/or <i>Corymbia</i> spp. Tree species used for food varies across State and can include <i>Eucalyptus tereticornis</i> , <i>E. camaldulensis</i> , <i>E. coolabah</i> ; <i>E. drepanophylla</i> , <i>E. platyphylla</i> , <i>E. orgadophylla</i> , <i>E. thozetiana</i> , <i>E. melanophloia</i> , <i>E. populnea</i> , <i>E. melliodora</i> , <i>E. dealbata</i> , <i>E. microtheca</i> , <i>E. crebra</i> , <i>E. exserta</i> , <i>E. blakelyi</i> , <i>E. papuana</i> , <i>Corymbia tessellaris</i> , <i>C. citriodora</i> , <i>Melaleuca quinquenervia</i> , <i>M. leucadendra</i> .	Sea level to 1000m.	None	Riparian areas, plains and hill/escarpment slopes.
1883	<i>Rostratula australis</i>	Australian painted snipe	E	Shallow ephemeral and permanent swamps, water meadows and damp lake margins with rushes, long grass and herbage (e.g. <i>lignum</i> , <i>chenopods</i>) in good condition, as well as areas of muddy ground; also uses saltmarsh, samphire flats and waterlogged grasslands with trees present (e.g. <i>Eucalyptus camaldulensis</i> , <i>E. brownii</i>). Nest in shallow grass-lined hollow in damp ground under low shrub or grass tussock near shallow water.	None	None	Associated with wetlands.

Label	Regional Ecosystem (mandatory unless otherwise specified)
860	<p>SEQ: 11.3.2, 11.3.4, 11.3.25, 11.3.26, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.9.9, 12.2.5, 12.2.6, 12.2.7, 12.2.8, 12.2.10, 12.3.2, 12.3.3, 12.3.4, 12.3.5, 12.3.6, 12.3.7, 12.3.9, 12.3.10, 12.3.11, 12.3.14, 12.3.18, 12.3.19, 12.3.20, 12.5.1, 12.5.2, 12.5.3, 12.5.4, 12.5.6, 12.5.7, 12.5.10, 12.5.12, 12.8.1, 12.8.8, 12.8.9, 12.8.11, 12.8.12, 12.8.14, 12.8.16, 12.8.17, 12.8.20, 12.8.24, 12.8.25, 12.9-10.1, 12.9-10.2, 12.9-10.3, 12.9-10.4, 12.9-10.5, 12.9-10.7, 12.9-10.8, 12.9-10.11, 12.9-10.12, 12.9-10.14, 12.9-10.17, 12.9-10.18, 12.9-10.19, 12.9-10.21, 12.9-10.25, 12.9-10.26, 12.9-10.27, 12.9-10.28, 12.9-10.29, 12.11.2, 12.11.3, 12.11.5, 12.11.6, 12.11.7, 12.11.8, 12.11.9, 12.11.14, 12.11.15, 12.11.16, 12.11.17, 12.11.18, 12.11.22, 12.11.23, 12.11.24, 12.11.25, 12.11.26, 12.11.27, 12.11.28, 12.12.2, 12.12.3, 12.12.5, 12.12.6, 12.12.7, 12.12.8, 12.12.9, 12.12.11, 12.12.12, 12.12.14, 12.12.15, 12.12.23, 12.12.24, 12.12.25, 12.12.28, Outside SEQ: 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.8, 4.3.10, 4.3.11, 4.4.1, 4.5.3, 4.5.5, 4.5.6, 4.5.8, 4.5.9, 4.7.1, 4.7.7, 4.7.8, 4.9.6, 4.9.10, 4.9.12, 4.9.17, 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5, 6.3.7, 6.3.8, 6.3.9, 6.3.11, 6.3.12, 6.3.17, 6.3.18, 6.3.22, 6.3.24, 6.3.25, 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.5.1, 6.5.2, 6.5.3, 6.5.5, 6.5.6, 6.5.7, 6.5.8, 6.5.9, 6.5.10, 6.5.11, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18, 6.5.19, 6.6.2, 6.7.1, 6.7.2, 6.7.5, 6.7.6, 6.7.7, 6.7.9, 6.7.11, 6.7.12, 6.7.13, 6.7.14, 6.7.17, 6.9.3, 7.2.3, 7.2.4, 7.2.7, 7.2.11, 7.3.7, 7.3.8, 7.3.9, 7.3.12, 7.3.13, 7.3.14, 7.3.16, 7.3.19, 7.3.20, 7.3.21, 7.3.25, 7.3.26, 7.3.39, 7.3.40, 7.3.42, 7.3.43, 7.3.44, 7.3.45, 7.3.47, 7.3.48, 7.3.50, 7.5.1, 7.5.2, 7.5.3, 7.5.4, 7.8.7, 7.8.8, 7.8.10, 7.8.15, 7.8.16, 7.8.17, 7.8.18, 7.8.19, 7.11.5, 7.11.6, 7.11.13, 7.11.14, 7.11.16, 7.11.18, 7.11.19, 7.11.20, 7.11.21, 7.11.31, 7.11.32, 7.11.33, 7.11.34, 7.11.35, 7.11.37, 7.11.41, 7.11.42, 7.11.43, 7.11.44, 7.11.45, 7.11.46, 7.11.47, 7.11.48, 7.11.49, 7.11.50, 7.11.51, 7.12.4, 7.12.5, 7.12.17, 7.12.21, 7.12.22, 7.12.23, 7.12.24, 7.12.25, 7.12.26, 7.12.27, 7.12.28, 7.12.29, 7.12.30, 7.12.33, 7.12.34, 7.12.35, 7.12.51, 7.12.52, 7.12.53, 7.12.54, 7.12.55, 7.12.56, 7.12.57, 7.12.58, 7.12.59, 7.12.60, 7.12.61, 7.12.62, 7.12.63, 7.12.65, 7.12.66, 7.12.69, 8.1.5, 8.2.3, 8.2.6, 8.2.7, 8.2.8, 8.2.11, 8.2.12, 8.2.13, 8.2.14, 8.3.1, 8.3.2, 8.3.3, 8.3.5, 8.3.6, 8.3.8, 8.3.10, 8.3.11, 8.3.13, 8.5.1, 8.5.2, 8.5.3, 8.5.5, 8.5.6, 8.5.7, 8.9.1, 8.10.1, 8.11.1, 8.11.3, 8.11.4, 8.11.5, 8.11.6, 8.11.8, 8.11.10, 8.11.12, 8.12.4, 8.12.5, 8.12.6, 8.12.7, 8.12.8, 8.12.9, 8.12.12, 8.12.14, 8.12.20, 8.12.22, 8.12.23, 8.12.25, 8.12.26, 8.12.27, 8.12.29, 8.12.31, 8.12.32, 9.3.1, 9.3.2, 9.3.3, 9.3.4, 9.3.5, 9.3.6, 9.3.7, 9.3.8, 9.3.10, 9.3.11, 9.3.13, 9.3.14, 9.3.15, 9.3.16, 9.3.17, 9.3.19, 9.3.20, 9.3.21, 9.3.22, 9.3.27, 9.4.1, 9.4.2, 9.4.3, 9.5.1, 9.5.3, 9.5.4, 9.5.5, 9.5.6, 9.5.7, 9.5.8, 9.5.9, 9.5.10, 9.5.11, 9.5.12, 9.5.15, 9.5.16, 9.5.17, 9.7.1, 9.7.2, 9.7.3, 9.7.4, 9.7.5, 9.7.6, 9.8.1, 9.8.2, 9.8.3, 9.8.4, 9.8.5, 9.8.9, 9.8.10, 9.8.11, 9.8.13, 9.10.1, 9.10.3, 9.10.4, 9.10.5, 9.10.7, 9.10.8, 9.11.1, 9.11.2, 9.11.3, 9.11.4, 9.11.5, 9.11.7, 9.11.10, 9.11.12, 9.11.13, 9.11.14, 9.11.15, 9.11.16, 9.11.17, 9.11.18, 9.11.19, 9.11.21, 9.11.22, 9.11.23, 9.11.24, 9.11.25, 9.11.26, 9.11.28, 9.11.29, 9.11.30, 9.11.31, 9.11.32, 9.12.1, 9.12.2, 9.12.3, 9.12.4, 9.12.5, 9.12.6, 9.12.7, 9.12.10, 9.12.11, 9.12.12, 9.12.13, 9.12.14, 9.12.15, 9.12.16, 9.12.17, 9.12.18, 9.12.19, 9.12.20, 9.12.21, 9.12.22, 9.12.23, 9.12.24, 9.12.25, 9.12.26, 9.12.27, 9.12.28, 9.12.29, 9.12.30, 9.12.31, 9.12.32, 9.12.33, 9.12.35, 9.12.36, 9.12.37, 9.12.38, 9.12.39, 9.12.44, 10.3.2, 10.3.3, 10.3.5, 10.3.6, 10.3.9, 10.3.10, 10.3.11, 10.3.12, 10.3.13, 10.3.14, 10.3.15, 10.3.17, 10.3.20, 10.3.27, 10.3.28, 10.4.3, 10.4.9, 10.5.1, 10.5.2, 10.5.4, 10.5.5, 10.5.7, 10.5.8, 10.5.9, 10.5.10, 10.5.11, 10.5.12, 10.7.1, 10.7.2, 10.7.3, 10.7.4, 10.7.5, 10.7.9, 10.7.10, 10.7.11, 10.7.12, 10.9.2, 10.9.3, 10.9.5, 10.10.1, 10.10.3, 10.10.4, 10.10.5, 10.10.7, 11.2.1, 11.2.5, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.5, 11.3.6, 11.3.7, 11.3.9, 11.3.10, 11.3.12, 11.3.13, 11.3.14, 11.3.15, 11.3.16, 11.3.17, 11.3.18, 11.3.19, 11.3.21, 11.3.23, 11.3.25, 11.3.26, 11.3.27, 11.3.28, 11.3.29, 11.3.30, 11.3.32, 11.3.33, 11.3.35, 11.3.36, 11.3.37, 11.3.38, 11.3.39, 11.4.2, 11.4.3, 11.4.7, 11.4.8, 11.4.9, 11.4.10, 11.4.12, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.4, 11.5.5, 11.5.7, 11.5.8, 11.5.9, 11.5.12, 11.5.13, 11.5.14, 11.5.17, 11.5.18, 11.5.20, 11.5.21, 11.7.1, 11.7.2, 11.7.3, 11.7.4, 11.7.6, 11.7.7, 11.8.1, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.8.11, 11.8.12, 11.8.14, 11.8.15, 11.9.1, 11.9.2, 11.9.3, 11.9.5, 11.9.6, 11.9.7, 11.9.9, 11.9.10, 11.9.11, 11.9.13, 11.9.14, 11.10.1, 11.10.2, 11.10.3, 11.10.4, 11.10.5, 11.10.6, 11.10.7, 11.10.9, 11.10.11, 11.10.12, 11.10.13, 11.11.1, 11.11.2, 11.11.3, 11.11.4, 11.11.6, 11.11.7, 11.11.8, 11.11.9, 11.11.10, 11.11.11, 11.11.12, 11.11.13, 11.11.14, 11.11.15, 11.11.16, 11.11.17, 11.11.19, 11.11.20, 11.12.1, 11.12.2, 11.12.3, 11.12.5, 11.12.6, 11.12.7, 11.12.8, 11.12.9, 11.12.10, 11.12.13, 11.12.14, 11.12.15, 11.12.16, 11.12.17, 11.12.19, 11.12.20, 13.3.1, 13.3.2, 13.3.3, 13.3.4, 13.3.5, 13.3.7, 13.9.2, 13.11.1, 13.11.2, 13.11.3, 13.11.4, 13.11.5, 13.11.6, 13.11.8, 13.11.9, 13.12.1, 13.12.2, 13.12.3, 13.12.4, 13.12.5, 13.12.6, 13.12.8, 13.12.9, 13.12.10.</p>
1883	All regional ecosystems within the stream/wetland buffer as determined by VMA code.

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

For the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP), this property is regarded as*

Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

The following can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code:

Does this lot contain land that is mapped as Agricultural Land Class A or B in the State Planning Interactive Mapping System?

No Class A

No Class B

Note - This confirms Agricultural Land Classes as per the State Planning Interactive Mapping System only. This response does not include Agricultural Land Classes identified under local government planning schemes. For further information, check the Planning Scheme for your local government area.

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 209 Plan: SL11067.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:

<https://www.dnrme.qld.gov.au/qld/environment/land/vegetation/vegetation-map-request-form>

Regulated vegetation management map

The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new [property maps of assessable vegetation \(PMAV\)](#).

Vegetation management supporting map

The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

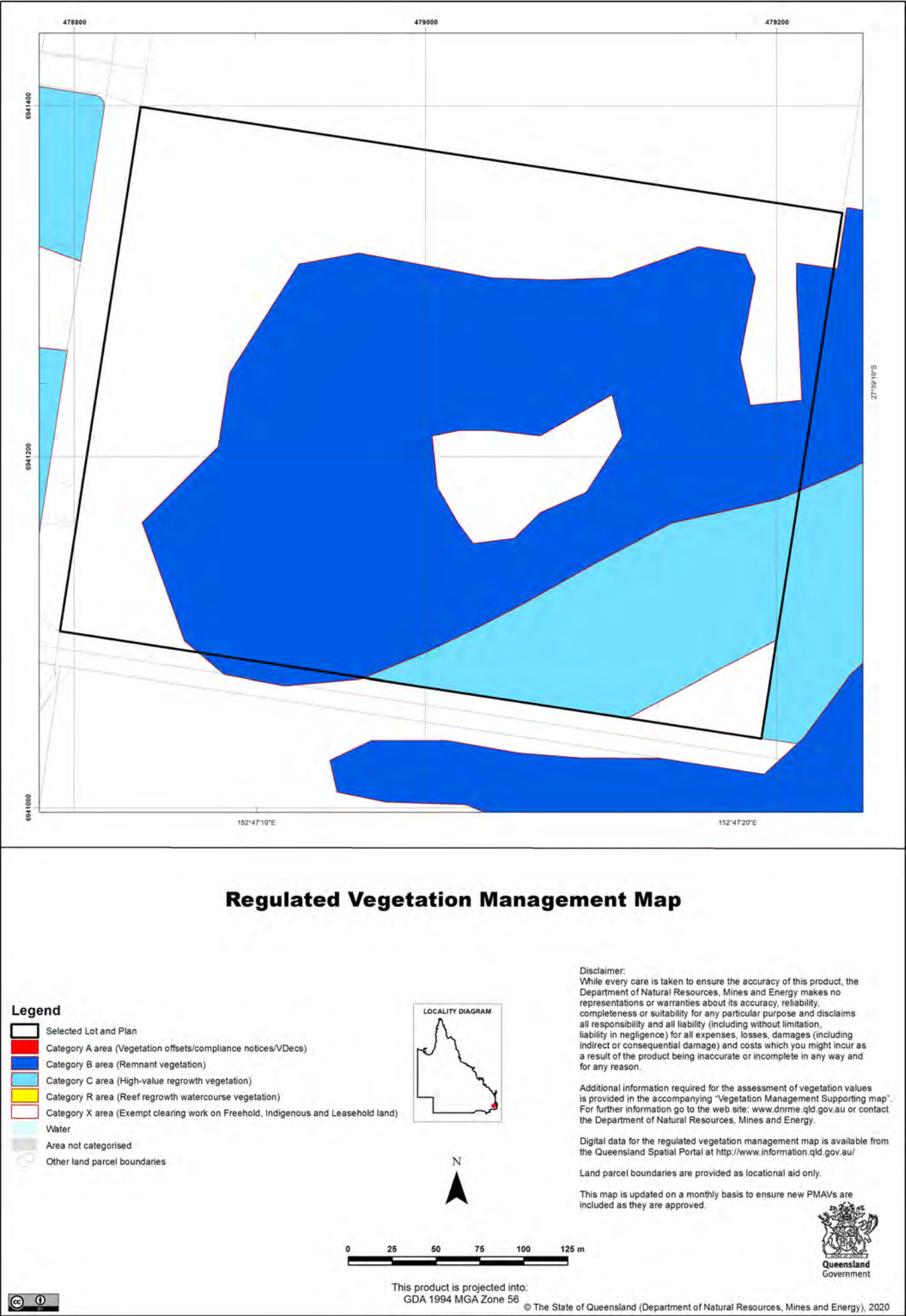
Coastal/non-coastal map

The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP).

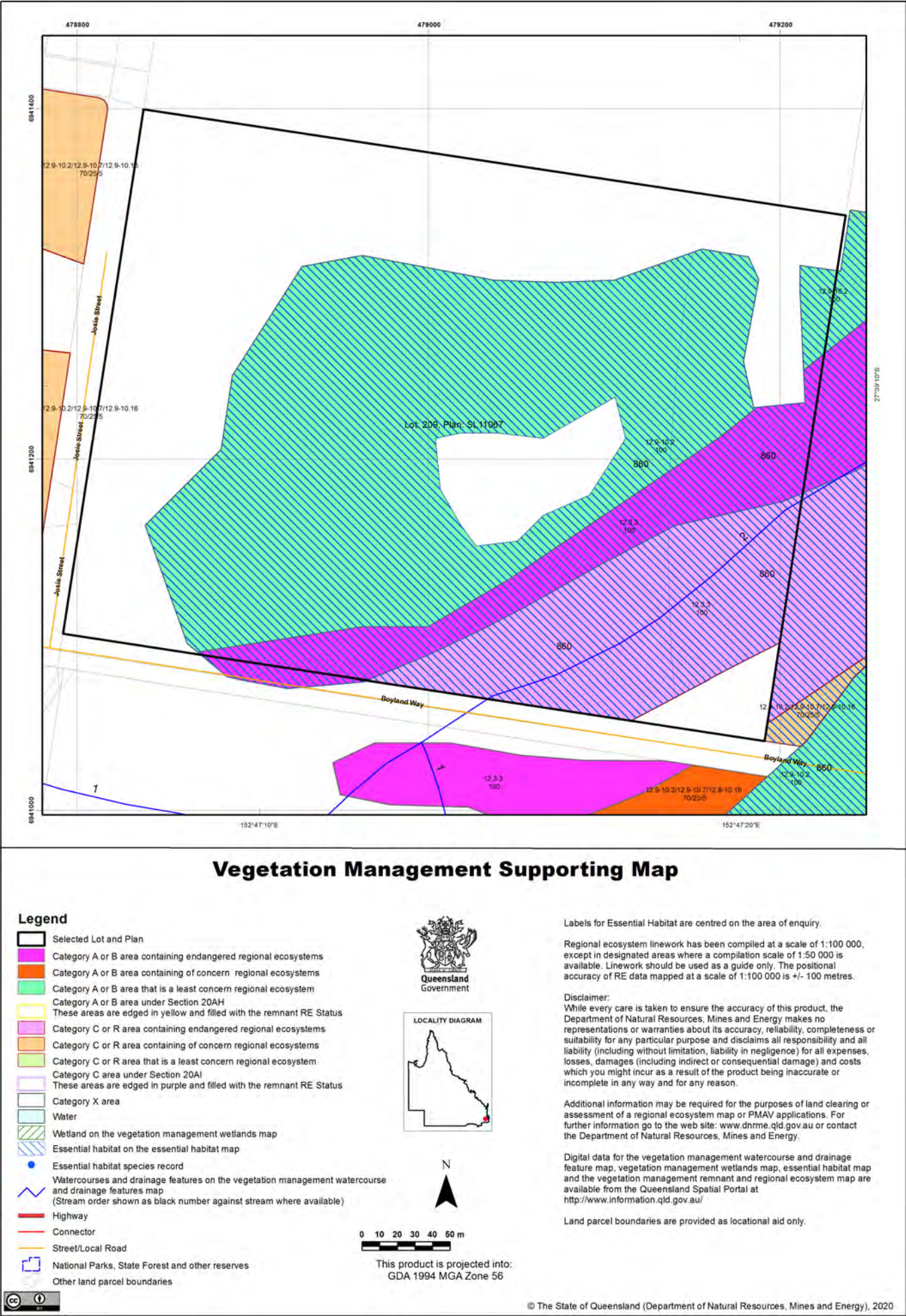
Agricultural Land Class A or B

The Agricultural Land Class map confirms the location and extent of land mapped as Agricultural Land Classes A or B as identified on the State Planning Interactive Mapping System. Please note that this map does not include areas identified as Agricultural Land Class A or B in local government planning schemes. This map can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code.

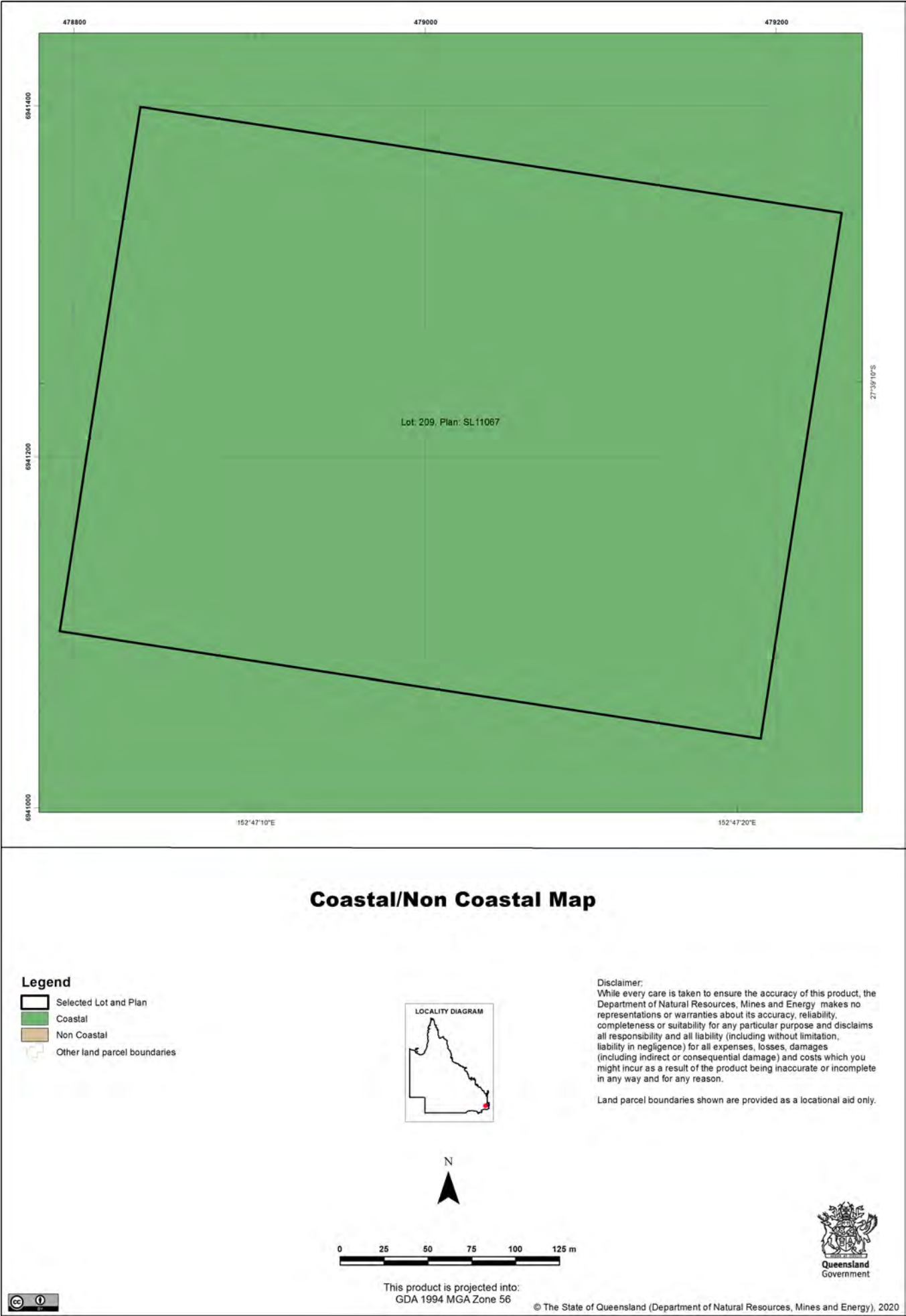
4.1 Regulated vegetation management map



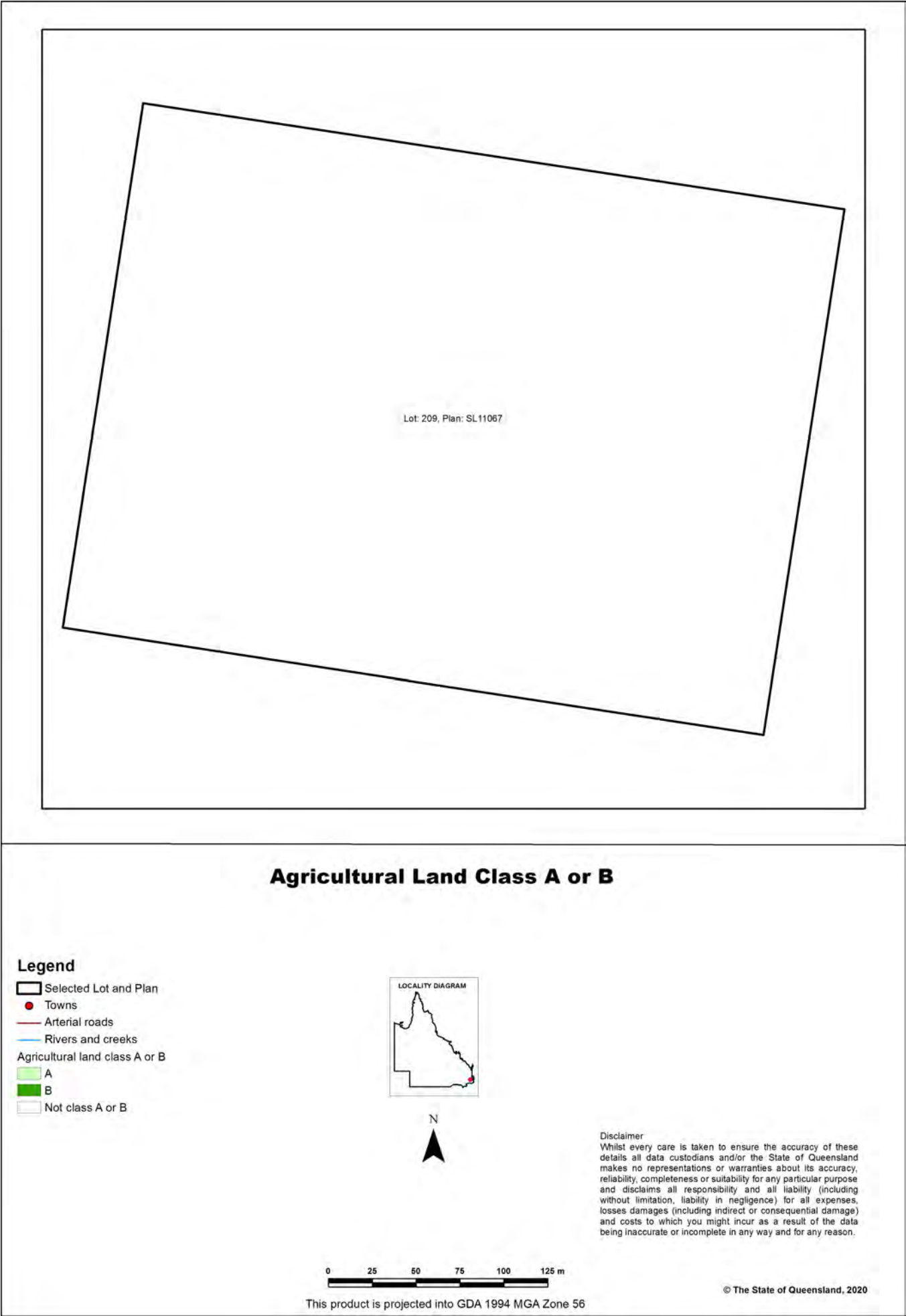
4.2 Vegetation management supporting map



4.3 Coastal/non-coastal map



4.4 Agricultural Land Class A or B map



5. Protected plants framework (administered by the Department of Environment and Science (DES))

In Queensland, all plants that are native to Australia are protected plants under the [Nature Conservation Act 1992](#) (NCA). The NCA regulates the clearing of protected plants 'in the wild' (see [Operational policy: When a protected plant in Queensland is considered to be 'in the wild'](#)) that are listed as critically endangered, endangered, vulnerable or near threatened under the Act.

Please note that the protected plant clearing framework applies irrespective of the classification of the vegetation under the *Vegetation Management Act 1999* and any approval or exemptions given under another Act, for example, the *Vegetation Management Act 1999* or *Planning Regulation 2017*.

5.1 Clearing in high risk areas on the flora survey trigger map

The 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. The flora survey trigger map for this property is provided in section 5.5.

If you are proposing to clear an area shown as high risk on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken by a suitably qualified person in accordance with the [Flora survey guidelines](#). The main objective of a flora survey is to locate any EVNT plants that may be present in the clearing impact area.

If the flora survey identifies that EVNT plants are not present within the clearing impact area or clearing within 100m of EVNT plants can be avoided, the clearing activity is exempt from a permit. An [exempt clearing notification form](#) must be submitted to the Department of Environment and Science, with a copy of the flora survey report, at least one week prior to clearing.

If the flora survey identifies that EVNT plants are present in, or within 100m of, the area to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the [application form clearing permit](#).

5.2 Clearing outside high risk areas on the flora survey trigger map

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that EVNT plants are present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

5.3 Exemptions

Many activities are 'exempt' under the protected plant clearing framework, which means that clearing of native plants that are in the wild can be undertaken for these activities with no need for a flora survey or a protected plant clearing permit. The Information sheet - General exemptions for the take of protected plants provides some of these exemptions.

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) under the *Vegetation Management Act 1999* (i.e. listed in Schedule 21 of the Planning Regulations 2017) while some are different.

5.4 Contact information for DES

For further information on the protected plants framework:

Phone 1300 130 372 (and select option four)

Email palm@des.qld.gov.au

Visit <https://www.qld.gov.au/environment/plants-animals/plants/protected-plants>

5.5 Protected plants flora survey trigger map

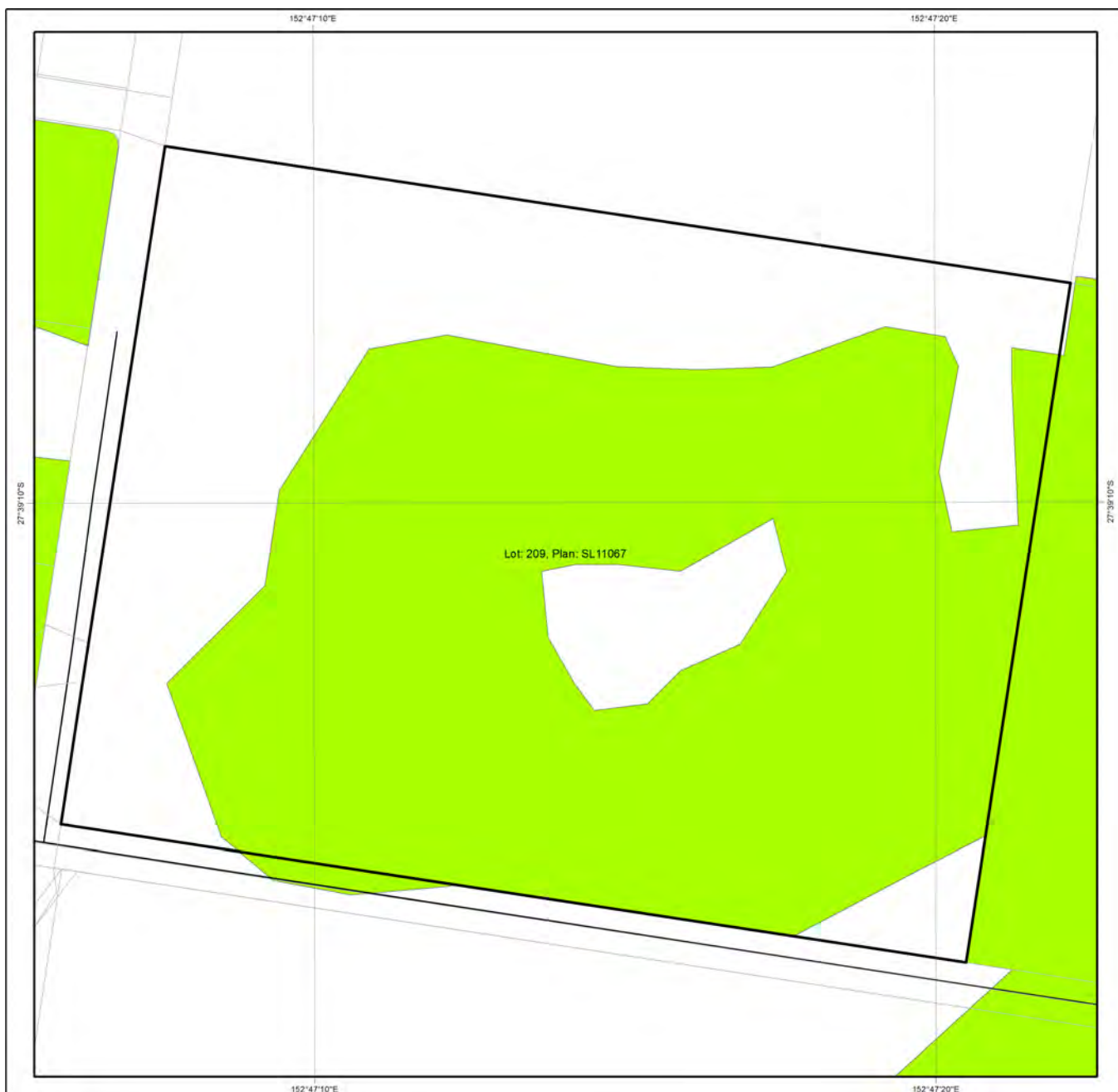
This map included may also be requested individually at: <https://apps.des.qld.gov.au/map-request/flora-survey-trigger/>.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information

Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the [Queensland Spatial Catalogue](#), the Department of Environment and Science does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of Environment and Science webpage on the [clearing of protected plants](#) for more information.



Protected Plants Flora Survey Trigger Map

Legend

- Selected Lot and Plan
- High risk area
- Other land parcel boundaries
- Freeways / motorways / highways
- Secondary roads / streets



0 10 20 30 40 50 m

This product is projected into:
GDA 1994 MGA Zone 56

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Science at palm@ehp.qld.gov.au

Disclaimer:
While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

© The State of Queensland (Department of Environment and Science), 2020

6. Koala protection framework (administered by the Department of Environment and Science (DES))

The koala (*Phascolarctos cinereus*) is listed in Queensland as vulnerable by the Queensland Government under *Nature Conservation Act 1992* and by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Queensland Government's koala protection framework is comprised of the *Nature Conservation Act 1992*, the *Nature Conservation (Animals) Regulation 2020*, the *Nature Conservation (Koala) Conservation Plan 2017*, the *Planning Act 2016* and the *Planning Regulation 2017*.

6.1 Koala mapping

6.1.1 Koala districts

The parts of Queensland where koalas are known to occur has been divided into three koala districts - koala district A, koala district B and koala district C. Each koala district is made up of areas with comparable koala populations (e.g. density, extent and significance of threatening processes affecting the population) which require similar management regimes.

Section 7.1 identifies which koala district your property is located in.

6.1.2 Koala habitat areas

Koala habitat areas are areas of vegetation that have been determined to contain koala habitat that is essential for the conservation of a viable koala population in the wild based on the combination of habitat suitability and biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water). In order to protect this important koala habitat, clearing controls have been introduced into the *Planning Regulation 2017* for development in koala habitat areas.

Please note that koala habitat areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

There are two different categories of koala habitat area (core koala habitat area and locally refined koala habitat), which have been determined using two different methodologies. These methodologies are described in the document [Spatial modelling in South East Queensland](#).

Section 7.2 shows any koala habitat area that exists on your property.

Under the *Nature Conservation (Koala) Conservation Plan 2017*, an owner of land (or a person acting on the owner's behalf with written consent) can request to make, amend or revoke a koala habitat area determination if they believe, on reasonable grounds, that the existing determination for all or part of their property is incorrect.

More information on requests to make, amend or revoke a koala habitat area determination can be found in the document [Guideline - Requests to make, amend or revoke a koala habitat area determination](#).

The koala habitat area map will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

Changes to the koala habitat area map which occur between annual updates because of a request to make, amend or revoke a koala habitat area determination can be viewed on the register of approved requests to make, amend or revoke a koala habitat area available at: <https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/koalamaps>. The register includes the lot on plan for the change, the date the decision was made and the map issued to the landholder that shows areas determined to be koala habitat areas.

6.1.3 Koala priority areas

Koala priority areas are large, connected areas that have been determined to have the highest likelihood of achieving conservation outcomes for koalas based on the combination of habitat suitability, biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water) and a koala conservation cost benefit analysis.

Conservation efforts will be prioritised in these areas to ensure the conservation of viable koala populations in the wild including a focus on management (e.g. habitat protection, habitat restoration and threat mitigation) and monitoring. This includes a prohibition on clearing in koala habitat areas that are in koala priority areas under the *Planning Regulation 2017* (subject to some exemptions).

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley,

Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

Section 7.2 identifies if your property is in a koala priority area.

6.1.4 Identified koala broad-hectare areas

There are seven identified koala broad-hectare areas in SEQ. These are areas of koala habitat that are located in areas committed to meet development targets in the SEQ Regional Plan to accommodate SEQ's growing population including bring-forward Greenfield sites under the Queensland Housing Affordability Strategy and declared master planned areas under the repealed *Sustainable Planning Act 2009* and the repealed *Integrated Planning Act 1997*.

Specific assessment benchmarks apply to development applications for development proposed in identified koala broad-hectare areas to ensure koala conservation measures are incorporated into the proposed development.

Section 7.2 identifies if your property is in an identified koala broad-hectare area.

6.2 Koala habitat planning controls

On 7 February 2020, the Queensland Government introduced new planning controls to the Planning Regulation 2017 to strengthen the protection of koala habitat in South East Queensland (i.e. koala district A).

More information on these planning controls can be found here:

<https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy>.

As a high-level summary, the koala habitat planning controls make:

- development that involves interfering with koala habitat (defined below) in an area that is both a koala priority area and a koala habitat area, prohibited development (i.e. development for which a development application cannot be made);
- development that involves interfering with koala habitat (defined below) in an area that is a koala habitat area but is not a koala priority area, assessable development (i.e. development for which development approval is required); and
- development that is for extractive industries where the development involves interfering with koala habitat (defined below) in an area that is both a koala habitat area and a key resource area, assessable development (i.e. development for which development approval is required).

Interfering with koala habitat means:

- 1) Removing, cutting down, ringbarking, pushing over, poisoning or destroying in anyway, including by burning, flooding or draining native vegetation in a koala habitat area; but
- 2) Does not include destroying standing vegetation stock or lopping a tree.

However, these planning controls do not apply if the development is exempted development as defined in Schedule 24 of the [Planning Regulation 2017](#). More information on exempted development can be found here:

<https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy>.

There are also assessment benchmarks that apply to development applications for:

- building works, operational works, material change of use or reconfiguration of a lot where:
 - the local government planning scheme makes the development assessable;
 - the premises includes an area that is both a koala priority area and a koala habitat area; and
 - the development does not involve interfering with koala habitat (defined above); and
- development in identified koala broad-hectare areas.

The [Guideline - Assessment Benchmarks in relation to Koala Habitat in South East Queensland assessment benchmarks](#) outlines these assessment benchmarks, the intent of these assessment benchmarks and advice on how proposed development may meet these assessment benchmarks.

6.3 Koala Conservation Plan clearing requirements

Section 10 and 11 of the [Nature Conservation \(Koala\) Conservation Plan 2017](#) prescribes requirements that must be met when clearing koala habitat in koala district A and koala district B.

These clearing requirements are independent to the koala habitat planning controls introduced into the Planning Regulation 2017, which means they must be complied with irrespective of any approvals or exemptions offered under other legislation.

Unlike the clearing controls prescribed in the Planning Regulation 2017 that are to protect koala habitat, the clearing requirements prescribed in the Nature Conservation (Koala) Conservation Plan 2017 are in place to prevent the injury or death of koalas when koala habitat is being cleared.

6.4 Contact information for DES

For further information on the koala protection framework:

Phone 13 QGOV (13 74 68)

Email koala.assessment@des.qld.gov.au

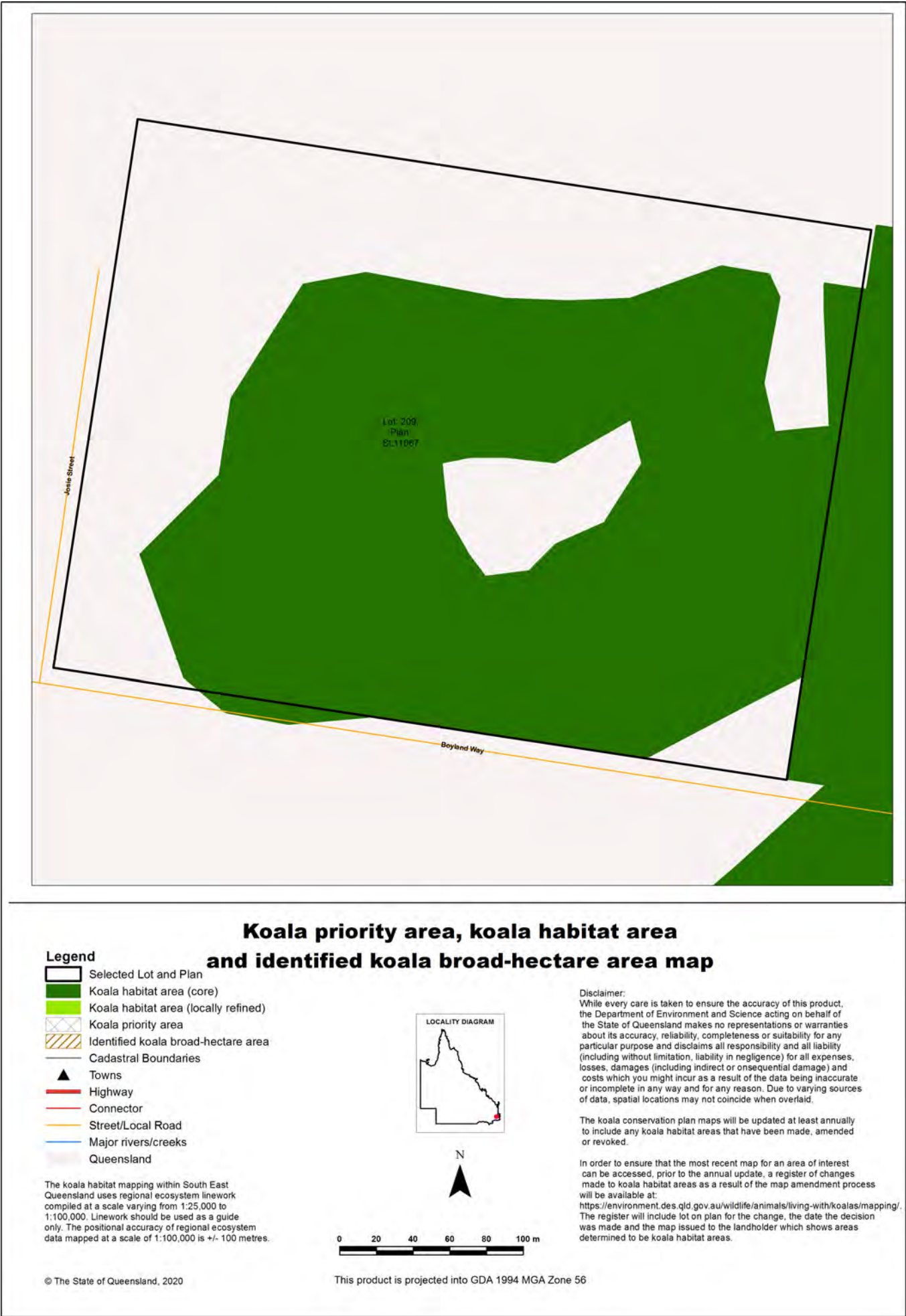
Visit <https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping>

7. Koala protection framework details for Lot: 209 Plan: SL11067

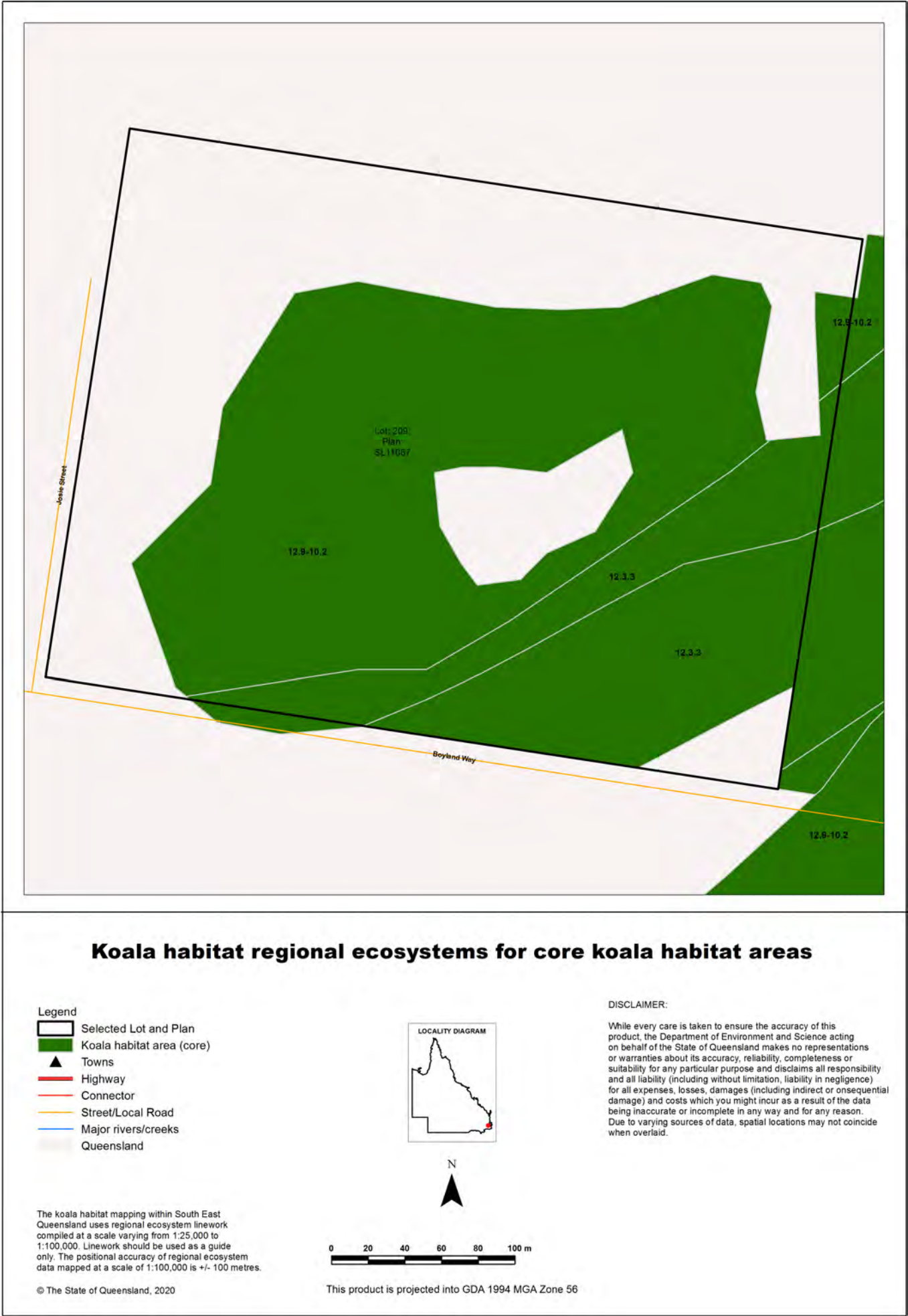
7.1 Koala districts

Koala District A

7.2 Koala priority area, koala habitat area and identified koala broad-hectare area map



7.3 Koala habitat regional ecosystems for core koala habitat areas



8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
<ul style="list-style-type: none"> • Interference with overland flow • Earthworks, significant disturbance 	<i>Water Act 2000</i> <i>Soil Conservation Act 1986</i>	Department of Natural Resources, Mines and Energy (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dnrme.qld.gov.au
<ul style="list-style-type: none"> • Indigenous Cultural Heritage 	<i>Aboriginal Cultural Heritage Act 2003</i> <i>Torres Strait Islander Cultural Heritage Act 2003</i>	Department of Aboriginal and Torres Strait Islander Partnerships (Queensland Government)	Ph: 13 QGOV (13 74 68) www.datsip.qld.gov.au
<ul style="list-style-type: none"> • Mining and environmentally relevant activities • Infrastructure development (coastal) • Heritage issues • Protected areas 	<i>Environmental Protection Act 1994</i> <i>Coastal Protection and Management Act 1995</i> <i>Queensland Heritage Act 1992</i> <i>Nature Conservation Act 1992</i>	Department of Environment and Science (Queensland Government)	Ph: 13 QGOV (13 74 68) www.des.qld.gov.au
<ul style="list-style-type: none"> • Interference with fish passage in a watercourse, mangroves • Forestry activities on State land tenures 	<i>Fisheries Act 1994</i> <i>Forestry Act 1959</i>	Department of Agriculture and Fisheries (Queensland Government)	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
<ul style="list-style-type: none"> • Matters of National Environmental Significance including listed threatened species and ecological communities 	<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Department of the Environment (Australian Government)	Ph: 1800 803 772 www.environment.gov.au
<ul style="list-style-type: none"> • Development and planning processes 	<i>Planning Act 2016</i> <i>State Development and Public Works Organisation Act 1971</i>	Queensland Treasury Department of State Development, Tourism and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dsdmip.qld.gov.au www.statedevelopment.qld.gov.au
<ul style="list-style-type: none"> • Local government requirements 	<i>Local Government Act 2009</i> <i>Planning Act 2016</i>	Department of Local Government, Racing and Multicultural Affairs (Queensland Government)	Ph: 13 QGOV (13 74 68) Your relevant local government office



Vegetation management report

For Lot: 2 Plan: RP906067

Current as at 12/10/2020

This publication has been compiled by Operations Support, Department of Natural Resources, Mines and Energy.

© State of Queensland, (2020)

The Queensland Government supports and encourages the dissemination and exchange of its information. The copyright in this publication is licensed under a Creative Commons - Attribution 4.0 International (CC BY) licence.

Under this licence you are free, without having to seek our permission, to use this publication in accordance with the licence terms.



You must keep intact the copyright notice and attribute the State of Queensland as the source of the publication.

Note: Some content in this publication may have different licence terms as indicated.

For more information on this licence, visit <https://creativecommons.org/licenses/by/4.0/>

The information contained herein is subject to change without notice. The Queensland Government shall not be liable for technical or other errors or omissions contained herein. The reader/user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using this information.

Recent changes

Updated mapping

Updated vegetation mapping was released on 6 April 2020 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, wetland, high-value regrowth and essential habitat mapping.

Improvements to the format of the report were made in July 2020 to more clearly delineate the three regulatory frameworks of vegetation management, protected plants and koala habitat protection. The Vegetation Management Pre-clear Regional Ecosystem map was also removed from the Vegetation Management Report but can still be requested as a separate map.

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:

Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Natural Resources Mines and Energy who administer the framework;

Vegetation management framework details for the specified Lot on Plan including:

- the vegetation management categories on the property;
- the vegetation management regional ecosystems on the property;
- vegetation management watercourses or drainage features on the property;
- vegetation management wetlands on the property;
- vegetation management essential habitat on the property;
- whether any area management plans are associated with the property;
- whether the property is coastal or non-coastal; and
- whether the property is mapped as Agricultural Land Class A or B;

Protected plant framework - an explanation of the application of the framework and contact details for the Department of Environment and Science who administer the framework, including:

- high risk areas on the protected plant flora survey trigger map for the property;

Koala protection framework - an explanation of the application of the framework and contact details for the Department of Environment and Science who administer the framework; and

Koala protection framework details for the specified Lot on Plan including:

- the koala district the property is located in;
- koala priority areas on the property;
- core and locally refined koala habitat areas on the property;
- whether the lot is located in an identified koala broad-hectare area; and
- koala habitat regional ecosystems on the property for core koala habitat areas.

This information will assist you to determine your options for managing vegetation under:

- the vegetation management framework, which may include:

- exempt clearing work;
- accepted development vegetation clearing code;
- an area management plan;
- a development approval;

- the protected plant framework, which may include:

- the need to undertake a flora survey;
- exempt clearing;
- a protected plant clearing permit;

- the koala protection framework, which may include:

- exempted development;
- a development approval;
- the need to undertake clearing sequentially and in the presence of a koala spotter.

Other laws

The clearing of native vegetation is regulated by both Queensland and Australian legislation, and some local governments also regulate native vegetation clearing. You may need to obtain an approval or permit under another Act, such as the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Section 9 of this guide provides contact details of other agencies you should confirm requirements with, before commencing vegetation clearing.

Table of Contents

1. Property details	6
1.1 Tenure and title area	6
1.2 Property location	6
2. Vegetation management framework (administered by the Department of Natural Resources, Mines and Energy (DNRME))	7
2.1 Exempt clearing work	7
2.2 Accepted development vegetation clearing codes	7
2.3 Area management plans	8
2.4 Development approvals	8
2.5. Contact information for DNRME	8
3. Vegetation management framework for Lot: 2 Plan: RP906067	9
3.1 Vegetation categories	9
3.2 Regional ecosystems	10
3.3 Watercourses	10
3.4 Wetlands	10
3.5 Essential habitat	10
3.6 Area Management Plan(s)	11
3.7 Coastal or non-coastal	11
3.8 Agricultural Land Class A or B	11
4. Vegetation management framework maps	12
4.1 Regulated vegetation management map	13
4.2 Vegetation management supporting map	14
4.3 Coastal/non-coastal map	15
4.4 Agricultural Land Class A or B map	16
5. Protected plants framework (administered by the Department of Environment and Science (DES))	17
5.1 Clearing in high risk areas on the flora survey trigger map	17
5.2 Clearing outside high risk areas on the flora survey trigger map	17
5.3 Exemptions	17
5.4 Contact information for DES	17
5.5 Protected plants flora survey trigger map	18
6. Koala protection framework (administered by the Department of Environment and Science (DES))	20
6.1 Koala mapping	20
6.2 Koala habitat planning controls	21
6.3 Koala Conservation Plan clearing requirements	22
6.4 Contact information for DES	22
7. Koala protection framework details for Lot: 2 Plan: RP906067	22
7.1 Koala districts	22
7.2 Koala priority area, koala habitat area and identified koala broad-hectare area map	23
7.3 Koala habitat regional ecosystems for core koala habitat areas	24
8. Other relevant legislation contacts list	25

1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 2 Plan: RP906067, including links to relevant Smart Maps, are listed in Table 1. The tenure of the property (whether it is freehold, leasehold, or other) may be viewed by clicking on the Smart Map link(s) provided.

Table 1: Lot, plan, tenure and title area information for the property

Lot	Plan	Tenure	Link to property on SmartMap	Property title area (sq metres)
11	RP222031	Below the Depth Plans	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=11\RP222031	121,406
2	RP906067	Freehold	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=2\RP906067	4,000

The tenure of the land may affect whether clearing is considered exempt clearing work or may be carried out under an accepted development vegetation clearing code.

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 2 Plan: RP906067, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)
Ipswich City

Bioregion(s)	Subregion(s)
Southeast Queensland	Moreton Basin

Catchment(s)
Brisbane

2. Vegetation management framework (administered by the Department of Natural Resources, Mines and Energy (DNRME))

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2012, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenures under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing or clearing vegetation on these tenures may require approvals under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem prescribed under Schedule 5 of the Vegetation Management Regulation 2012; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify DNRME or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 4.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work and does not require notification or development approval under the vegetation management framework. For all other land tenures, contact DNRME before commencing clearing to ensure that the proposed activity is exempt clearing work.

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at

<https://www.qld.gov.au/environment/land/vegetation/exemptions/>.

Exempt clearing work may be affected if the proposed clearing area is subject to development approval conditions, a covenant, an environmental offset, an exchange area, a restoration notice, or an area mapped as Category A. Exempt clearing work may require approval under other Commonwealth, State or Local Government laws, or local government planning schemes. Contact DNRME prior to clearing in any of these areas.

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at

<https://www.qld.gov.au/environment/land/vegetation/codes/>

If you intend to clear vegetation under an accepted development vegetation clearing code, you must notify DNRME before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at

<https://apps.dnrm.qld.gov.au/vegetation/>

2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing under the vegetation management framework. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

On 8 March 2020, AMPs ended for fodder harvesting, managing thickened vegetation and managing encroachment. New notifications cannot be made for these AMPs. You will need to consider options for fodder harvesting, managing thickened vegetation or encroachment under a relevant accepted development vegetation clearing code or apply for a development approval.

New notifications can be made for all other AMPs. These will continue to apply until their nominated end date.

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the DNRME and then follow the conditions and requirements listed in the AMP.

<https://www.qld.gov.au/environment/land/vegetation/area-plans/>

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at

<https://www.qld.gov.au/environment/land/management/vegetation/development>

2.5. Contact information for DNRME

For further information on the vegetation management framework:

Phone 135VEG (135 834)

Email vegetation@dnrme.qld.gov.au

Visit <https://www.dnrme.qld.gov.au/?contact=vegetation> to submit an online enquiry.

3. Vegetation management framework for Lot: 2 Plan: RP906067

3.1 Vegetation categories

The vegetation categories on your property are shown on the regulated vegetation management map in section 4.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property. Total area: 0.4ha

Vegetation category	Area (ha)
Category X	0.4

Table 4: Description of vegetation categories

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	Special conditions apply to Category A areas. Before clearing, contact DNRME to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Exempt clearing work, or notification and compliance with accepted development vegetation clearing codes, area management plans or development approval.
C	light blue	High-value regrowth areas	Exempt clearing work, or notification and compliance with managing Category C regrowth vegetation accepted development vegetation clearing code.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the Great Barrier Reef catchment areas	Exempt clearing work, or notification and compliance with managing Category R regrowth accepted development vegetation clearing code or area management plans.
X	white	Clearing on freehold land, indigenous land and leasehold land for agriculture and grazing purposes is considered exempt clearing work under the vegetation management framework. Contact DNRME to clarify whether a development approval is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A development approval may be required for some State land tenures.

Property Map of Assessable Vegetation (PMAV)

The following Property Map of Assessable Vegetation (PMAVs) may be present on this property:

Reference number

2019/003387

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 4.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/>

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
non-rem	None	X	0.40	None	None

Please note:

1. All area and area derived figures included in this table have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work;
- accepted development vegetation clearing codes;
- performance outcomes in State Code 16 of the State Development Assessment Provisions (SDAP).

3.3 Watercourses

Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 4.2.

3.4 Wetlands

There are no vegetation management wetlands present on this property.

3.5 Essential habitat

Under the VMA, essential habitat for protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA) as critically endangered, endangered, vulnerable or near-threatened wildlife.

Essential habitat for protected wildlife includes suitable habitat on the lot, or where a species has been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 4.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife, means an area of vegetation shown on the Regulated Vegetation Management Map -

- 1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or
- 2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

Category A and/or Category B and/or Category C

Table 6: Essential habitat in Category A and/or Category B and/or Category C

No records

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

For the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP), this property is regarded as*

Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

The following can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code:

Does this lot contain land that is mapped as Agricultural Land Class A or B in the State Planning Interactive Mapping System?

No Class A

No Class B

Note - This confirms Agricultural Land Classes as per the State Planning Interactive Mapping System only. This response does not include Agricultural Land Classes identified under local government planning schemes. For further information, check the Planning Scheme for your local government area.

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 2 Plan: RP906067.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:

<https://www.dnrme.qld.gov.au/qld/environment/land/vegetation/vegetation-map-request-form>

Regulated vegetation management map

The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new [property maps of assessable vegetation \(PMAV\)](#).

Vegetation management supporting map

The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

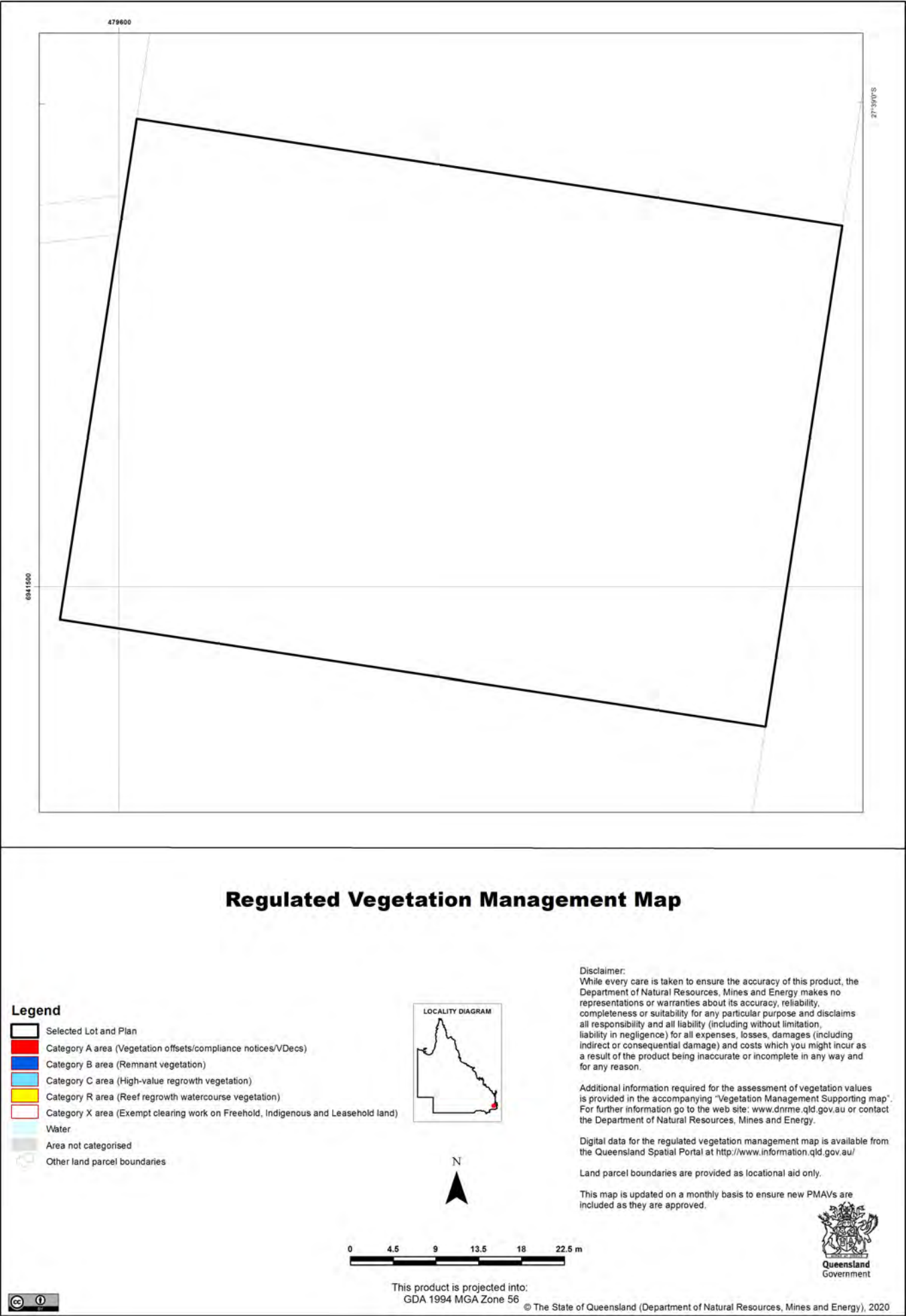
Coastal/non-coastal map

The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP).

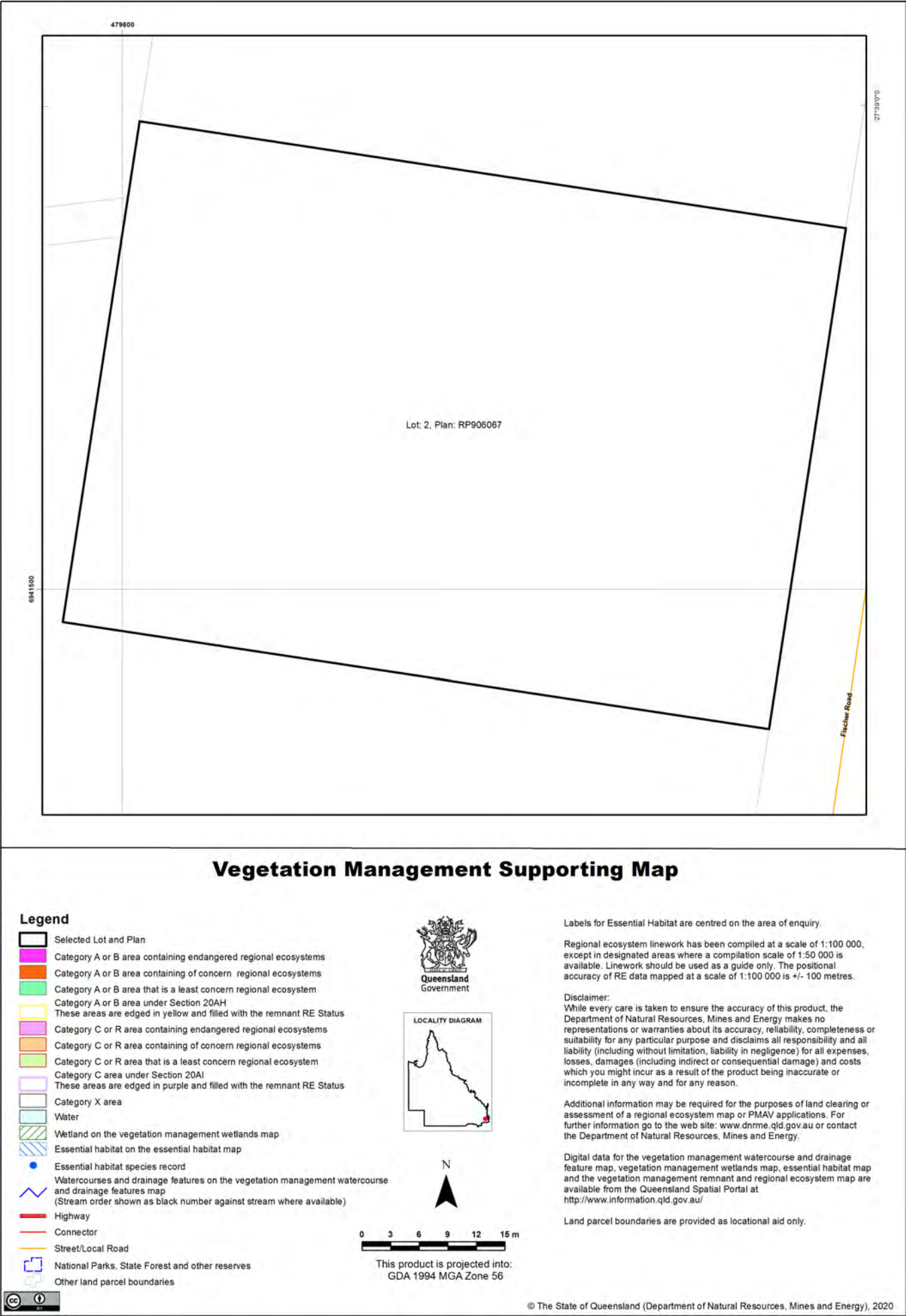
Agricultural Land Class A or B

The Agricultural Land Class map confirms the location and extent of land mapped as Agricultural Land Classes A or B as identified on the State Planning Interactive Mapping System. Please note that this map does not include areas identified as Agricultural Land Class A or B in local government planning schemes. This map can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code.

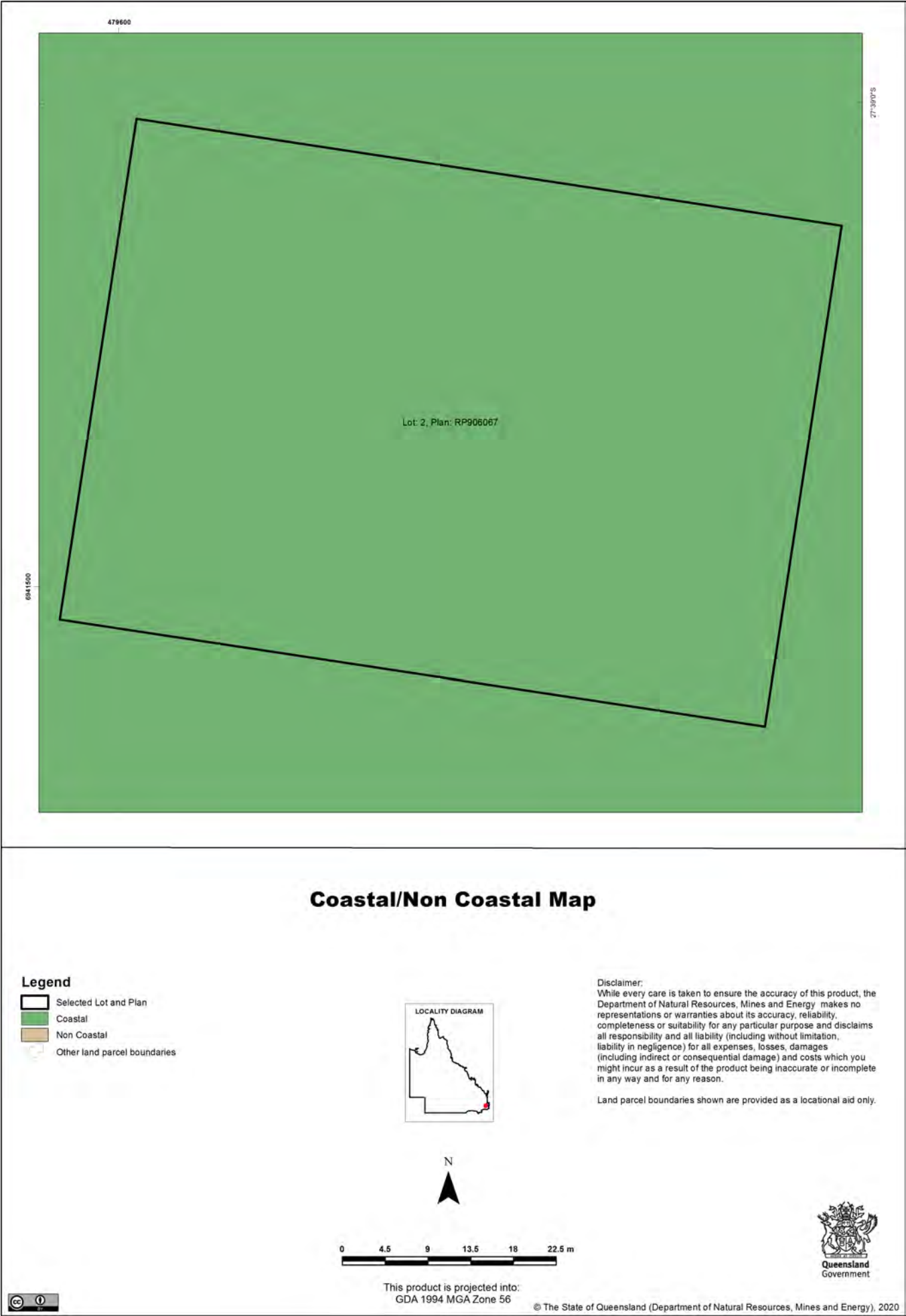
4.1 Regulated vegetation management map



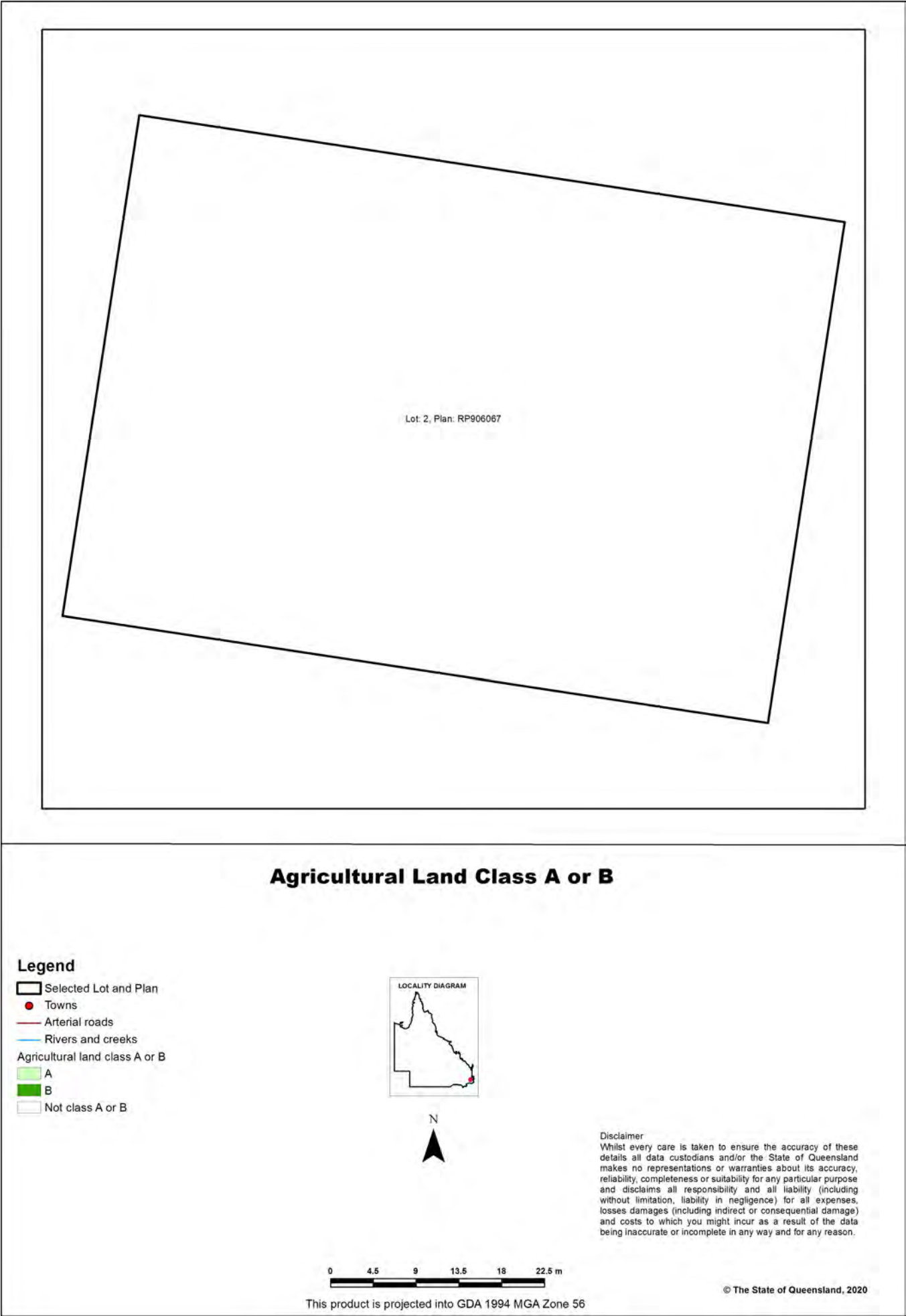
4.2 Vegetation management supporting map



4.3 Coastal/non-coastal map



4.4 Agricultural Land Class A or B map



5. Protected plants framework (administered by the Department of Environment and Science (DES))

In Queensland, all plants that are native to Australia are protected plants under the [Nature Conservation Act 1992](#) (NCA). The NCA regulates the clearing of protected plants 'in the wild' (see [Operational policy: When a protected plant in Queensland is considered to be 'in the wild'](#)) that are listed as critically endangered, endangered, vulnerable or near threatened under the Act.

Please note that the protected plant clearing framework applies irrespective of the classification of the vegetation under the *Vegetation Management Act 1999* and any approval or exemptions given under another Act, for example, the *Vegetation Management Act 1999* or *Planning Regulation 2017*.

5.1 Clearing in high risk areas on the flora survey trigger map

The 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. The flora survey trigger map for this property is provided in section 5.5.

If you are proposing to clear an area shown as high risk on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken by a suitably qualified person in accordance with the [Flora survey guidelines](#). The main objective of a flora survey is to locate any EVNT plants that may be present in the clearing impact area.

If the flora survey identifies that EVNT plants are not present within the clearing impact area or clearing within 100m of EVNT plants can be avoided, the clearing activity is exempt from a permit. An [exempt clearing notification form](#) must be submitted to the Department of Environment and Science, with a copy of the flora survey report, at least one week prior to clearing.

If the flora survey identifies that EVNT plants are present in, or within 100m of, the area to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the [application form clearing permit](#).

5.2 Clearing outside high risk areas on the flora survey trigger map

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that EVNT plants are present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

5.3 Exemptions

Many activities are 'exempt' under the protected plant clearing framework, which means that clearing of native plants that are in the wild can be undertaken for these activities with no need for a flora survey or a protected plant clearing permit. The Information sheet - General exemptions for the take of protected plants provides some of these exemptions.

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) under the *Vegetation Management Act 1999* (i.e. listed in Schedule 21 of the Planning Regulations 2017) while some are different.

5.4 Contact information for DES

For further information on the protected plants framework:

Phone 1300 130 372 (and select option four)

Email palm@des.qld.gov.au

Visit <https://www.qld.gov.au/environment/plants-animals/plants/protected-plants>

5.5 Protected plants flora survey trigger map

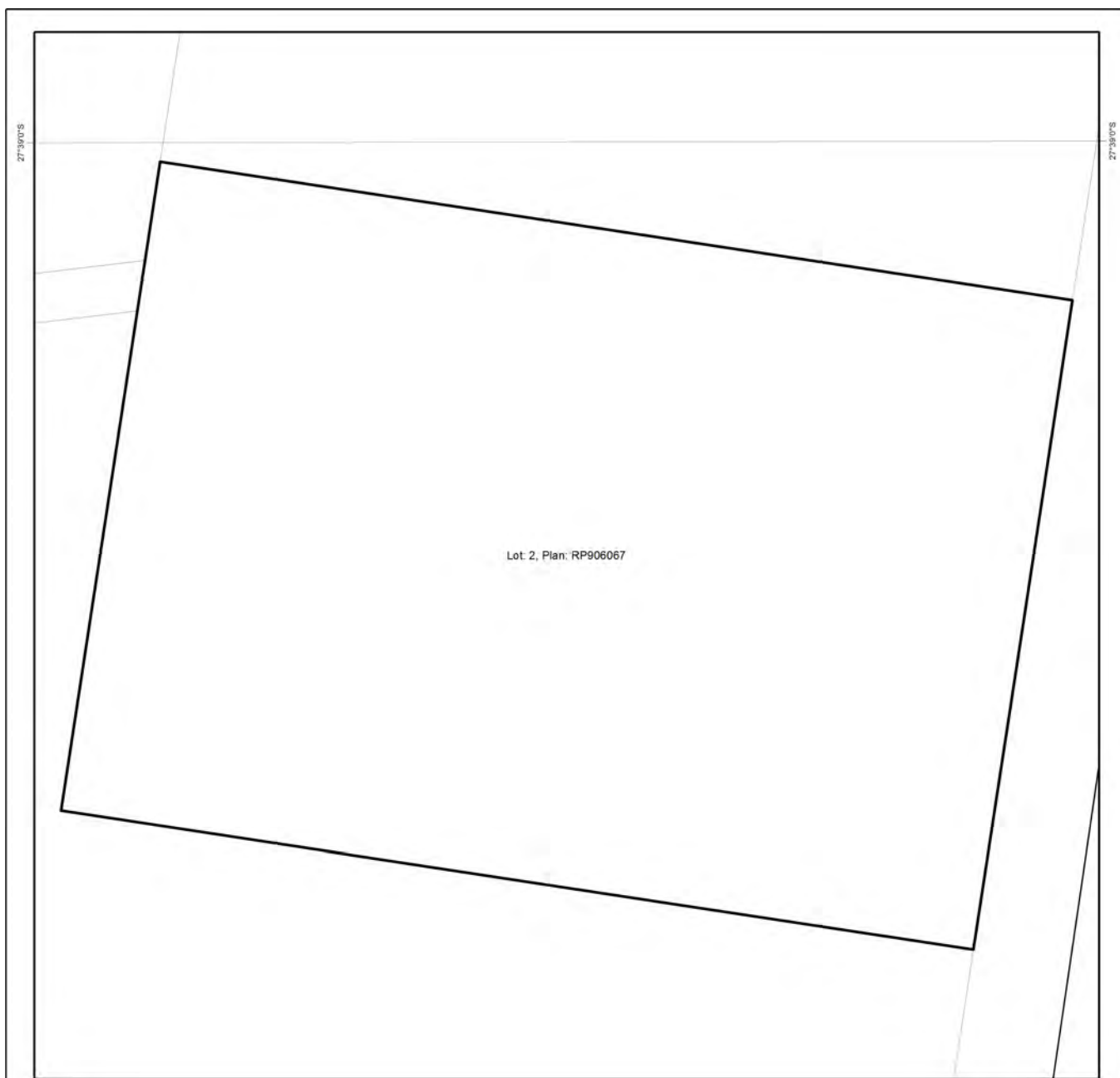
This map included may also be requested individually at: <https://apps.des.qld.gov.au/map-request/flora-survey-trigger/>.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.






Species information

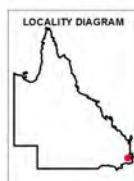
Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the [Queensland Spatial Catalogue](#), the Department of Environment and Science does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of Environment and Science webpage on the [clearing of protected plants](#) for more information.



Protected Plants Flora Survey Trigger Map

Legend

-  Selected Lot and Plan
-  High risk area
-  Other land parcel boundaries.
-  Freeways / motorways / highways
-  Secondary roads / streets



0 3 6 9 12 15 m

This product is projected into:
GDA 1994 MGA Zone 56

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Science at palm@ehp.qld.gov.au

Disclaimer:
While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

© The State of Queensland (Department of Environment and Science), 2020

6. Koala protection framework (administered by the Department of Environment and Science (DES))

The koala (*Phascolarctos cinereus*) is listed in Queensland as vulnerable by the Queensland Government under *Nature Conservation Act 1992* and by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Queensland Government's koala protection framework is comprised of the *Nature Conservation Act 1992*, the Nature Conservation (Animals) Regulation 2020, the Nature Conservation (Koala) Conservation Plan 2017, the *Planning Act 2016* and the Planning Regulation 2017.

6.1 Koala mapping

6.1.1 Koala districts

The parts of Queensland where koalas are known to occur has been divided into three koala districts - koala district A, koala district B and koala district C. Each koala district is made up of areas with comparable koala populations (e.g. density, extent and significance of threatening processes affecting the population) which require similar management regimes.

Section 7.1 identifies which koala district your property is located in.

6.1.2 Koala habitat areas

Koala habitat areas are areas of vegetation that have been determined to contain koala habitat that is essential for the conservation of a viable koala population in the wild based on the combination of habitat suitability and biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water). In order to protect this important koala habitat, clearing controls have been introduced into the Planning Regulation 2017 for development in koala habitat areas.

Please note that koala habitat areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

There are two different categories of koala habitat area (core koala habitat area and locally refined koala habitat), which have been determined using two different methodologies. These methodologies are described in the document [Spatial modelling in South East Queensland](#).

Section 7.2 shows any koala habitat area that exists on your property.

Under the Nature Conservation (Koala) Conservation Plan 2017, an owner of land (or a person acting on the owner's behalf with written consent) can request to make, amend or revoke a koala habitat area determination if they believe, on reasonable grounds, that the existing determination for all or part of their property is incorrect.

More information on requests to make, amend or revoke a koala habitat area determination can be found in the document [Guideline - Requests to make, amend or revoke a koala habitat area determination](#).

The koala habitat area map will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

Changes to the koala habitat area map which occur between annual updates because of a request to make, amend or revoke a koala habitat area determination can be viewed on the register of approved requests to make, amend or revoke a koala habitat area available at: <https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/koalamaps>. The register includes the lot on plan for the change, the date the decision was made and the map issued to the landholder that shows areas determined to be koala habitat areas.

6.1.3 Koala priority areas

Koala priority areas are large, connected areas that have been determined to have the highest likelihood of achieving conservation outcomes for koalas based on the combination of habitat suitability, biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water) and a koala conservation cost benefit analysis.

Conservation efforts will be prioritised in these areas to ensure the conservation of viable koala populations in the wild including a focus on management (e.g. habitat protection, habitat restoration and threat mitigation) and monitoring. This includes a prohibition on clearing in koala habitat areas that are in koala priority areas under the Planning Regulation 2017 (subject to some exemptions).

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley,

Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

Section 7.2 identifies if your property is in a koala priority area.

6.1.4 Identified koala broad-hectare areas

There are seven identified koala broad-hectare areas in SEQ. These are areas of koala habitat that are located in areas committed to meet development targets in the SEQ Regional Plan to accommodate SEQ's growing population including bring-forward Greenfield sites under the Queensland Housing Affordability Strategy and declared master planned areas under the repealed *Sustainable Planning Act 2009* and the repealed *Integrated Planning Act 1997*.

Specific assessment benchmarks apply to development applications for development proposed in identified koala broad-hectare areas to ensure koala conservation measures are incorporated into the proposed development.

Section 7.2 identifies if your property is in an identified koala broad-hectare area.

6.2 Koala habitat planning controls

On 7 February 2020, the Queensland Government introduced new planning controls to the Planning Regulation 2017 to strengthen the protection of koala habitat in South East Queensland (i.e. koala district A).

More information on these planning controls can be found here:

<https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy>.

As a high-level summary, the koala habitat planning controls make:

- development that involves interfering with koala habitat (defined below) in an area that is both a koala priority area and a koala habitat area, prohibited development (i.e. development for which a development application cannot be made);
- development that involves interfering with koala habitat (defined below) in an area that is a koala habitat area but is not a koala priority area, assessable development (i.e. development for which development approval is required); and
- development that is for extractive industries where the development involves interfering with koala habitat (defined below) in an area that is both a koala habitat area and a key resource area, assessable development (i.e. development for which development approval is required).

Interfering with koala habitat means:

- 1) Removing, cutting down, ringbarking, pushing over, poisoning or destroying in anyway, including by burning, flooding or draining native vegetation in a koala habitat area; but
- 2) Does not include destroying standing vegetation stock or lopping a tree.

However, these planning controls do not apply if the development is exempted development as defined in Schedule 24 of the [Planning Regulation 2017](#). More information on exempted development can be found here:

<https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy>.

There are also assessment benchmarks that apply to development applications for:

- building works, operational works, material change of use or reconfiguration of a lot where:
 - the local government planning scheme makes the development assessable;
 - the premises includes an area that is both a koala priority area and a koala habitat area; and
 - the development does not involve interfering with koala habitat (defined above); and
- development in identified koala broad-hectare areas.

The [Guideline - Assessment Benchmarks in relation to Koala Habitat in South East Queensland assessment benchmarks](#) outlines these assessment benchmarks, the intent of these assessment benchmarks and advice on how proposed development may meet these assessment benchmarks.

6.3 Koala Conservation Plan clearing requirements

Section 10 and 11 of the [Nature Conservation \(Koala\) Conservation Plan 2017](#) prescribes requirements that must be met when clearing koala habitat in koala district A and koala district B.

These clearing requirements are independent to the koala habitat planning controls introduced into the Planning Regulation 2017, which means they must be complied with irrespective of any approvals or exemptions offered under other legislation.

Unlike the clearing controls prescribed in the Planning Regulation 2017 that are to protect koala habitat, the clearing requirements prescribed in the Nature Conservation (Koala) Conservation Plan 2017 are in place to prevent the injury or death of koalas when koala habitat is being cleared.

6.4 Contact information for DES

For further information on the koala protection framework:

Phone 13 QGOV (13 74 68)

Email koala.assessment@des.qld.gov.au

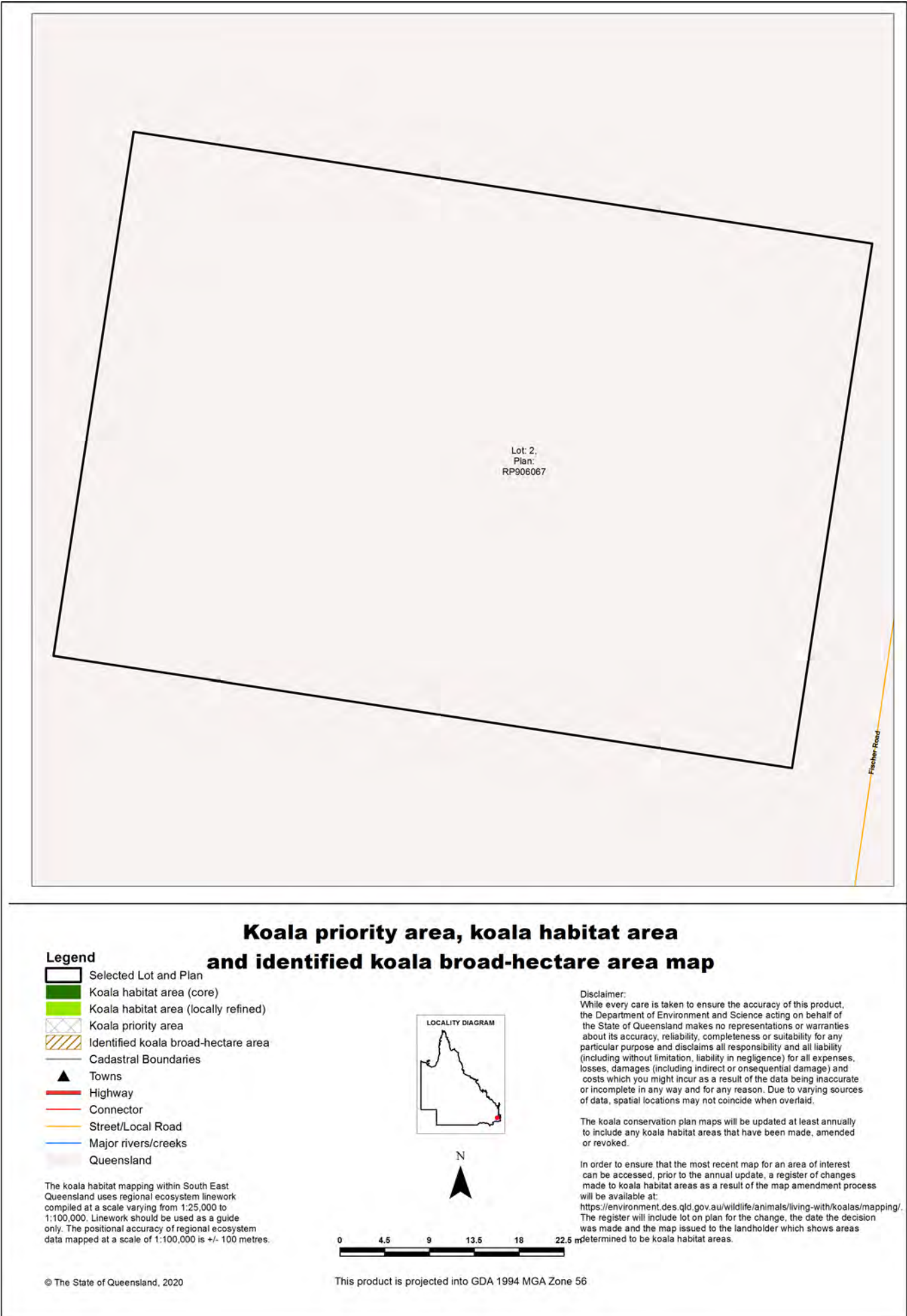
Visit <https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping>

7. Koala protection framework details for Lot: 2 Plan: RP906067

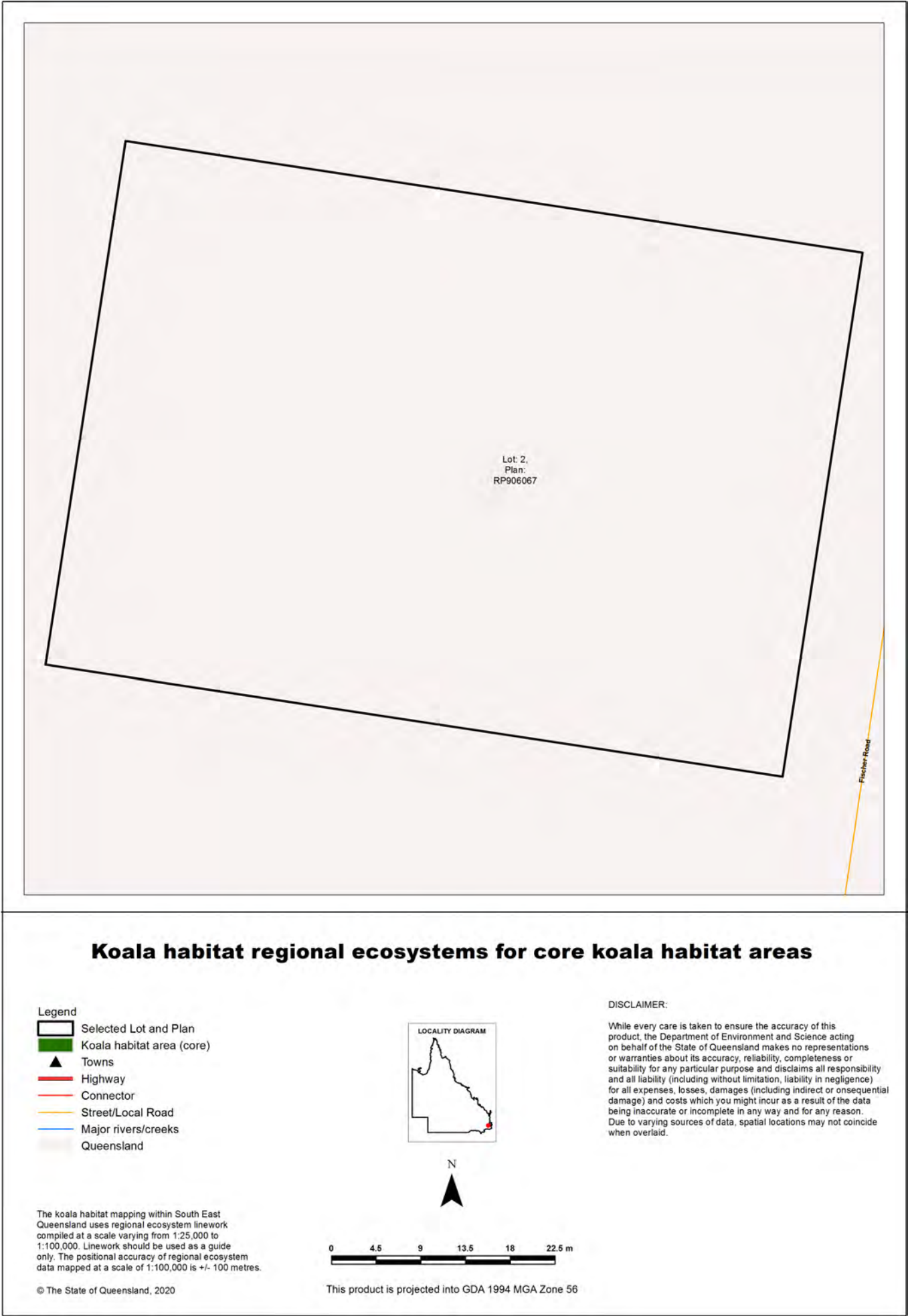
7.1 Koala districts

Koala District A

7.2 Koala priority area, koala habitat area and identified koala broad-hectare area map



7.3 Koala habitat regional ecosystems for core koala habitat areas



8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
<ul style="list-style-type: none"> • Interference with overland flow • Earthworks, significant disturbance 	<i>Water Act 2000</i> <i>Soil Conservation Act 1986</i>	Department of Natural Resources, Mines and Energy (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dnrme.qld.gov.au
<ul style="list-style-type: none"> • Indigenous Cultural Heritage 	<i>Aboriginal Cultural Heritage Act 2003</i> <i>Torres Strait Islander Cultural Heritage Act 2003</i>	Department of Aboriginal and Torres Strait Islander Partnerships (Queensland Government)	Ph: 13 QGOV (13 74 68) www.datsip.qld.gov.au
<ul style="list-style-type: none"> • Mining and environmentally relevant activities • Infrastructure development (coastal) • Heritage issues • Protected areas 	<i>Environmental Protection Act 1994</i> <i>Coastal Protection and Management Act 1995</i> <i>Queensland Heritage Act 1992</i> <i>Nature Conservation Act 1992</i>	Department of Environment and Science (Queensland Government)	Ph: 13 QGOV (13 74 68) www.des.qld.gov.au
<ul style="list-style-type: none"> • Interference with fish passage in a watercourse, mangroves • Forestry activities on State land tenures 	<i>Fisheries Act 1994</i> <i>Forestry Act 1959</i>	Department of Agriculture and Fisheries (Queensland Government)	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
<ul style="list-style-type: none"> • Matters of National Environmental Significance including listed threatened species and ecological communities 	<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Department of the Environment (Australian Government)	Ph: 1800 803 772 www.environment.gov.au
<ul style="list-style-type: none"> • Development and planning processes 	<i>Planning Act 2016</i> <i>State Development and Public Works Organisation Act 1971</i>	Queensland Treasury Department of State Development, Tourism and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dsdmip.qld.gov.au www.statedevelopment.qld.gov.au
<ul style="list-style-type: none"> • Local government requirements 	<i>Local Government Act 2009</i> <i>Planning Act 2016</i>	Department of Local Government, Racing and Multicultural Affairs (Queensland Government)	Ph: 13 QGOV (13 74 68) Your relevant local government office



Vegetation management report

For Lot: 208 Plan: SL11067

Current as at 12/10/2020

This publication has been compiled by Operations Support, Department of Natural Resources, Mines and Energy.

© State of Queensland, (2020)

The Queensland Government supports and encourages the dissemination and exchange of its information. The copyright in this publication is licensed under a Creative Commons - Attribution 4.0 International (CC BY) licence.

Under this licence you are free, without having to seek our permission, to use this publication in accordance with the licence terms.



You must keep intact the copyright notice and attribute the State of Queensland as the source of the publication.

Note: Some content in this publication may have different licence terms as indicated.

For more information on this licence, visit <https://creativecommons.org/licenses/by/4.0/>

The information contained herein is subject to change without notice. The Queensland Government shall not be liable for technical or other errors or omissions contained herein. The reader/user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using this information.

Recent changes

Updated mapping

Updated vegetation mapping was released on 6 April 2020 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, wetland, high-value regrowth and essential habitat mapping.

Improvements to the format of the report were made in July 2020 to more clearly delineate the three regulatory frameworks of vegetation management, protected plants and koala habitat protection. The Vegetation Management Pre-clear Regional Ecosystem map was also removed from the Vegetation Management Report but can still be requested as a separate map.

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:

Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Natural Resources Mines and Energy who administer the framework;

Vegetation management framework details for the specified Lot on Plan including:

- the vegetation management categories on the property;
- the vegetation management regional ecosystems on the property;
- vegetation management watercourses or drainage features on the property;
- vegetation management wetlands on the property;
- vegetation management essential habitat on the property;
- whether any area management plans are associated with the property;
- whether the property is coastal or non-coastal; and
- whether the property is mapped as Agricultural Land Class A or B;

Protected plant framework - an explanation of the application of the framework and contact details for the Department of Environment and Science who administer the framework, including:

- high risk areas on the protected plant flora survey trigger map for the property;

Koala protection framework - an explanation of the application of the framework and contact details for the Department of Environment and Science who administer the framework; and

Koala protection framework details for the specified Lot on Plan including:

- the koala district the property is located in;
- koala priority areas on the property;
- core and locally refined koala habitat areas on the property;
- whether the lot is located in an identified koala broad-hectare area; and
- koala habitat regional ecosystems on the property for core koala habitat areas.

This information will assist you to determine your options for managing vegetation under:

- the vegetation management framework, which may include:

- exempt clearing work;
- accepted development vegetation clearing code;
- an area management plan;
- a development approval;

- the protected plant framework, which may include:

- the need to undertake a flora survey;
- exempt clearing;
- a protected plant clearing permit;

- the koala protection framework, which may include:

- exempted development;
- a development approval;
- the need to undertake clearing sequentially and in the presence of a koala spotter.

Other laws

The clearing of native vegetation is regulated by both Queensland and Australian legislation, and some local governments also regulate native vegetation clearing. You may need to obtain an approval or permit under another Act, such as the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Section 9 of this guide provides contact details of other agencies you should confirm requirements with, before commencing vegetation clearing.

Table of Contents

1. Property details	6
1.1 Tenure and title area	6
1.2 Property location	6
2. Vegetation management framework (administered by the Department of Natural Resources, Mines and Energy (DNRME))	7
2.1 Exempt clearing work	7
2.2 Accepted development vegetation clearing codes	7
2.3 Area management plans	8
2.4 Development approvals	8
2.5. Contact information for DNRME	8
3. Vegetation management framework for Lot: 208 Plan: SL11067	9
3.1 Vegetation categories	9
3.2 Regional ecosystems	10
3.3 Watercourses	10
3.4 Wetlands	10
3.5 Essential habitat	10
3.6 Area Management Plan(s)	12
3.7 Coastal or non-coastal	12
3.8 Agricultural Land Class A or B	12
4. Vegetation management framework maps	14
4.1 Regulated vegetation management map	15
4.2 Vegetation management supporting map	16
4.3 Coastal/non-coastal map	17
4.4 Agricultural Land Class A or B map	18
5. Protected plants framework (administered by the Department of Environment and Science (DES))	19
5.1 Clearing in high risk areas on the flora survey trigger map	19
5.2 Clearing outside high risk areas on the flora survey trigger map	19
5.3 Exemptions	19
5.4 Contact information for DES	19
5.5 Protected plants flora survey trigger map	20
6. Koala protection framework (administered by the Department of Environment and Science (DES))	22
6.1 Koala mapping	22
6.2 Koala habitat planning controls	23
6.3 Koala Conservation Plan clearing requirements	24
6.4 Contact information for DES	24
7. Koala protection framework details for Lot: 208 Plan: SL11067	24
7.1 Koala districts	24
7.2 Koala priority area, koala habitat area and identified koala broad-hectare area map	25
7.3 Koala habitat regional ecosystems for core koala habitat areas	26
8. Other relevant legislation contacts list	27

1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 208 Plan: SL11067, including links to relevant Smart Maps, are listed in Table 1. The tenure of the property (whether it is freehold, leasehold, or other) may be viewed by clicking on the Smart Map link(s) provided.

Table 1: Lot, plan, tenure and title area information for the property

Lot	Plan	Tenure	Link to property on SmartMap	Property title area (sq metres)
208	SL11067	Freehold	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=208\SL11067	121,406
8	RP222031	Below the Depth Plans	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=8\RP222031	121,406

The tenure of the land may affect whether clearing is considered exempt clearing work or may be carried out under an accepted development vegetation clearing code.

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 208 Plan: SL11067, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)
Ipswich City

Bioregion(s)	Subregion(s)
Southeast Queensland	Moreton Basin

Catchment(s)
Brisbane

2. Vegetation management framework (administered by the Department of Natural Resources, Mines and Energy (DNRME))

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2012, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenures under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing or clearing vegetation on these tenures may require approvals under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem prescribed under Schedule 5 of the Vegetation Management Regulation 2012; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify DNRME or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 4.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work and does not require notification or development approval under the vegetation management framework. For all other land tenures, contact DNRME before commencing clearing to ensure that the proposed activity is exempt clearing work.

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at

<https://www.qld.gov.au/environment/land/vegetation/exemptions/>.

Exempt clearing work may be affected if the proposed clearing area is subject to development approval conditions, a covenant, an environmental offset, an exchange area, a restoration notice, or an area mapped as Category A. Exempt clearing work may require approval under other Commonwealth, State or Local Government laws, or local government planning schemes. Contact DNRME prior to clearing in any of these areas.

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at

<https://www.qld.gov.au/environment/land/vegetation/codes/>

If you intend to clear vegetation under an accepted development vegetation clearing code, you must notify DNRME before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at

<https://apps.dnrm.qld.gov.au/vegetation/>

2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing under the vegetation management framework. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

On 8 March 2020, AMPs ended for fodder harvesting, managing thickened vegetation and managing encroachment. New notifications cannot be made for these AMPs. You will need to consider options for fodder harvesting, managing thickened vegetation or encroachment under a relevant accepted development vegetation clearing code or apply for a development approval.

New notifications can be made for all other AMPs. These will continue to apply until their nominated end date.

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the DNRME and then follow the conditions and requirements listed in the AMP.

<https://www.qld.gov.au/environment/land/vegetation/area-plans/>

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at

<https://www.qld.gov.au/environment/land/management/vegetation/development>

2.5. Contact information for DNRME

For further information on the vegetation management framework:

Phone 135VEG (135 834)

Email vegetation@dnrme.qld.gov.au

Visit <https://www.dnrme.qld.gov.au/?contact=vegetation> to submit an online enquiry.

3. Vegetation management framework for Lot: 208 Plan: SL11067

3.1 Vegetation categories

The vegetation categories on your property are shown on the regulated vegetation management map in section 4.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property. Total area: 12.26ha

Vegetation category	Area (ha)
Category B	4.9
Category C	3.2
Category X	4.2

Table 4: Description of vegetation categories

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	Special conditions apply to Category A areas. Before clearing, contact DNRME to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Exempt clearing work, or notification and compliance with accepted development vegetation clearing codes, area management plans or development approval.
C	light blue	High-value regrowth areas	Exempt clearing work, or notification and compliance with managing Category C regrowth vegetation accepted development vegetation clearing code.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the Great Barrier Reef catchment areas	Exempt clearing work, or notification and compliance with managing Category R regrowth accepted development vegetation clearing code or area management plans.
X	white	Clearing on freehold land, indigenous land and leasehold land for agriculture and grazing purposes is considered exempt clearing work under the vegetation management framework. Contact DNRME to clarify whether a development approval is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A development approval may be required for some State land tenures.

Property Map of Assessable Vegetation (PMAV)

The following Property Map of Assessable Vegetation (PMAVs) may be present on this property:

Reference number

2019/003387

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 4.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at <https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/>

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
12.3.3	Endangered	B	1.17	Eucalyptus tereticornis woodland on Quaternary alluvium	Sparse
12.3.3	Endangered	C	2.53	Eucalyptus tereticornis woodland on Quaternary alluvium	Sparse
12.9-10.16	Of concern	C	0.03	Araucarian microphyll to notophyll vine forest on Cainozoic and Mesozoic sediments	Dense
12.9-10.2	Least concern	B	3.70	Corymbia citriodora subsp. variegata +/- Eucalyptus crebra open forest on sedimentary rocks	Mid-dense
12.9-10.2	Least concern	C	0.49	Corymbia citriodora subsp. variegata +/- Eucalyptus crebra open forest on sedimentary rocks	Mid-dense
12.9-10.7	Of concern	C	0.17	Eucalyptus crebra +/- E. tereticornis, Corymbia tessellaris, Angophora spp., E. melanophloia woodland on sedimentary rocks	Sparse
non-rem	None	X	4.16	None	None

Please note:

1. All area and area derived figures included in this table have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work;
- accepted development vegetation clearing codes;
- performance outcomes in State Code 16 of the State Development Assessment Provisions (SDAP).

3.3 Watercourses

Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 4.2.

3.4 Wetlands

There are no vegetation management wetlands present on this property.

3.5 Essential habitat

Under the VMA, essential habitat for protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA) as critically endangered, endangered, vulnerable or near-threatened wildlife.

Essential habitat for protected wildlife includes suitable habitat on the lot, or where a species has been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 4.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife, means an area of vegetation shown on the Regulated Vegetation Management Map -

- 1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or
- 2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

Category A and/or Category B and/or Category C

Table 6: Essential habitat in Category A and/or Category B and/or Category C

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
860	Phascolarctos cinereus	koala	V	SEQ: Open eucalypt forest and woodland that has: a) multiple strata layers containing Eucalyptus, Corymbia, Angophora, Lophostemon or Melaleuca trees that-at 1.3 metres above the ground-have a diameter both greater and less than 30 centimetres; and b) at least 1 of the following species: Eucalyptus tereticornis, E. fibrosa, E. propinqua; E. umbra, E. grandis, E. microcorys, E. tindalliae, E. resinifera, E. populnea, E. robusta, E. nigra, E. racemosa, E. crebra, E. exserta, E. seeana, Lophostemon confertus, L. suaveolens, Melaleuca quinquenervia. Outside SEQ: Open eucalypt forest and woodland that contains Eucalyptus &/or Corymbia spp. Tree species used for food varies across State and can include Eucalyptus tereticornis, E. camaldulensis, E. coolabah; E. drepanophylla, E. platyphylla, E. orgadophilla, E. thozetiana, E. melanophloia, E. populnea, E. melliodora, E. dealbata, E. microtheca, E. crebra, E. exserta, E. blakelyi, E. papuana, Corymbia tessellaris, C. citriodora, Melaleuca quinquenervia, M. leucadendra.	Sea level to 1000m.	None	Riparian areas, plains and hill/escarpment slopes.
1883	Rostratula australis	Australian painted snipe	E	Shallow ephemeral and permanent swamps, water meadows and damp lake margins with rushes, long grass and herbage (e.g. lignum, chenopods) in good condition, as well as areas of muddy ground; also uses saltmarsh, samphire flats and waterlogged grasslands with trees present (e.g. Eucalyptus camaldulensis, E. brownii). Nest in shallow grass-lined hollow in damp ground under low shrub or grass tussock near shallow water.	None	None	Associated with wetlands.
41024	Coleus habrophyllus	None	E	open woodland of Eucalyptus spp. on sandstone, occasionally near vine forest margins	0 to 300 m	skeletal to shallow sandy soil	on rock ledges along cliffline and rock outcrops near creek bank, often in shaded situations

Label	Regional Ecosystem (mandatory unless otherwise specified)
860	<p>SEQ: 11.3.2, 11.3.4, 11.3.25, 11.3.26, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.9.9, 12.2.5, 12.2.6, 12.2.7, 12.2.8, 12.2.10, 12.3.2, 12.3.3, 12.3.4, 12.3.5, 12.3.6, 12.3.7, 12.3.9, 12.3.10, 12.3.11, 12.3.14, 12.3.18, 12.3.19, 12.3.20, 12.5.1, 12.5.2, 12.5.3, 12.5.4, 12.5.6, 12.5.7, 12.5.10, 12.5.12, 12.8.1, 12.8.8, 12.8.9, 12.8.11, 12.8.12, 12.8.14, 12.8.16, 12.8.17, 12.8.20, 12.8.24, 12.8.25, 12.9-10.1, 12.9-10.2, 12.9-10.3, 12.9-10.4, 12.9-10.5, 12.9-10.7, 12.9-10.8, 12.9-10.11, 12.9-10.12, 12.9-10.14, 12.9-10.17, 12.9-10.18, 12.9-10.19, 12.9-10.21, 12.9-10.25, 12.9-10.26, 12.9-10.27, 12.9-10.28, 12.9-10.29, 12.11.2, 12.11.3, 12.11.5, 12.11.6, 12.11.7, 12.11.8, 12.11.9, 12.11.14, 12.11.15, 12.11.16, 12.11.17, 12.11.18, 12.11.22, 12.11.23, 12.11.24, 12.11.25, 12.11.26, 12.11.27, 12.11.28, 12.12.2, 12.12.3, 12.12.5, 12.12.6, 12.12.7, 12.12.8, 12.12.9, 12.12.11, 12.12.12, 12.12.14, 12.12.15, 12.12.23, 12.12.24, 12.12.25, 12.12.28, Outside SEQ: 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.8, 4.3.10, 4.3.11, 4.4.1, 4.5.3, 4.5.5, 4.5.6, 4.5.8, 4.5.9, 4.7.1, 4.7.7, 4.7.8, 4.9.6, 4.9.10, 4.9.12, 4.9.17, 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5, 6.3.7, 6.3.8, 6.3.9, 6.3.11, 6.3.12, 6.3.17, 6.3.18, 6.3.22, 6.3.24, 6.3.25, 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.5.1, 6.5.2, 6.5.3, 6.5.5, 6.5.6, 6.5.7, 6.5.8, 6.5.9, 6.5.10, 6.5.11, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18, 6.5.19, 6.6.2, 6.7.1, 6.7.2, 6.7.5, 6.7.6, 6.7.7, 6.7.9, 6.7.11, 6.7.12, 6.7.13, 6.7.14, 6.7.17, 6.9.3, 7.2.3, 7.2.4, 7.2.7, 7.2.11, 7.3.7, 7.3.8, 7.3.9, 7.3.12, 7.3.13, 7.3.14, 7.3.16, 7.3.19, 7.3.20, 7.3.21, 7.3.25, 7.3.26, 7.3.39, 7.3.40, 7.3.42, 7.3.43, 7.3.44, 7.3.45, 7.3.47, 7.3.48, 7.3.50, 7.5.1, 7.5.2, 7.5.3, 7.5.4, 7.8.7, 7.8.8, 7.8.10, 7.8.15, 7.8.16, 7.8.17, 7.8.18, 7.8.19, 7.11.5, 7.11.6, 7.11.13, 7.11.14, 7.11.16, 7.11.18, 7.11.19, 7.11.20, 7.11.21, 7.11.31, 7.11.32, 7.11.33, 7.11.34, 7.11.35, 7.11.37, 7.11.41, 7.11.42, 7.11.43, 7.11.44, 7.11.45, 7.11.46, 7.11.47, 7.11.48, 7.11.49, 7.11.50, 7.11.51, 7.12.4, 7.12.5, 7.12.17, 7.12.21, 7.12.22, 7.12.23, 7.12.24, 7.12.25, 7.12.26, 7.12.27, 7.12.28, 7.12.29, 7.12.30, 7.12.33, 7.12.34, 7.12.35, 7.12.51, 7.12.52, 7.12.53, 7.12.54, 7.12.55, 7.12.56, 7.12.57, 7.12.58, 7.12.59, 7.12.60, 7.12.61, 7.12.62, 7.12.63, 7.12.65, 7.12.66, 7.12.69, 8.1.5, 8.2.3, 8.2.6, 8.2.7, 8.2.8, 8.2.11, 8.2.12, 8.2.13, 8.2.14, 8.3.1, 8.3.2, 8.3.3, 8.3.5, 8.3.6, 8.3.8, 8.3.10, 8.3.11, 8.3.13, 8.5.1, 8.5.2, 8.5.3, 8.5.5, 8.5.6, 8.5.7, 8.9.1, 8.10.1, 8.11.1, 8.11.3, 8.11.4, 8.11.5, 8.11.6, 8.11.8, 8.11.10, 8.11.12, 8.12.4, 8.12.5, 8.12.6, 8.12.7, 8.12.8, 8.12.9, 8.12.12, 8.12.14, 8.12.20, 8.12.22, 8.12.23, 8.12.25, 8.12.26, 8.12.27, 8.12.29, 8.12.31, 8.12.32, 9.3.1, 9.3.2, 9.3.3, 9.3.4, 9.3.5, 9.3.6, 9.3.7, 9.3.8, 9.3.10, 9.3.11, 9.3.13, 9.3.14, 9.3.15, 9.3.16, 9.3.17, 9.3.19, 9.3.20, 9.3.21, 9.3.22, 9.3.27, 9.4.1, 9.4.2, 9.4.3, 9.5.1, 9.5.3, 9.5.4, 9.5.5, 9.5.6, 9.5.7, 9.5.8, 9.5.9, 9.5.10, 9.5.11, 9.5.12, 9.5.15, 9.5.16, 9.5.17, 9.7.1, 9.7.2, 9.7.3, 9.7.4, 9.7.5, 9.7.6, 9.8.1, 9.8.2, 9.8.3, 9.8.4, 9.8.5, 9.8.9, 9.8.10, 9.8.11, 9.8.13, 9.10.1, 9.10.3, 9.10.4, 9.10.5, 9.10.7, 9.10.8, 9.11.1, 9.11.2, 9.11.3, 9.11.4, 9.11.5, 9.11.7, 9.11.10, 9.11.12, 9.11.13, 9.11.14, 9.11.15, 9.11.16, 9.11.17, 9.11.18, 9.11.19, 9.11.21, 9.11.22, 9.11.23, 9.11.24, 9.11.25, 9.11.26, 9.11.28, 9.11.29, 9.11.30, 9.11.31, 9.11.32, 9.12.1, 9.12.2, 9.12.3, 9.12.4, 9.12.5, 9.12.6, 9.12.7, 9.12.10, 9.12.11, 9.12.12, 9.12.13, 9.12.14, 9.12.15, 9.12.16, 9.12.17, 9.12.18, 9.12.19, 9.12.20, 9.12.21, 9.12.22, 9.12.23, 9.12.24, 9.12.25, 9.12.26, 9.12.27, 9.12.28, 9.12.29, 9.12.30, 9.12.31, 9.12.32, 9.12.33, 9.12.35, 9.12.36, 9.12.37, 9.12.38, 9.12.39, 9.12.44, 10.3.2, 10.3.3, 10.3.5, 10.3.6, 10.3.9, 10.3.10, 10.3.11, 10.3.12, 10.3.13, 10.3.14, 10.3.15, 10.3.17, 10.3.20, 10.3.27, 10.3.28, 10.4.3, 10.4.9, 10.5.1, 10.5.2, 10.5.4, 10.5.5, 10.5.7, 10.5.8, 10.5.9, 10.5.10, 10.5.11, 10.5.12, 10.7.1, 10.7.2, 10.7.3, 10.7.4, 10.7.5, 10.7.9, 10.7.10, 10.7.11, 10.7.12, 10.9.2, 10.9.3, 10.9.5, 10.10.1, 10.10.3, 10.10.4, 10.10.5, 10.10.7, 11.2.1, 11.2.5, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.5, 11.3.6, 11.3.7, 11.3.9, 11.3.10, 11.3.12, 11.3.13, 11.3.14, 11.3.15, 11.3.16, 11.3.17, 11.3.18, 11.3.19, 11.3.21, 11.3.23, 11.3.25, 11.3.26, 11.3.27, 11.3.28, 11.3.29, 11.3.30, 11.3.32, 11.3.33, 11.3.35, 11.3.36, 11.3.37, 11.3.38, 11.3.39, 11.4.2, 11.4.3, 11.4.7, 11.4.8, 11.4.9, 11.4.10, 11.4.12, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.4, 11.5.5, 11.5.7, 11.5.8, 11.5.9, 11.5.12, 11.5.13, 11.5.14, 11.5.17, 11.5.18, 11.5.20, 11.5.21, 11.7.1, 11.7.2, 11.7.3, 11.7.4, 11.7.6, 11.7.7, 11.8.1, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.8.11, 11.8.12, 11.8.14, 11.8.15, 11.9.1, 11.9.2, 11.9.3, 11.9.5, 11.9.6, 11.9.7, 11.9.9, 11.9.10, 11.9.11, 11.9.13, 11.9.14, 11.10.1, 11.10.2, 11.10.3, 11.10.4, 11.10.5, 11.10.6, 11.10.7, 11.10.9, 11.10.11, 11.10.12, 11.10.13, 11.11.1, 11.11.2, 11.11.3, 11.11.4, 11.11.6, 11.11.7, 11.11.8, 11.11.9, 11.11.10, 11.11.11, 11.11.12, 11.11.13, 11.11.14, 11.11.15, 11.11.16, 11.11.17, 11.11.19, 11.11.20, 11.12.1, 11.12.2, 11.12.3, 11.12.5, 11.12.6, 11.12.7, 11.12.8, 11.12.9, 11.12.10, 11.12.13, 11.12.14, 11.12.15, 11.12.16, 11.12.17, 11.12.19, 11.12.20, 13.3.1, 13.3.2, 13.3.3, 13.3.4, 13.3.5, 13.3.7, 13.9.2, 13.11.1, 13.11.2, 13.11.3, 13.11.4, 13.11.5, 13.11.6, 13.11.8, 13.11.9, 13.12.1, 13.12.2, 13.12.3, 13.12.4, 13.12.5, 13.12.6, 13.12.8, 13.12.9, 13.12.10.</p>
1883	All regional ecosystems within the stream/wetland buffer as determined by VMA code.
41024	12.9-10.2, 12.9-10.7, 12.9-10.19

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

For the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP), this property is regarded as*

Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

The following can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code:

Does this lot contain land that is mapped as Agricultural Land Class A or B in the State Planning Interactive Mapping System?

No Class A

No Class B

Note - This confirms Agricultural Land Classes as per the State Planning Interactive Mapping System only. This response does not include Agricultural Land Classes identified under local government planning schemes. For further information, check the Planning Scheme for your local government area.

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 208 Plan: SL11067.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:

<https://www.dnrme.qld.gov.au/qld/environment/land/vegetation/vegetation-map-request-form>

Regulated vegetation management map

The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new [property maps of assessable vegetation \(PMAV\)](#).

Vegetation management supporting map

The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

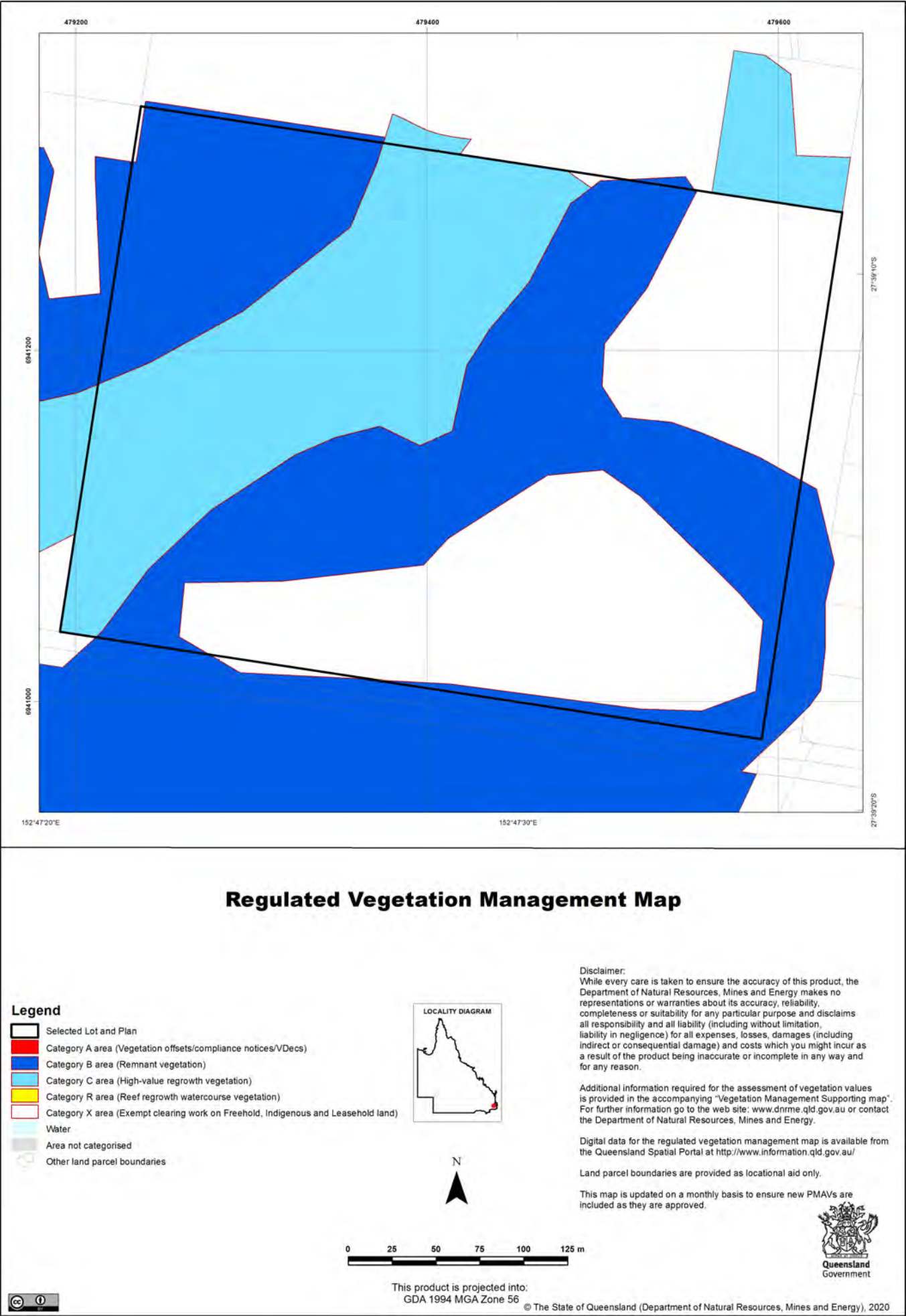
Coastal/non-coastal map

The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP).

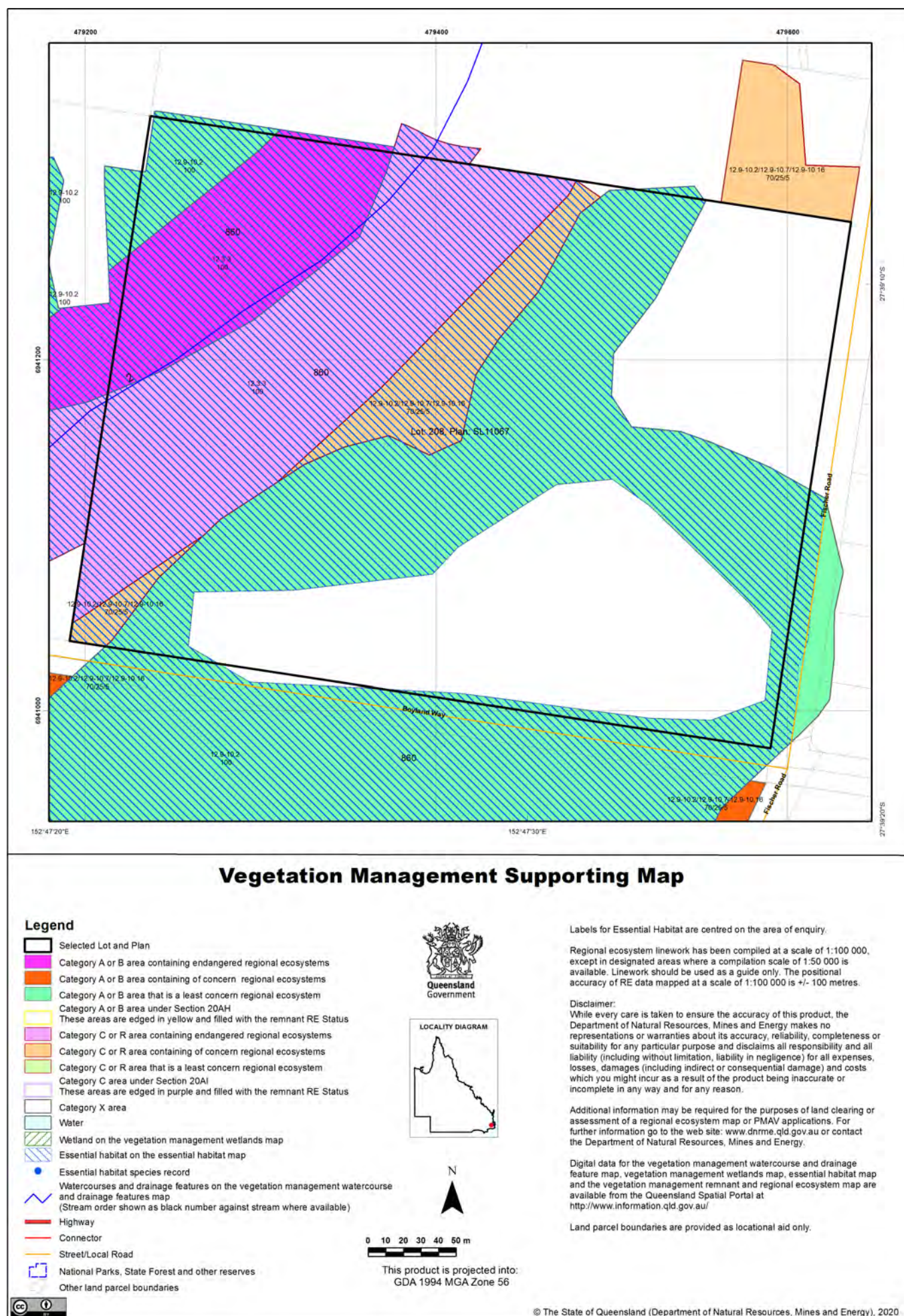
Agricultural Land Class A or B

The Agricultural Land Class map confirms the location and extent of land mapped as Agricultural Land Classes A or B as identified on the State Planning Interactive Mapping System. Please note that this map does not include areas identified as Agricultural Land Class A or B in local government planning schemes. This map can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code.

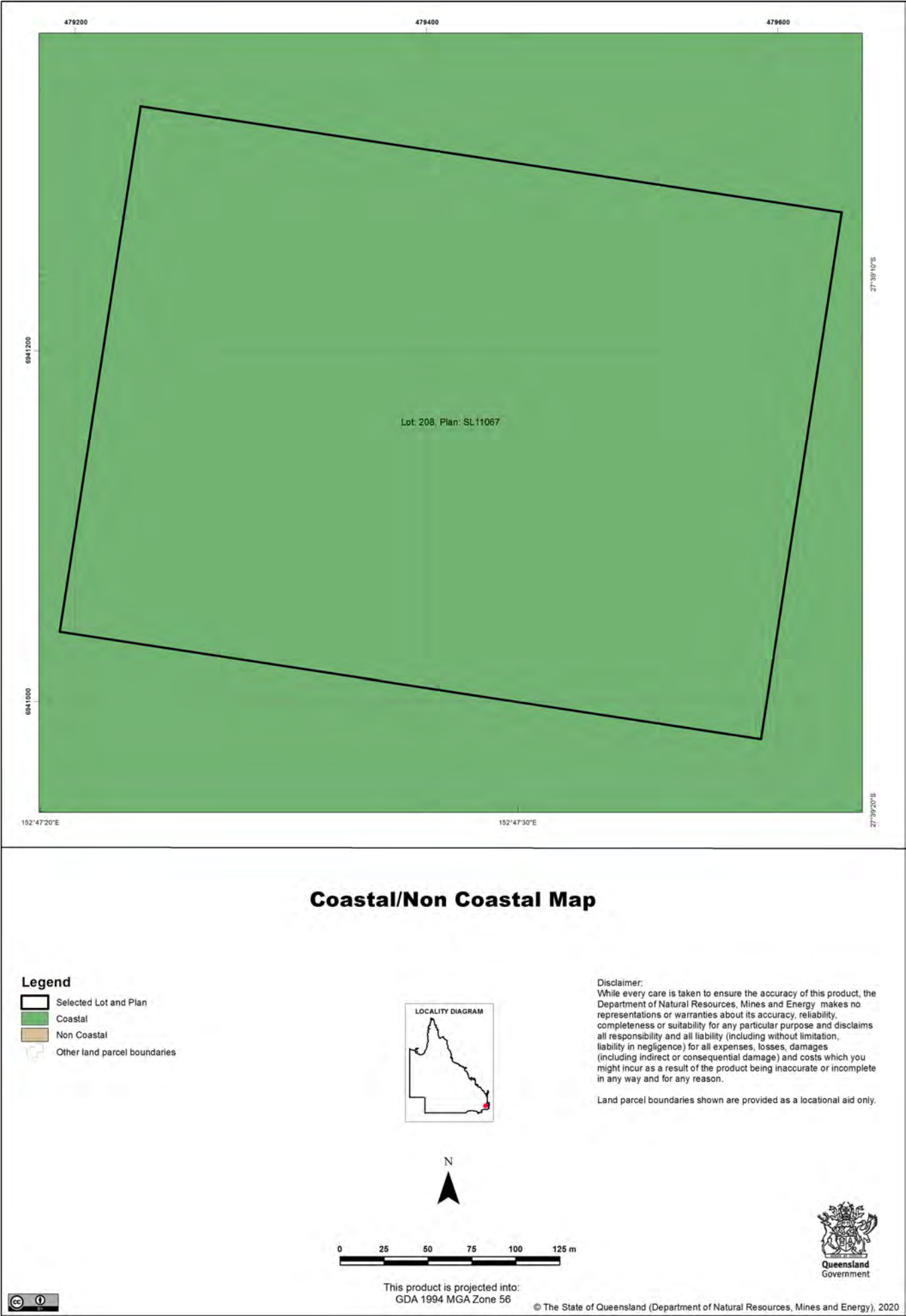
4.1 Regulated vegetation management map



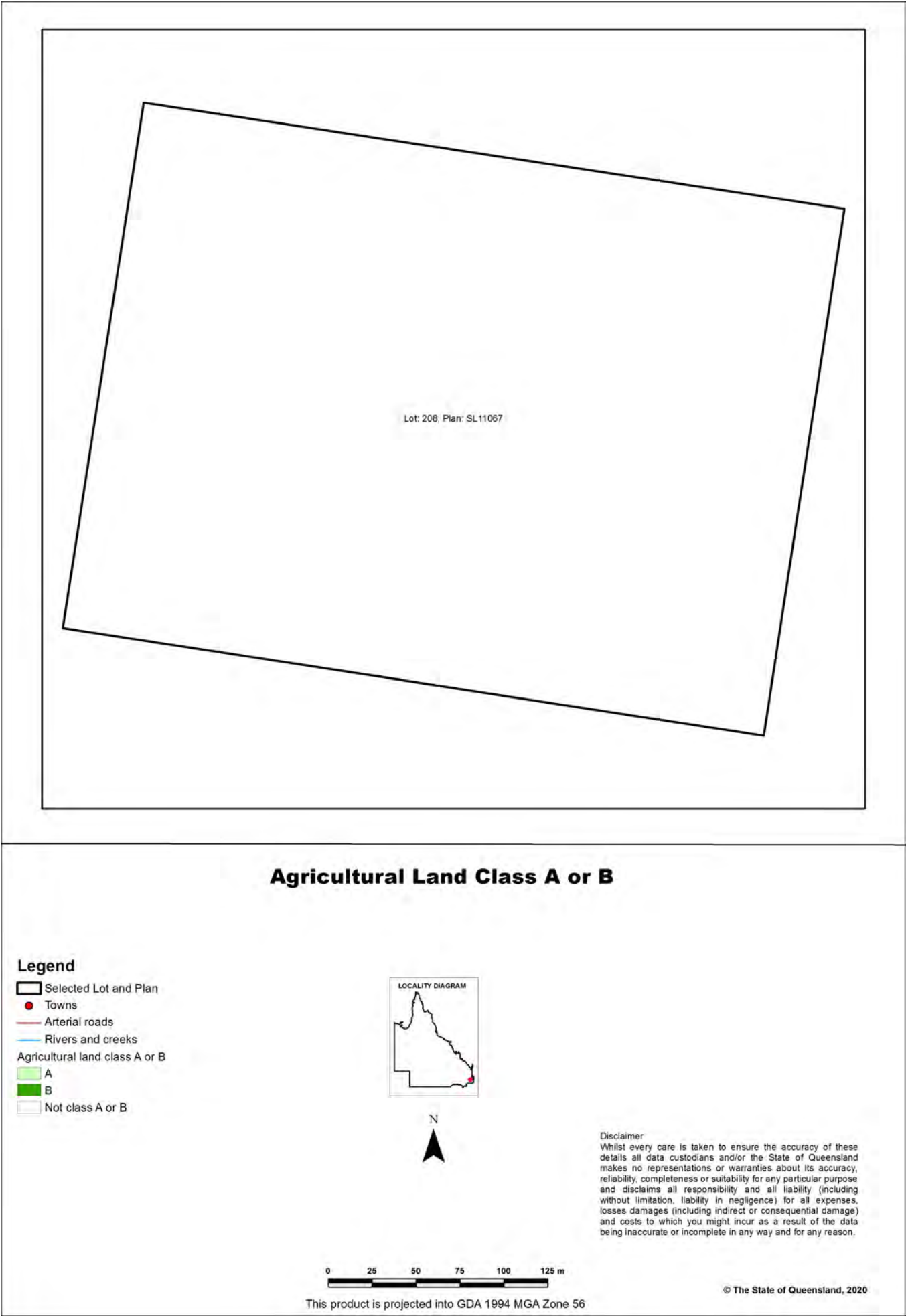
4.2 Vegetation management supporting map



4.3 Coastal/non-coastal map



4.4 Agricultural Land Class A or B map



5. Protected plants framework (administered by the Department of Environment and Science (DES))

In Queensland, all plants that are native to Australia are protected plants under the [Nature Conservation Act 1992](#) (NCA). The NCA regulates the clearing of protected plants 'in the wild' (see [Operational policy: When a protected plant in Queensland is considered to be 'in the wild'](#)) that are listed as critically endangered, endangered, vulnerable or near threatened under the Act.

Please note that the protected plant clearing framework applies irrespective of the classification of the vegetation under the *Vegetation Management Act 1999* and any approval or exemptions given under another Act, for example, the *Vegetation Management Act 1999* or *Planning Regulation 2017*.

5.1 Clearing in high risk areas on the flora survey trigger map

The 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. The flora survey trigger map for this property is provided in section 5.5.

If you are proposing to clear an area shown as high risk on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken by a suitably qualified person in accordance with the [Flora survey guidelines](#). The main objective of a flora survey is to locate any EVNT plants that may be present in the clearing impact area.

If the flora survey identifies that EVNT plants are not present within the clearing impact area or clearing within 100m of EVNT plants can be avoided, the clearing activity is exempt from a permit. An [exempt clearing notification form](#) must be submitted to the Department of Environment and Science, with a copy of the flora survey report, at least one week prior to clearing.

If the flora survey identifies that EVNT plants are present in, or within 100m of, the area to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the [application form clearing permit](#).

5.2 Clearing outside high risk areas on the flora survey trigger map

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that EVNT plants are present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

5.3 Exemptions

Many activities are 'exempt' under the protected plant clearing framework, which means that clearing of native plants that are in the wild can be undertaken for these activities with no need for a flora survey or a protected plant clearing permit. The Information sheet - General exemptions for the take of protected plants provides some of these exemptions.

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) under the *Vegetation Management Act 1999* (i.e. listed in Schedule 21 of the Planning Regulations 2017) while some are different.

5.4 Contact information for DES

For further information on the protected plants framework:

Phone 1300 130 372 (and select option four)

Email palm@des.qld.gov.au

Visit <https://www.qld.gov.au/environment/plants-animals/plants/protected-plants>

5.5 Protected plants flora survey trigger map

This map included may also be requested individually at: <https://apps.des.qld.gov.au/map-request/flora-survey-trigger/>.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.






Species information

Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the [Queensland Spatial Catalogue](#), the Department of Environment and Science does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of Environment and Science webpage on the [clearing of protected plants](#) for more information.



Protected Plants Flora Survey Trigger Map

Legend

-  Selected Lot and Plan
-  High risk area
-  Other land parcel boundaries
-  Freeways / motorways / highways
-  Secondary roads / streets



0 10 20 30 40 50 m

This product is projected into:
GDA 1994 MGA Zone 56

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Science at palm@ehp.qld.gov.au

Disclaimer:
While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

© The State of Queensland (Department of Environment and Science), 2020

6. Koala protection framework (administered by the Department of Environment and Science (DES))

The koala (*Phascolarctos cinereus*) is listed in Queensland as vulnerable by the Queensland Government under *Nature Conservation Act 1992* and by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Queensland Government's koala protection framework is comprised of the *Nature Conservation Act 1992*, the Nature Conservation (Animals) Regulation 2020, the Nature Conservation (Koala) Conservation Plan 2017, the *Planning Act 2016* and the Planning Regulation 2017.

6.1 Koala mapping

6.1.1 Koala districts

The parts of Queensland where koalas are known to occur has been divided into three koala districts - koala district A, koala district B and koala district C. Each koala district is made up of areas with comparable koala populations (e.g. density, extent and significance of threatening processes affecting the population) which require similar management regimes.

Section 7.1 identifies which koala district your property is located in.

6.1.2 Koala habitat areas

Koala habitat areas are areas of vegetation that have been determined to contain koala habitat that is essential for the conservation of a viable koala population in the wild based on the combination of habitat suitability and biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water). In order to protect this important koala habitat, clearing controls have been introduced into the Planning Regulation 2017 for development in koala habitat areas.

Please note that koala habitat areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

There are two different categories of koala habitat area (core koala habitat area and locally refined koala habitat), which have been determined using two different methodologies. These methodologies are described in the document [Spatial modelling in South East Queensland](#).

Section 7.2 shows any koala habitat area that exists on your property.

Under the Nature Conservation (Koala) Conservation Plan 2017, an owner of land (or a person acting on the owner's behalf with written consent) can request to make, amend or revoke a koala habitat area determination if they believe, on reasonable grounds, that the existing determination for all or part of their property is incorrect.

More information on requests to make, amend or revoke a koala habitat area determination can be found in the document [Guideline - Requests to make, amend or revoke a koala habitat area determination](#).

The koala habitat area map will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

Changes to the koala habitat area map which occur between annual updates because of a request to make, amend or revoke a koala habitat area determination can be viewed on the register of approved requests to make, amend or revoke a koala habitat area available at: <https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/koalamaps>. The register includes the lot on plan for the change, the date the decision was made and the map issued to the landholder that shows areas determined to be koala habitat areas.

6.1.3 Koala priority areas

Koala priority areas are large, connected areas that have been determined to have the highest likelihood of achieving conservation outcomes for koalas based on the combination of habitat suitability, biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water) and a koala conservation cost benefit analysis.

Conservation efforts will be prioritised in these areas to ensure the conservation of viable koala populations in the wild including a focus on management (e.g. habitat protection, habitat restoration and threat mitigation) and monitoring. This includes a prohibition on clearing in koala habitat areas that are in koala priority areas under the Planning Regulation 2017 (subject to some exemptions).

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley,

Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

Section 7.2 identifies if your property is in a koala priority area.

6.1.4 Identified koala broad-hectare areas

There are seven identified koala broad-hectare areas in SEQ. These are areas of koala habitat that are located in areas committed to meet development targets in the SEQ Regional Plan to accommodate SEQ's growing population including bring-forward Greenfield sites under the Queensland Housing Affordability Strategy and declared master planned areas under the repealed *Sustainable Planning Act 2009* and the repealed *Integrated Planning Act 1997*.

Specific assessment benchmarks apply to development applications for development proposed in identified koala broad-hectare areas to ensure koala conservation measures are incorporated into the proposed development.

Section 7.2 identifies if your property is in an identified koala broad-hectare area.

6.2 Koala habitat planning controls

On 7 February 2020, the Queensland Government introduced new planning controls to the Planning Regulation 2017 to strengthen the protection of koala habitat in South East Queensland (i.e. koala district A).

More information on these planning controls can be found here:

<https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy>.

As a high-level summary, the koala habitat planning controls make:

- development that involves interfering with koala habitat (defined below) in an area that is both a koala priority area and a koala habitat area, prohibited development (i.e. development for which a development application cannot be made);
- development that involves interfering with koala habitat (defined below) in an area that is a koala habitat area but is not a koala priority area, assessable development (i.e. development for which development approval is required); and
- development that is for extractive industries where the development involves interfering with koala habitat (defined below) in an area that is both a koala habitat area and a key resource area, assessable development (i.e. development for which development approval is required).

Interfering with koala habitat means:

- 1) Removing, cutting down, ringbarking, pushing over, poisoning or destroying in anyway, including by burning, flooding or draining native vegetation in a koala habitat area; but
- 2) Does not include destroying standing vegetation stock or lopping a tree.

However, these planning controls do not apply if the development is exempted development as defined in Schedule 24 of the [Planning Regulation 2017](#). More information on exempted development can be found here:

<https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy>.

There are also assessment benchmarks that apply to development applications for:

- building works, operational works, material change of use or reconfiguration of a lot where:
 - the local government planning scheme makes the development assessable;
 - the premises includes an area that is both a koala priority area and a koala habitat area; and
 - the development does not involve interfering with koala habitat (defined above); and
- development in identified koala broad-hectare areas.

The [Guideline - Assessment Benchmarks in relation to Koala Habitat in South East Queensland assessment benchmarks](#) outlines these assessment benchmarks, the intent of these assessment benchmarks and advice on how proposed development may meet these assessment benchmarks.

6.3 Koala Conservation Plan clearing requirements

Section 10 and 11 of the [Nature Conservation \(Koala\) Conservation Plan 2017](#) prescribes requirements that must be met when clearing koala habitat in koala district A and koala district B.

These clearing requirements are independent to the koala habitat planning controls introduced into the Planning Regulation 2017, which means they must be complied with irrespective of any approvals or exemptions offered under other legislation.

Unlike the clearing controls prescribed in the Planning Regulation 2017 that are to protect koala habitat, the clearing requirements prescribed in the Nature Conservation (Koala) Conservation Plan 2017 are in place to prevent the injury or death of koalas when koala habitat is being cleared.

6.4 Contact information for DES

For further information on the koala protection framework:

Phone 13 QGOV (13 74 68)

Email koala.assessment@des.qld.gov.au

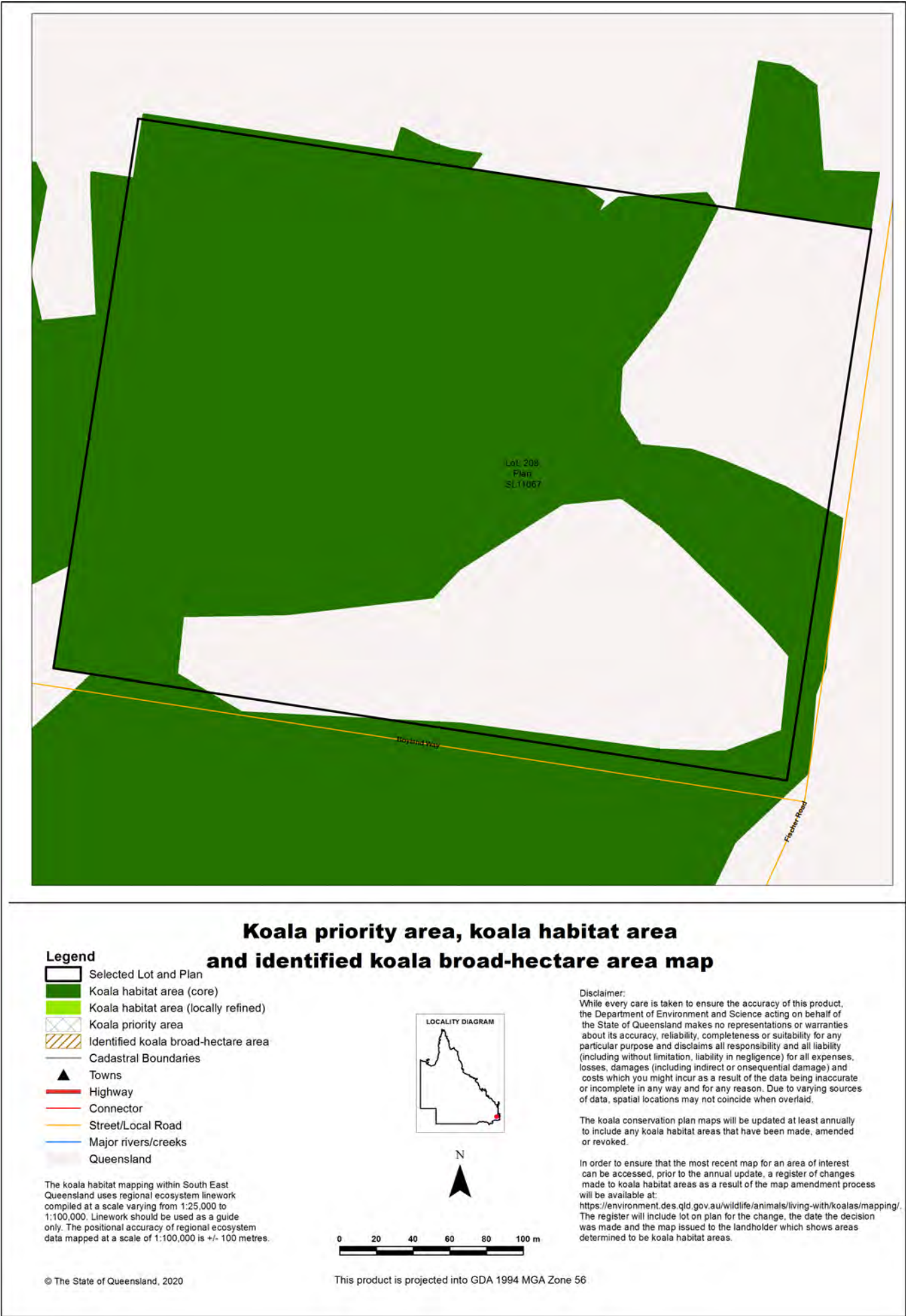
Visit <https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping>

7. Koala protection framework details for Lot: 208 Plan: SL11067

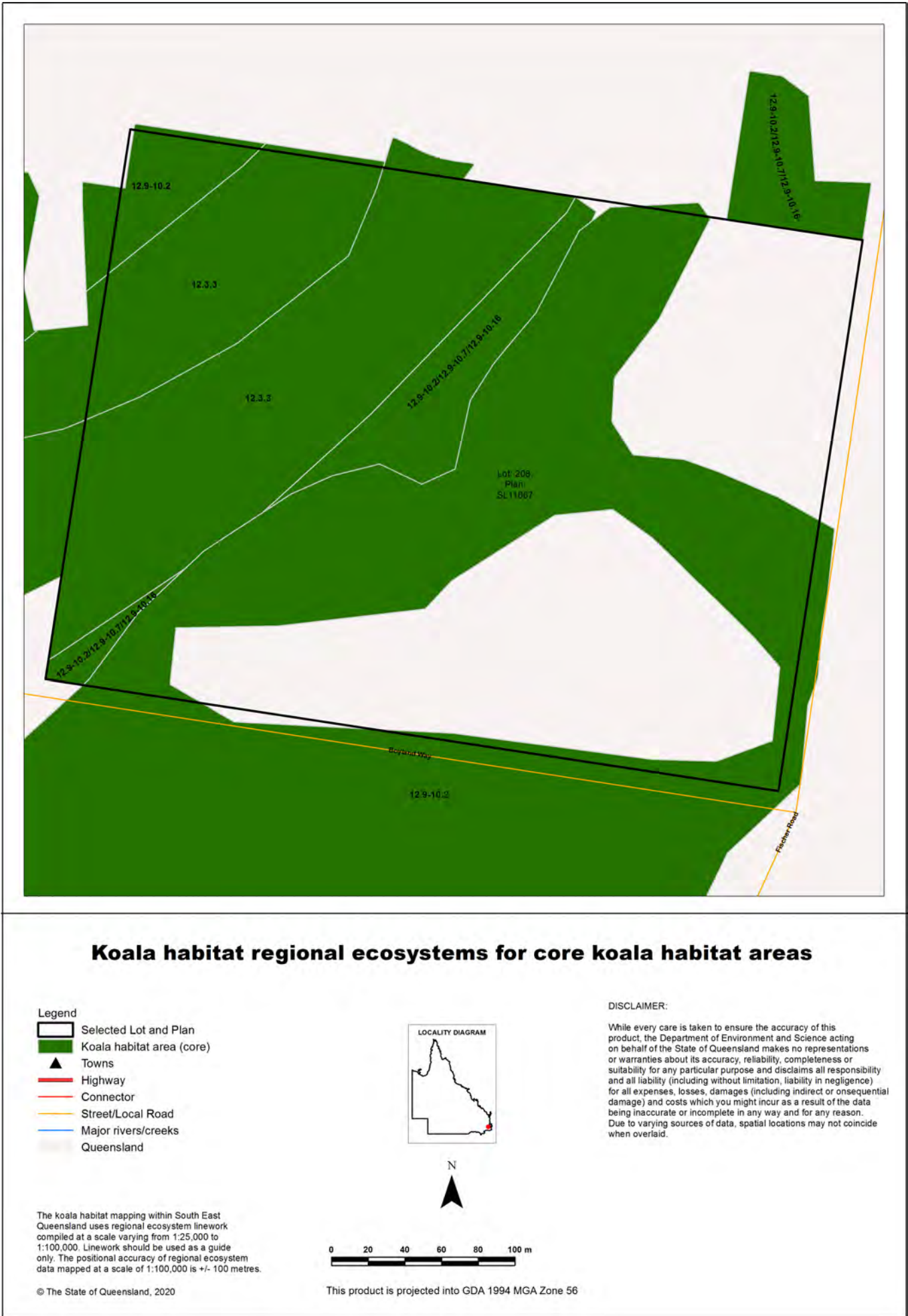
7.1 Koala districts

Koala District A

7.2 Koala priority area, koala habitat area and identified koala broad-hectare area map



7.3 Koala habitat regional ecosystems for core koala habitat areas



8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
<ul style="list-style-type: none"> • Interference with overland flow • Earthworks, significant disturbance 	<i>Water Act 2000</i> <i>Soil Conservation Act 1986</i>	Department of Natural Resources, Mines and Energy (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dnrme.qld.gov.au
<ul style="list-style-type: none"> • Indigenous Cultural Heritage 	<i>Aboriginal Cultural Heritage Act 2003</i> <i>Torres Strait Islander Cultural Heritage Act 2003</i>	Department of Aboriginal and Torres Strait Islander Partnerships (Queensland Government)	Ph: 13 QGOV (13 74 68) www.datsip.qld.gov.au
<ul style="list-style-type: none"> • Mining and environmentally relevant activities • Infrastructure development (coastal) • Heritage issues • Protected areas 	<i>Environmental Protection Act 1994</i> <i>Coastal Protection and Management Act 1995</i> <i>Queensland Heritage Act 1992</i> <i>Nature Conservation Act 1992</i>	Department of Environment and Science (Queensland Government)	Ph: 13 QGOV (13 74 68) www.des.qld.gov.au
<ul style="list-style-type: none"> • Interference with fish passage in a watercourse, mangroves • Forestry activities on State land tenures 	<i>Fisheries Act 1994</i> <i>Forestry Act 1959</i>	Department of Agriculture and Fisheries (Queensland Government)	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
<ul style="list-style-type: none"> • Matters of National Environmental Significance including listed threatened species and ecological communities 	<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Department of the Environment (Australian Government)	Ph: 1800 803 772 www.environment.gov.au
<ul style="list-style-type: none"> • Development and planning processes 	<i>Planning Act 2016</i> <i>State Development and Public Works Organisation Act 1971</i>	Queensland Treasury Department of State Development, Tourism and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dsdmip.qld.gov.au www.statedevelopment.qld.gov.au
<ul style="list-style-type: none"> • Local government requirements 	<i>Local Government Act 2009</i> <i>Planning Act 2016</i>	Department of Local Government, Racing and Multicultural Affairs (Queensland Government)	Ph: 13 QGOV (13 74 68) Your relevant local government office



Vegetation management report

For Lot: 210 Plan: SL9238

Current as at 12/10/2020

This publication has been compiled by Operations Support, Department of Natural Resources, Mines and Energy.

© State of Queensland, (2020)

The Queensland Government supports and encourages the dissemination and exchange of its information. The copyright in this publication is licensed under a Creative Commons - Attribution 4.0 International (CC BY) licence.

Under this licence you are free, without having to seek our permission, to use this publication in accordance with the licence terms.



You must keep intact the copyright notice and attribute the State of Queensland as the source of the publication.

Note: Some content in this publication may have different licence terms as indicated.

For more information on this licence, visit <https://creativecommons.org/licenses/by/4.0/>

The information contained herein is subject to change without notice. The Queensland Government shall not be liable for technical or other errors or omissions contained herein. The reader/user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using this information.

Recent changes

Updated mapping

Updated vegetation mapping was released on 6 April 2020 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, wetland, high-value regrowth and essential habitat mapping.

Improvements to the format of the report were made in July 2020 to more clearly delineate the three regulatory frameworks of vegetation management, protected plants and koala habitat protection. The Vegetation Management Pre-clear Regional Ecosystem map was also removed from the Vegetation Management Report but can still be requested as a separate map.

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:

Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Natural Resources Mines and Energy who administer the framework;

Vegetation management framework details for the specified Lot on Plan including:

- the vegetation management categories on the property;
- the vegetation management regional ecosystems on the property;
- vegetation management watercourses or drainage features on the property;
- vegetation management wetlands on the property;
- vegetation management essential habitat on the property;
- whether any area management plans are associated with the property;
- whether the property is coastal or non-coastal; and
- whether the property is mapped as Agricultural Land Class A or B;

Protected plant framework - an explanation of the application of the framework and contact details for the Department of Environment and Science who administer the framework, including:

- high risk areas on the protected plant flora survey trigger map for the property;

Koala protection framework - an explanation of the application of the framework and contact details for the Department of Environment and Science who administer the framework; and

Koala protection framework details for the specified Lot on Plan including:

- the koala district the property is located in;
- koala priority areas on the property;
- core and locally refined koala habitat areas on the property;
- whether the lot is located in an identified koala broad-hectare area; and
- koala habitat regional ecosystems on the property for core koala habitat areas.

This information will assist you to determine your options for managing vegetation under:

- the vegetation management framework, which may include:

- exempt clearing work;
- accepted development vegetation clearing code;
- an area management plan;
- a development approval;

- the protected plant framework, which may include:

- the need to undertake a flora survey;
- exempt clearing;
- a protected plant clearing permit;

- the koala protection framework, which may include:

- exempted development;
- a development approval;
- the need to undertake clearing sequentially and in the presence of a koala spotter.

Other laws

The clearing of native vegetation is regulated by both Queensland and Australian legislation, and some local governments also regulate native vegetation clearing. You may need to obtain an approval or permit under another Act, such as the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Section 9 of this guide provides contact details of other agencies you should confirm requirements with, before commencing vegetation clearing.

Table of Contents

1. Property details	6
1.1 Tenure and title area	6
1.2 Property location	6
2. Vegetation management framework (administered by the Department of Natural Resources, Mines and Energy (DNRME))	7
2.1 Exempt clearing work	7
2.2 Accepted development vegetation clearing codes	7
2.3 Area management plans	8
2.4 Development approvals	8
2.5. Contact information for DNRME	8
3. Vegetation management framework for Lot: 210 Plan: SL9238	9
3.1 Vegetation categories	9
3.2 Regional ecosystems	10
3.3 Watercourses	10
3.4 Wetlands	10
3.5 Essential habitat	10
3.6 Area Management Plan(s)	11
3.7 Coastal or non-coastal	11
3.8 Agricultural Land Class A or B	11
4. Vegetation management framework maps	12
4.1 Regulated vegetation management map	13
4.2 Vegetation management supporting map	14
4.3 Coastal/non-coastal map	15
4.4 Agricultural Land Class A or B map	16
5. Protected plants framework (administered by the Department of Environment and Science (DES))	17
5.1 Clearing in high risk areas on the flora survey trigger map	17
5.2 Clearing outside high risk areas on the flora survey trigger map	17
5.3 Exemptions	17
5.4 Contact information for DES	17
5.5 Protected plants flora survey trigger map	18
6. Koala protection framework (administered by the Department of Environment and Science (DES))	20
6.1 Koala mapping	20
6.2 Koala habitat planning controls	21
6.3 Koala Conservation Plan clearing requirements	22
6.4 Contact information for DES	22
7. Koala protection framework details for Lot: 210 Plan: SL9238	22
7.1 Koala districts	22
7.2 Koala priority area, koala habitat area and identified koala broad-hectare area map	23
7.3 Koala habitat regional ecosystems for core koala habitat areas	24
8. Other relevant legislation contacts list	25

1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 210 Plan: SL9238, including links to relevant Smart Maps, are listed in Table 1. The tenure of the property (whether it is freehold, leasehold, or other) may be viewed by clicking on the Smart Map link(s) provided.

Table 1: Lot, plan, tenure and title area information for the property

Lot	Plan	Tenure	Link to property on SmartMap	Property title area (sq metres)
210	SL9238	Freehold	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=210\SL9238	116,120
10	RP222031	Below the Depth Plans	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=10\RP222031	121,406

The tenure of the land may affect whether clearing is considered exempt clearing work or may be carried out under an accepted development vegetation clearing code.

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 210 Plan: SL9238, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)
Ipswich City

Bioregion(s)	Subregion(s)
Southeast Queensland	Moreton Basin

Catchment(s)
Brisbane

2. Vegetation management framework (administered by the Department of Natural Resources, Mines and Energy (DNRME))

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2012, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenures under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing or clearing vegetation on these tenures may require approvals under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem prescribed under Schedule 5 of the Vegetation Management Regulation 2012; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify DNRME or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 4.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work and does not require notification or development approval under the vegetation management framework. For all other land tenures, contact DNRME before commencing clearing to ensure that the proposed activity is exempt clearing work.

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at

<https://www.qld.gov.au/environment/land/vegetation/exemptions/>.

Exempt clearing work may be affected if the proposed clearing area is subject to development approval conditions, a covenant, an environmental offset, an exchange area, a restoration notice, or an area mapped as Category A. Exempt clearing work may require approval under other Commonwealth, State or Local Government laws, or local government planning schemes. Contact DNRME prior to clearing in any of these areas.

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at

<https://www.qld.gov.au/environment/land/vegetation/codes/>

If you intend to clear vegetation under an accepted development vegetation clearing code, you must notify DNRME before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at

<https://apps.dnrm.qld.gov.au/vegetation/>

2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing under the vegetation management framework. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

On 8 March 2020, AMPs ended for fodder harvesting, managing thickened vegetation and managing encroachment. New notifications cannot be made for these AMPs. You will need to consider options for fodder harvesting, managing thickened vegetation or encroachment under a relevant accepted development vegetation clearing code or apply for a development approval.

New notifications can be made for all other AMPs. These will continue to apply until their nominated end date.

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the DNRME and then follow the conditions and requirements listed in the AMP.

<https://www.qld.gov.au/environment/land/vegetation/area-plans/>

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at

<https://www.qld.gov.au/environment/land/management/vegetation/development>

2.5. Contact information for DNRME

For further information on the vegetation management framework:

Phone 135VEG (135 834)

Email vegetation@dnrme.qld.gov.au

Visit <https://www.dnrme.qld.gov.au/?contact=vegetation> to submit an online enquiry.

3. Vegetation management framework for Lot: 210 Plan: SL9238

3.1 Vegetation categories

The vegetation categories on your property are shown on the regulated vegetation management map in section 4.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property. Total area: 11.71ha

Vegetation category	Area (ha)
Category X	11.7

Table 4: Description of vegetation categories

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	Special conditions apply to Category A areas. Before clearing, contact DNRME to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Exempt clearing work, or notification and compliance with accepted development vegetation clearing codes, area management plans or development approval.
C	light blue	High-value regrowth areas	Exempt clearing work, or notification and compliance with managing Category C regrowth vegetation accepted development vegetation clearing code.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the Great Barrier Reef catchment areas	Exempt clearing work, or notification and compliance with managing Category R regrowth accepted development vegetation clearing code or area management plans.
X	white	Clearing on freehold land, indigenous land and leasehold land for agriculture and grazing purposes is considered exempt clearing work under the vegetation management framework. Contact DNRME to clarify whether a development approval is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A development approval may be required for some State land tenures.

Property Map of Assessable Vegetation (PMAV)

The following Property Map of Assessable Vegetation (PMAVs) may be present on this property:

Reference number

2019/003387

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 4.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/>

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
non-rem	None	X	11.71	None	None

Please note:

1. All area and area derived figures included in this table have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work;
- accepted development vegetation clearing codes;
- performance outcomes in State Code 16 of the State Development Assessment Provisions (SDAP).

3.3 Watercourses

Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 4.2.

3.4 Wetlands

There are no vegetation management wetlands present on this property.

3.5 Essential habitat

Under the VMA, essential habitat for protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA) as critically endangered, endangered, vulnerable or near-threatened wildlife.

Essential habitat for protected wildlife includes suitable habitat on the lot, or where a species has been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 4.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife, means an area of vegetation shown on the Regulated Vegetation Management Map -

- 1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or
- 2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

Category A and/or Category B and/or Category C

Table 6: Essential habitat in Category A and/or Category B and/or Category C

No records

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

For the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP), this property is regarded as*

Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

The following can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code:

Does this lot contain land that is mapped as Agricultural Land Class A or B in the State Planning Interactive Mapping System?

No Class A

No Class B

Note - This confirms Agricultural Land Classes as per the State Planning Interactive Mapping System only. This response does not include Agricultural Land Classes identified under local government planning schemes. For further information, check the Planning Scheme for your local government area.

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 210 Plan: SL9238.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:

<https://www.dnrme.qld.gov.au/qld/environment/land/vegetation/vegetation-map-request-form>

Regulated vegetation management map

The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new [property maps of assessable vegetation \(PMAV\)](#).

Vegetation management supporting map

The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

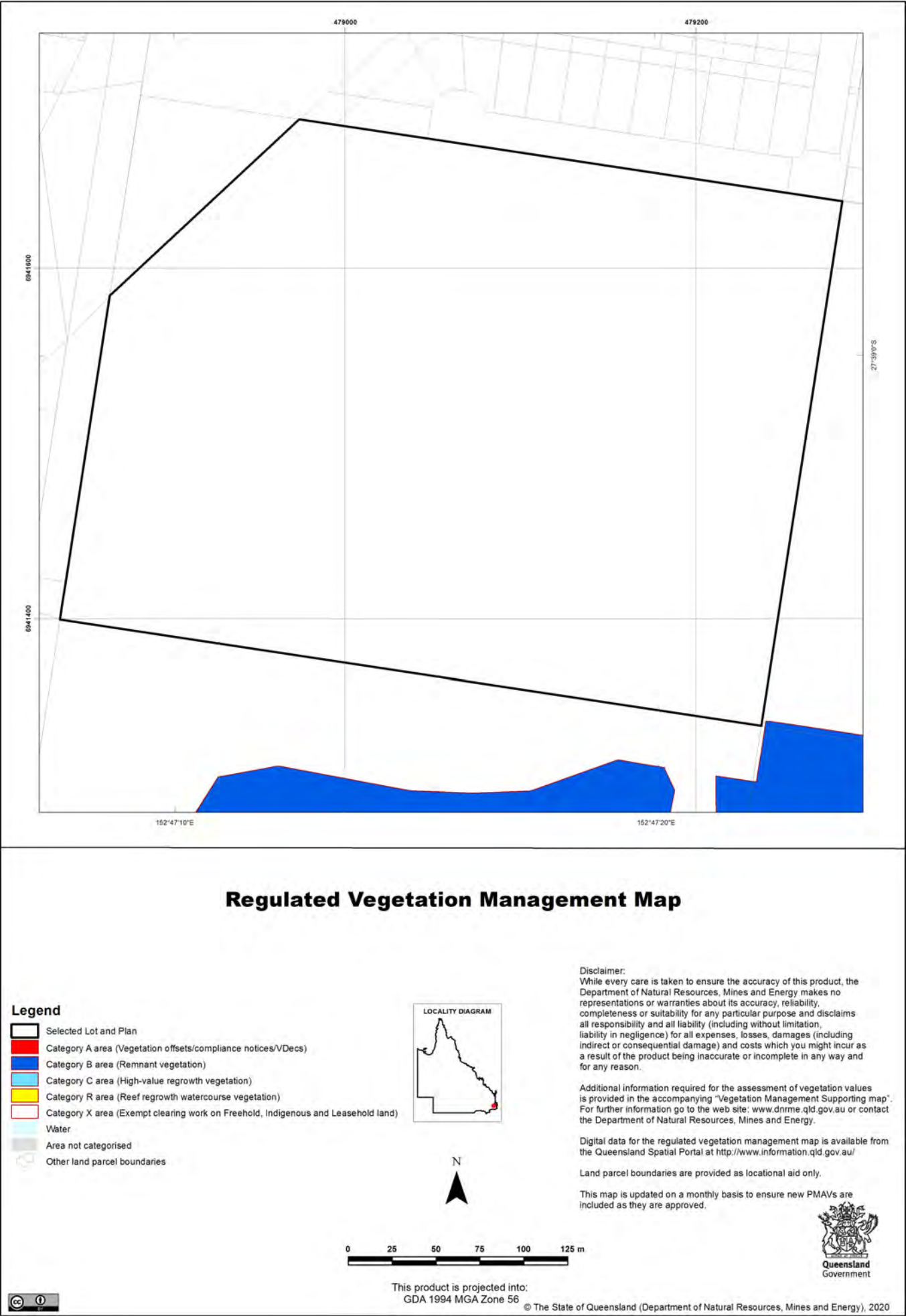
Coastal/non-coastal map

The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP).

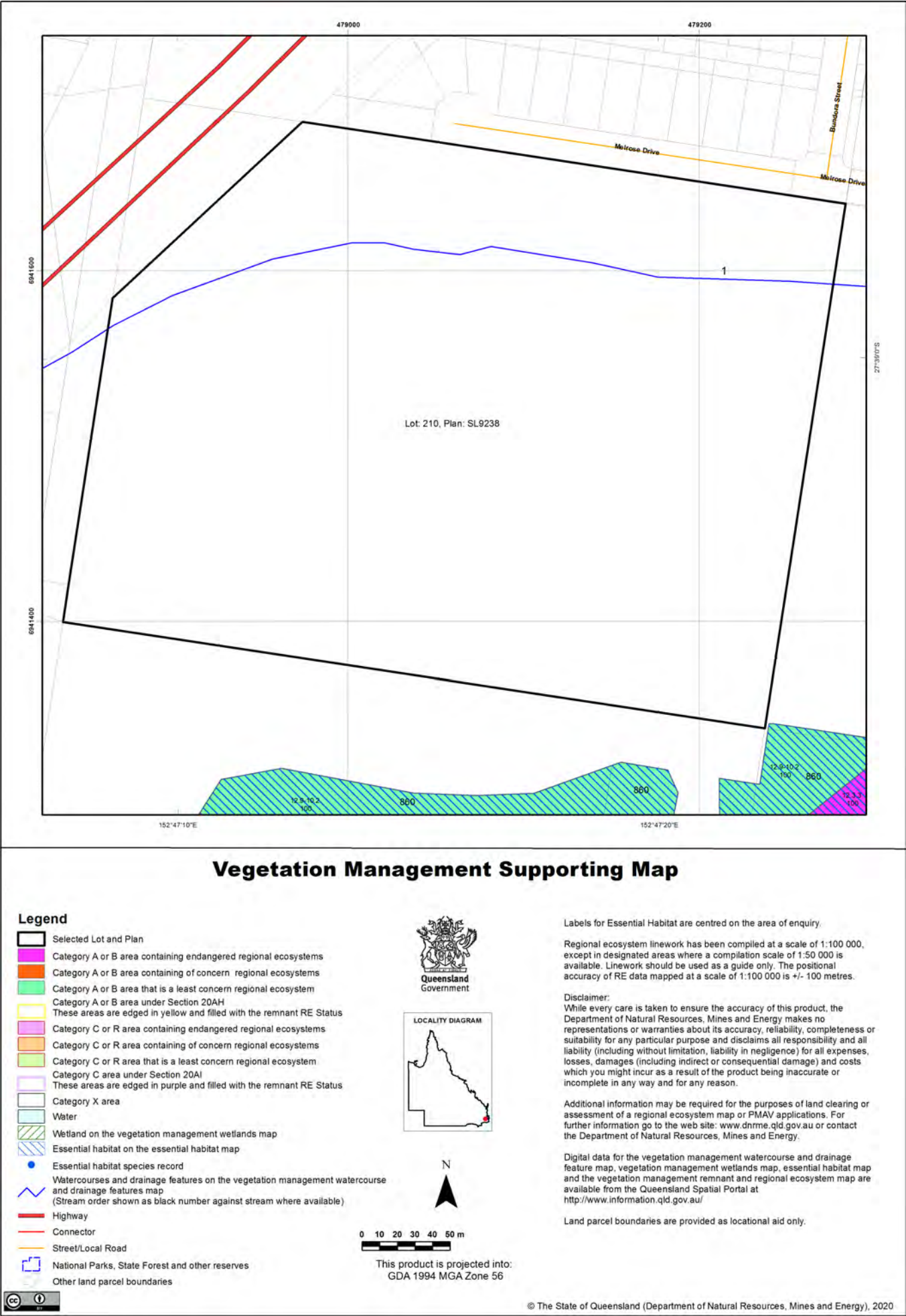
Agricultural Land Class A or B

The Agricultural Land Class map confirms the location and extent of land mapped as Agricultural Land Classes A or B as identified on the State Planning Interactive Mapping System. Please note that this map does not include areas identified as Agricultural Land Class A or B in local government planning schemes. This map can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code.

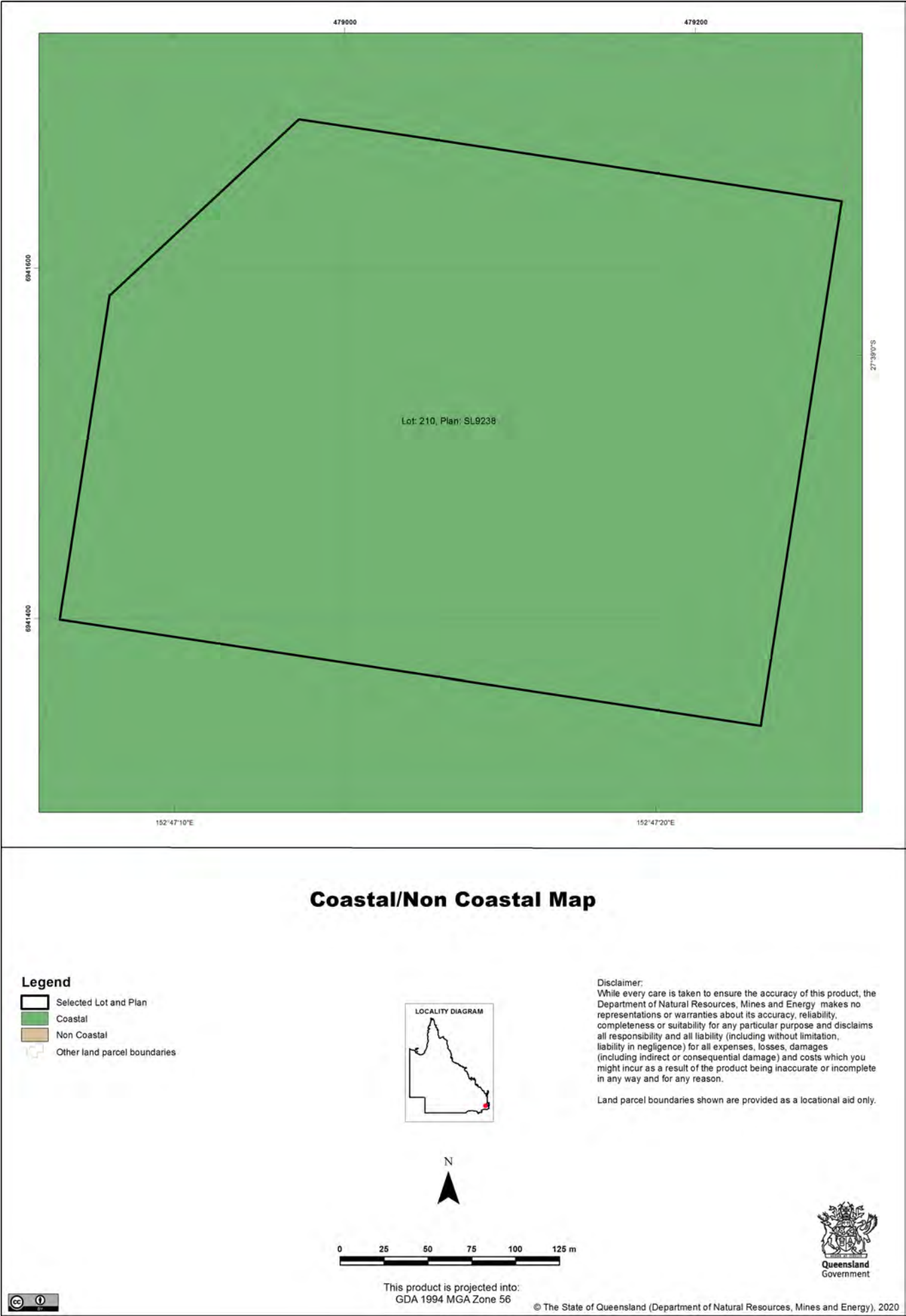
4.1 Regulated vegetation management map



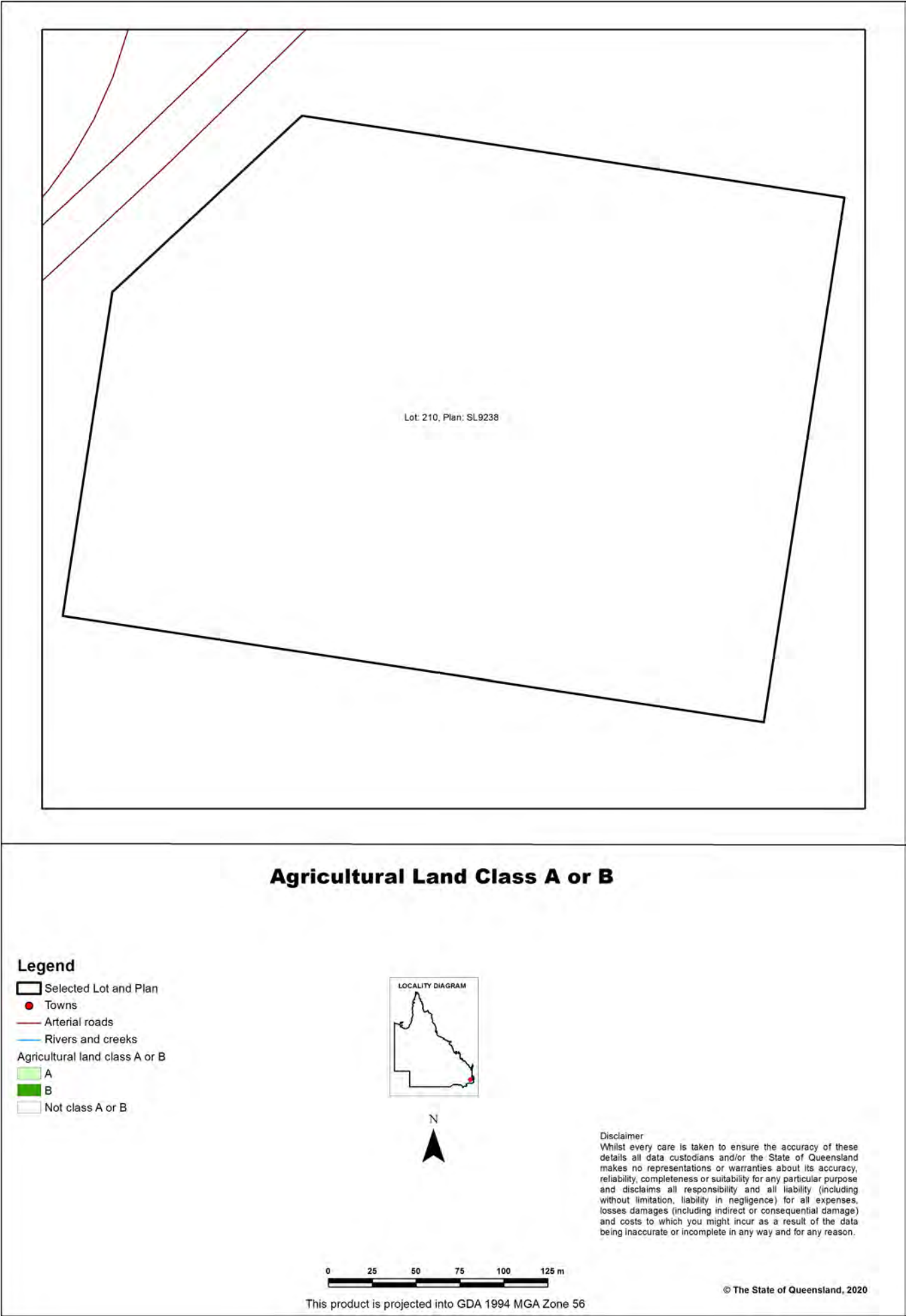
4.2 Vegetation management supporting map



4.3 Coastal/non-coastal map



4.4 Agricultural Land Class A or B map



5. Protected plants framework (administered by the Department of Environment and Science (DES))

In Queensland, all plants that are native to Australia are protected plants under the [Nature Conservation Act 1992](#) (NCA). The NCA regulates the clearing of protected plants 'in the wild' (see [Operational policy: When a protected plant in Queensland is considered to be 'in the wild'](#)) that are listed as critically endangered, endangered, vulnerable or near threatened under the Act.

Please note that the protected plant clearing framework applies irrespective of the classification of the vegetation under the *Vegetation Management Act 1999* and any approval or exemptions given under another Act, for example, the *Vegetation Management Act 1999* or *Planning Regulation 2017*.

5.1 Clearing in high risk areas on the flora survey trigger map

The 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. The flora survey trigger map for this property is provided in section 5.5.

If you are proposing to clear an area shown as high risk on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken by a suitably qualified person in accordance with the [Flora survey guidelines](#). The main objective of a flora survey is to locate any EVNT plants that may be present in the clearing impact area.

If the flora survey identifies that EVNT plants are not present within the clearing impact area or clearing within 100m of EVNT plants can be avoided, the clearing activity is exempt from a permit. An [exempt clearing notification form](#) must be submitted to the Department of Environment and Science, with a copy of the flora survey report, at least one week prior to clearing.

If the flora survey identifies that EVNT plants are present in, or within 100m of, the area to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the [application form clearing permit](#).

5.2 Clearing outside high risk areas on the flora survey trigger map

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that EVNT plants are present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

5.3 Exemptions

Many activities are 'exempt' under the protected plant clearing framework, which means that clearing of native plants that are in the wild can be undertaken for these activities with no need for a flora survey or a protected plant clearing permit. The Information sheet - General exemptions for the take of protected plants provides some of these exemptions.

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) under the *Vegetation Management Act 1999* (i.e. listed in Schedule 21 of the Planning Regulations 2017) while some are different.

5.4 Contact information for DES

For further information on the protected plants framework:

Phone 1300 130 372 (and select option four)

Email palm@des.qld.gov.au

Visit <https://www.qld.gov.au/environment/plants-animals/plants/protected-plants>

5.5 Protected plants flora survey trigger map

This map included may also be requested individually at: <https://apps.des.qld.gov.au/map-request/flora-survey-trigger/>.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.






Species information

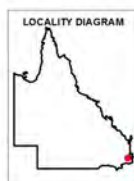
Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the [Queensland Spatial Catalogue](#), the Department of Environment and Science does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of Environment and Science webpage on the [clearing of protected plants](#) for more information.



Protected Plants Flora Survey Trigger Map

Legend

-  Selected Lot and Plan
-  High risk area
-  Other land parcel boundaries
-  Freeways / motorways / highways
-  Secondary roads / streets



0 10 20 30 40 50 m

This product is projected into:
GDA 1994 MGA Zone 56

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Science at palm@ehp.qld.gov.au

Disclaimer:
While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

© The State of Queensland (Department of Environment and Science), 2020

6. Koala protection framework (administered by the Department of Environment and Science (DES))

The koala (*Phascolarctos cinereus*) is listed in Queensland as vulnerable by the Queensland Government under *Nature Conservation Act 1992* and by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Queensland Government's koala protection framework is comprised of the *Nature Conservation Act 1992*, the Nature Conservation (Animals) Regulation 2020, the Nature Conservation (Koala) Conservation Plan 2017, the *Planning Act 2016* and the Planning Regulation 2017.

6.1 Koala mapping

6.1.1 Koala districts

The parts of Queensland where koalas are known to occur has been divided into three koala districts - koala district A, koala district B and koala district C. Each koala district is made up of areas with comparable koala populations (e.g. density, extent and significance of threatening processes affecting the population) which require similar management regimes.

Section 7.1 identifies which koala district your property is located in.

6.1.2 Koala habitat areas

Koala habitat areas are areas of vegetation that have been determined to contain koala habitat that is essential for the conservation of a viable koala population in the wild based on the combination of habitat suitability and biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water). In order to protect this important koala habitat, clearing controls have been introduced into the Planning Regulation 2017 for development in koala habitat areas.

Please note that koala habitat areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

There are two different categories of koala habitat area (core koala habitat area and locally refined koala habitat), which have been determined using two different methodologies. These methodologies are described in the document [Spatial modelling in South East Queensland](#).

Section 7.2 shows any koala habitat area that exists on your property.

Under the Nature Conservation (Koala) Conservation Plan 2017, an owner of land (or a person acting on the owner's behalf with written consent) can request to make, amend or revoke a koala habitat area determination if they believe, on reasonable grounds, that the existing determination for all or part of their property is incorrect.

More information on requests to make, amend or revoke a koala habitat area determination can be found in the document [Guideline - Requests to make, amend or revoke a koala habitat area determination](#).

The koala habitat area map will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

Changes to the koala habitat area map which occur between annual updates because of a request to make, amend or revoke a koala habitat area determination can be viewed on the register of approved requests to make, amend or revoke a koala habitat area available at: <https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/koalamaps>. The register includes the lot on plan for the change, the date the decision was made and the map issued to the landholder that shows areas determined to be koala habitat areas.

6.1.3 Koala priority areas

Koala priority areas are large, connected areas that have been determined to have the highest likelihood of achieving conservation outcomes for koalas based on the combination of habitat suitability, biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water) and a koala conservation cost benefit analysis.

Conservation efforts will be prioritised in these areas to ensure the conservation of viable koala populations in the wild including a focus on management (e.g. habitat protection, habitat restoration and threat mitigation) and monitoring. This includes a prohibition on clearing in koala habitat areas that are in koala priority areas under the Planning Regulation 2017 (subject to some exemptions).

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley,

Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

Section 7.2 identifies if your property is in a koala priority area.

6.1.4 Identified koala broad-hectare areas

There are seven identified koala broad-hectare areas in SEQ. These are areas of koala habitat that are located in areas committed to meet development targets in the SEQ Regional Plan to accommodate SEQ's growing population including bring-forward Greenfield sites under the Queensland Housing Affordability Strategy and declared master planned areas under the repealed *Sustainable Planning Act 2009* and the repealed *Integrated Planning Act 1997*.

Specific assessment benchmarks apply to development applications for development proposed in identified koala broad-hectare areas to ensure koala conservation measures are incorporated into the proposed development.

Section 7.2 identifies if your property is in an identified koala broad-hectare area.

6.2 Koala habitat planning controls

On 7 February 2020, the Queensland Government introduced new planning controls to the Planning Regulation 2017 to strengthen the protection of koala habitat in South East Queensland (i.e. koala district A).

More information on these planning controls can be found here:

<https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy>.

As a high-level summary, the koala habitat planning controls make:

- development that involves interfering with koala habitat (defined below) in an area that is both a koala priority area and a koala habitat area, prohibited development (i.e. development for which a development application cannot be made);
- development that involves interfering with koala habitat (defined below) in an area that is a koala habitat area but is not a koala priority area, assessable development (i.e. development for which development approval is required); and
- development that is for extractive industries where the development involves interfering with koala habitat (defined below) in an area that is both a koala habitat area and a key resource area, assessable development (i.e. development for which development approval is required).

Interfering with koala habitat means:

- 1) Removing, cutting down, ringbarking, pushing over, poisoning or destroying in anyway, including by burning, flooding or draining native vegetation in a koala habitat area; but
- 2) Does not include destroying standing vegetation stock or lopping a tree.

However, these planning controls do not apply if the development is exempted development as defined in Schedule 24 of the [Planning Regulation 2017](#). More information on exempted development can be found here:

<https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy>.

There are also assessment benchmarks that apply to development applications for:

- building works, operational works, material change of use or reconfiguration of a lot where:
 - the local government planning scheme makes the development assessable;
 - the premises includes an area that is both a koala priority area and a koala habitat area; and
 - the development does not involve interfering with koala habitat (defined above); and
- development in identified koala broad-hectare areas.

The [Guideline - Assessment Benchmarks in relation to Koala Habitat in South East Queensland assessment benchmarks](#) outlines these assessment benchmarks, the intent of these assessment benchmarks and advice on how proposed development may meet these assessment benchmarks.

6.3 Koala Conservation Plan clearing requirements

Section 10 and 11 of the [Nature Conservation \(Koala\) Conservation Plan 2017](#) prescribes requirements that must be met when clearing koala habitat in koala district A and koala district B.

These clearing requirements are independent to the koala habitat planning controls introduced into the Planning Regulation 2017, which means they must be complied with irrespective of any approvals or exemptions offered under other legislation.

Unlike the clearing controls prescribed in the Planning Regulation 2017 that are to protect koala habitat, the clearing requirements prescribed in the Nature Conservation (Koala) Conservation Plan 2017 are in place to prevent the injury or death of koalas when koala habitat is being cleared.

6.4 Contact information for DES

For further information on the koala protection framework:

Phone 13 QGOV (13 74 68)

Email koala.assessment@des.qld.gov.au

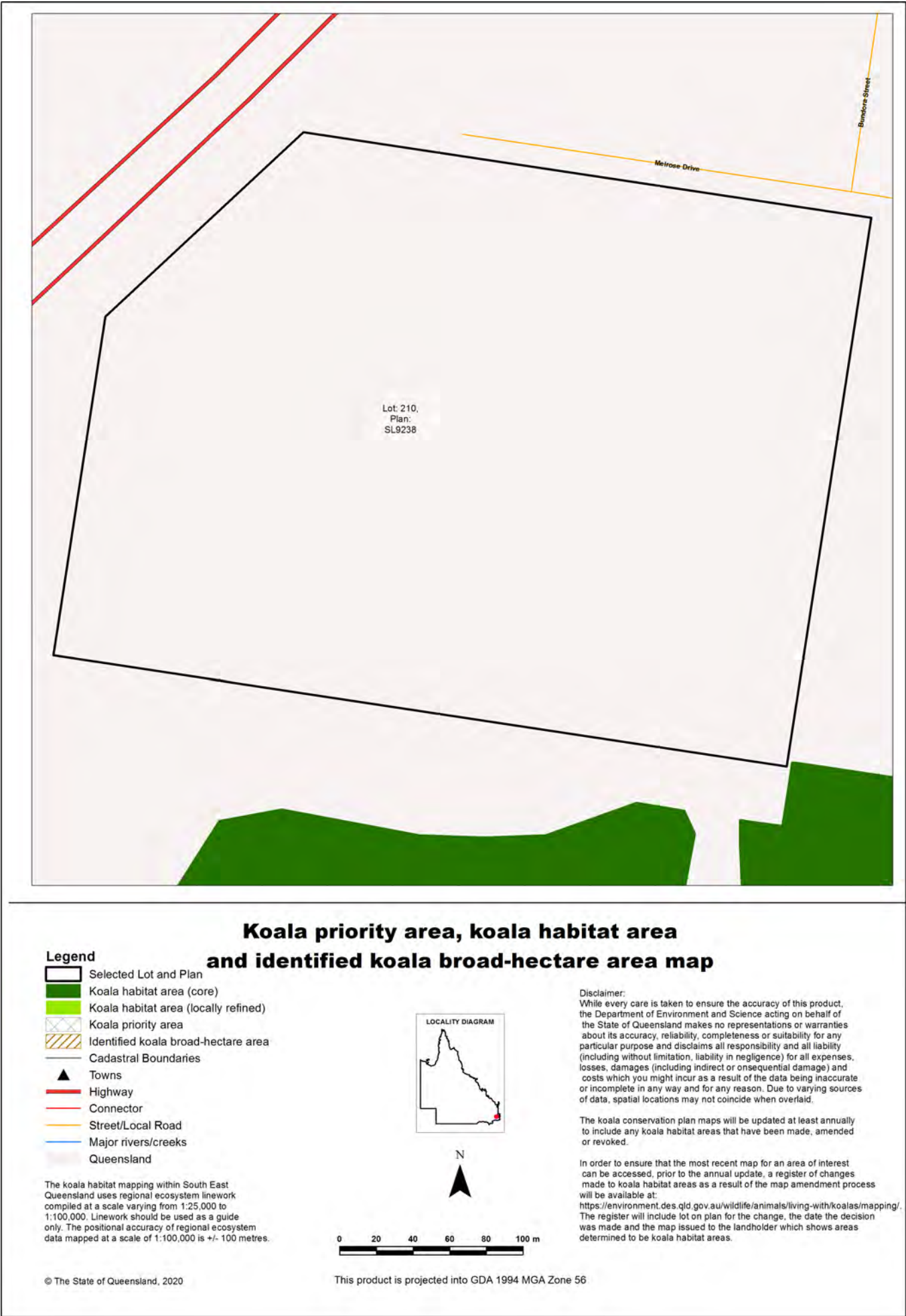
Visit <https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping>

7. Koala protection framework details for Lot: 210 Plan: SL9238

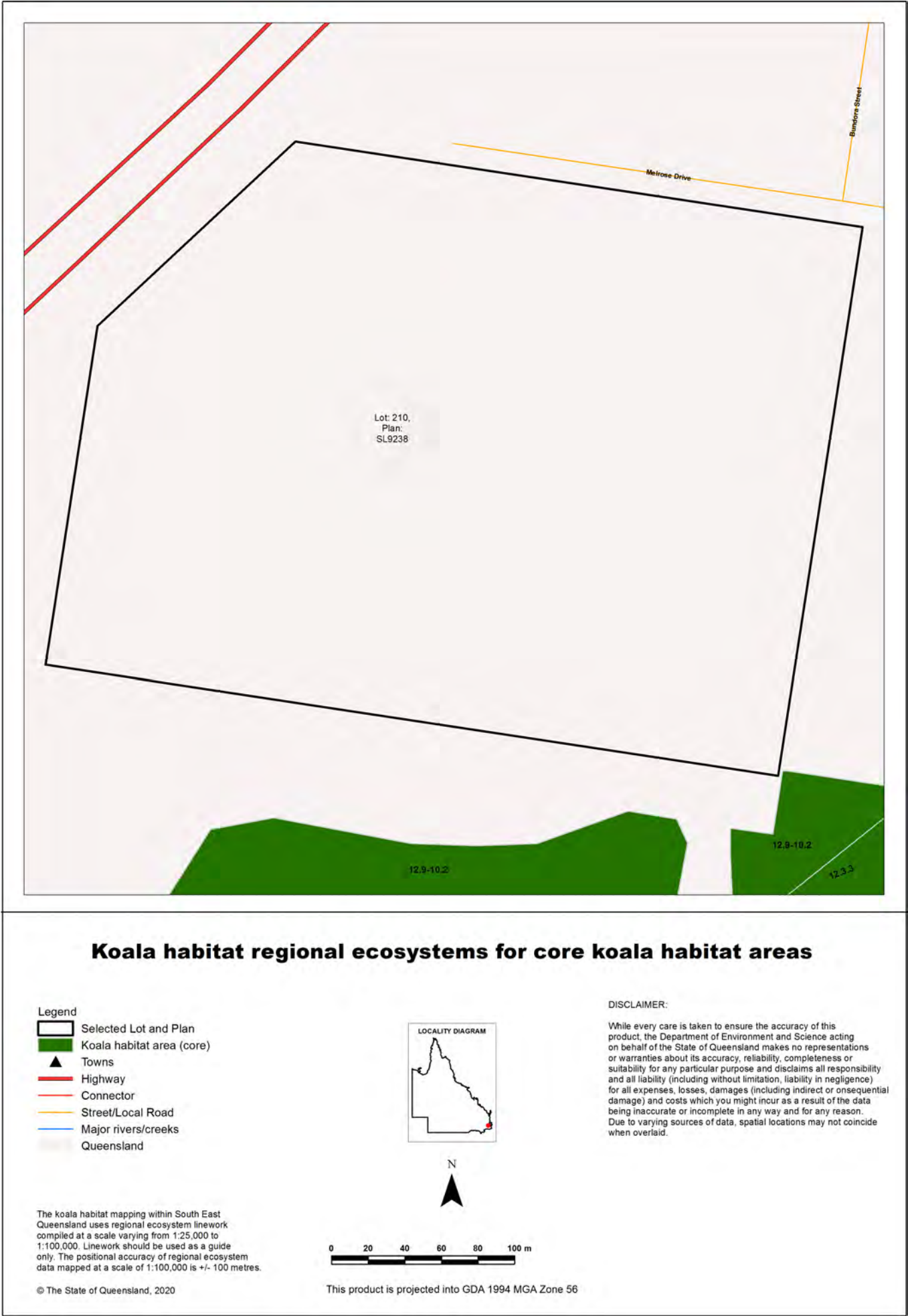
7.1 Koala districts

Koala District A

7.2 Koala priority area, koala habitat area and identified koala broad-hectare area map



7.3 Koala habitat regional ecosystems for core koala habitat areas



8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
<ul style="list-style-type: none"> • Interference with overland flow • Earthworks, significant disturbance 	<i>Water Act 2000</i> <i>Soil Conservation Act 1986</i>	Department of Natural Resources, Mines and Energy (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dnrme.qld.gov.au
<ul style="list-style-type: none"> • Indigenous Cultural Heritage 	<i>Aboriginal Cultural Heritage Act 2003</i> <i>Torres Strait Islander Cultural Heritage Act 2003</i>	Department of Aboriginal and Torres Strait Islander Partnerships (Queensland Government)	Ph: 13 QGOV (13 74 68) www.datsip.qld.gov.au
<ul style="list-style-type: none"> • Mining and environmentally relevant activities • Infrastructure development (coastal) • Heritage issues • Protected areas 	<i>Environmental Protection Act 1994</i> <i>Coastal Protection and Management Act 1995</i> <i>Queensland Heritage Act 1992</i> <i>Nature Conservation Act 1992</i>	Department of Environment and Science (Queensland Government)	Ph: 13 QGOV (13 74 68) www.des.qld.gov.au
<ul style="list-style-type: none"> • Interference with fish passage in a watercourse, mangroves • Forestry activities on State land tenures 	<i>Fisheries Act 1994</i> <i>Forestry Act 1959</i>	Department of Agriculture and Fisheries (Queensland Government)	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
<ul style="list-style-type: none"> • Matters of National Environmental Significance including listed threatened species and ecological communities 	<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Department of the Environment (Australian Government)	Ph: 1800 803 772 www.environment.gov.au
<ul style="list-style-type: none"> • Development and planning processes 	<i>Planning Act 2016</i> <i>State Development and Public Works Organisation Act 1971</i>	Queensland Treasury Department of State Development, Tourism and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dsdmip.qld.gov.au www.statedevelopment.qld.gov.au
<ul style="list-style-type: none"> • Local government requirements 	<i>Local Government Act 2009</i> <i>Planning Act 2016</i>	Department of Local Government, Racing and Multicultural Affairs (Queensland Government)	Ph: 13 QGOV (13 74 68) Your relevant local government office