



Attachment 7 Environmental Report

Prepared by SHG



Ecological Assessment Report

680 & 690 Chambers Flat Road and 691, 699 & 715 Logan
Reserve Road, Logan Reserve

Queensland, 4133

Prepared for JLF Group Pty Ltd

10 November 2021



Document control

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Acronyms

DAF	Department of Agriculture and Fisheries (Qld)
DAMS	Development Assessment Mapping System
DES	Department of Environment and Science
DSDMIP	Department of State Development, Manufacturing, Infrastructure and Planning
EAR	Ecological Assessment Report
EPBC	Environment Protection and Biodiversity Conservation Act 1999 (Cth)
EVNT	Endangered, Vulnerable or Near Threatened as listed under the NC Act
LCC	Logan City Council
MCU	Material Change of Use
MLES	Matters of Local Environmental Significance
MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
NC Act	Nature Conservation Act 1992
NCAR	Nature Conservation (Animals) Regulation 2020
NCPR	Nature Conservation (Plants) Regulation 2020
PA	Planning Act 2016 (Qld)
PMST	Protected Matters Search Tool
PR	Planning Regulation 2017 (Qld)
ROL	Reconfiguration of a Lot
SARA	State Assessment Referral Agency (part of DSDMIP)
SPP	State Planning Policy 2017 (Qld)
VM Act	Vegetation Management Act 1999 (Qld)
SRI	Significant Residual Impact

1. Introduction

Saunders Havill Group was engaged by JLF Group Pty Ltd to prepare an Ecological Assessment Report (EAR) for land located at Chambers Flat Road and Logan Reserve Road, Logan Reserve, described as Lot 12, 13, 26, 28 and 29 on RP106853, which is intended to support a development application to Logan City Council (LCC). This report provides a review of the site’s ecological values in accordance with Commonwealth, State and Local Government legislation.

Contextually, the site is located in the Logan City Council Local Government Area within the South-east Queensland Bioregion (Moreton Basin) and is zoned as Emerging Community. The survey site is located between Chambers Flat Road to the west and Logan Reserve Road to the east with future developments further west and north, and rural residential properties to the north and south (refer **Figure 1** - Site Aerial and **Figure 2** - Site Context).

- North-west: -27.7277°, 153.0901°
- North-east: -27.7301°, 153.0944°
- South-east: -27.7319°, 153.0923°
- South-west: -27.7999°, 153.0897°

The proposal is for 118 new residential lots, open space, stormwater basins and new roads. Refer to **Appendix A** for the proposed development layout.

1.1. Property summary

Table 1: Property summary

Address	680 & 690 Chambers Flat Road and 691, 699 & 715 Logan reserve Road, Logan Reserve, Queensland 4133
Area (ha)	10.18 ha
Lots	Lot 12 on RP106853 Lot 13 on RP106853 Lot 26 on RP106853 Lot 28 on RP106853 Lot 29 on RP106853
VM Act 1999	Category X (non-remnant) – 8.46 ha Category B Remnant (Least Concern) – 1.72 ha
MSES	MSES – Wildlife habitat (endangered or vulnerable) MSES – Wildlife habitat (koala habitat areas – core) MSES – Regulated vegetation (essential habitat)
Koala Habitat	Not within KPA Contains Koala Habitat Area (core)
LGA	Logan City Council

Planning Scheme

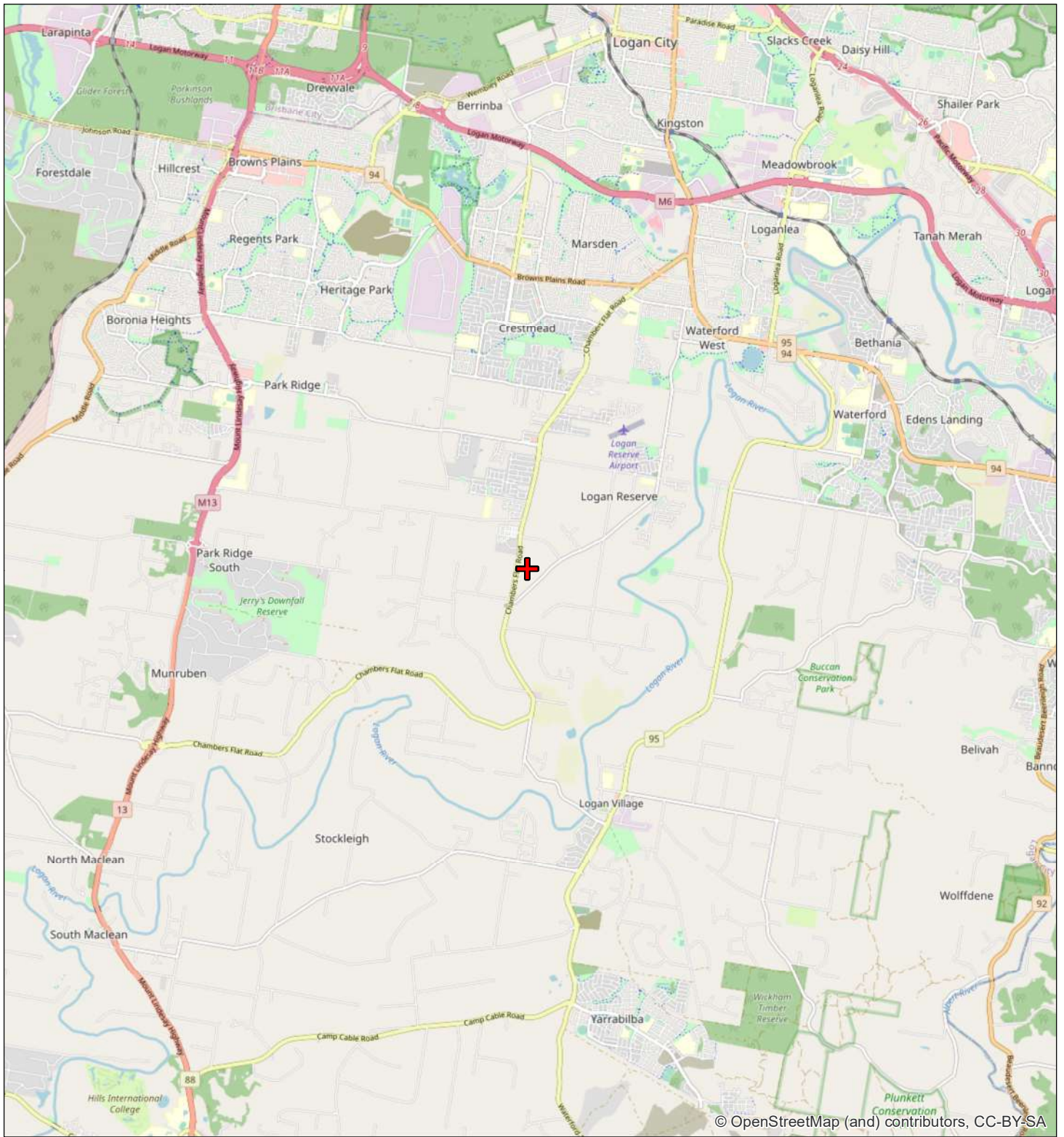
Logan City Planning Scheme

Environmental overlays

Biodiversity Area
Primary vegetation management area
Secondary vegetation management area
Matters of State and Local Environmental Significance
Waterway corridor trigger
Minor Waterway

1.2. Purpose of the report

The purpose of this EAR is to present the outcomes of fauna surveys, identify additional environmental site constraints, assess the potential of the project to impact on ecological features and respond to relevant Logan City Planning Scheme Policies and Codes.



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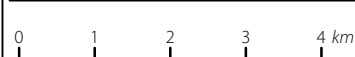
Legend

 Site DCDB

Figure 1
Site Context

JLF Group Pty Ltd

File ref. 10778 E Figure 1 Site Context A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve



Scale (A4): 1:100,000 [GDA 2020 MGA Z56]



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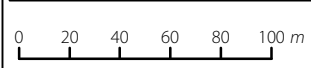
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-  Site DCDB
-  Qld DCDB

Figure 2

Site Aerial

File ref. 10778 E Figure 2 Site Aerial A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve



Scale (A4): 1:3,000 [GDA 2020 MGA Z56]



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2. Ecological assessment methodology and process

The following steps were undertaken in the preparation of this assessment:

1. Desktop analysis;
2. Legislation and policy review;
3. Field survey;
4. Development analysis; and
5. Conclusion and recommendations.

Details of the methodology undertaken for each of the assessment phases is provided in the following sections.

2.1. Desktop analysis methodology

Prior to the commencement of field surveys, a desktop analysis was conducted of Commonwealth, State and Local environmental databases and overlay mapping. Desktop analysis searches included the following:

- Commonwealth Matters of National Environmental Significance protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on and around the site using the Protected Matters Search Tool (PMST);
- *Nature Conservation Act 1992* (NC Act) listed threatened species on and around the site using the Wildlife Online Database;
- Public environmental databases, including Atlas of Living Australia and BioMaps;
- State Government environmental overlay mapping, including:
 - Regulated Vegetation Maps under the *Vegetation Management Act 1999* (VM Act);
 - Flora Survey Trigger Areas under the NC Act;
 - Fish habitat and Waterway for Waterway Barrier Works under the *Fisheries Act 1994*;
 - Watercourses under the *Water Act 2000*;
 - Weeds under the *Biosecurity Act 2014*;
 - Coastal Development and Tidal Works (SARA Coastal Protection) under the Coastal Protection and Management Act 1995; and
 - Matters of State Environmental Significance under the State Planning Policy (SPP) (i.e. wetland protection areas, koala habitat, etc.); and relevant planning scheme documents and maps.
- Local Government (Logan City Planning Scheme) environmental overlay mapping including:
 - Environmental significance - coverage of MLES and MSES

- Waterways and wetlands - waterway corridor through southern extent of the site
- Vegetation Management -
 - o Medium bushfire potential mapped across the site

A review of aerial photography history was undertaken to assist with the broad delineation of vegetation communities and to identify historical patterns and their potential effects on current local vegetation communities.

2.2. Field survey methodology

Ecological field surveys were conducted on the subject site in the attempt to confirm presence of potential matters of ecological significance (MNES, MSES and MLES).

2.2.1 Observational survey for significant flora and fauna, habitat trees and biodiversity values

The application area was walked to ensure all flora and fauna species were identified and recorded. Particular attention was paid to any threatened species listed as possibly occurring within or proximal to the application area. Specific micro-assemblages, which may support these threatened species, were also recorded when observed. This included observations of vertebrate fauna present within or proximal to the study area, including faunal lists and status of species significance under the Commonwealth's EPBC Act (using JAMBA, CAMBA, ROKAMBA and the Bonn Convention) and Queensland's NCA.

The observational survey included identification of ecological features and values such as broad vegetation communities, fauna habitats, and ecological corridors. Recording fauna habitat features within the application area included identification of habitat trees present. Specific attention was paid to flora and fauna species listed as significant under Logan City Council legislation.

2.2.2 Spot Assessment Technique (SAT) koala surveys

One SAT survey was conducted within mapped koala habitat with Koala food trees present. SAT surveys involve a single ecologist combing the ground under koala food plant trees (or non-food plant trees if necessary) for a 1-metre radius around the trunk searching for scats. Each tree searched must be greater or equal to 100mm diameter at breast height (DBH) and search of each tree continues for up to 2 minutes. The search can cease prior to the 2-minute limit if scats are detected. Thirty trees meeting the specifications are analysed during each SAT survey.

Three scat meanders were carried out within vegetated areas within the investigation area. Meanders involve walking a winding transect and checking under all trees meeting specifications encountered. Detailed records of each tree are not recorded unless scats are detected. The location of the meander is recorded.

2.2.3 Ground-truthing of vegetation communities

Vegetation was ground-truthed and assessed against current VMA regional ecosystem mapping and pre-clear mapping. Surveys were undertaken in accordance with the requirements of the LCC.

A comprehensive flora survey was undertaken using a methodology consistent with the established formats used by the Queensland Herbarium (Neldner et al. [2005]; Hnatiuk et al. [2009]). Survey methodology

comprised an initial visual audit, followed by quantitative assessment of vegetation associations and communities.

2.2.4 Motion sensor camera trap

Camera trapping involves setting up a fixed digital camera to capture images or video of animals that pass in front of a camera with an infrared trigger. It is a non-invasive technique designed to detect medium to large sized animals as they pass, although it is possible to detect smaller animals depending on the set-up. This method identifies fauna activity beyond the scope of direct observational studies and with the absence of potential observer impacts.

Infrared sensing cameras with an infrared flash that use motion to trigger were deployed. Two (2) cameras were installed across the investigation area. Cameras were attached 30-100 cm from the ground on a tree or post and directed towards a bait station. The cameras were left to record for two (2) weeks, installed on the 15 September and removed on 29 September 2021.

2.2.5 Waterway Assessment

Waterway surveys were completed with the following information collected:

- general description;
- channel shape and modifications;
- in-stream habitat;
- vegetation quality and cover (embankments, channel and overall corridor);
- bed, bank and bar conditions (erosion, scouring, sediment); and
- weed cover.

3. Legislation, policy and planning instruments

3.1. Environment Protection and Biodiversity Conservation Act 1999

The Australian Government’s key piece of environmental legislation is the EPBC Act. The EPBC Act aims to protect and manage matters of environmental significance, which include nationally and internationally important flora, fauna, ecological communities and heritage places.

A search using the Commonwealth’s Protected Matters Search Tool (PMST) was conducted for the site. The search provides a list of wetlands of international significance, threatened ecological communities and threatened species, migratory and marine-listed species which have the potential to be temporarily or permanently located within a 5 km radius from the central point of the site. **Table 2** lists a summary of these results relevant to the site. The complete results of this search are included in **Appendix B**.

Table 2: EPBC Act PMST search results

Wetlands of International Importance		
Moreton Bay – 10-20 km upstream		
Threatened Ecological Communities		
Coastal Swamp Oak (<i>Casuarina glauca</i>) 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		
Poplar Box Grassy Woodland on Alluvial Plains (Endangered) – Community may occur within area		
Swamp Tea-tree (<i>Melaleuca irbyana</i>) Forest of South-east Queensland (Critically Endangered) – Community may occur within area		
White Box-Yellow Box-Blakely’s Red Gum Grassy Woodland and Derived Native Grassland (Critically Endangered) – Community may occur within area		
Threatened Species		
Scientific name	Common name	Status
Birds		
<i>Anthochaera phrygia</i>	Regent Honeyeater	Critically Endangered
<i>Botaurus poiciloptilus</i>	Australasian Bittern	Endangered
<i>Calidris ferruginea</i>	Curlew Sandpiper	Critically Endangered
<i>Erythrotriorchis radiatus</i>	Red Goshawk	Vulnerable
<i>Falco hypoleucos</i>	Grey Falcon	Vulnerable
<i>Geophaps scripta scripta</i>	Squatter Pigeon (southern)	Vulnerable
<i>Grantiella picta</i>	Painted Honeyeater	Vulnerable

Threatened Species		
Scientific name	Common name	Status
<i>Hirundapus caudacutus</i>	White-throated needletail	Vulnerable
<i>Lathamus discolor</i>	Swift Parrot	Critically Endangered
<i>Numenius madagascariensis</i>	Eastern Curlew, Far Eastern Curlew	Critically Endangered
<i>Rostratula australis</i>	Australian Painted Snipe	Endangered
<i>Thinornis rubricollis rubricollis</i>	Hooded plover	Vulnerable
<i>Turnix melanogaster</i>	Black-breasted Button-quail	Vulnerable
Fish		
<i>Maccullochella mariensis</i>	Mary River Cod	Endangered
Frogs		
<i>Mixophyes fleayi</i>	Fleay's Frog	Endangered
Insects		
<i>Argynnis hyperbius inconstans</i>	Australian Fritillary	Critically Endangered
Mammals		
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat, Large Pied Bat	Vulnerable
<i>Dasyurus maculatus maculatus</i> (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)	Endangered
<i>Petauroides volans</i>	Greater Glider	Vulnerable
<i>Phascolarctos cinereus</i> (combined populations of Qld, NSW and ACT)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)	Vulnerable
<i>Potorous tridactylus tridactylus</i>	Long-nosed Potoroo (SE mainland)	Vulnerable
<i>Pseudomys novaehollandiae</i>	New Holland mouse	Vulnerable
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Vulnerable
Plants		
<i>Arthraxon hispidus</i>	Hairy-joint Grass	Vulnerable
<i>Bosistoa transversa</i>	Three-leaved Bosistoa, Yellow Satinheart	Vulnerable
<i>Cryptocarya foetida</i>	Stinking cryptocarpa	Vulnerable
<i>Cupaniopsis shirleyana</i>	Wedge-leaf tuckeroo	Vulnerable
<i>Dichanthium setosum</i>	Bluegrass	Vulnerable
<i>Diploglottis campbellii</i>	Small-leaved Tamarind	Endangered
<i>Endiandra floydii</i>	Floyd's walnut	Endangered
<i>Fontainea venosa</i>	-	Vulnerable

Threatened Species		
Scientific name	Common name	Status
<i>Gossia gonoclada</i>	Angle-stemmed myrtle	Endangered
<i>Macadamia integrifolia</i>	Macadamia Nut, Queensland Nut Tree, Smooth shelled Macadamia, Bush Nut, Nut Oak	Vulnerable
<i>Macadamia tetraphylla</i>	Rough-shelled Bush Nut, Macadamia Nut, Rough shelled Macadamia, Rough-leaved Queensland Nut	Vulnerable
<i>Notelaea ipsviciensis</i>	Cooneana Olive	Critically Endangered
<i>Phaius australis</i>	Lesser swamp orchid	Endangered
<i>Rhodamnia rubescens</i>	Scrub Turpentine, Brown Malletwood	Critically Endangered
<i>Rhodomyrtus psidioides</i>	Native Guava	Critically Endangered
<i>Samadera bidwillii</i>	Quassia	Vulnerable
<i>Thesium australe</i>	Australa toadflax	Vulnerable
<i>Tylophora woollsii</i>	-	Endangered
Reptiles		
<i>Coeranoscincus reticulatus</i>	Three-toed Snake-tooth Skink	Vulnerable
<i>Delma torquata</i>	Collared Delma	Vulnerable
<i>Saiphos reticulatus</i>	Dunmall's Snake	Vulnerable
Migratory Terrestrial species		
<i>Apus pacificus</i>	Fork-tailed Swift	
<i>Cuculus optatus</i>	Oriental cuckoo	
<i>Monarcha melanopsis</i>	Black-faced monarch	
<i>Monarcha trivirgatus</i>	Spectacled monarch	
<i>Motacilla flava</i>	Yellow Wagtail	
<i>Myiagra cyanoleuca</i>	Satin flycatcher	
<i>Rhipidura rufifrons</i>	Rufous fantail	

3.2. Nature Conservation Act 1992

The NC Act classifies and protects significant areas (Protected Areas) and protects threatened plant and animal species. The *Nature Conservation (Plants) Regulation 2020* (NCPR) and the *Nature Conservation (Animals) Regulation 2020* (NCAR) lists plant and animal species presumed extinct, endangered, vulnerable, near threatened, least concern, international or prohibited. The schedules of this regulation were considered in this report using a wildlife online database search with a 5 km radius from the site. Species listed under the NCAR and NCPR with the potential to occur in and around the subject site are shown in **Table 3**. Refer to **Appendix C** for full search results.

Table 3: NC Act wildlife online search results

Scientific name	Common name	Status
Mammals		
<i>Phascolarctos cinereus</i>	Koala	Vulnerable
<i>Petauroides armillatus</i>	Central Greater Glider	Vulnerable
Plants		
<i>Melaleuca irbyana</i>	Swamp Tea-tree	Endangered

The protected plants regulatory framework under the NC Act commenced on 31 March 2014, establishing approval triggers and processes for clearing protected plants. A protected plant is defined as extinct, endangered, vulnerable and/or near threatened (EVNT) plant species listed by name in Schedules 1-5 of the NCWR and least concern wildlife, not listed by name but identified as a plant indigenous to Australia in Schedule 6.

Under the amended NC Act, a protected plant that is in the wild must not be ‘taken’, which includes being cleared, unless taking is under:

- A conservation plan applicable to the plant;
- A license, permit or other authority under a regulation; or
- An exemption under a regulation.

A search of the protected plants flora survey trigger map identified that the works area is located outside a ‘high risk’ area for protected plants.

Under the NC Act, a native plant is considered to be a protected plant if it is ‘in the wild’ – defined in the NC Act as ‘in an independent state of natural liberty’. No specimens listed under the NC Act were identified within the application area.

3.3. *Vegetation Management Act 1999*

The VM Act is the key mechanism by which the Queensland Government protects the state’s environmental resources pertaining to vegetation. Under the VM Act, a series of maps delineate vegetation features across the landscape, which are each assigned a conservation value directly related to the remaining extent of these features in the landscape. The VM Act also protects ‘essential habitat’ vegetation where listed threatened species have been known to occur.

Regulated vegetation management mapping (shows vegetation categories used to determine clearing requirements. While areas shown on the map as Category X are not regulated under the VM Act, those shown as category A, B, C or R are subject to clearing requirements. The latter vegetation categories can only be cleared in accordance with an exemption, self-assessable vegetation clearing code, area management plan or development approval. A supporting map defining regional ecosystems, wetlands, watercourses and

essential habitat, is provided with the regulated vegetation management map. Approval for clearing of native vegetation is required under the *Planning Act 2016*, specifically, assessment is required against State Code 16: Native Vegetation Clearing of the State Development Assessment Provisions (SDAP) which are administered by the State Assessment and Referral Agency (SARA) which is a division of the Department of Infrastructure, Local Government and Planning (DILGP).

A property search of the Regulated Vegetation Management Map identified the works area as containing a polygon of remnant (Category B) vegetation within Lot 12 (**Figure 3**). This remnant vegetation area is mapped as a single Regional Ecosystem classified as 'Least Concern' (RE12.9-10.4). Notably this vegetation has additional overlays applied to them under the VM Act being mapped as essential habitat for the Koala (*Phascolarctos cinereus*) and Spotted-tail Quoll (*Dasyurus maculatus maculatus*) (refer **Figure 4**).

The remainder of the site is Category X (non-remnant) vegetation. Clearing of non-remnant vegetation is exempt from the provisions of the VM Act. Further, the clearing of Least Concern (and Of Concern) Regulated Vegetation is exempt for an urban purpose in an urban area under Schedule 21 of the Planning Regulation.



Legend










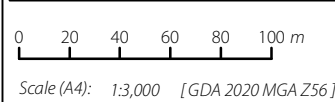
-  Site DCDB
-  Qld DCDB
- Regulated Vegetation**
-  Category A area - Vegetation Offset/Compliance notices/VDecs
-  Category B area - Remnant vegetation
-  Category C area - High value regrowth vegetation
-  Category R area - Reef regrowth watercourse vegetation
-  Category X area - Vegetation not regulated under the VMA
-  Water
-  Area not categorised

Figure 3
Regulated Vegetation Management Map

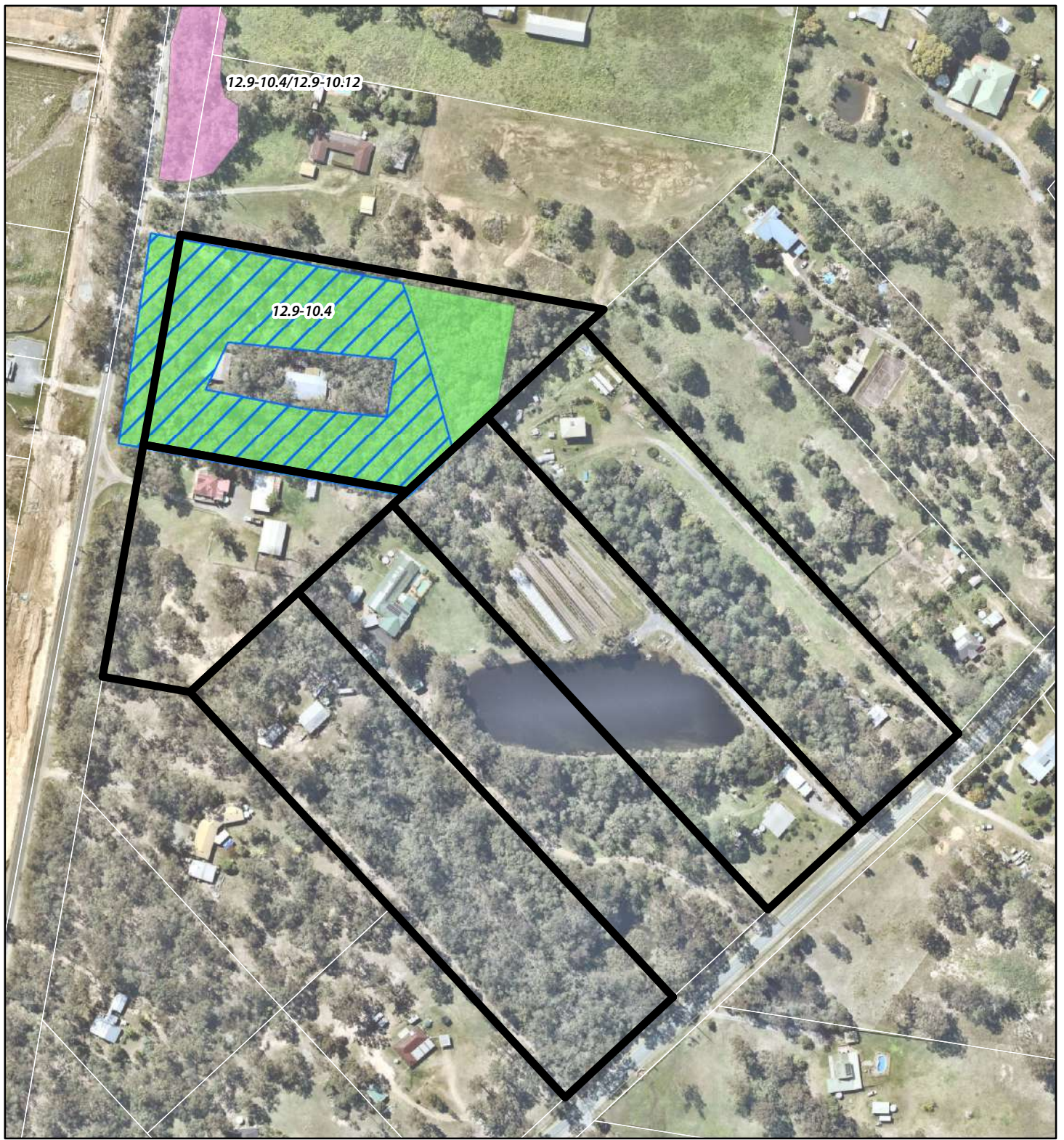
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




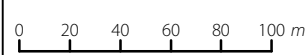
- | | | | |
|--|----------------------|---|---|
|  | Site DCDB | Regional Ecosystems mapping | |
|  | Qld DCDB |  | Category A or B area containing endangered regional ecosystems |
|  | VM Watercourses |  | Category A or B area containing of concern regional ecosystems |
|  | VM Essential Habitat |  | Category A or B area that is a least concern regional ecosystem |
|  | VM Wetland |  | 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 |

Figure 4
Regulated Vegetation Supporting Map

File ref. 10778 E Figure 4 RVSM A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve



Scale (A4): 1:3,000 [GDA 2020 MGA Z56]



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3.4. *Biosecurity Act 2014*

The *Biosecurity Act 2014*, which commenced on 1 July 2016, establishes a framework to regulate and control invasive plants and animals. Under the *Biosecurity Act 2014*, land owners are responsible for taking all reasonable and practical steps to minimise the risks associated with invasive plants and animals under their control. This is known as the general biosecurity obligation (GBO).

The *Biosecurity Act 2014* categorises restricted matter (restricted plants and animals) into the following:

- Category 1: must be reported to an inspector within 24 hours (includes Red Imported Fire Ants, amongst others).
- Category 2: must be reported within 24 hours Biosecurity Queensland on 13 25 23.
- Category 3: must not be distributed either by sale or gift, or released into the environment.
- Category 4: must not be moved.
- Category 5: must not be kept.
- Category 6: must not be fed (animals).
- Category 7: must be euthanised (animals).

Restricted matters observed in the site area are discussed in **Section 4**.

3.5. Koala Legislation - Planning Regulation 2017 – Schedule 11

On February 7th 2020, the Queensland Government introduced new legislation regulating the approach to impacting on Koala habitat. This legislation increased restrictions on habitat within a large portion of south-eastern Queensland and introduced prohibitions for impacting on some parcels of land.

South East Queensland Koala habitat protection mechanisms are incorporated into the *Planning Regulation 2017* (PR). Schedule 10 Part 10 of the Regulation sets out what is and is not prohibited or assessable development in a Koala Habitat Area (KHA). Where inside a Koala Priority Area (KPA), the provisions of Schedule 11 of the Planning Regulation apply unless certain criteria are met (refer Part 10 Division 2 Section 16 A (2)). Where outside of a KPA, development that involves interfering with a Koala Habitat Area is assessable, also unless certain criteria apply (refer Part 10 Division 3 Section 16 B (2)). Development for extractive industries in key resource areas is dealt with under Part 10 Division 4. Development that is assessable outside of a KPA is referable to the State and must address SDAP Code 25 Development in South East Queensland Koala Habitat Areas.

The site is mapped as being entirely outside a Koala Priority Area, however, one polygon of core Koala Habitat Area exists in the north-west of the investigation area within Lot 12 on RP106853 within the mapped remnant vegetation (Refer **Figure 5**).

If the proposed development does not meet exempted development definitions and interferes with a KHA, referral to the State for assessment under State Code 25 is required.

3.6. Fisheries Act 1994 and Water Act 2000

The *Fisheries Act 1994* deals with the use, conservation and improvement of Queensland’s fisheries resources and fish habitats. The legislation deals with the impact from coastal development on marine fish habitat, including protected marine plants, and declared fish habitat areas. Development proposals that modify, or have a temporary or permanent loss of fish habitat are assessed by the Department of Agriculture and Fisheries (DAF).

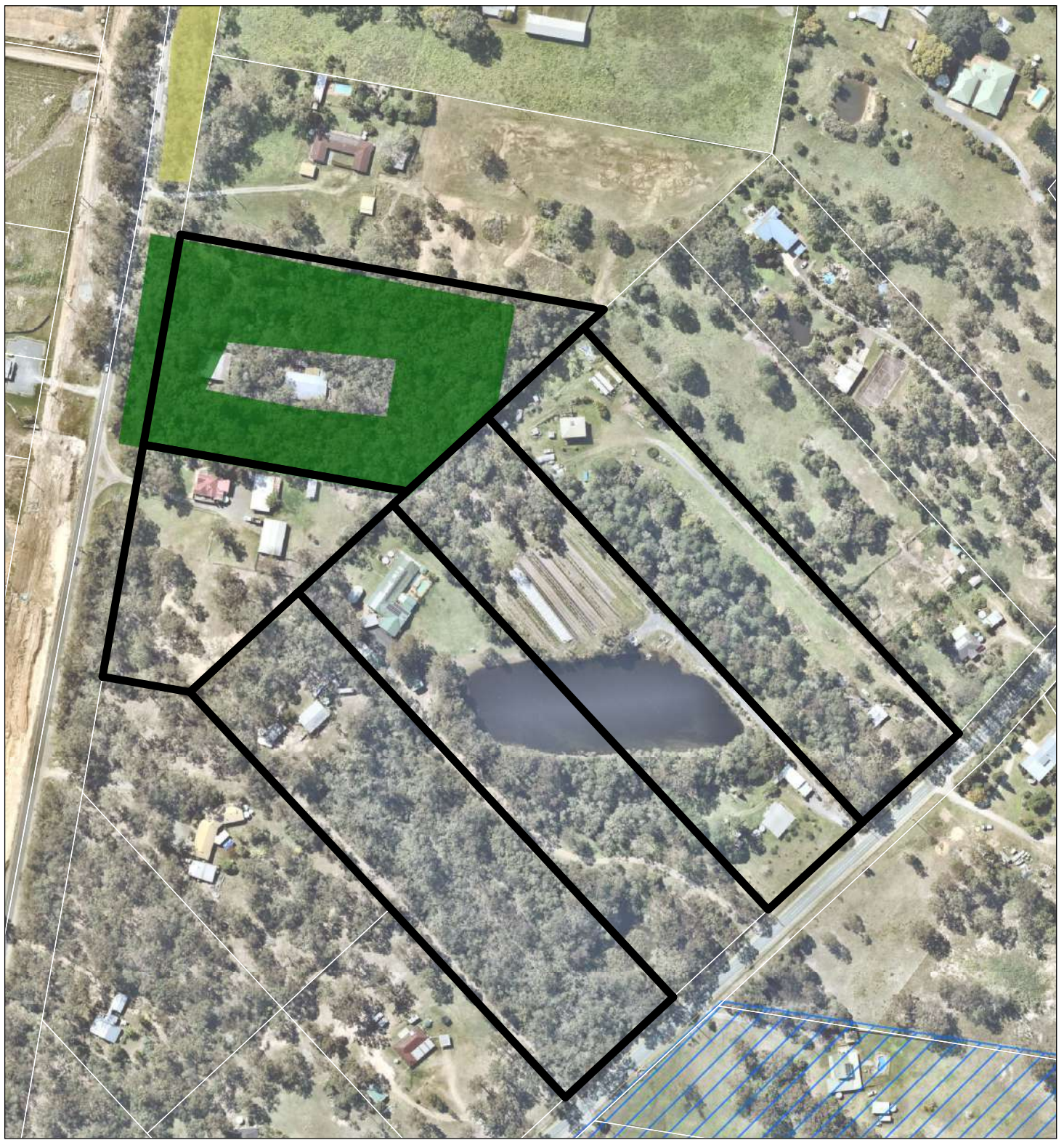
No designated Fish Habitat Areas are mapped onsite. However, one low risk waterway for waterway barrier works (WWBW) is mapped on-site within the south-eastern extent of Lot 26 on RP106853 (refer **Figure 6**). Being Fisheries-mapped waterways, should any operational work be undertaken within the mapped waterways that does not meet Accepted Development Requirements, a response to State Development Assessment Provisions (SDAP) State Code 18: Waterway Barrier Works will be required at operational works.

3.7. Other Queensland environmental legislation

Other Queensland environmental legislation has been reviewed in the context of the proposed development. **Table 4** lists other relevant Queensland legislation that is not triggered by the proposed development, the purpose of the legislation, and its relevance to the proposed development site.

Table 4: Site relevant to other Queensland environmental legislation

Legislation	Purpose	Relevance to development site
Coastal Protection and Management Act 1995	Seeks to protect the coastal resources of the coastal zone through regulation of assessable coastal development	The site does not contain any coastal areas. Therefore, a response to State Code 8 is not required.
State Planning Policy 2017 (SPP)	Provides interim development assessment requirements which ensures that state interests are considered by local government when assessing development applications where the local government planning scheme does not yet integrate the State interests in the SPP. MSES include Biodiversity, Coastal Environment, and Water Quality.	The site is mapped as containing MSES – Wildlife Habitat (endangered or vulnerable & koala habitat areas – core), Regulated vegetation (essential habitat) (refer Figure 7). MSES mapping overlays and requirements of the SPP are required to be incorporated into the LCC Planning Scheme and are reflected in the planning scheme overlays. Compliance with the SPP is addressed through the provisions of the planning scheme.



Legend

-  Site DCDB
-  Qld DCDB

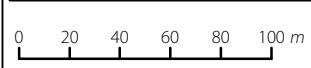
Koala Habitat Areas

-  Core Remnant Koala Habitat Areas
-  Core Regrowth Koala Habitat Areas
-  Locally Refined Koala Habitat Areas
-  Koala Priority Areas

Figure 5

*Koala Priority Areas and
Koala Habitat Areas*

File ref. 10778 E Figure 5 Koala Habitat 2019 A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve



Scale (A4): 1:3,000 [GDA 2020 MGA Z56]



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Legend

-  Site DCDB
-  Qld DCDB
-  1 - Low
-  2 - Moderate
-  3 - High
-  4 - Major
-  Tidal waterway
-  Fish habitat area

Figure 6

Fisheries - Waterways for Waterway Barrier Works

File ref. 10778 E Figure 6 Fisheries Waterways A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve



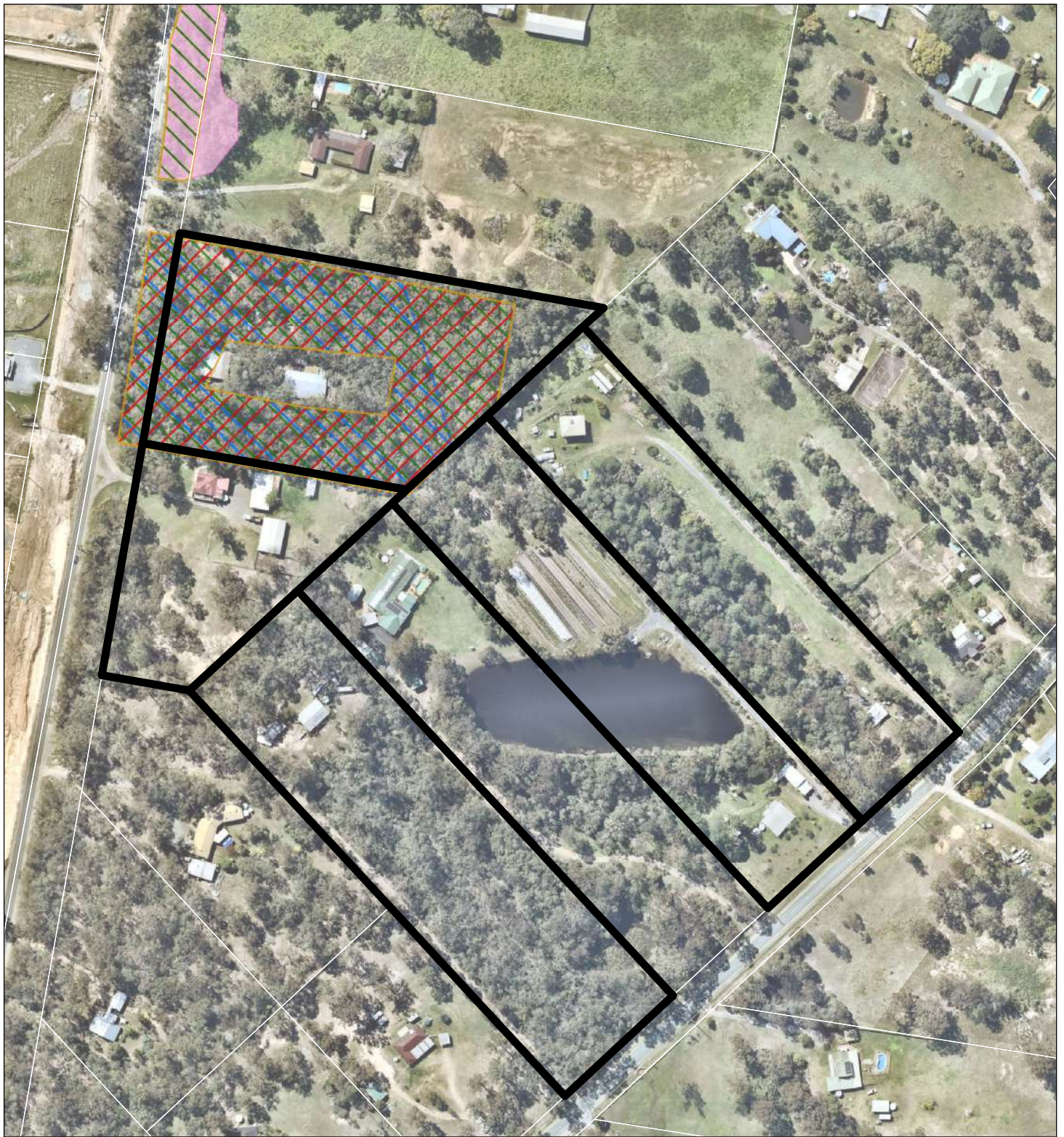
Scale (A4): 1:3,000 [GDA 2020 MGA Z56]



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Legend







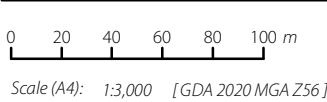
-  Site DCDB
-  Qld DCDB
-  MSES Wildlife habitat (endangered or vulnerable)
-  MSES Wildlife habitat (SEQ koala habitat - core)
-  MSES Regulated vegetation (essential habitat)
-  MSES Regulated vegetation (category C)

Figure 7
Matters of State Environmental Significance

File ref. 10778 E Figure 7 MSES A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve



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3.8. Town planning instruments

The site is located within the jurisdiction of LCC and is subject to the provisions of the LCC Planning Scheme.

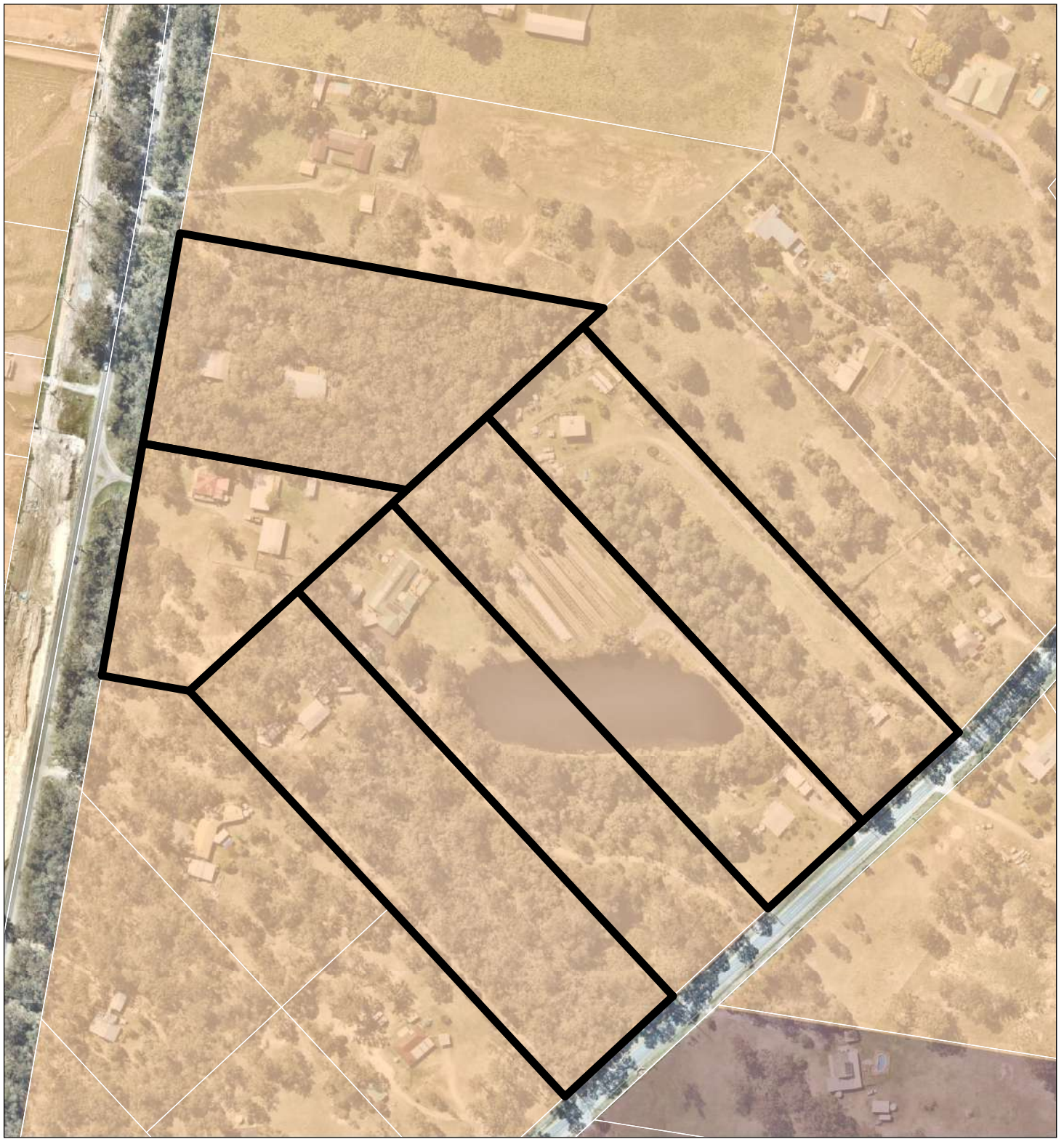
3.8.1 Logan City Council Planning Scheme

The proposed works area is within allotments zoned as emerging community (**Figure 8**).

Under the LCC planning scheme, the proposed works area is mapped with the following ecologically relevant overlays:

- Biodiversity Areas Trigger (**Figure 9**).
- Vegetation Management Areas: mapped with primary and secondary vegetation management areas (**Figure 10**)
- Matters of State and Local Environmental Significance: The works area is mapped as containing MSES and MLES (**Figure 11**).
- Waterways and Waterway Corridors: The works is mapped as containing a minor waterway and waterway corridor (**Figure 12**).

Responses to the Biodiversity Areas Overlay Code and Waterways and Wetlands Overlay Code are provided in **Appendix D**.



Legend

 Site DCDB

Zoning

 Emerging community

 Rural residential

Figure 8
 Logan Planning Scheme 2015
 Zoning

JLF Group Pty Ltd

File ref. 10778 E Figure 8 LCC Zoning A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve



Scale (A4): 1:3,000 [GDA 2020 MGA Z56]

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Legend




-  Site DCDB
-  Qld DCDB
-  Biodiversity areas trigger

Figure 9
 Logan Planning Scheme 2015
 Biodiversity Areas Trigger

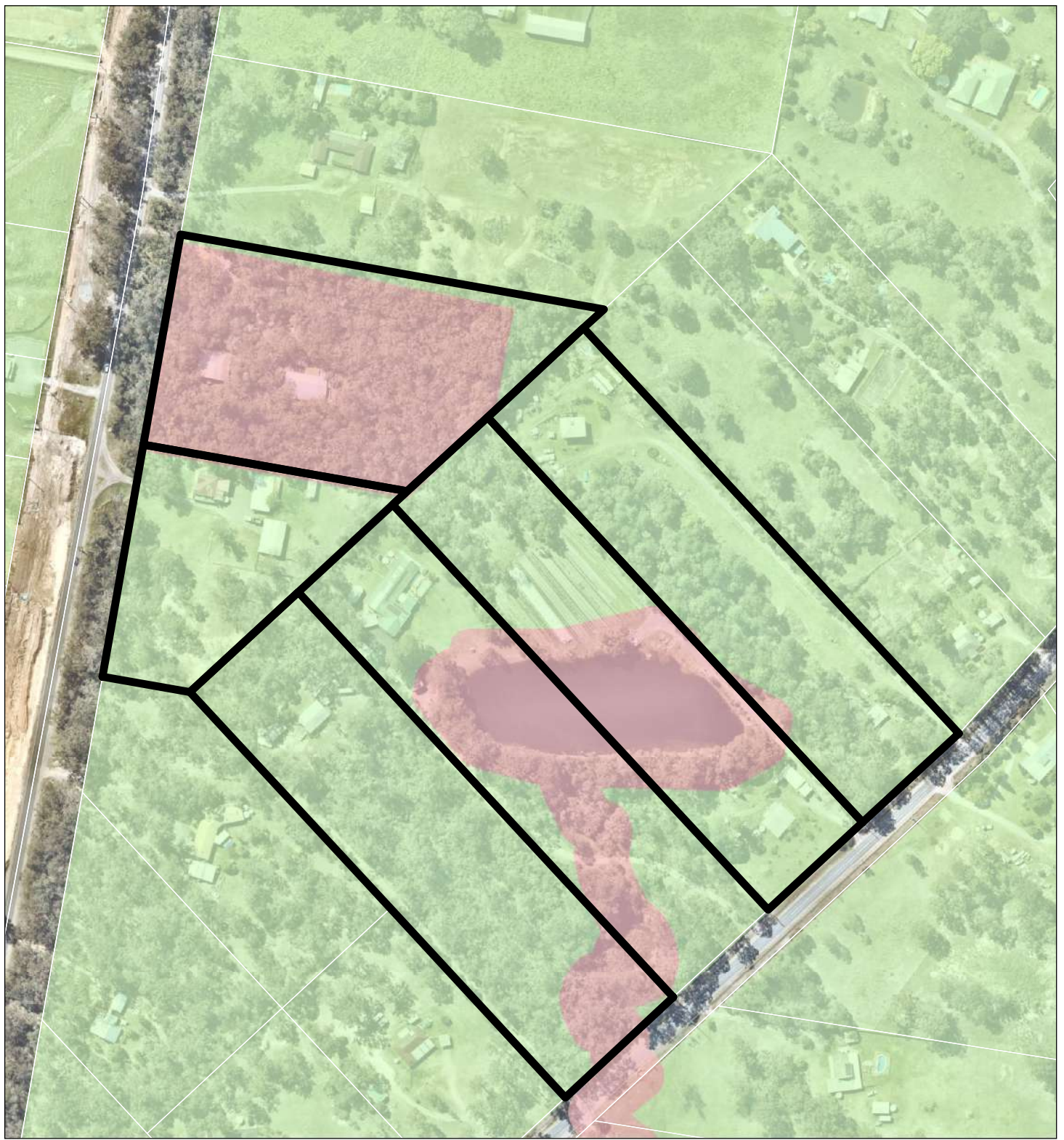
JLF Group Pty Ltd

File ref. 10778 E Figure 9 LCC Bio Corridors A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve



Scale (A4): 1:3,000 [GDA 2020 MGA Z56]

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Legend

-  Site DCDB
-  Qld DCDB

Vegetation Management Areas



-  Primary vegetation management area
-  Secondary vegetation management area

Figure 10
 Logan Planning Scheme 2015
 Vegetation Management Areas

File ref. 10778 E Figure 10 LCC VM Areas A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve



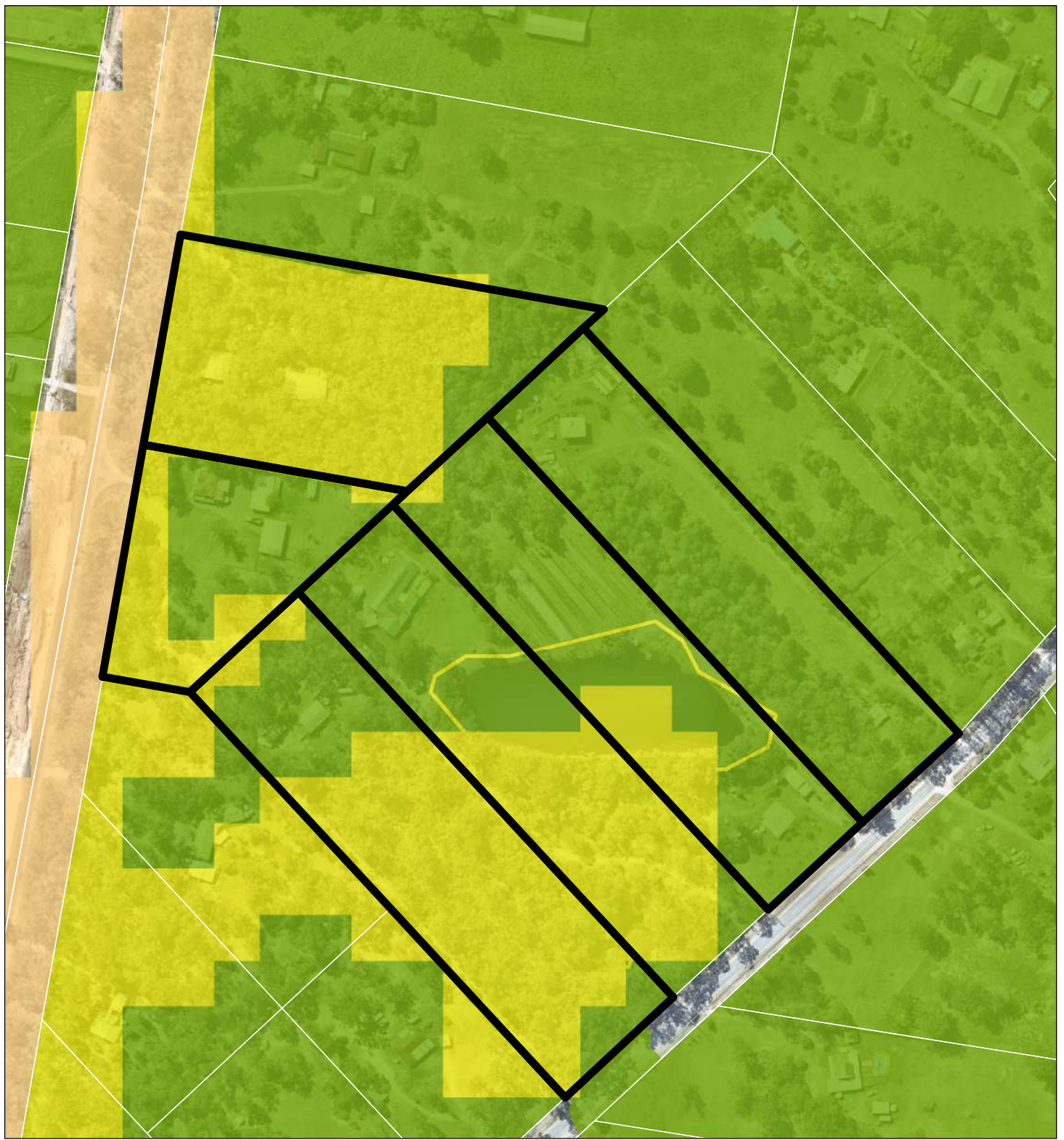
Scale (A4): 1:3,000 [GDA 2020 MGA Z56]



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Legend







-  Site DCDB
-  Qld DCDB
-  Matters of state ecological significance - regulated vegetation (intersecting a watercourse)
-  Matters of both state and local ecological significance - regulated vegetation (intersecting a watercourse)
-  Matters of both state and local ecological significance
-  Matters of local ecological significance
-  Matters of state ecological significance

Figure 11

*Logan Planning Scheme 2015
MSES and MLES*

File ref. 10778 E Figure 11 LCC MSES MLES A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve

0 20 40 60 80 100 m

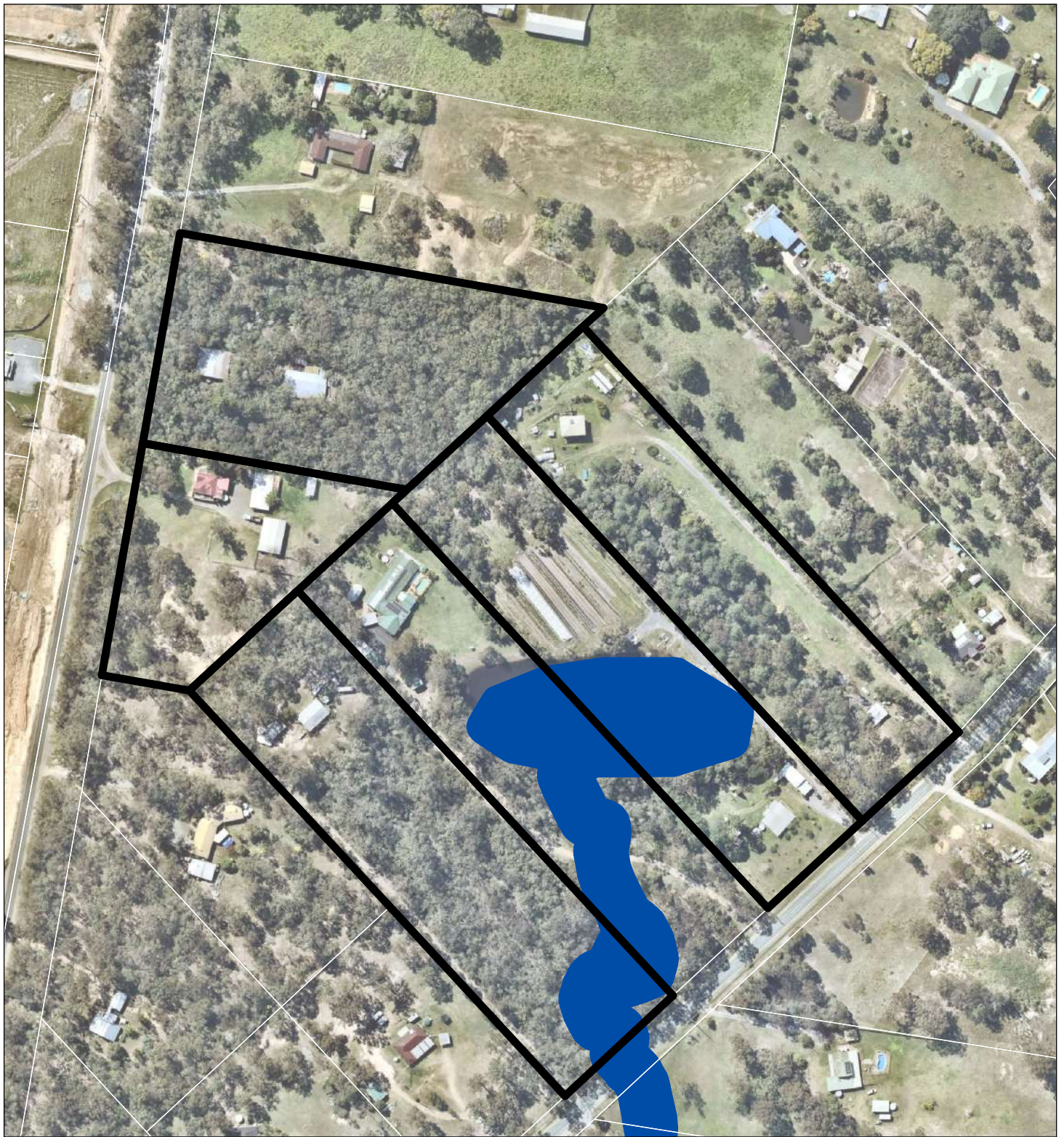
Scale (A4): 1:3,000 [GDA 2020 MGA Z56]



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Legend











- | | |
|--|--|
|  Site DCDB | Wetlands |
|  Qld DCDB |  Major Wetland |
| Waterways |  Minor Wetland |
|  Minor waterway |  Wetland buffer |
|  Medium waterway |  Wetland buffer trigger |
|  Major waterway | |
|  River waterway | |

Figure 12
 Logan Planning Scheme 2015
 Waterway Corridors and Wetlands

JLF Group Pty Ltd

File ref. 10778 E Figure 12 LCC Waterways A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve



Scale (A4): 1:3,000 [GDA 2020 MGA Z56]

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4. Ecological survey results

Ecologists from Saunders Havill Group (SHG) assessed the impact site on 1, 15 and 29 September and 25 October 2021, with weather conditions detailed in **Table 5**. The entire site was walked to ensure all vegetation communities and species were recorded. Particular attention was paid to any threatened flora and habitat for any threatened fauna species that were listed as potentially occurring within the vicinity of the application area, and specific micro assemblage which may support these threatened species. Refer to **Plan 1** for field surveys and ground rectified vegetation communities.

Table 5: Weather Conditions

Date	Weather Conditions	High (°C)	Low(°C)	Rain (mm)
01.09.2021	Clear and sunny throughout survey	26.9	15.6	0.2
15.09.2021	Clear and sunny throughout survey	24.8	9.8	0
29.09.2021	Overcast for the majority of the survey with intermittent light rain	22.5	13.1	0.5
25.10.2021	Clear and sunny throughout survey	27	19.5	0

Bureau of Meteorology 2021 (Weather Station 040854)

4.1. General site survey details

The following observations have been made based on detailed field survey.

- The investigation area incorporates 5 lots totalling approximately 10.18 ha situated between Chambers Flat Road to the west and Logan Reserve Road to the east. Similarly sized rural residential properties are present to the north and south with cleared paddocks and scattered vegetation throughout.
- The investigation area is mapped as containing majority Category X (non-remnant) vegetation with Category B (remnant) vegetation present only on Lot 12 and peripheries. The remnant vegetation includes 'Least Concern' Regional Ecosystem (RE) 12.9-10.4.
- A large dam is present within Lot 28 which extends south into the neighbouring property, and a smaller dam is present on Lot 26.

4.2. Mapped Koala habitat/Category B (remnant)

An area of approximately 2 ha of Category B (remnant) vegetation is mapped within Lot 12 and along its boundaries in the north-west extent of the investigation area consisting of 'Least Concern' RE12.9-10.4.

Remnant mapping within this area was generally correct with species present indicative of RE12.9-10.4. The area is densely vegetated and dominated by *Lophostemon suaveolens* (Swamp Box) and *Corymbia intermedia* (Pink Bloodwood) with *Eucalyptus racemosa* (Scribbly Gum), *Eucalyptus seeana* (Narrow-leaved Red Gum) and *Melaleuca linariifolia* (Snow-in-Summer) (refer **Photo set 1**).

The vegetation is heavily weed infested with both planted and invasive species including *Asparagus africanus* (Climbing Asparagus), *Dansevieria trifasciata* (Mother-in-law's Tongue), *Ochna serrulate* (Ochna), *Philodendron bipinnatifidum* (Tree Philodendron) and *Callisia fragrans* (Purple Succulent). In addition to the house and shed on-site, a significant number of car bodies/scrap metal are present in the central portion of the site (refer **Photo set 2**).

The extent of Koala habitat is generally mapped correctly within the exception of mapping extending over the shed in the western extent of the site. Koala habitat potential was confirmed through the presence of multiple recognised Koala habitat trees; including *Eucalyptus racemosa* (Scribbly Gum), *Corymbia intermedia* (Pink Bloodwood), *Eucalyptus seeana* (Narrow-leaved Red Gum) and *Lophostemon suaveolens* (Swamp Box) (refer **Photo set 1**).

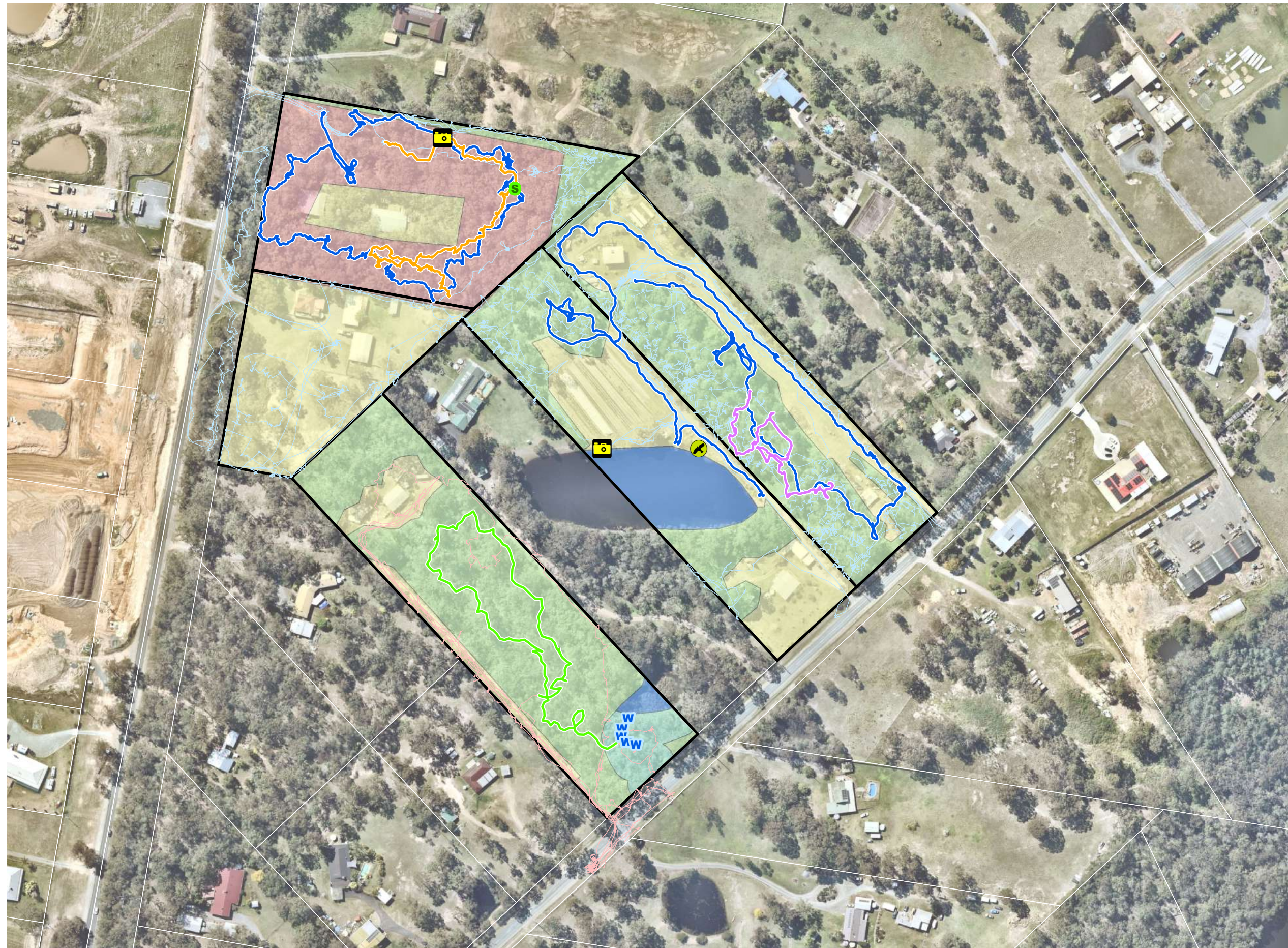


Photo set 1: Confirmed potential Koala habitat with species indicative of mapped 'Least Concern' 12.9-10.4.



Photo set 2: Dense weed infestation present at shrub/ground level as well as a number of car bodies present.

A1. Field Survey Effort



Notes:
 This plan was prepared as a desktop assessment tool. The information on this plan is not suitable for any other purpose. Property dimensions, areas, numbers of lots and contours and other physical features shown have been compiled from existing information and may not have been verified by field survey. These may need verification if the development application is approved and development proceeds, and may change when a full survey is undertaken or in order to comply with development approval conditions. No reliance should be placed on the information on this plan for detailed design or for any financial dealings involving the land. Saunders Havill Group therefore disclaims any liability for any loss or damage whatsoever or howsoever incurred, arising from any party using or relying upon this plan for any purpose other than as a document prepared for the sole purpose of accompanying a development application and which may be subject to alteration beyond the control of the Saunders Havill Group. Unless a development approval states otherwise, this is not an approved plan.

Layer Sources
 © State of Queensland 2021. Updated data available at <http://qldspatial.information.qld.gov.au/catalogue/>
 © Nearmap, 2021
 * This note is an integral part of this plan/data. Reproduction of this plan or any part of it without this note being included in full will render the information shown on such reproduction invalid and not suitable for use.

Legend

- Site DCDB
 - Qld DCDB
 - October Track Log
 - September Track Log
 - 15/09/2021 Scat Meander
 - 29/09/2021 Scat Meander
 - 25/10/2021 Scat Meander
 - Spotlighting
 - SAT Survey Location
 - Waterway Flow Path
 - Fauna Camera Locations
 - Bird Survey Location
- Vegetation Assessment Units**
- AU-1: Regulated Vegetation [1.72 ha]
 - AU-2: Dam [0.44 ha]
 - AU-3: Waterway [0.19 ha]
 - AU-4: Non-Remnant Vegetation [4.1 ha]
 - AU-5: Balance Cleared Areas with Scattered Trees [3.7 ha]

Issue	Date	Description	Drawn	Checked
A	10/11/2021	Preliminary	TF	AD

0 10 20 30 40 50 m

Transverse Mercator | GDA 2020 | Zone 56 | 1:2500 @ A3



4.3. Dam

A large dam is situated within the central portion of Lot 28 which extends south into the neighbouring property. The dam is surrounded by a mixture of native and introduced species including *Melaleuca quinquenervia* (Broad-leaved paperbark), *Lophostemon suaveolens* (Swamp Box), *Musa sp.* (Banana) and *Acacia sp.* (refer **Photo set 3**). The dam itself contains very few flora species or macrophytes, however, aquatic fauna species *Anguilla sp.* (Eel) and *Emydura macquarii signata* (Short-necked Turtle) were observed. No upstream waterway features were noted within Lot 29. A dam wall is present on the north-eastern side of the dam to allow for vehicle access.



Photo set 3: Large dam present on Lot 28.

4.4. Waterways

Logan City Council mapping includes a minor waterway in the southern extent of Lot 26. Part of this waterway is also mapped as a 'Low Risk' waterway for waterway barrier works under the *Fisheries Act 1994*. Specific waterway assessments were carried out during field assessments (refer **Photo set 4**).



Photo set 4: Discontinuous channel on Lot 26 leading to a small dam.

4.4.1 Fisheries Waterway Assessment

Table 6: Detailed assessment results of mapped waterway

Overview	Comment
Site	Lot 1 on RP136814
Fisheries Waterway Value	Low
Field Determination	The waterway mapping extends into Lot 26 from Logan Reserve Road. On-site, the waterway was observed as a discontinuous channel with bed and bank features present further downstream which lead to a small dam/depression on Lot 26 and further north onto a large dam on Lot 27. No water or macrophytes were present within the channel which had been filled with building materials. Surrounding vegetation was consistent with the rest of the property being scattered eucalypt species and a dense subcanopy of <i>Melaleuca linariifolia</i> (Snow-in-Summer) and <i>Allocasuarina littoralis</i> (Black She-oak). Downstream, the mapped waterway travels under Logan Reserve Road via culverts and via overland flow to a series of moderately sized dams to the south-east. Permanent water was present within dams.
Local Land Use	Rural residential
Average bank full width	Approx. 1-2 m where banks occur
Dominant substrate	Soils largely associated with Landzone 9-10 – not alluvial
Variety of habitats	Lot contains a small dam/depression with water and macrophytes present. The flow path is surrounded by dense vegetation including <i>Melaleuca linariifolia</i> (Snow-in-summer) and <i>Allocasuarina littoralis</i> (Black She-oak). It is assumed that the flow path extends to the large dam on Lot 27, however, this area was not accessible, where a number of aquatic fauna species are present.
Flow Regime	Ephemeral within channel
Channel Shading	50%
Macrophytes	Species were observed within low-lying depression/dam including <i>Typha orientalis</i> (Typha).
General Description and habitat attributes	This mapped low risk waterway enters the lot on the southern boundary in an area mapped as Category X (non-remnant) vegetation, where <i>Melaleuca linariifolia</i> (Snow-in-summer) and <i>Allocasuarina littoralis</i> (Black She-oak) are present. The mapping for this waterway ends near the boundary of Lot 26, however, local mapping shows a waterway that runs upstream to the large dam on Lot 27. Downstream the mapped waterway travels under Logan Reserve Road via culverts and via overland flow to a series of moderately sized dams to the south-east. Permanent water was present within dams.

4.5. Non-remnant vegetation

Vegetated areas are present across the site that are mapped as Category X (non-remnant) vegetation. Within Lot 28 large native and exotic species including *Corymbia intermedia* (Pink Bloodwood) and *Pinus elliottii* (Slash Pine), planted species and regrowth vegetation were observed in the southern extent while the rear of the property consists of scattered native trees, primarily *Corymbia intermedia* (Pink Bloodwood) and *Melaleuca quinquenervia* (Broad-leaved Paperbark) (refer **Photo set 5**).

The vegetated area along the south-western boundary of Lot 29 is dominated by *Pinus elliottii* (Slash Pines) with *Eucalyptus racemosa* (Scribbly Gum) and *Eucalyptus seeana* (Narrow-leaved Red Gum) and subcanopy of dense *Melaleuca quinquenervia* (Broad-leaved Paperbark) and *Lophostemon suaveolens* (Swamp Box). The ground layer is dominated by weeds including *Megathyrsus maximus* (Guinea Grass), *Ageratum houstonianum* (Blue Billygoat Weed), *Asparagus africanus* (Climbing Asparagus) and *Lantana camara* (Lantana).

Dense vegetation is present on Lot 26 consisting of relatively large, scattered canopy species including *Eucalyptus siderophloia* (Grey Ironbark), *Eucalyptus seeana* (Narrow-leaved Red Gum), *Eucalyptus propinqua* (Grey Gum), *Corymbia intermedia* (Pink Bloodwood) and *Angophora leiocarpa* (Smooth-barked Apple). A dense layer of *Melaleuca linariifolia* (Snow-in-Summer) is present within the subcanopy while the ground layer is almost entirely infested with *Asparagus aethiopicus* (Ground Asparagus) (refer **Photo set 5**).



Photo set 5: Vegetated areas, front of Lot 28 (top left), rear of Lot 28 (top right), Lot 29 (bottom left) and Lot 26 (bottom right).

4.6. Balance areas

The balance of the site consists of a mixture of residential dwellings, cleared maintained paddocks, manicured/landscaped garden beds and scattered native and exotic trees. Predominantly native trees including *Eucalyptus seeana* (Narrow-leaved Ironbark) and *Eucalyptus racemosa* (Scribbly Gum) are present on Lot 13 while Lot 28 consists of planted fruit trees and a small-scale farm (refer **Photo set 6**). Lot 29 consists of exotic *Pinus elliottii* (slash Pines) dominated vegetation along the north-eastern boundary and planted species surrounding the residential dwelling in the rear of the property.



Photo set 6: Balance area includes planted garden species associated with residential dwellings (left) and small-scale farm on Lot 28 (right).

4.7. Flora Survey Results

Flora was assessed during the site visit on the 1, 15 and 29 September and 25 October 2021.

- A total of 173 species of flora were detected onsite during surveys, inclusive of 82 native species and 91 exotic/weed species (refer **Table 7** and **Table 8**).
- The investigation area typically reflects its current rural residential land uses, including vegetated areas, cleared paddocks, scattered mature trees and planted garden species. In addition, a large constructed dam and mapped waterway containing disturbed waterway features was observed.
- Of the 10.2 hectares investigated, approximately 2 hectares of remnant vegetation remains. Regional Ecosystem 12.9-10.4 'Least Concern' is mapped within Lot 12. The species identified are generally representative of the current Regional Ecosystem mapping. Some minor discrepancies in the mapped boundary of the remnant areas were noted.

Table 7: Native flora species recorded on-site

Scientific Name	Common Name
<i>Acacia concurrens</i>	Black Wattle
<i>Acacia fimbriata</i>	Brisbane Wattle
<i>Acacia leiocalyx</i>	Early Flowering Black Wattle
<i>Allocasuarina littoralis</i>	Black She-oak
<i>Alphitonia excelsa</i>	Soap Tree

Scientific Name	Common Name
<i>Alpinia caerulea</i>	Native Ginger
<i>Angophora leiocarpa</i>	Smooth-barked Apple
<i>Angophora woodsiana</i>	Rough-barked Apple
<i>Araucaria cunninghamii</i>	Hoop Pine
<i>Asplenium australasicum</i>	Birds Nest Fern
<i>Azolla pinnata</i>	Azolla Fern
<i>Banksia integrifolia</i>	Coastal Banksia
<i>Boronia rosmarinifolia</i>	Forest Boronia
<i>Brachychiton acerifolius</i>	Flame Tree
<i>Breynia oblongifolia</i>	Coffee Bush
<i>Buckinghamia celsissima</i>	Ivory Curl Flower
<i>Callitris columellaris</i>	Bribie Island Pine
<i>Calochlaena dubia</i>	Soft Bracken
<i>Castanospermum australe</i>	Black Bean
<i>Cayratia clematidea</i>	Slender Grape
<i>Cheilanthes distans</i>	Bristle Cloak Fern
<i>Chrysocephalum apiculatum</i>	Yellow Buttons
<i>Cupaniopsis anacardoides</i>	Tuckeroo
<i>Cymbopogon refractus</i>	Barbed Wire Grass
<i>Cynodon dactylon</i>	Green Couch
<i>Cyperus difformis</i>	Dirty dora
<i>Desmodium varians</i>	Native desmodium
<i>Dianella caerulea</i>	Blue Flax-lily
<i>Dodonaea viscosa</i>	Hop Bush
<i>Entolasia stricta</i>	Wiry Panic
<i>Eucalyptus acmenoides</i>	White Mahogany
<i>Eucalyptus carnea</i>	Broad-leaved White Mahogany
<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark
<i>Eucalyptus grandis</i>	Flooded Gum
<i>Eucalyptus microcorys</i>	Tallowwood
<i>Eucalyptus propinqua</i>	Grey Gum
<i>Eucalyptus racemosa</i>	Scribbly Gum
<i>Eucalyptus seeana</i>	Narrow-leaved Red Gum
<i>Eucalyptus siderophloia</i>	Grey Ironbark
<i>Eucalyptus tereticornis</i>	Forest Red Gum
<i>Eustrephus latifolius</i>	Wombat Berry
<i>Ficus coronata</i>	Sand Paper Fig
<i>Ficus rubiginosa</i>	Rock Fig
<i>Gahnia aspera</i>	Saw Sedge
<i>Geitonoplesium cymosum</i>	Scrambling Lily
<i>Glochidion sumatranum</i>	Large-leaved Cheese Tree
<i>Goodenia rotundifolia</i>	Star Goodenia
<i>Grevillea robusta</i>	Silky Oak
<i>Hardenbergia violacea</i>	Native Sarsaparilla
<i>Harpullia pendula</i>	Tulipwood
<i>Hibbertia stricta</i>	Hibbertia
<i>Imperata cylindrica</i>	Blady Grass
<i>Jagera pseudorhus</i>	Foambark

Scientific Name	Common Name
<i>Juncus usitatus</i>	Common Juncus
<i>Lepidosperma laterale</i>	Variable Swordsedge
<i>Leptospermum petersonii</i>	Lemon Scented Tea Tree
<i>Livistonia australis</i>	Cabbage Tree Palm
<i>Lobelia purpurascens</i>	White Root
<i>Lomandra multiflora</i>	Many Flowered Mat Rush
<i>Lophostemon suaveolens</i>	Swamp Box
<i>Melaleuca linariifolia</i>	Snow in Summer
<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark
<i>Melaleuca saligna</i>	Willow Bottlebrush
<i>Melaleuca viminalis</i>	Weeping Bottlebrush
<i>Melia azedarach</i>	White Cedar
<i>Murdannia graminea</i>	Slug Herb
<i>Oplismenus aemulus</i>	Creeping Beard Grass
<i>Parsonsia straminea</i>	Monkey Rope Vine
<i>Patersonia glabrata</i>	Native Iris
<i>Philydrum lanuginosum</i>	Woolly Frogmouth
<i>Platynerium superbum</i>	Staghorn
<i>Stenocarpus sinuatus</i>	Wheel of Fire
<i>Stephania japonica</i>	Tape Vine
<i>Syzygium luehmannii</i>	Small-leaved Lillypilly
<i>Themeda triandra</i>	Kangaroo Grass
<i>Trema tomentosa</i>	Poison Peach
<i>Wahlenbergia gracilis</i>	Small-leaved Bluebell
<i>Xanthorrhoea johnsonii</i>	Forest Grass Tree

4.7.1 Introduced species

A total of 91 flora species detected onsite are introduced to Australia or the local region (**Table 8**). Ten (10) of these species are classified as Restricted Invasive under the Biosecurity Act 2014 and will require some form of targeted management on-site.

Table 8: Exotic/weed flora species detected on-site

Scientific Name	Common Name	Restricted under Biosecurity 2014
<i>Abrus precatorius</i>	Gidee-Gidee	
<i>Agapanthus sp.</i>	Agapanthus	
<i>Agave americana</i>	Century Plant	
<i>Ageratum houstonianum</i>	Blue Billygoat Weed	
<i>Aloe Vera</i>	Aloe Vera	
<i>Alternanthera brasiliana</i>	Purple Joyweed	
<i>Ambrosia artemisiifolia</i>	Annual Ragweed	Category 3 – Restricted Plant
<i>Andropogon virginicus</i>	Whisky Grass	
<i>Argemone ochroleuca</i>	Mexican Poppy	
<i>Asparagus aethiopicus</i>	Ground Asparagus Fern	Category 3 – Restricted Plant
<i>Asparagus africanus</i>	Climbing Asparagus	Category 3 – Restricted Plant

Scientific Name	Common Name	Restricted under Biosecurity 2014
<i>Asparagus officinalis</i>	Garden Asparagus	
<i>Baccharis halimifolia</i>	Groundsel Bush	
<i>Bambusa vulgaris</i>	Common Bamboo	
<i>Bauhinia galpinii</i>	Red Bauhinia	
<i>Beaucarnea recurvata</i>	Ponytail Palm	
<i>Bidens pilosa</i>	Cobbler's Pegs	
<i>Bougainvillea glabra</i>	Bougainvillea	
<i>Bryophyllum delagoense</i>	Mother-of-millions	Category 3 – Restricted Plant
<i>Bryophyllum pinnatum</i>	Resurrection Plant	
<i>Calliandra haematocephala</i>	Red Pom Pom	
<i>Callisia fragrans</i>	Purple Succulent	
<i>Calyptocarpus vialis</i>	Creeping Cinderella Weed	
<i>Caryota mitis</i>	Fishtail Palm	
<i>Centella asiatica</i>	Pennywort	
<i>Cestrum parqui</i>	Green Cestrum	
<i>Chloris gayana</i>	Rhodes Grass	
<i>Commelina diffusa</i>	Wandering Jew	
<i>Conyza bonariensis</i>	Flaxleaf Fleabane	
<i>Conyza sumatrensis</i>	Tall Fleabane	
<i>Corymbia torelliana</i>	Cadaghi	
<i>Crassocephalum crepidioides</i>	Thickhead	
<i>Cyperus polystachyos</i>	Bunchy Sedge	
<i>Desmodium uncinatum</i>	Silver-leaf Desmodium	
<i>Dracaena fragrans</i> 'Massangeana'	Happy Plant	
<i>Duranta erecta</i>	Duranta	
<i>Dypsis decaryi</i>	Triangle Palm	
<i>Dyschoriste depressa</i>	Dyschoriste	
<i>Epiphyllum oxypetalum</i>	Queen of the Night	
<i>Erythrina x sykesii</i>	Common Coral Tree	
<i>Grevillea 'honeygem'</i>	Honeygem	
<i>Heliotropium amplexicaule</i>	Blue Heliotrope	
<i>Hydrocotyle tripartita</i>	Small-leaved Pennywort	
<i>Hylocereus undatus</i>	Dragon Fruit	
<i>Hypoestes phyllostachya</i>	Polka Dot Plant	
<i>Jacaranda mimosifolia</i>	Jacaranda	
<i>Lantana camara</i>	Lantana	Category 3 – Restricted Plant
<i>Lantana montevidensis</i>	Creeping Lantana	Category 3 – Restricted Plant
<i>Leucaena leucocephala</i>	Leucaena	
<i>Ludwigia peploides</i>	Water Primrose	
<i>Macroptilium lathyroides</i>	Phasey Bean	
<i>Mangifera indica</i>	Mango Tree	
<i>Megathyrsus maximus</i>	Guinea Grass	
<i>Melinis repens</i>	Red Natal Grass	
<i>Monstera deliciosa</i>	Monstera	
<i>Murraya paniculata</i>	Mock Orange	
<i>Musa sp.</i>	Banana	
<i>Neonotonia wightii</i>	Glycine	

Scientific Name	Common Name	Restricted under Biosecurity 2014
<i>Nephrolepis cordifolia</i>	Fishbone Fern	
<i>Ochna serrulata</i>	Ochna	
<i>Oxalis coorniculata</i>	Yellow Wood-sorrel	
<i>Paspalum dilatatum</i>	Paspalum	
<i>Paspalum notatum</i>	Bahia Grass	
<i>Passiflora suberosa</i>	Corky Passion Vine	
<i>Persicaria decipiens</i>	Slender knotweed	
<i>Philodendron bipinnatifidum</i>	Tree Philodendron	
<i>Phyllostachys aurea</i>	Golden Bamboo	
<i>Pinus elliottii</i>	Slash Pine	
<i>Plumeria rubra</i>	Frangipani	
<i>Psidium guajava</i>	Guava	
<i>Pteridium esculentum</i>	Bracken	
<i>Sansevieria trifasciata</i>	Mother-in-law's Tongue	
<i>Schefflera actinophylla</i>	Umbrella Tree	
<i>Schinus terebinthifolia</i>	Broadleaved Pepper	Category 3 – Restricted Plant
<i>Senecio madagascariensis</i>	Fireweed	Category 3 – Restricted Plant
<i>Senna pendula</i>	Easter Cassia	
<i>Setaria sphacelata</i>	South African Pigeon Grass	
<i>Sida cordifolia</i>	Flannel Weed	
<i>Sida rhombifolia</i>	Common Sida	
<i>Solanum mauritianum</i>	Wild Tobacco Tree	
<i>Solanum seafortianum</i>	Brazilian Nightshade	
<i>Solanum torvum</i>	Devil's Fig	
<i>Soliva sessilis</i>	Bindy Eye	
<i>Spathodea campanulata</i>	African Tulip Tree	Category 3 – Restricted Plant
<i>Syagrus romanzoffiana</i>	Cocos Palm	
<i>Tecoma stans</i>	Yellow Bells	Category 3 – Restricted Plant
<i>Thunbergia alata</i>	Black-eyed Susan	
<i>Tipuana tipu</i>	Tipuana	
<i>Typha latifolia</i>	Cumbungi	
<i>Urochloa decumbens</i>	Signal Grass	
<i>Yucca aloifolia</i>	Yucca	

4.8. Fauna survey results

Fauna was assessed during the site visit on the 1, 15 and 29 September and 25 October 2021 utilising spotlighting, camera traps and general observations.

A total of 41 fauna species were recorded consisting of 31 birds, 7 mammals, 2 reptiles and 1 fish species (refer **Table 9**).

Table 9: Fauna recorded on-site

Scientific Name	Common Name	Native/Introduced
BIRDS		
<i>Acridotheres tristis</i>	Indian Myna	Exotic
<i>Anas superciliosa</i>	Pacific Black Duck	Native
<i>Ardea intermedia</i>	Intermediate Egret	Native
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	Native
<i>Chenonetta jubata</i>	Australian Wood Duck	Native
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	Native
<i>Corvus orru</i>	Torresian Crow	Native
<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Native
<i>Egretta novaehollandiae</i>	White-faced Heron	Native
<i>Entomyzon cyanotis</i>	Blue-faced Honeyeater	Native
<i>Eolophus roseicapilla</i>	Galah	Native
<i>Gallinula tenebrosa</i>	Dusky Moorhen	Native
<i>Geopelia striata</i>	Peaceful Dove	Native
<i>Grallina cyanoleuca</i>	Magpie-lark	Native
<i>Gymnorhina tibicen</i>	Australian Magpie	Native
<i>Hirundo neoxena</i>	Welcome Swallow	Native
<i>Macropygia phasianella</i>	Brown Cuckoo-Dove	Native
<i>Manorina melanocephala</i>	Noisy Minor	Native
<i>Ninox boobook</i>	Boobook Owl	Native
<i>Pardalotus striatus</i>	Striated Pardalote	Native
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant	Native
<i>Phaps chalcoptera</i>	Common Bronzewing	Native
<i>Philemon corniculatus</i>	Noisy Friarbird	Native
<i>Platycercus adscitus</i>	Pale-headed Rosella	Native
<i>Porphyrio melanotus</i>	Australasian Swamp Hen	Native
<i>Rhipidura leucophrys</i>	Willie Wagtail	Native
<i>Strepera graculina</i>	Pied Currawong	Native
<i>Threskiornis molucca</i>	Australian White Ibis	Native
<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	Native
<i>Vanellus miles</i>	Masked Lapwing	Native
<i>Zanda funerea</i>	Yellow-tailed Black-Cockatoo	Native
MAMMALS		
<i>Canis lupus familiaris</i>	Domestic Dog	Exotic
<i>Isodon macrourus</i>	Northern Brown Bandicoot	Native
<i>Lepus europaeus</i>	European Hare	Exotic
<i>Macropus rufogriseus</i>	Red-necked Wallaby	Native
<i>Pseudocheirus peregrinus</i>	Common Ringtail Possum	Native
<i>Trichosurus vulpecula</i>	Common Brushtail Possum	Native
<i>Vulpes vulpes</i>	Red Fox	Exotic
REPTILES		
<i>Emydura macquarii signata</i>	Short-necked Turtle	Native
<i>Pogona barbata</i>	Bearded Dragon	Native
FISH		
<i>Anguilla sp</i>	Eel species	Native

4.8.1 SAT Surveys

One SAT survey and three scat meanders were conducted during the site visit. No Koala scats were detected during either the SAT survey nor the scat meanders. No Koala scats were detected during active searches across the entire site.

The results of each SAT survey are presented in **Appendix E**.

4.9. Threatened species

For the purposes of this report, a significant species has been defined as a species that is:

- Scheduled as critically endangered, endangered, vulnerable or conservation dependent under the Commonwealth EPBC Act; and/or
- Scheduled as endangered, vulnerable, or near threatened under the Queensland NC Act; and/or
- Identified by RCC as a locally significant species in the RCC planning scheme.

4.9.1 Threatened flora

No flora species listed as threatened under the EPBC Act or the NC Act were recorded on-site. A portion of mapped Koala habitat, considered to have the highest ecological value on-site, is to be retained and provide ongoing fauna habitat.

A search of the NC Act Wildlife Online database listed one threatened flora species as potentially occurring within the area, being *Melaleuca irbyana* (Swamp Tea-tree). No flora species listed under the NCA as threatened were recorded.

Nineteen (19) flora species listed as Threatened under the EPBC Act were indicated as having the potential to occur within 5 km of the site (**Appendix B**). On-ground assessment determined that it was unlikely that any of these species would inhabit the site due to historical clearing and ongoing maintenance.

The EPBC Act PMST listed five (5) Threatened Ecological Communities (TECs) that may occur in, or relate to, the subject site (see **Section 3.1**). These are described as the following:

- The Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland Ecological community occurs in coastal catchments, mostly at elevations of less than 20 m above sea level that are typically found within 30 km of the coast however distance can vary by catchment. The canopy layer is dominated by *Casuarina glauca* (Swamp Oak) and in Queensland is represented by RE12.1.1 or RE12.3.20. None of these RE communities occur on site or within the immediate vicinity of the site.
- The Lowland Rainforest of Subtropical Australia TEC typically has high species richness. In Queensland, this TEC is part of a number of RE communities including 12.3.1, 12.5.13, 12.8.3, 12.8.4, 12.8.13, 12.11.1, 12.11.10, 12.12.1 and 12.12.16. None of these RE communities occur on site or within the immediate vicinity of the site.
- Poplar Box Grassy Woodland on Alluvial Plains is typically a grassy woodland with a canopy dominated by *Eucalyptus populnea* and understorey mostly of grasses and other herbs. This

ecological community mostly occurs in gently undulating to flat landscapes and occasionally on gentle slopes on a wide range of soil types of alluvial and depositional origin. In Queensland, this TEC is part of a number of RE communities including 11.3.2, 11.3.17, 11.4.7, 11.4.12 and 12.3.10. None of these RE communities occur on site or within the immediate vicinity of the site.

- The Swamp Tea-tree (*Melaleuca irbyana*) Forest of South-east Queensland TEC usually comprises low open to closed forest, closed scrub or thickets dominated by *Melaleuca irbyana* (Swamp Tea-tree) with or without an emergent tree layer of scattered eucalypts, and occasionally as Eucalyptus woodland in which *M. irbyana* forms a distinct understorey stratum. In Queensland this TEC is represented by Regional Ecosystem 12.9-10.11. None of these RE communities occur on site or within the immediate vicinity of the site.
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland is characterised by a species-rich understorey of native tussock grasses, herbs and scattered shrubs (where shrub cover comprises less than 30% cover), and a dominance or prior dominance of White Box (*Eucalyptus albens*) and/or Yellow Box (*E. melliodora*) and/or Blakely's Red Gum (*E. blakelyi*) trees. None of the RE communities associated with this TEC occur on site or within the immediate vicinity of the site.

No listed Flora or TECs, nor any conditions to support them, were observed on-site.

4.9.2 Threatened fauna species

No fauna species listed as threatened under the EPBC Act or the NC Act were recorded on-site. The EPBC Act PMST listed twenty-five (25) fauna species listed as Threatened under the EPBC Act with the potential to occur within 5 km of the site (**Appendix B**). Field surveys did not detect presence of these species within the site.

Koala (*Phascolarctos cinereus*)

While the site consists of a mapped Koala habitat and a number of scattered Non-juvenile Koala Habitat Trees (NJKHTs), Koala habitat on-site is considered isolated and fragmented from surrounding more optimal Koala habitat as a result of physical barriers such as main roads, residential developments and property boundaries. No evidence of Koala was recorded onsite despite targeted searches and a number of records within the broader area. It is considered unlikely that Koala would utilise the site, even as a transient visitor.

5. Impact assessment and development analysis

5.1. Proposed development

The proposal will create 118 new lots with associated access roads, open space areas and stormwater basins.

The proposed development will result in the removal of vegetation within the five current lots which form the investigation site. However, as outlined in **Section 4**, a portion of the site's significant ecological value will be retained as open space within mapped remnant vegetation in the north-west of the site. In addition, a large dam extends across Lot 28 which is proposed to be retained as part of the proposed development.

Remnant vegetation that is core Koala Habitat Area is proposed to be removed as part of the proposed development, with a section to be retained (refer **Plan 2**). The clearing of more than 500 m² cumulative of Koala Habitat Area and outside of other exemptions requires referral to the State for assessment against State Code 25.

The development proposes a stormwater basin adjoining a Fisheries mapped waterway in the southern extent of Lot 26. Being Fisheries-mapped waterways, operational works to be undertaken within the mapped waterway that do not meet Accepted Development Requirements, will require referral and a response to State Development Assessment Provisions (SDAP) State Code 18: Waterway Barrier Works at operational works. It is understood that overland flow will be facilitated in a channel around the proposed infrastructure where it enters from Lot 27 to the north to the culverts beneath Logan Reserve Road

A stormwater basin is also proposed within the larger existing dam on Lot 28, which is mapped as a waterway by Council. The water feature is rectified as a constructed dam that, although it supports some aquatic habitat values in a highly disturbed state, is not considered reflective of true waterway values. It is anticipated that the provision of a stormwater basin in this location will provide the opportunity for native flora plantings to facilitate more optimal habitat value.

The development proposes to permanently remove some LCC Primary Vegetation Management Area as well as the removal of native trees within mapped Secondary Vegetation Management Area.

Offsets for the permanent loss of Primary Vegetation Management Area and native trees from Secondary Vegetation Management Area will likely be required (**Plan 2**). Offset calculations where clearing is approved will be finalised upon completion of field surveys determining the number of Native Trees and/or Native Habitat Trees to be removed.

A2. Development Impact Assessment



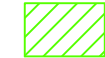

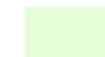



Notes:
 This plan was prepared as a desktop assessment tool. The information on this plan is not suitable for any other purpose. Property dimensions, areas, numbers of lots and contours and other physical features shown have been compiled from existing information and may not have been verified by field survey. These may need verification if the development application is approved and development proceeds, and may change when a full survey is undertaken or in order to comply with development approval conditions. No reliance should be placed on the information on this plan for detailed design or for any financial dealings involving the land. Saunders Havill Group therefore disclaims any liability for any loss or damage whatsoever or howsoever incurred, arising from any party using or relying upon this plan for any purpose other than as a document prepared for the sole purpose of accompanying a development application and which may be subject to alteration beyond the control of the Saunders Havill Group. Unless a development approval states otherwise, this is not an approved plan.

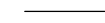



Layer Sources
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Legend

-  Site DCDB
-  Qld DCDB
-  Koala habitat areas
-  Primary vegetation management area
-  Secondary vegetation management area
-  Waterways

Engineering Detail

-  Site plan
-  Road infrastructure
-  Basins
-  Pump station

Issue	Date	Description	Drawn	Checked
A	10/11/2021	Preliminary	TF	AD

0 10 20 30 40 50 m

Transverse Mercator | GDA 2020 | Zone 56 | 1:2500 @ A3



5.2. Potential impacts

The key potential ecological impacts associated with the development proposal are:

5.2.1 Weeds

Increased vehicle movement during the construction phase has the potential to increase the spread of weeds in the area, particularly during the vegetation clearing phase. With the implementation of standard mitigation measures, the project is likely to result in a negligible impact to ecological values due to the potential introduction/spread of weeds.

5.2.2 Vehicle movements

During construction, a large number of vehicles will be required on the subject site. Direct impacts from vehicle movements on threatened species and vegetation communities include:

- damage or destruction of vegetation or fauna habitat by vehicles traversing these areas; and
- fauna strike.

Indirect impacts from vehicle movements include:

- interference of fauna through visual and noise impacts. This in turn can affect feeding, roosting, breeding or nesting behaviour;
- introducing and/or spreading weeds or feral animals carried on or in vehicles, resulting in deterioration or loss of vegetation and important fauna habitat; and
- damage or destruction of vegetation and fauna habitat through smothering by dust generated by vehicles traversing the project area.

With the implementation of standard mitigation measures, the project is likely to result in a temporary and minor impact to ecological values due to vehicular movements. Further, ecological field survey confirmed mostly common mammal species and avifauna are present on the site.

5.2.3 Earthworks

Construction activities have the potential to generate dust emissions. Dust emissions during construction will be temporary. The main sources of dust will be generated via:

- wheel-generated dust from the haul roads created for the construction phase;
- dust lift-off from exposed surfaces (e.g. construction roads and pads);
- earthworks, including construction of the embankments, and moving, dumping and shaping material; and
- vegetation and soil clearing of the land.

Excessive deposition of dust on leaves of plants can suppress the growth and photosynthesis, resulting in reduced habitat quality for fauna. High levels of airborne dust can irritate the respiratory systems of fauna and potentially result in ingestion of dust-coated seeds and other foods. Excessive deposition of dust on open water bodies may also degrade water quality and overall habitat quality for fauna. With the implementation

of standard mitigation measures, the project is likely to result in a temporary and minor impact to ecological values due to the generation of dust.

5.2.4 Light emissions during construction

Artificial light can affect both nocturnal and diurnal animals by disrupting behavioural patterns, with quality of light (e.g. wavelength, colour), intensity and duration potentially evoking different faunal responses. Impacts from increased light levels include disorientation from, or attraction toward, artificial sources of light; mortality from collisions with structures; and effects on light-sensitive cycles of species (e.g. breeding and migration for fauna and flowering in plants). An artificial increase in lighting can also affect abundance of predators.

Presence and intensity of artificial light in the project area will temporarily increase during the construction phase; however, night works will not be common. Lighting will be directed to construction areas within the project area. Some light spillage will be inevitable and is likely to be contained. Potential impacts associated with light emissions will be temporary and unlikely to be significant.

With the implementation of standard mitigation measures, the project is likely to result in a negligible impact to ecological values due to the use of light pollution during construction.

5.2.5 Noise and vibration

Noise levels greater than existing ambient noise levels are expected during the construction within the project area. Sources of noise are likely to consist of noise in short, intense pulses from mobile plant equipment, and more prolonged noise, with consistent vibration, pitch and volume from generators, excavators and pumps, in addition from noise from vehicles.

Both steady continuous and single noise events have the potential to lead to ecological impacts. Construction noise is expected to elicit some avoidance response from fauna using the surrounding vegetation though, with consideration of the extent of habitat available in the study area, this is likely to be a temporary and negligible to minor impact.

5.2.6 Waste disposal

Inappropriate disposal of non-hazardous wastes can attract invasive species such as feral cats, wild dogs and introduced rats (amongst other fauna) to site. This may exacerbate potential impacts (e.g. invasive species introduction, road mortality). Litter may also enter surrounding environments. With the implementation of standard mitigation measures, the project is likely to result in a negligible impact to ecological values due to the generation and handling of waste.

5.2.7 Hazardous and dangerous goods

Spills and leaks from transfers (e.g. fuel and/or chemicals) and inadequate storage of dangerous goods and hazardous wastes could result in point-source contamination of surrounding land. Direct adverse impacts could include toxic impacts on vegetation (resulting in degradation or loss of vegetation and habitats), direct toxic impacts on fauna (from contact, inhalation or ingestion) or indirect impacts on threatened and migratory species from habitat loss. Direct adverse impacts on surface and groundwater quality are also possible.

With the application of standard mitigation and management measures, impacts from liquid and solid waste disposal will be avoided or localised and small in scale. Further to this, the likelihood of significant spillages is considered low. Therefore, the project is likely to result in a negligible impact to ecological values due to potential spills and leaks.

5.2.8 Increased human presence

Increased human activity during construction has the potential to disturb fauna within adjacent habitat areas. Resulting impacts to fauna include heightened vigilance and predator avoidance, which can disrupt foraging and roosting efficiency or deter wildlife from using particular areas. Impacts essentially represent a reduction in core habitat due to edge effects. The project is likely to result in a temporary and minor impact to ecological values due to increased human presence on site during the construction period.

5.3. Ongoing disturbances

After completion of development, significant increases in direct and indirect anthropogenic impacts on the surrounding ecological values are not anticipated. This is due to the proposed development being mostly situated in previously cleared and maintained areas, with limited ecological value. Potential increase to traffic along the roads at the extremity of the site indicate continuing risks to ecological values from:

- vehicle movements; and
- noise and light pollution.

Each potential impact associated with the increased traffic is described in detail in the following sections.

5.3.1 Vehicle strike

Upon completion of the development, vehicle traffic may increase (compared to baseline conditions), increasing the likelihood of fauna strike. However, areas of the site are to be retained such as a number of retention basins and a section of remnant vegetation in the north which will provide space for fauna utilisation.

5.3.2 Noise and light

Noise levels are likely to increase once the extension is operational as there will be increased vehicular and pedestrian traffic. Road noise will be the primary source of noise impact. The establishment and use of garden paths through landscaped areas will also provide a source of noise and light due to pedestrian traffic. However, this is expected to result in a minor difference.

Artificial light from residences may affect nocturnal and diurnal animals by disrupting patterns, with quality of light (e.g. wave length and colour), intensity and duration potentially evoking different responses. Impacts from increased light levels include disorientation from or attraction toward artificial sources of light; mortality from collisions with structures; and effects on light-sensitive cycles of species (e.g. breeding and migration for fauna and flowering in plants). The presence and intensity of artificial light will have the most impact at the edge of adjacent vegetation communities. With suitable lighting installations, the project is likely to result in a negligible impact to wildlife due to light spillage.

6. Conclusion

This EAR was prepared on behalf of JLF Group Pty Ltd who propose to develop 5 rural residential properties to 118 residential lots. Open space and stormwater basins in Logan Reserve. This EAR provides a review of the ecological values across the site in accordance with Commonwealth, State and Local Government legislation.

Overall, the following conclusions can be made:

- The investigation area includes rural residential land consisting of a mixture of remnant vegetation, cleared paddocks and disturbed vegetated areas. The majority of this site exists as Category X non-remnant vegetation varying in density. Remnant vegetation is present on Lot 12, consisting of mapped 'Least Concern' Regional Ecosystem.
- The site contains vegetation mapped as primary and secondary vegetation management area under the LCP. In addition, several Matters of State and Local Significance are mapped onsite. One waterway is mapped in southern extent of the site and over the large site dam, classed as a Minor Waterway.
- No threatened species nor TECs listed under the EPBC Act nor NC Act were recorded on site during field assessments. Essential habitat for *Phascolarctos cinereus* (Koala) and *Dasyurus maculatus maculatus* (Spotted-tailed Quoll) is mapped within the Koala Habitat Area within Lot 12, however, no evidence of these species was recorded.
- A waterway assessment was carried out identifying a discontinuous channel with limited bed and bank features in Lot 26. Where the flow path was present, the channel had been filled with building materials. This waterway leads to a small unmapped dam/depression on Lot 26 where water and macrophytes were present. No water or macrophytes were present within the flow path and no discernible change in vegetation from the rest of the site was observed.
- A total of 173 flora species were recorded within the application area. Of these species, 82 were native and 91 were introduced. Ten (10) species are listed as restricted invasive plants under the *Biosecurity Act 2014* and will require specific levels of management.
- The loss of Primary Vegetation Management Area and defined trees from Secondary Vegetation Management Area if approved will likely require offsets.

7. Recommendations

7.1. Vegetation Management Plan

A Vegetation Management Plan (VMP) should form part of the broader management document submitted as part of the operational works drawings for the project site.

The VMP should cover clearing of all vegetation listed in this report in addition to all trees mapped as significant individual trees. It should include details on:

- trees marked for removal;
- all civil works likely to impact existing vegetation;
- temporary and permanent exclusion and protection fencing;
- roles and responsibilities for site contractors, the developer and the consultant group;
- stockpiling and site access locations;
- a clearing sequence plan showing the commencement of clearing and direction of removal (this should be in conjunction with the Fauna Management Plan (FMP) to allow for the appropriate flushing of fauna towards safe havens and/or the application of an appropriate relocation program);
- links to weed management and revegetation proposals; and
- stock piling and reuse of cleared vegetation.

7.2. Fauna Management Plan

A Fauna Management Plan (FMP) should be prepared for potential impacts of the construction phase covering the loss of vegetated areas, isolated trees and likely barriers and impediments to local dispersal.

The FMP should link closely with the VMP and include details on:

- species confirmed and likely to use the site, focusing on those most likely impacted by development works;
- a list of relevant State and Commonwealth legislation constraints and controls for fauna potentially affected by development works;
- a plan showing existing habitat opportunities and locations;
- details of the threats to existing fauna species;
- the clearing sequence plan from the VMP;
- management and mitigation measures – i.e. temporary use of fauna exclusion fencing;
- description of fauna spotter role, contacts and certification; and
- specific fauna management procedures for potential or known habitat trees.

7.3. Offsets

Clearing of vegetation on-site will likely require an offset under the Panning Scheme, but also for the loss of Koala Habitat Area if approved by the State. Offsets for clearing Primary Vegetation are calculated using area while offsetting Secondary Vegetation is calculated per defined native tree and native habitat tree.

8. Appendices

Appendix A

Development Proposal

Appendix B

EPBC Act 1999

PMST search results

Appendix C

Nature Conservation Act 1992

Wildlife online search results

Appendix D

LCC Code Responses

Appendix E

SAT Results

Appendix A

Development Proposal



Legend

- Stage Boundary
 - Subject Site Boundary
 - ▶ Access point
 - Existing dam plotted from imagery
Location to be confirmed by survey
 - PS Sewer Pump Station
 - Drainage corridor (5 m wide)
- Exist. improvements plotted from imagery
Location to be confirmed by survey

Development Summary

Site Area:	10.18 ha
No. Exist Lots:	5
RP Description:	Lots 12,13, 26,28, 29 on RP106853
No. Proposed Lots:	As shown
Total Area of New Road:	As shown
Local Authority:	Logan City Council
Existing Encumbrances:	NIL
Proposed Encumbrances:	Subject to design

Notes

Any licence, express or implied, to use this document for any purpose whatsoever is restricted to the terms of the agreement or implied agreement between Orion Spatial Solutions and the instructing party.

Design subject to Local Authority approval and detail engineering design requirements. Areas and dimensions are approximate only and are subject to final survey.

Meridian is approximate MGA planar. Coordinates GDA94 centred on PM133987.

Design is for discussion purposes only and does not consider contours, environmental issues, existing services and engineering considerations.

Contours are taken from State LIDAR.

Orion Spatial Solutions are not Urban Designers / Planners



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Concept Plan Chambers Flat and Logan Reserve Roads

Plan No: S-1869-001-H
 Date: 27/10/2021
 Client: JLF Corporation



Appendix B

EPBC Act 1999

PMST 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: 05/08/21 11:30:19

[Summary](#)

[Details](#)

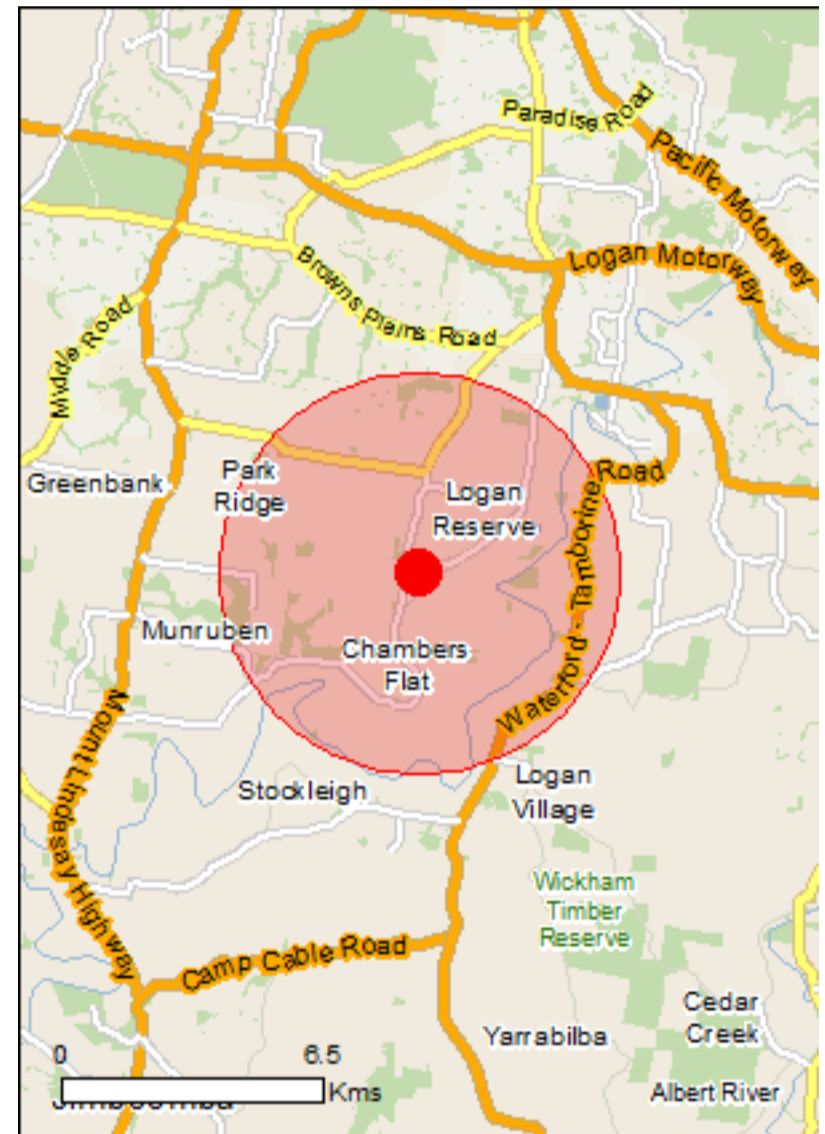
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

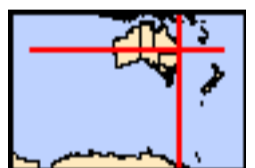
[Acknowledgements](#)



This map may contain data which are
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[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:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	5
Listed Threatened Species:	45
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:	None
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:	None
Regional Forest Agreements:	None
Invasive Species:	39
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	10 - 20km 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
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area
Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland	Critically Endangered	Community may 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	Species or species habitat known to 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
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely 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
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area

Name	Status	Type of Presence
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Thinornis cucullatus cucullatus Eastern Hooded Plover, Eastern Hooded Plover [90381]	Vulnerable	Species or species habitat may occur within area
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species habitat may occur within area
Fish		
Maccullochella mariensis Mary River Cod [83806]	Endangered	Translocated population known to occur within area
Frogs		
Mixophyes fleayi Fleay's Frog [25960]	Endangered	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 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 known to occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat known 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
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Plants		
Arthraxon hispidus Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area
Bosistoa transversa Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Corchorus cunninghamii Native Jute [14659]	Endangered	Species or species habitat likely to occur within area
Cryptocarya foetida Stinking Cryptocarya, Stinking Laurel [11976]	Vulnerable	Species or species habitat may occur within area
Cupaniopsis shirleyana Wedge-leaf Tuckeroo [3205]	Vulnerable	Species or species habitat may occur within area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat may occur within area
Diploglottis campbellii Small-leaved Tamarind [21484]	Endangered	Species or species habitat may occur within area
Endiandra floydii Floyd's Walnut [52955]	Endangered	Species or species habitat may occur within area
Fontainea venosa [24040]	Vulnerable	Species or species habitat likely to occur within area
Gossia gonoclada Angle-stemmed Myrtle [78866]	Endangered	Species or species habitat known to occur within area
Macadamia integrifolia Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat likely to occur within area
Macadamia tetraphylla Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581]	Vulnerable	Species or species habitat may occur within area
Notelaea ipsviciensis Cooneana Olive [81858]	Critically Endangered	Species or species habitat may occur within area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat likely to occur within area
Planchonella eerwah Shiny-leaved Condoe, Black Plum, Wild Apple [17340]	Endangered	Species or species habitat likely to occur within area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat likely to 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 may occur within area
Reptiles		
Coeranoscincus reticulatus Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may 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]	Vulnerable	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 likely to 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		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to 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 known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area

Name	Threatened	Type of Presence
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

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 likely to 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 ibis Cattle Egret [59542]		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 known to 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]	Vulnerable	Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Lathamus discolor Swift Parrot [744]	Critically Endangered	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 likely to 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
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
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Thinornis rubricollis rubricollis Hooded Plover (eastern) [66726]	Vulnerable*	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

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		

Name	Status	Type of Presence
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		
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
Felis catus Cat, House Cat, Domestic Cat [19]		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

Name	Status	Type of Presence within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Alternanthera philoxeroides Alligator Weed [11620]		Species or species habitat likely to occur within area
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
Asparagus plumosus Climbing Asparagus-fern [48993]		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
Chrysanthemoides monilifera subsp. rotundata Bitou Bush [16332]		Species or species habitat likely to occur within area
Cryptostegia grandiflora Rubber Vine, Rubbervine, India Rubber Vine, India Rubbervine, Palay Rubbervine, Purple Allamanda [18913]		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
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Hymenachne amplexicaulis Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]		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
Opuntia spp. Prickly Pears [82753]		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,		Species or species

Name	Status	Type of Presence
Kariba Weed [13665]		habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		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 likely to 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

-27.72856 153.09188

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](#)
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- [-Australian National Herbarium, Canberra](#)
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- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
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- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
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- [-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.

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Appendix C

Nature Conservation Act 1992

Wildlife online search results



Queensland Government

WildNet species list

Search Criteria: Species List for a Specified Point
Species: All
Type: Native
Queensland status: Rare and threatened species
Records: Confirmed
Date: Since 1980
Latitude: -27.7285
Longitude: 153.0918
Distance: 5
Email: madelinedooley@saundershavill.com
Date submitted: Thursday 05 Aug 2021 11:31:45
Date extracted: Thursday 05 Aug 2021 11:40:02

The number of records retrieved = 3

Disclaimer

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The information provided should be appropriately acknowledged as being derived from WildNet database when it is used. As the WildNet Program is still in a process of collating and vetting data, it is possible the information given is not complete. Go to the WildNet database webpage (<https://www.qld.gov.au/environment/plants-animals/species-information/wildnet>) to find out more about WildNet and where to access other WildNet information products approved for publication. Feedback about WildNet species lists should be emailed to wildlife.online@des.qld.gov.au.

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	mammals	Phascolarctidae	<i>Phascolarctos cinereus</i>	koala		V	V	143
animals	mammals	Pseudocheiridae	<i>Petauroides armillatus</i>	central greater glider		V	V	3
plants	land plants	Myrtaceae	<i>Melaleuca irbyana</i>			E		6/6

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 (EX), Extinct in the Wild (PE), Critically Endangered (CR), Endangered (E), Vulnerable (V), Near Threatened (NT), Special Least Concern (SL) and Least Concern (C).

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999*.

The values of EPBC are Extinct (EX), Extinct in the Wild (XW), Critically Endangered (CE), Endangered (E), Vulnerable (V) and Conservation Dependent (CD).

Records - The first number indicates the total number of records of the taxon (wildlife records and species listings for selected areas).

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

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

Appendix D

LCC Code Responses

Performance outcomes	Acceptable outcomes	Comments
For accepted development (subject to requirements) and assessable development		
Biodiversity corridors		
<p>PO1 Development in a Biodiversity corridor identified on Biodiversity areas overlay map–OM-02.02 is designed and located to:</p> <ul style="list-style-type: none"> a) provide for habitat links; b) facilitate safe wildlife movement; c) facilitate wildlife refuge; d) enhance habitat values; e) rehabilitate degraded areas with native vegetation. <p>Note - Compliance with this performance outcome is to be demonstrated by a detailed ecological assessment report prepared in accordance with Part 2 of planning scheme policy 3–Environmental management.</p>	<p>AO1 Development is located outside a Biodiversity corridor identified on Biodiversity areas overlay map–OM-02.02.</p>	<p>Development complies with PO1. Development is located outside of a Biodiversity Corridor.</p>
Primary vegetation management area		
<p>PO2 Development in the Primary vegetation management area identified on Biodiversity areas overlay map–OM–02.01 is designed and located:</p> <ul style="list-style-type: none"> a) to: <ul style="list-style-type: none"> i. protect the current extent of native vegetation; or ii. achieve a net gain of native vegetation; 	<p>AO2.1 Development is located to avoid the need to clear any native vegetation in the Primary vegetation management area identified on Biodiversity areas overlay map–OM–02.01, unless:</p> <ul style="list-style-type: none"> a) if identified as a matter of local environmental significance on Biodiversity areas overlay map–OM–02.04, an offset is provided in accordance with section 3.1–Environmental offset standards in Planning scheme policy 3–Environmental management; or 	<p>Not applicable. Development will occur within the Primary Vegetation Management Area. Notably, a portion of the Primary Vegetation Management Area will be retained in open space. Parts that fall within mapped waterways include proposed basins and flow channels.</p> <p>It is anticipated that a net gain in Primary Vegetation Management Area will be delivered via an offset for the unavoidable loss.</p>

Performance outcomes	Acceptable outcomes	Comments
<p>a) to rehabilitate degraded areas with native vegetation.</p> <p>Note - The Primary vegetation management area includes the locally significant vegetation identified on Biodiversity areas overlay map-OM-02.03.</p> <p>Note - Compliance with this performance outcome is to be demonstrated by a detailed ecological assessment report [for section (a)(i)] and an environmental offset report [for section (a)(ii)] prepared in accordance with Part 2 of planning scheme policy 3-Environmental management.</p> <p>Secondary vegetation management area</p> <p>PO3 Development in the Secondary vegetation management area identified on Biodiversity areas overlay map-OM-02.01 is designed and located to either:</p> <ul style="list-style-type: none"> a) protect the current extent of native trees and native habitat trees; or b) achieve a net gain of native trees and native habitat trees. 	<p>b) if identified as a matter of State environmental significance on Biodiversity areas overlay map-OM-02.04, an offset is provided in accordance with the Queensland Environmental Offset Policy and the Environmental Offsets Act 2014.</p> <p>Note - Compliance with AO2.1(a) is to be demonstrated by an environmental offset report prepared in accordance with Part 2 of planning scheme policy 3-Environmental management.</p> <p>Note - Compliance with AO2.1(b) is achieved where an environmental offset is provided to the Queensland Government in accordance with conditions imposed by a referral agency under the State Development Assessment Provisions. Alternatively, compliance is also achieved where referral agency assessment was undertaken but no environmental offset condition imposed.</p> <p>AO2.2 Development rehabilitates degraded areas in accordance with the South East Queensland Ecological Restoration Framework.</p> <p>AO3 Development is located to avoid the need to clear any native trees and native habitat trees in the Secondary vegetation management area identified on Biodiversity areas overlay map-OM-02.01, unless:</p> <ul style="list-style-type: none"> a) if clearing less than 10 native trees, compensatory planting is provided of: 	<p>Rehabilitation via weed removal of the degraded remnant vegetation areas within the open space retention area is recommended.</p> <p>Development complies with AO3. The proposed necessary earthworks associated with the development is situated within a mapped secondary vegetation management area, where MLES and MSES is also mapped, on the biodiversity areas overlay map. An offset for unavoidable clearing will provide a net gain of native trees and native habitat trees.</p>

Performance outcomes	Acceptable outcomes	Comments
<p>Note - -Compliance with this performance outcome is to be demonstrated by a basic ecological assessment report [for paragraph (a)] and environmental offset report [for section (b)] prepared in accordance with Part 2 of planning scheme policy 3–Environmental management.</p>	<ul style="list-style-type: none"> i. two trees of the same species for every native tree cleared in a secondary vegetation management area; ii. four trees of the same species for every native habitat tree cleared in a secondary vegetation management area; b) if identified as a Matter of local environmental significance and not Both matters of local and state environmental significance on Biodiversity areas overlay map–OM–02.04, an offset is provided in accordance with section 3.1–Environmental offset standards in Planning scheme policy 3–Environmental management; or c) if identified as Both Matters of local and state environmental significance or Matters of State environmental significance on Biodiversity areas overlay map–OM–02.04, an offset is provided in accordance with the Queensland Environmental Offset Policy and the Environmental Offsets Act 	<p>It is considered that the proposed development and associated works complies with PO3, through avoiding the removal of native vegetation in open space areas, and in providing an offset for lost values.</p>
	<p>Note—Compliance with AO3(b) is to be demonstrated by an environmental offset report prepared in accordance with Part 2 of planning scheme policy 3–Environmental management.</p>	
	<p>Note—For the purpose of AO3(c) the Queensland Government has separate regulatory requirements for matters of state environmental significance. This is regulated by the State Development Assessment Provisions.</p>	
	<p>Note—Where the native vegetation is identified as a matter of state environmental significance and no offset is required by</p>	

Performance outcomes	Acceptable outcomes	Comments
<p>the Queensland Government for the native vegetation identified as a matter of state environmental significance, development is located to avoid the need to clear the native vegetation.</p>		
<p>Koala corridor</p>		
<p>PO4 Development in a Koala corridor identified on Biodiversity areas overlay map–OM–02.02 is designed and located to protect and enhance koala habitat.</p> <p>Note - Compliance with this performance outcome is to be demonstrated by a detailed ecological assessment report prepared in accordance with Part 2 of planning scheme policy 3–Environmental management.</p>	<p>AO4 Development:</p> <ul style="list-style-type: none"> a) is located to avoid the need to clear any native vegetation in a Koala corridor identified on Biodiversity areas overlay map–OM–02.02; b) in a Koala corridor identified on Biodiversity areas overlay map–OM–02.02 rehabilitates degraded koala habitat values within the Koala corridor, in accordance with the South East Queensland Ecological Restoration Framework. 	<p>Not applicable. The site is not located within a mapped Koala corridor.</p>
<p>Locally significant vegetation area</p>		
<p>PO5 Development in a Locally significant vegetation area identified on the Biodiversity areas overlay map—OM-02.03 protects Melaleuca irbyana, vine forest, Gossia gonoclada and significant remnant vegetation areas from:</p> <ul style="list-style-type: none"> a. encroachment; b. edge effects. <p>Note—Compliance with this performance outcome is to be demonstrated by a detailed ecological assessment report prepared in accordance with Part 2 of planning scheme policy 3–Environmental management.</p>	<p>AO5 Development is located outside of a Locally significant vegetation area as identified on Biodiversity areas overlay map—OM-02.03.</p>	<p>Not applicable. The site does not include a mapped locally significant vegetation area.</p>
<p>For assessable development</p>		

Performance outcomes	Acceptable outcomes	Comments
Wildlife movement		
<p>PO6</p> <p>Development in a Biodiversity corridor or koala corridor identified on Biodiversity areas overlay map–OM–02.02 provides for the safe movement of native fauna by:</p> <ul style="list-style-type: none"> a) generating minimal additional night time traffic; b) minimising the risk of injury or death to wildlife by vehicular traffic; c) incorporating practices or measures to minimise disruption, injury or death during construction; d) providing that a road or accessway has a low design speed; e) providing fauna-friendly fencing. <p>Note - Compliance with this performance outcome is to be demonstrated by a detailed ecological assessment report prepared in accordance with Part 2 of planning scheme policy 3–Environmental management.</p>	<p>AO6</p> <p>Development in a Biodiversity corridor or koala corridor identified on Biodiversity areas overlay map–OM–02.02 provides for the safe movement of native fauna through the implementation of:</p> <ul style="list-style-type: none"> a) the Queensland Government Fauna Sensitive Road Design Manual Volume 2: Preferred Practices; b) the Queensland Government Koala-sensitive Design Guideline. 	<p>Development complies with PO6.</p> <p>Development is not proposed within a Biodiversity Corridor or Koala Corridor.</p>
Locally significant Melaleuca irbyana buffer area		
<p>PO7</p> <p>Development within the Locally significant Melaleuca irbyana buffer area identified on Biodiversity areas overlay map–OM–02.03 protects the Locally significant Melaleuca irbyana area identified on Biodiversity areas overlay map–OM–02.03 from:</p> <ul style="list-style-type: none"> a) edge effects; b) adverse changes to the local hydrology. 	<p>AO7</p> <p>Development within the Locally significant Melaleuca irbyana buffer area identified on Biodiversity areas overlay map–OM–02.03 provides for a vegetated buffer within 50 metres of the Locally significant Melaleuca irbyana area identified on Biodiversity areas overlay map–OM–02.03.</p>	<p>Not applicable.</p> <p>The subject site is not located within a mapped locally significant <i>Melaleuca irbyana</i> buffer area.</p>

Performance outcomes	Acceptable outcomes	Comments
<p>Note - Compliance with this performance outcome is to be demonstrated by a detailed ecological assessment report prepared in accordance with Part 2 of planning scheme policy 3–Environmental management.</p>		
<p>Landscape values</p>		
<p>PO8 Development is designed and located to protect and enhance the landscape values of:</p> <ul style="list-style-type: none"> a) a ridgeline; b) native vegetation. 	<p>AO8 No acceptable outcome provided.</p>	<p>Development complies with PO8. The subject site does not contain any significant ridgeline values, however, it contains native vegetation.</p> <p>To facilitate the occurrence of development, relatively disturbed vegetated areas and sparse native vegetation is required to be unavoidably removed, in addition remnant vegetation is to be removed as part of the proposed development. As discussed within Section 4 of this EAR, the environment to be directly impacted is highly modified and provides relatively limited habitat opportunity for native fauna due to past and ongoing disturbances and fragmentation. The retention of a section of remnant vegetation is proposed which is considered to provide ongoing benefit for fauna.</p>
<p>Lighting</p>		
<p>PO9 Development in a Biodiversity corridor or Koala corridor identified on Biodiversity areas overlay map–OM–02.02 is designed to minimise adverse light impacts on native fauna.</p>	<p>AO9.1 Lighting associated with development in a Biodiversity corridor or Koala corridor identified on Biodiversity areas overlay map–OM–02.02:</p>	<p>Development complies with AO9.1. Lighting for the proposed development will be designed in compliance with the relevant policies, and is anticipated to be conditioned at the Operational Works Stage.</p>

Performance outcomes	Acceptable outcomes	Comments
	a) complies with the dark surrounds lighting levels in AS4282-1997–Control of the obtrusive effects of outdoor lighting; b) is directed away from areas identified on Biodiversity areas overlay map–OM–02.00	

Response to LCC Waterway Corridors and Wetlands Overlay Code

Performance outcomes	Acceptable outcomes	Comments
For assessable development only		
Location and ecosystem processes		
<p>PO2 Development is:</p> <ul style="list-style-type: none"> a. designed and located such that a waterway area or wetlands and wetland buffer is protected; b. designed, constructed and managed to protect and enhance: <ul style="list-style-type: none"> I. in-stream and riparian habitat values of a Waterway corridors and wetlands area identified on Waterway corridors and wetlands overlay map–OM–13.00; II. safe wildlife movement and fish passage. <p>Note—Planning scheme policy 3–Environmental management provides guidance on how to achieve this outcome. Compliance with this performance outcome is to be demonstrated by an ecological assessment report prepared in accordance with part 2 of planning scheme policy 3–Environmental management.</p>	<p>AO2 Development:</p> <ul style="list-style-type: none"> a. demonstrates that locating outside the waterway area of wetland and wetland buffer is not reasonably possible; b. prepares an ecological assessment report in accordance with part 2 of planning scheme policy 3–Environmental management that demonstrates how the development protects and enhances in-stream and riparian habitat values and results in no loss of connectivity which supports wildlife movement; c. protects and enhances the ecological function of a Waterway corridor and wetlands area in accordance with section 3.3.1–Riparian corridor revegetation and weed control and section 3.3.2–Waterway terrestrial and aquatic fauna movement of planning scheme policy 3–Environmental management. 	<p>The development complies with AO2.</p> <p>Refer herein for the detailed ecological assessment.</p> <p>It is anticipated that the development will reinstate native habitat features within a proposed basin to replace the existing farm dam in Lot 28. The water feature is rectified as a constructed dam that, although it supports some aquatic habitat values in a highly disturbed state, is not considered reflective of true waterway values. It is anticipated that the provision of a stormwater basin in this location will provide the opportunity for native flora plantings to facilitate more optimal habitat value.</p> <p>The development proposes a stormwater basin and sewer pump station within the mapped waterway buffer in the southern extent of Lot 26. Notably, this waterway was rectified on-ground as highly disturbed, with discontinuous banks and another smaller farm dam constructed. It is understood that overland flow will be facilitated in a channel around the proposed infrastructure where it enters from Lot 27 to the north to the culverts beneath Logan Reserve Road.</p>

Performance outcomes	Acceptable outcomes	Comments
Natural hydrological and geomorphological processes		
<p>PO3 Development is designed, constructed and managed to ensure:</p> <ul style="list-style-type: none"> a. the natural hydrological and geomorphological processes of a Waterway corridors and wetlands area identified on Waterway corridors and wetlands overlay map–OM–13.00 are maintained; b. where the natural hydrological and geomorphological processes are modified, the near natural hydrology is re-instated. 	<p>AO3 Development is designed, constructed and managed to protect the natural hydrological and geomorphological processes of a Waterway corridors and wetlands area by:</p> <ul style="list-style-type: none"> a. stabilising banks using native vegetation in accordance with section 3.3.1–Riparian corridor revegetation and weed control and section 3.3.3–Near-natural hydrology reinstatement works of Planning Scheme Policy 3–Environmental Management; b. reinstating the near-natural hydrology in accordance with section 3.3.3–Near-natural hydrology reinstatement works of planning scheme policy 3–Environmental management. 	<p>The development complies with PO3. It is understood that near natural hydrological and geomorphic processes will be reinstated in the proposed basin and channel areas that intersect the mapped waterways on-site.</p>
<p>PO4 Development in an erosion prone area identified on Waterway corridors and wetlands overlay map–OM–13.03 is for coastal dependent development, or temporary, readily relocatable or able-to-be-abandoned development.</p>	<p>AO4 Development is not located in an erosion prone area identified on Waterway corridors and wetlands overlay map–OM–13.03 unless the development:</p> <ul style="list-style-type: none"> a. cannot be feasibly located elsewhere; b. is coastal dependent development, or temporary, readily relocatable or able-to-be-abandoned development. 	<p>Not applicable. The development is not located in an erosion prone area.</p>
Water quality		
<p>PO5 Development is designed, constructed and managed to protect water quality of a Waterway corridors and</p>	<p>AO5 Development:</p>	<p>The development complies with PO5.</p>

Performance outcomes	Acceptable outcomes	Comments
<p>wetlands area identified on Waterway corridors and wetlands overlay map–OM–13.00 by:</p> <ul style="list-style-type: none"> a. providing vegetated buffers; b. incorporating water sensitive urban design principles having regard to: c. protecting water quality of surface and ground waters; d. minimising sewage discharges to the natural environment; e. limiting discharge of sediments and pollutants into a Waterway corridors and wetlands area. 	<ul style="list-style-type: none"> a. provides a vegetated riparian buffer in accordance with section 3.3.1–Riparian corridor revegetation and weed control of planning scheme policy 3–Environmental management; b. provides effective erosion and sediment control in accordance with section 3.3–Filling and excavation standards of planning scheme policy 5–Infrastructure; c. implements water sensitive urban design principles in accordance with section 3.6—Stormwater infrastructure standards and section 3.7–Landscaping standards of planning scheme policy 5–Infrastructure; d. excludes stock from a Waterway corridors and wetlands area by providing a permanent fence and gate and utilises off-stream stock watering points. 	<p>Stormwater from the residential development will be managed according to the stormwater engineering recommendations provided with the development application.</p> <p>Sewer systems will be connected to LCC sewer utilities.</p>

Access

PO6

Development provides for an integrated and publicly accessible network of waterways and wetlands to facilitate activation and maintenance of:

- a. a River waterway identified on Waterway corridors and wetlands overlay map–OM–13.01, being the Albert River or Logan River where located within the urban footprint;

AO6

Development provides:

- a. road access in the form of an access road or collector road to a River waterway, identified on Waterway corridors and wetlands overlay map–OM–13.01, being the Albert River or Logan River, where the premise adjoins the River waterway and is located within the urban footprint;
- b. a pedestrian and cycle network along a Major wetland identified on Waterway corridors and

Not applicable.

The development does not adjoin or change access to a River Waterway or Major Wetland.

Performance outcomes	Acceptable outcomes	Comments
b. a Major wetland identified on Waterway corridors and wetlands overlay map-OM-13.02.	wetlands overlay map-OM-13.02 where the premises adjoins the Major wetland.	
Tenure		
<p>PO7 Development provides for tenure or management arrangements that facilitate the protection and enhancement of a Waterway corridors and wetlands.</p>	<p>A07 No acceptable outcome provided.</p>	<p>Not applicable. It is anticipated that tenure of the reinstated hydrological features will be suitable.</p>

Appendix E

SAT Results

SAT survey 1

Tree No.	Species	DBH	Scat presence
Tree 1	<i>Corymbia intermedia</i>	350	N
Tree 2	<i>Corymbia intermedia</i>	180	N
Tree 3	<i>Allocasuarina littoralis</i>	250	N
Tree 4	<i>Corymbia intermedia</i>	210	N
Tree 5	<i>Corymbia intermedia</i>	290	N
Tree 6	<i>Lophostemon suaveolens</i>	100	N
Tree 7	<i>Lophostemon suaveolens</i>	180	N
Tree 8	<i>Lophostemon suaveolens</i>	150	N
Tree 9	<i>Eucalyptus seeana</i>	150	N
Tree 10	<i>Lophostemon suaveolens</i>	120	N
Tree 11	<i>Lophostemon suaveolens</i>	170	N
Tree 12	<i>Lophostemon suaveolens</i>	160	N
Tree 13	<i>Corymbia intermedia</i>	190	N
Tree 14	<i>Lophostemon suaveolens</i>	100	N
Tree 15	<i>Corymbia intermedia</i>	340	N
Tree 16	<i>Alphitonia excelsa</i>	210	N
Tree 17	<i>Eucalyptus seeana</i>	230	N
Tree 18	<i>Corymbia intermedia</i>	300	N
Tree 19	<i>Corymbia intermedia</i>	140	N
Tree 20	<i>Corymbia intermedia</i>	240	N
Tree 21	<i>Corymbia intermedia</i>	150	N
Tree 22	<i>Corymbia intermedia</i>	230	N
Tree 23	<i>Corymbia intermedia</i>	300	N
Tree 24	<i>Melaleuca quinquenervia</i>	150	N
Tree 25	<i>Corymbia intermedia</i>	120	N
Tree 26	<i>Corymbia intermedia</i>	350	N
Tree 27	<i>Corymbia intermedia</i>	170	N
Tree 28	<i>Corymbia intermedia</i>	290	N
Tree 29	<i>Lophostemon suaveolens</i>	160	N
Tree 30	<i>Lophostemon suaveolens</i>	130	N



State Code 25 Response

State Development Assessment Provisions v2.6

680 & 690 Chambers Flat Road and 691, 699 & 715 Logan Reserve Road, Logan Reserve Queensland, 4133

Prepared for JLF Group Pty Ltd

11 November 2021

Job 10778

Document Control

Document: 680 & 690 Chambers Flat Road and 691, 699 and 715 Logan Reserve Road, Logan Reserve prepared for JLF Group Pty Ltd

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Acronyms and abbreviations

BCC	Brisbane City Council
DES	Department of Environment and Science
DILGP	Department of Infrastructure, Local Government and Planning (Qld)
DSDILGP	Department of State Development, Infrastructure, Local Government and Planning
EPBC	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
EVNT	Endangered, Vulnerable or Near Threatened as listed under the NCA
ha	Hectare
KPA	Koala Priority Area
KMP	Koala Management Plan
km	Kilometres
LCC	Logan City Council
MCU	Material Change of Use
MLES	Matters of Local Environmental Significance
MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
NCA	<i>Nature Conservation Act 1992</i>
PA	<i>Planning Act 2016 (Qld)</i>
PO	Performance Outcome
PR	<i>Planning Regulation 2017 (Qld)</i>
RE	Regional Ecosystem
ROL	Reconfiguration of a Lot
SARA	State Assessment Referral Agency
SAT	Spot Assessment Technique
SDAP	State Development Assessment Provision
SHG	Saunders Havill Group
SPP	State Planning Policy 2017 (Qld)
VMA	<i>Vegetation Management Act 1999 (Qld)</i>

1. Introduction

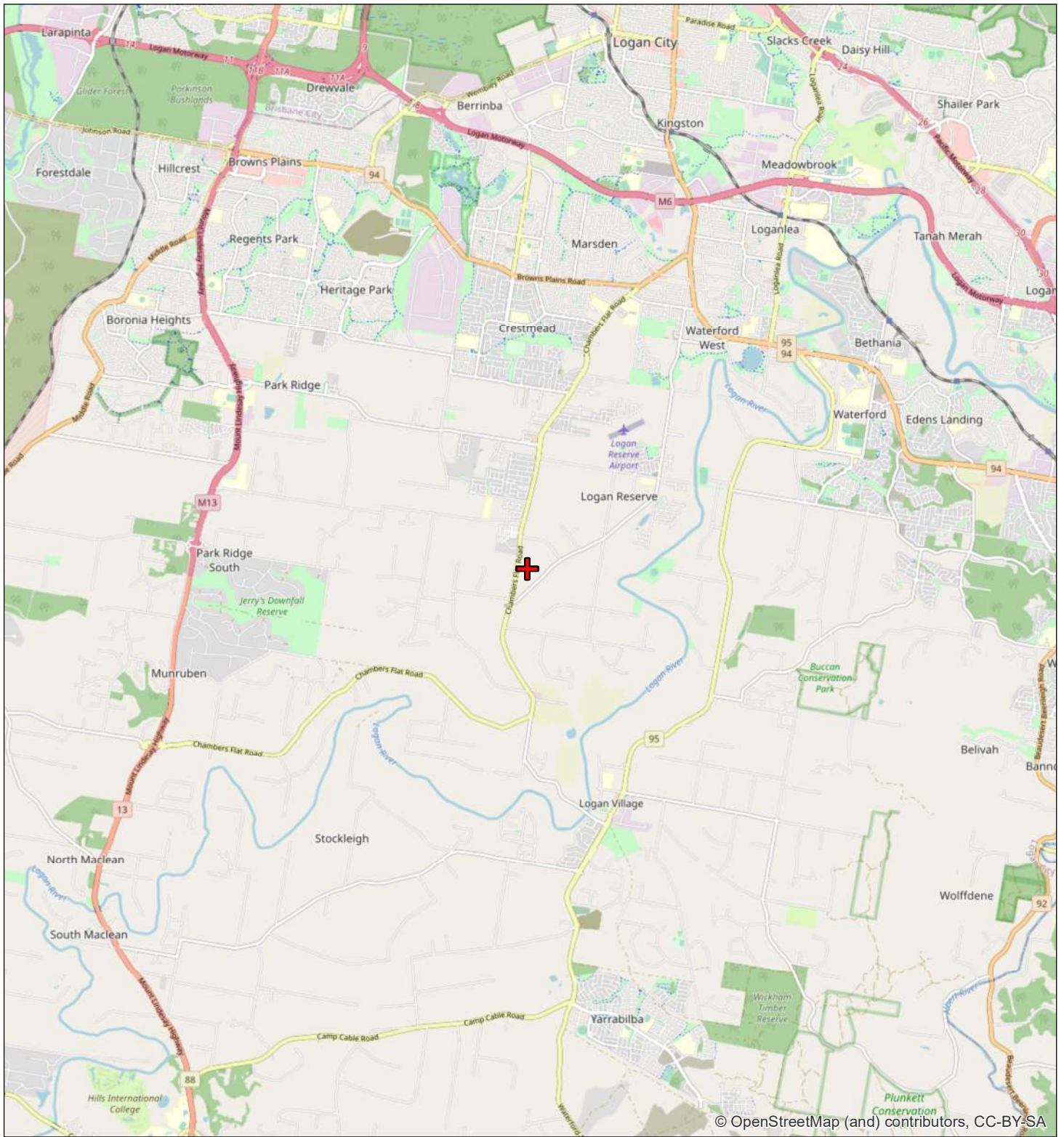
Saunders Havill Group (SHG) was engaged by JLF Group Pty Ltd to complete site investigations and prepare a report to assess a proposed development against State Development Assessment Provision (SDAP) *State Code 25: Development in South East Queensland Koala habitat areas* (v2.6), implemented by the Department of State Development, Infrastructure, Local Government and Planning (DSDILGP). This report provides a response to State Code 25 for a development application on located at 680 - 688 & 690 Chambers Flat Road and 691 – 697, 699 and 715 Logan Reserve Road, Logan Reserve, Queensland (described as Lots 12, 13, 26, 28 and 29 on RP106853). This report supports the requirements of a Development Application (DA) to Logan City Council (LCC) for a Reconfiguration of a Lot (RoL) and reviews the site’s ecological values in accordance with State Code 25. Assessment is primarily concerned with Lot 12, although there are apparent mapping overlaps with adjoining Lots which are considered an apparent misalignment of map layers and have been ground-truthed to the respective property boundaries.

Contextually, the total proposal site area comprises approximately 10.18 hectares (ha) located within the suburb of Logan Reserve, approximately 29 kilometres (km) south of Brisbane City CBD. The site is currently situated within an area dominated by rural residential and market garden large lots. Large parts of the site have been historically cleared and modified for residential, rural land use, plantation and horticultural purposes. The proposed development is within an Emerging Community Zone. Refer to **Figure 1** for site context and **Figure 2** for site aerial of relevant Koala mapping areas. Key property details are listed in **Table 1**.

Under the *Planning Regulation 2017* (PR) February 2020 amendments to the Koala habitat provisions, the site is located outside a Koala Priority Area (KPA). Lot 12 is dominated by mapped Core Koala Habitat Area with approximately 1.7 ha present outside of the current residential footprint (refer **Figure 3**). Two adjoining Lots have their boundaries overlapped by apparent mapping mis-alignment, as ground rectification indicates clearing is present to the boundary lines of Lot 12. As detailed in the Ecological Assessment Report that accompanies this application, the site is considered isolated and fragmented from surrounding relatively viable Koala Habitat Areas due to fragmentation by major roads and residential developments occurring to the north and west.

Table 1: Property summary

Address	680 - 688 & 690 Chambers Flat Road and 691 – 697, 699 & 715 Logan Reserve Road, Logan Reserve, Queensland (described as)
RPD	Lot 12 on RP106853 Lot 13 on RP106853 Lot 26 on RP106853 Lot 28 on RP106853 Lot 29 on RP106853
Area	10.18 ha
VMA 1999	Category B Least Concern 1.72 Essential Habitat (<i>Phascolarctos cinereus</i>) Category X
Fisheries 1994	Nil
MSES	MSES – Wildlife habitat (endangered or vulnerable) MSES – Wildlife habitat (koala habitat areas – core) MSES – Regulated vegetation (essential habitat)
Koala Habitat	Not within Koala Priority Area Koala Habitat Area (Core)
LGA	Logan City Council
Planning Scheme / Local Plan	Logan Planning Scheme 2015
Existing Land Use	Rural and Rural Residential
Proposed Land Use	Low Density Residential Open Space



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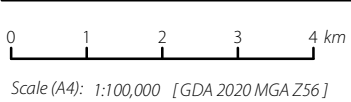
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 Site DCDB

Figure 1
Site Context

JLF Group Pty Ltd

File ref. 10778 E Figure 1 Site Context A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve



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Legend

-  Site DCDB
-  Qld DCDB

Figure 2

Site Aerial

File ref. 10778 E Figure 2 Site Aerial A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve



Scale (A4): 1:1,500 [GDA 2020 MGA Z56]



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-  Site DCDB
-  Qld DCDB

Koala Habitat Areas

-  Core Remnant Koala Habitat Areas
-  Core Regrowth Koala Habitat Areas
-  Locally Refined Koala Habitat Areas
-  Koala Priority Areas

Figure 3

*Koala Priority Areas and
Koala Habitat Areas*

File ref. 10778 E Figure 3 Koala Habitat 2019 A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve



Scale (A4): 1:1,500 [GDA 2020 MGA Z56]



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2. Planning Regulation 2017

The clearing of Koala habitat for development is regulated under the Planning Regulation (PR) 2017. The PR was amended on 7 February 2020 to strengthen protections over Koala habitat with respect to development. The amendments saw the introduction of KPAs and KHAs. Whether or not a site is located within a KPA and / or contains KHAs determines the level of restrictions imposed and the response or referral pathway required for the site.

The Department of State Development, Infrastructure, Local Government and Planning's (DSDILGP's) State Assessment and Referral Agency (SARA) Development Assessment Mapping System (DAMS) identifies the site as being located entirely outside a Koala Priority Area, although it contains KHAs (**Figure 3**). As per Schedule 10, Part 10, Division 2, Section 16A of the PR (refer extract below), interfering with a KHA is not a prohibited activity where located outside of a KPA.

Part 10	Koala habitat in SEQ region
Division 1	Preliminary
16	Application of part
	This part applies in relation to development on a lot that is completely or partly in the SEQ region.
Division 2	Prohibited development
16A	Prohibited development—development interfering with koala habitat in koala priority area and koala habitat area
(1)	Development is prohibited development to the extent the development involves interfering with koala habitat in an area that is both—
(a)	a koala priority area; and
(b)	a koala habitat area.

Under Schedule 10, Part 10, Division 3, Subdivision 1, Section 16B, the proposal is considered assessable development as it interferes with a KHA outside of the KPA (refer extract below). Under Subdivision 2, Table 1, the proposal is assessable under the SDAP. The SDAP code assessment relevant to Koala is *State Code 25: Development in South East Queensland koala habitat areas*.

Division 3	Development interfering with koala habitat in koala habitat areas outside koala priority areas
Subdivision 1	Assessable development
16B	Assessable development—development interfering with koala habitat in koala habitat areas outside koala priority areas
(1)	Development is assessable development to the extent the development involves interfering with koala habitat in an area that—
(a)	is a koala habitat area; but
(b)	is not a koala priority area.

3. Koala Habitat Area field assessment

A desktop assessment revealed the subject site to contain 1.72 ha of mapped Category B (remnant) vegetation (refer **Figure 4**), which is reflective of the mapped core Koala Habitat Area in the eastern within Lot 12 (**Figure 3**).

Ecological field surveys were conducted on the subject site in the attempt to confirm presence of potential matters of ecological significance (MNES, MSES and MLES). Refer to **Figure 5** for project wide field survey.

3.1.1 Observational survey for significant flora and fauna, habitat trees and biodiversity values

The application area was walked to ensure all flora and fauna species were identified and recorded. Particular attention was paid to any threatened species listed as possibly occurring within or proximal to the application area. Specific micro-assemblages, which may support these threatened species, were also recorded when observed. This included observations of vertebrate fauna present within or proximal to the study area, including faunal lists and status of species significance under the Commonwealth's EPBC Act (using JAMBA, CAMBA, ROKAMBA and the Bonn Convention) and Queensland's NCA.

The observational survey included identification of ecological features and values such as broad vegetation communities, fauna habitats, and ecological corridors. Recording fauna habitat features within the application area included identification of habitat trees present. Specific attention was paid to flora and fauna species listed as significant under Logan City Council legislation.

3.1.2 Spot Assessment Technique (SAT) koala surveys

One SAT survey was conducted within mapped koala habitat with Koala food trees present. SAT surveys involve a single ecologist combing the ground under koala food plant trees (or non-food plant trees if necessary) for a 1-metre radius around the trunk searching for scats. Each tree searched must be greater or equal to 100mm diameter at breast height (DBH) and search of each tree continues for up to 2 minutes. The search can cease prior to the 2-minute limit if scats are detected. Thirty trees meeting the specifications are analysed during each SAT survey.

Three scat meanders were carried out within vegetated areas within the investigation area. Meanders involve walking a winding transect and checking under all trees meeting specifications encountered. Detailed records of each tree are not recorded unless scats are detected. The location of the meander is recorded.

3.1.3 Spotlighting

The application area was subject to nocturnal spotlighting assessment for Arboreal and ground-dwelling fauna over a single evening as per standard spotlighting protocols.

3.1.4 Ground-truthing of vegetation communities

Vegetation was ground-truthed and assessed against current VMA regional ecosystem mapping and pre-clear mapping. Surveys were undertaken in accordance with the requirements of the LCC.

A comprehensive flora survey was undertaken using a methodology consistent with the established formats used by the Queensland Herbarium (Neldner et al. [2005]; Hnatiuk et al. [2009]). Survey methodology

comprised an initial visual audit, followed by quantitative assessment of vegetation associations and communities.

3.1.5 Motion sensor camera trap

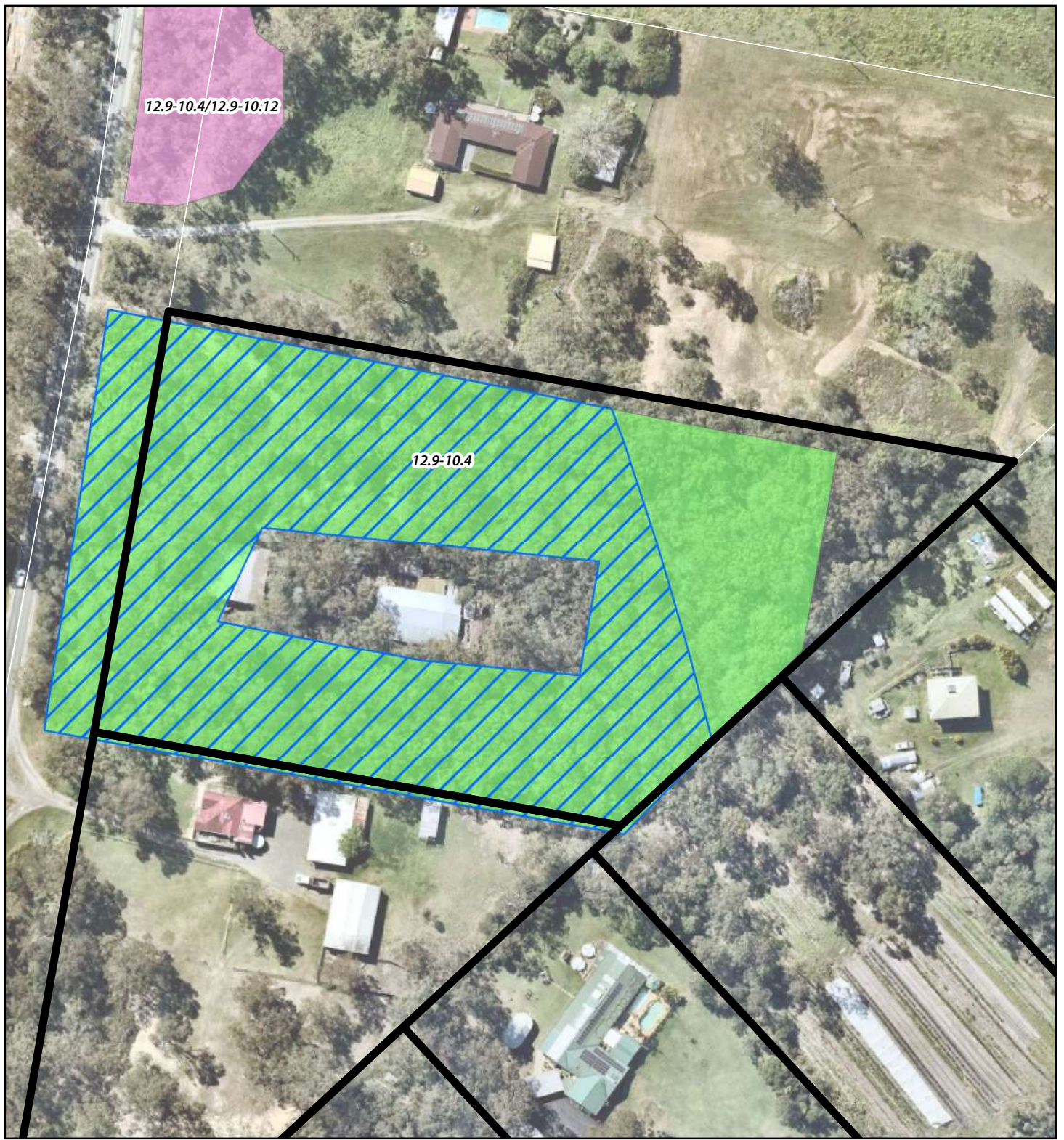
Camera trapping involves setting up a fixed digital camera to capture images or video of animals that pass in front of a camera with an infrared trigger. It is a non-invasive technique designed to detect medium to large sized animals as they pass, although it is possible to detect smaller animals depending on the set-up. This method identifies fauna activity beyond the scope of direct observational studies and with the absence of potential observer impacts.

Infrared sensing cameras with an infrared flash that use motion to trigger were deployed. Two (2) cameras were installed across the investigation area. Cameras were attached 30-100 cm from the ground on a tree or post and directed towards a bait station. The cameras were left to record for two (2) weeks, installed on the 15 September and removed on 29 September 2021.

3.1.6 Waterway Assessment

Waterway surveys were completed with the following information collected:

- general description;
- channel shape and modifications;
- in-stream habitat;
- vegetation quality and cover (embankments, channel and overall corridor);
- bed, bank and bar conditions (erosion, scouring, sediment); and
- weed cover



Legend












- | | | | | |
|--|----------------------|---|---|--|
|  | Site DCDB | Regional Ecosystems mapping |  | Category A or B area containing endangered regional ecosystems |
|  | Qld DCDB |  | Category A or B area containing of concern regional ecosystems | |
|  | VM Watercourses |  | Category A or B area that is a least concern regional ecosystem | |
|  | VM Essential Habitat |  | Category C area containing endangered regional ecosystems | |
|  | VM Wetland |  | Category C area containing of concern regional ecosystems | |
| | |  | Category C area that is a least concern regional ecosystem | |

Figure 4
Regulated Vegetation Supporting Map

File ref. 10778 E Figure 4 RVSM A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve

0 10 20 30 40 50 m
Scale (A4): 1:1,500 [GDA 2020 MGA Z56]

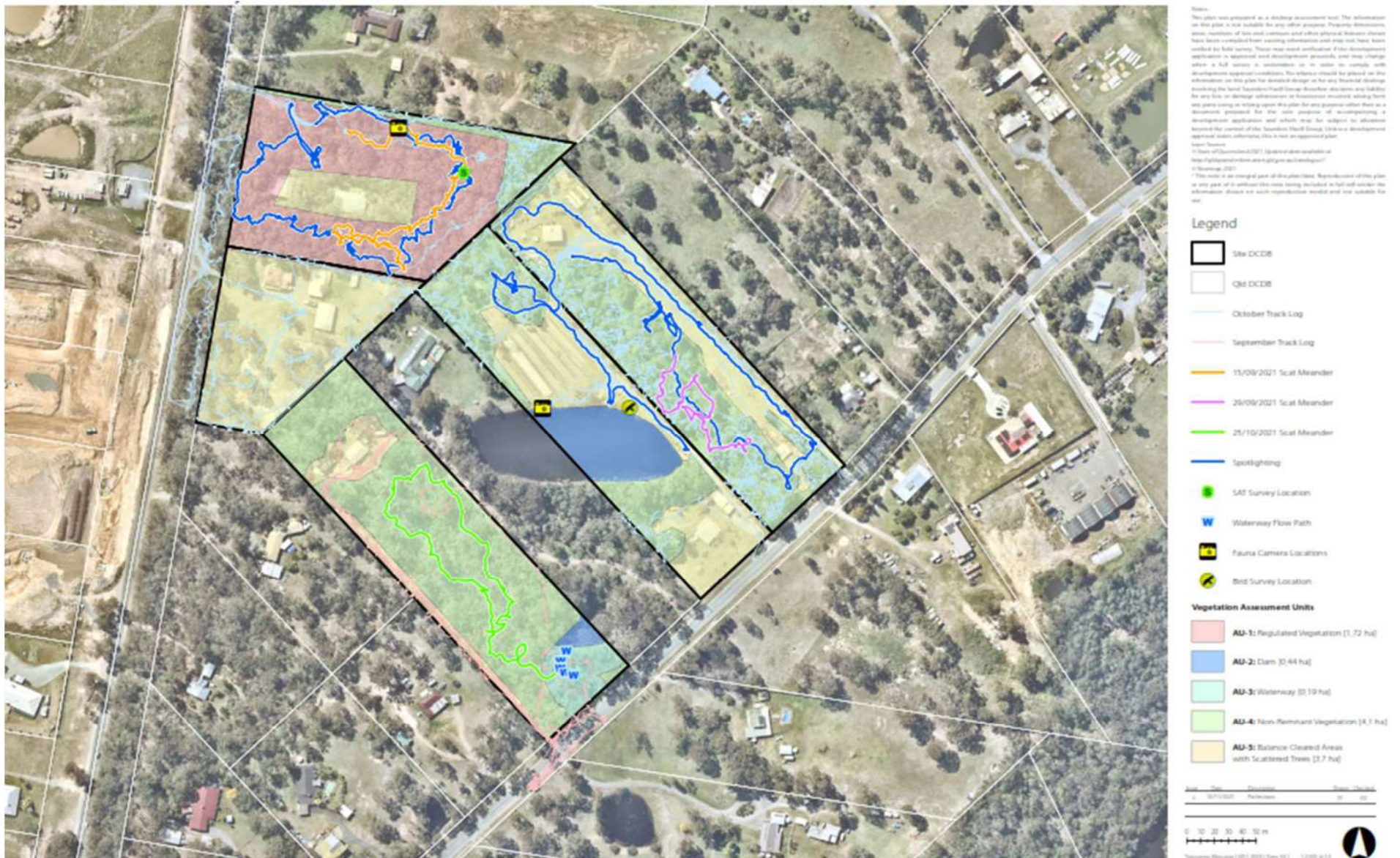


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Figure 5: Project-wide Field Survey Summary



3.2. Vegetation Habitat Values

The site differs significantly across the component Lots, with Lot 12 being of primary relevance. Lots 13 and 29 share boundaries with the site where mapped Koala Habitat Area is inaccurately indicated to overlap. Refer also to the Ecological Assessment Report that accompanies this application for further details.

3.2.1 Lot 12

An area of approximately 2 ha of Category B (remnant) vegetation is mapped within Lot 12 and along its boundaries in the north-west extent of the investigation area consisting of 'Least Concern' RE12.9-10.4. Remnant mapping within this area was generally correct with species present indicative of RE12.9-10.4. The area is densely vegetated and dominated by *Lophostemon suaveolens* (Swamp Box) and *Corymbia intermedia* (Pink Bloodwood) with *Eucalyptus racemosa* (Scribbly Gum), *Eucalyptus seeana* (Narrow-leaved Red Gum) and *Melaleuca linariifolia* (Snow-in-Summer) (refer **Photo set 1**).

The vegetation is heavily weed infested with both planted and invasive species including *Asparagus africanus* (Climbing Asparagus), *Dansevieria trifasciata* (Mother-in-law's Tongue), *Ochna serrulate* (Ochna), *Philodendron bipinnatifidum* (Tree Philodendron) and *Callisia fragrans* (Purple Succulent). In addition to the house and shed on-site, a significant number of car bodies/scrap metal are present in the central portion of the site (refer **Photo set 2**).

The extent of Koala habitat is generally mapped correctly within the exception of mapping extending over the shed in the western extent of the site. Koala habitat potential was confirmed through the presence of multiple recognised Koala habitat trees; including *Eucalyptus racemosa* (Scribbly Gum), *Corymbia intermedia* (Pink Bloodwood), *Eucalyptus seeana* (Narrow-leaved Red Gum) and *Lophostemon suaveolens* (Swamp Box) (refer **Photo set 1**).



Photo set 1: Confirmed potential Koala habitat with species indicative of mapped 'Least Concern' 12.9-10.4.



Photo set 2: Dense weed infestation present at shrub/ground level as well as a number of car bodies present.

3.2.2 Lot 13

Maintained grasses with scattered native eucalypts are present on Lot 13. The Category B remnant vegetation was not observed on this Lot, but it is present along the fence line with Lot 12 to the extent that the mature trees overhang the property.

3.2.3 Lot 29

The Koala Habitat does not cross the boundary fence with Lot 12 except to the extent that the mature trees overhang the property boundary.

- Vegetation occurs along the northern Lot 29 boundary and is dominated by *Pinus elliotii* (Slash Pine) with relatively few scattered natives.
- Vegetation along the southern Lot 29 boundary is also dominated by *Pinus elliotii* (Slash Pine), however, it contains a sub-canopy that includes immature *Melaleuca quinquenervia* (Broad Leaf Paperbark) and *Lophostemon suaveolens* (Swamp Box).

3.3. Flora Survey Results

Flora was assessed across the broader application site on the 1, 15 and 29 September and 25 October 2021.

- A total of 173 species of flora were detected onsite during surveys, inclusive of 82 native species and 91 exotic/weed species (refer **Table 2** and **Table 3**).
- The investigation area typically reflects its current rural residential land uses, including vegetated areas, cleared paddocks, scattered mature trees and planted garden species. In addition, a large constructed dam and mapped waterway containing disturbed waterway features was observed.
- Of the 10.2 hectares investigated, approximately 2 hectares of remnant vegetation remains. Regional Ecosystem 12.9-10.4 'Least Concern' is mapped within Lot 12. The species identified are generally representative of the current Regional Ecosystem mapping. Some minor discrepancies in the mapped boundary of the remnant areas were noted.

Table 2: Native flora species recorded on-site

Scientific Name	Common Name
<i>Acacia concurrens</i>	Black Wattle
<i>Acacia fimbriata</i>	Brisbane Wattle
<i>Acacia leiocalyx</i>	Early Flowering Black Wattle
<i>Allocasuarina littoralis</i>	Black She-oak
<i>Alphitonia excelsa</i>	Soap Tree
<i>Alpinia caerulea</i>	Native Ginger
<i>Angophora leiocarpa</i>	Smooth-barked Apple
<i>Angophora woodsiana</i>	Rough-barked Apple
<i>Araucaria cunninghamii</i>	Hoop Pine
<i>Asplenium australasicum</i>	Birds Nest Fern
<i>Azolla pinnata</i>	Azolla Fern
<i>Banksia integrifolia</i>	Coastal Banksia
<i>Boronia rosmarinifolia</i>	Forest Boronia
<i>Brachychiton acerifolius</i>	Flame Tree
<i>Breynia oblongifolia</i>	Coffee Bush
<i>Buckinghamia celsissima</i>	Ivory Curl Flower
<i>Callitris columellaris</i>	Bribie Island Pine
<i>Calochlaena dubia</i>	Soft Bracken
<i>Castanospermum australe</i>	Black Bean
<i>Cayratia clematidea</i>	Slender Grape
<i>Cheilanthes distans</i>	Bristle Cloak Fern
<i>Chrysocephalum apiculatum</i>	Yellow Buttons
<i>Cupaniopsis anacardoides</i>	Tuckeroo
<i>Cymbopogon refractus</i>	Barbed Wire Grass
<i>Cynodon dactylon</i>	Green Couch
<i>Cyperus difformis</i>	Dirty dora
<i>Desmodium varians</i>	Native desmodium
<i>Dianella caerulea</i>	Blue Flax-lily
<i>Dodonaea viscosa</i>	Hop Bush
<i>Entolasia stricta</i>	Wiry Panic
<i>Eucalyptus acmenoides</i>	White Mahogany
<i>Eucalyptus carnea</i>	Broad-leaved White Mahogany
<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark
<i>Eucalyptus grandis</i>	Flooded Gum
<i>Eucalyptus microcorys</i>	Tallowwood
<i>Eucalyptus propinqua</i>	Grey Gum
<i>Eucalyptus racemosa</i>	Scribbly Gum
<i>Eucalyptus seeana</i>	Narrow-leaved Red Gum
<i>Eucalyptus siderophloia</i>	Grey Ironbark
<i>Eucalyptus tereticornis</i>	Forest Red Gum
<i>Eustrephus latifolius</i>	Wombat Berry
<i>Ficus coronata</i>	Sand Paper Fig
<i>Ficus rubiginosa</i>	Rock Fig
<i>Gahnia aspera</i>	Saw Sedge
<i>Geitonoplesium cymosum</i>	Scrambling Lily
<i>Glochidion sumatranum</i>	Large-leaved Cheese Tree

Scientific Name	Common Name
<i>Goodenia rotundifolia</i>	Star Goodenia
<i>Grevillea robusta</i>	Silky Oak
<i>Hardenbergia violacea</i>	Native Sarsaparilla
<i>Harpullia pendula</i>	Tulipwood
<i>Hibbertia stricta</i>	Hibbertia
<i>Imperata cylindrica</i>	Blady Grass
<i>Jagera pseudorhus</i>	Foambark
<i>Juncus usitatus</i>	Common Juncus
<i>Lepidosperma laterale</i>	Variable Swordsedge
<i>Leptospermum petersonii</i>	Lemon Scented Tea Tree
<i>Livistonia australis</i>	Cabbage Tree Palm
<i>Lobelia purpurascens</i>	White Root
<i>Lomandra multiflora</i>	Many Flowered Mat Rush
<i>Lophostemon suaveolens</i>	Swamp Box
<i>Melaleuca linariifolia</i>	Snow in Summer
<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark
<i>Melaleuca saligna</i>	Willow Bottlebrush
<i>Melaleuca viminalis</i>	Weeping Bottlebrush
<i>Melia azedarach</i>	White Cedar
<i>Murdannia graminea</i>	Slug Herb
<i>Oplismenus aemulus</i>	Creeping Beard Grass
<i>Parsonsia straminea</i>	Monkey Rope Vine
<i>Patersonia glabrata</i>	Native Iris
<i>Philydrum lanuginosum</i>	Woolly Frogmouth
<i>Platyterium superbum</i>	Staghorn
<i>Stenocarpus sinuatus</i>	Wheel of Fire
<i>Stephania japonica</i>	Tape Vine
<i>Syzygium luehmannii</i>	Small-leaved Lillypilly
<i>Themeda triandra</i>	Kangaroo Grass
<i>Trema tomentosa</i>	Poison Peach
<i>Wahlenbergia gracilis</i>	Small-leaved Bluebell
<i>Xanthorrhoea johnsonii</i>	Forest Grass Tree

3.3.1 Introduced species

A total of 91 flora species detected across the broader application site are introduced to Australia or the local region (**Table 3**). Ten (10) of these species are classified as Restricted Invasive under the Biosecurity Act 2014 and will require some form of targeted management on-site.

Table 3: Exotic/weed flora species detected on-site

Scientific Name	Common Name	Restricted under Biosecurity 2014
<i>Abrus precatorius</i>	Gidee-Gidee	
<i>Agapanthus sp.</i>	Agapanthus	
<i>Agave americana</i>	Century Plant	
<i>Ageratum houstonianum</i>	Blue Billygoat Weed	

Scientific Name	Common Name	Restricted under Biosecurity 2014
<i>Aloe Vera</i>	Aloe Vera	
<i>Alternanthera brasiliana</i>	Purple Joyweed	
<i>Ambrosia artemisiifolia</i>	Annual Ragweed	Category 3 – Restricted Plant
<i>Andropogon virginicus</i>	Whisky Grass	
<i>Argemone ochroleuca</i>	Mexican Poppy	
<i>Asparagus aethiopicus</i>	Ground Asparagus Fern	Category 3 – Restricted Plant
<i>Asparagus africanus</i>	Climbing Asparagus	Category 3 – Restricted Plant
<i>Asparagus officinalis</i>	Garden Asparagus	
<i>Baccharis halimifolia</i>	Groundsel Bush	
<i>Bambusa vulgaris</i>	Common Bamboo	
<i>Bauhinia galpinii</i>	Red Bauhinia	
<i>Beaucarnea recurvata</i>	Ponytail Palm	
<i>Bidens pilosa</i>	Cobbler's Pegs	
<i>Bougainvillea glabra</i>	Bougainvillea	
<i>Bryophyllum delagoense</i>	Mother-of-millions	Category 3 – Restricted Plant
<i>Bryophyllum pinnatum</i>	Resurrection Plant	
<i>Calliandra haematocephala</i>	Red Pom Pom	
<i>Callisia fragrans</i>	Purple Succulent	
<i>Calyptocarpus vialis</i>	Creeping Cinderella Weed	
<i>Caryota mitis</i>	Fishtail Palm	
<i>Centella asiatica</i>	Pennywort	
<i>Cestrum parqui</i>	Green Cestrum	
<i>Chloris gayana</i>	Rhodes Grass	
<i>Commelina diffusa</i>	Wandering Jew	
<i>Conyza bonariensis</i>	Flaxleaf Fleabane	
<i>Conyza sumatrensis</i>	Tall Fleabane	
<i>Corymbia torelliana</i>	Cadaghi	
<i>Crassocephalum crepidioides</i>	Thickhead	
<i>Cyperus polystachyos</i>	Bunchy Sedge	
<i>Desmodium uncinatum</i>	Silver-leaf Desmodium	
<i>Dracaena fragrans</i> 'Massangeana'	Happy Plant	
<i>Duranta erecta</i>	Duranta	
<i>Dypsis decaryi</i>	Triangle Palm	
<i>Dyschoriste depressa</i>	Dyschoriste	
<i>Epiphyllum oxypetalum</i>	Queen of the Night	
<i>Erythrina x sykesii</i>	Common Coral Tree	
<i>Grevillea 'honeygem'</i>	Honeygem	
<i>Heliotropium amplexicaule</i>	Blue Heliotrope	
<i>Hydrocotyle tripartita</i>	Small-leaved Pennywort	
<i>Hylocereus undatus</i>	Dragon Fruit	
<i>Hypoestes phyllostachya</i>	Polka Dot Plant	
<i>Jacaranda mimosifolia</i>	Jacaranda	
<i>Lantana camara</i>	Lantana	Category 3 – Restricted Plant
<i>Lantana montevidensis</i>	Creeping Lantana	Category 3 – Restricted Plant
<i>Leucaena leucocephala</i>	Leucaena	
<i>Ludwigia peploides</i>	Water Primrose	

Scientific Name	Common Name	Restricted under Biosecurity 2014
<i>Macroptilium lathyroides</i>	Phasey Bean	
<i>Mangifera indica</i>	Mango Tree	
<i>Megathyrsus maximus</i>	Guinea Grass	
<i>Melinis repens</i>	Red Natal Grass	
<i>Monstera deliciosa</i>	Monstera	
<i>Murraya paniculata</i>	Mock Orange	
<i>Musa sp.</i>	Banana	
<i>Neonotonia wightii</i>	Glycine	
<i>Nephrolepis cordifolia</i>	Fishbone Fern	
<i>Ochna serrulata</i>	Ochna	
<i>Oxalis coorniculata</i>	Yellow Wood-sorrel	
<i>Paspalum dilatatum</i>	Paspalum	
<i>Paspalum notatum</i>	Bahia Grass	
<i>Passiflora suberosa</i>	Corky Passion Vine	
<i>Persicaria decipiens</i>	Slender knotweed	
<i>Philodendron bipinnatifidum</i>	Tree Philodendron	
<i>Phyllostachys aurea</i>	Golden Bamboo	
<i>Pinus elliottii</i>	Slash Pine	
<i>Plumeria rubra</i>	Frangipani	
<i>Psidium guajava</i>	Guava	
<i>Pteridium esculentum</i>	Bracken	
<i>Sansevieria trifasciata</i>	Mother-in-law's Tongue	
<i>Schefflera actinophylla</i>	Umbrella Tree	
<i>Schinus terebinthifolia</i>	Broadleaved Pepper	Category 3 – Restricted Plant
<i>Senecio madagascariensis</i>	Fireweed	Category 3 – Restricted Plant
<i>Senna pendula</i>	Easter Cassia	
<i>Setaria sphacelata</i>	South African Pigeon Grass	
<i>Sida cordifolia</i>	Flannel Weed	
<i>Sida rhombifolia</i>	Common Sida	
<i>Solanum mauritianum</i>	Wild Tobacco Tree	
<i>Solanum seafortianum</i>	Brazilian Nightshade	
<i>Solanum torvum</i>	Devil's Fig	
<i>Soliva sessilis</i>	Bindy Eye	
<i>Spathodea campanulata</i>	African Tulip Tree	Category 3 – Restricted Plant
<i>Syagrus romanzoffiana</i>	Cocos Palm	
<i>Tecoma stans</i>	Yellow Bells	Category 3 – Restricted Plant
<i>Thunbergia alata</i>	Black-eyed Susan	
<i>Tipuana tipu</i>	Tipuana	
<i>Typha latifolia</i>	Cumbungi	
<i>Urochloa decumbens</i>	Signal Grass	
<i>Yucca aloifolia</i>	Yucca	

3.4. Fauna survey results

Fauna was assessed across the broader application area during the site visit on the 1, 15 and 29 September and 25 October 2021 utilising spotlighting, camera traps and general observations.

A total of 41 fauna species were recorded consisting of 31 birds, 7 mammals, 2 reptiles and 1 fish species (refer **Table 4**).

Table 4: Fauna recorded on-site

Scientific Name	Common Name	Native/Introduced
BIRDS		
<i>Acridotheres tristis</i>	Indian Myna	Exotic
<i>Anas superciliosa</i>	Pacific Black Duck	Native
<i>Ardea intermedia</i>	Intermediate Egret	Native
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	Native
<i>Chenonetta jubata</i>	Australian Wood Duck	Native
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	Native
<i>Corvus orru</i>	Torresian Crow	Native
<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Native
<i>Egretta novaehollandiae</i>	White-faced Heron	Native
<i>Entomyzon cyanotis</i>	Blue-faced Honeyeater	Native
<i>Eolophus roseicapilla</i>	Galah	Native
<i>Gallinula tenebrosa</i>	Dusky Moorhen	Native
<i>Geopelia striata</i>	Peaceful Dove	Native
<i>Grallina cyanoleuca</i>	Magpie-lark	Native
<i>Gymnorhina tibicen</i>	Australian Magpie	Native
<i>Hirundo neoxena</i>	Welcome Swallow	Native
<i>Macropygia phasianella</i>	Brown Cuckoo-Dove	Native
<i>Manorina melanocephala</i>	Noisy Minor	Native
<i>Ninox boobook</i>	Boobook Owl	Native
<i>Pardalotus striatus</i>	Striated Pardalote	Native
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant	Native
<i>Phaps chalcoptera</i>	Common Bronzewing	Native
<i>Philemon corniculatus</i>	Noisy Friarbird	Native
<i>Platycercus adscitus</i>	Pale-headed Rosella	Native
<i>Porphyrio melanotus</i>	Australasian Swamp Hen	Native
<i>Rhipidura leucophrys</i>	Willie Wagtail	Native
<i>Strepera graculina</i>	Pied Currawong	Native
<i>Threskiornis molucca</i>	Australian White Ibis	Native
<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	Native
<i>Vanellus miles</i>	Masked Lapwing	Native
<i>Zanda funerea</i>	Yellow-tailed Black-Cockatoo	Native
MAMMALS		
<i>Canis lupus familiaris</i>	Domestic Dog	Exotic
<i>Isodon macrourus</i>	Northern Brown Bandicoot	Native
<i>Lepus europaeus</i>	European Hare	Exotic
<i>Macropus rufogriseus</i>	Red-necked Wallaby	Native
<i>Pseudocheirus peregrinus</i>	Common Ringtail Possum	Native
<i>Trichosurus vulpecula</i>	Common Brushtail Possum	Native
<i>Vulpes vulpes</i>	Red Fox	Exotic
REPTILES		
<i>Emydura macquarii signata</i>	Short-necked Turtle	Native
<i>Pogona barbata</i>	Bearded Dragon	Native

Scientific Name	Common Name	Native/Introduced
FISH		
<i>Anguilla sp</i>	Eel species	Native

3.4.1 SAT Surveys

One SAT survey and three scat meanders were conducted during the site visit. No Koala scats were detected during either the SAT survey or the scat meanders. No Koala scats were detected during active searches across the entire site. The results of the SAT survey are presented in **Appendix A**.

3.5. Threatened species

For the purposes of this report, a significant species has been defined as a species that is:

- Scheduled as critically endangered, endangered, vulnerable or conservation dependent under the Commonwealth EPBC Act; and/or
- Scheduled as endangered, vulnerable, or near threatened under the Queensland NC Act; and/or
- Identified by RCC as a locally significant species in the RCC planning scheme.

3.5.1 Threatened flora

No flora species listed as threatened under the EPBC Act or the NC Act were recorded on-site. A portion of mapped Koala habitat is to be retained and **will** provide ongoing fauna habitat.

A search of the NC Act Wildlife Online database listed one threatened flora species as potentially occurring within the area, being *Melaleuca irbyana* (Swamp Tea-tree, refer **Appendix B**). No flora species listed under the NCA as threatened were recorded.

Nineteen (19) flora species listed as Threatened under the EPBC Act were indicated as having the potential to occur within 5 km of the site (refer **Appendix C**). On-ground assessment determined that it was unlikely that any of these species would inhabit the site due to historical clearing and ongoing maintenance.

The EPBC Act PMST listed five (5) Threatened Ecological Communities (TECs) that may occur in, or relate to, the subject site (**Appendix C**). These are described as the following:

- The Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland Ecological community occurs in coastal catchments, mostly at elevations of less than 20 m above sea level that are typically found within 30 km of the coast however distance can vary by catchment. The canopy layer is dominated by *Casuarina glauca* (Swamp Oak) and in Queensland is represented by RE12.1.1 or RE12.3.20. None of these RE communities occur on site or within the immediate vicinity of the site.
- The Lowland Rainforest of Subtropical Australia TEC typically has high species richness. In Queensland, this TEC is part of a number of RE communities including 12.3.1, 12.5.13, 12.8.3, 12.8.4, 12.8.13, 12.11.1, 12.11.10, 12.12.1 and 12.12.16. None of these RE communities occur on site or within the immediate vicinity of the site.

- Poplar Box Grassy Woodland on Alluvial Plains is typically a grassy woodland with a canopy dominated by *Eucalyptus populnea* and understorey mostly of grasses and other herbs. This ecological community mostly occurs in gently undulating to flat landscapes and occasionally on gentle slopes on a wide range of soil types of alluvial and depositional origin. In Queensland, this TEC is part of a number of RE communities including 11.3.2, 11.3.17, 11.4.7, 11.4.12 and 12.3.10. None of these RE communities occur on site or within the immediate vicinity of the site.
- The Swamp Tea-tree (*Melaleuca irbyana*) Forest of South-east Queensland TEC usually comprises low open to closed forest, closed scrub or thickets dominated by *Melaleuca irbyana* (Swamp Tea-tree) with or without an emergent tree layer of scattered eucalypts, and occasionally as *Eucalyptus* woodland in which *M. irbyana* forms a distinct understorey stratum. In Queensland this TEC is represented by Regional Ecosystem 12.9-10.11. None of these RE communities occur on site or within the immediate vicinity of the site.
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland is characterised by a species-rich understorey of native tussock grasses, herbs and scattered shrubs (where shrub cover comprises less than 30% cover), and a dominance or prior dominance of White Box (*Eucalyptus albens*) and/or Yellow Box (*E. melliodora*) and/or Blakely's Red Gum (*E. blakelyi*) trees. None of the RE communities associated with this TEC occur on site or within the immediate vicinity of the site.

No listed Flora or TECs, nor any conditions to support them, were observed on-site.

3.5.2 Threatened fauna species

No fauna species listed as threatened under the EPBC Act or the NC Act were recorded on-site.

Wildlife online listed four (4) fauna species listed as Threatened under the NC Act with the potential to occur within 5 km of the site (**Appendix B**). Field surveys did not detect presence of these species within the site.

The EPBC Act PMST listed twenty-five (25) fauna species listed as Threatened under the EPBC Act with the potential to occur within 5 km of the site (**Appendix C**). Field surveys did not detect presence of these species within the site.

Koala (*Phascolarctos cinereus*)

While the site consists of a mapped Koala habitat and includes Non-juvenile Koala Habitat Trees (NJKHTs), Koala habitat on-site is considered isolated and fragmented from surrounding more optimal Koala habitat as a result of physical barriers such as main roads, residential developments and property boundaries.

No evidence of Koala was recorded onsite despite targeted searches and a number of records within the broader area. It is considered unlikely that Koala would utilise the site, even as a transient visitor given the high levels of fragmentation and absence of evidence supporting their activity.

4. State Development Assessment Provisions

It is acknowledged that the proposed development will interfere with mapped KHA outside of the KPA (refer **Plan 1** for Impact Assessment Plan).

Under Schedule 10, Part 10, Division 3, Subdivision 1, Section 16B, the proposal is considered assessable development and is therefore to be referred to the chief executive of the Department of Environment and Science (DES) for assessment under State Code 25. The purpose of the code is to ensure that development in South East Queensland:

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

A response to relevant performance outcomes of State Code 25 is provided in **Table 5**, below. Refer to **Plan 1** for Development Impact Assessment and **Plan 2** for Connectivity Assessment.

Table 5: response to State Code 25, table 25.2.1 – All development

Performance outcomes	Acceptable outcomes	Response
Retaining koala habitat areas		
<p>PO1 Development interfering with koala habitat (including interfering with koala habitat as a result of material change of use and interfering with koala habitat as a result of reconfiguring a lot) does not occur unless the application demonstrates the interfering with koala habitat has:</p> <ol style="list-style-type: none"> 1. been reasonably avoided; or 2. been reasonably minimised where it cannot be reasonably avoided; and 3. mitigated the impacts of the interfering with koala habitat values. 	<p>No acceptable outcome is prescribed.</p>	<p>Response to PO1</p> <p><u>Project feasibility considerations</u></p> <p>The project is consistent with the planning intent of the Logan Planning Scheme and the broader landscape. All lots are within an Emerging Community Zone and code assessable under the Logan Planning Scheme 2015, which is consistent with the surrounding development approved and under application.</p> <p>The proposed broader development application is for 118 Lots and stormwater basins, with one area reserved for parkland to retain mapped Koala values and the balance for emerging community development as per Planning intent.</p> <p>Within a planning framework, the project is consistent with the State and Local aims for urban growth which focus on achieving efficient urban development with the specific purpose of retaining and enhancing environmental values within the broader landscape. As zoned areas for urban development are limited, it is more beneficial from a planning perspective to use the land zoned for development as efficiently as possible. Notably, the mapped Koala Habitat Area on this site is essentially entirely fragmented from any potential more optimal Koala habitat values (Plan 2), and no evidence of Koala activity was recorded on-site despite intensive searches. It is considered unlikely that the site would benefit the species (Koala) as it does not provide connectivity nor movement habitat values and is further high disturbance levels including weed infestation.</p> <p><u>Environmental feasibility considerations</u></p> <p>Presently, the site contains mapped core Koala Habitat Area which is fragmented from potential surrounding Koala habitat values. Habitat trees within the road easement provide some potential connectivity to the north, however, this is via the road way alignment that will ultimately be cleared under exemption and areas to the north are approved or slated for development meaning any potential for connectivity is effectively redundant. Further, roadway habitat is considered extremely</p>

Performance outcomes	Acceptable outcomes	Response
		<p>hazardous due to high threats from vehicle traffic To the north and west residential development is underway and are mostly devoid of trees.</p>
		<p>There is potential Koala habitat within a 5 km radius of the site, however, it is heavily fragmented and movement between these patches is considered a threat to koala survival as a result of a high ownership of dogs on the rural lots, hazards from livestock, vehicles and fences. This is increasing where there are many lots within this radius which are approved for or under development for low density urban residential use.</p>
		<p>Whilst the mapped Koala Habitat Area on-site contains Koala food and shelter trees and meets the 'remnant' vegetation definition, adequate consideration needs to be given to the zoned intent of the land for emerging community purposes to cater for the growing South East Queensland population. Notably, it is recognised that Koalas require primary food trees for quality habitat at rates exceeding 50% in areas greater than 100 ha to persist (McAlpine et al. 2006). This site provides relatively disturbed habitat suggesting it does not provide suitable habitat for ongoing Koala persistence. Lower quality habitat can play an important connectivity role if joining optimal Koala habitat (Januchowski et al. 2008), however, this site is effectively fragmented and so provides limited connectivity.</p>
		<p>The proposed park, within the mapped KHA extent will retain Koala trees and provide potential Koala habitat value, noting from the connectivity assessment that the area is considered highly unlikely to provide stepping-stone connectivity or patch habitat for any transient Koala given it is highly fragmented and no evidence of Koala activity was recorded. Regardless, the potential to retain Koala habitat is relevant to the demonstration of avoidance as required under the State code.</p>
		<p><u>Mitigation</u></p> <p>While the above demonstrates the implications around avoidance and minimisation, mitigation measures have also been accounted for via the utilisation of the attached KMP as well as the ongoing retention of potential habitat within the proposed park. Within the KMP, potential adverse impacts to Koalas are identified and outlined, with risk assessments, management frameworks and action plans to thoroughly assess and monitor the area during activity. Specific actions and mitigation measures include engagement of a Fauna Spotter Catcher, development of a Wildlife Protection and</p>

Performance outcomes	Acceptable outcomes	Response
		<p>Management Plan (WPMP) a Wildlife and Habitat Impact Mitigation Plan (WHIMP), Vegetation Clearing and Fauna Management Plan (VCFMP), temporary fencing, staged clearing, stop works procedures, and post-clearing and construction works Wildlife Management Report. More specific outlines can be found in the KMP. A VCFMP is anticipated to be produced at the Operational Works stage.</p> <p><u>Summary</u></p> <p>Within a planning framework, the project is consistent with the State and Local aims for urban growth which focus on achieving efficient urban development with the specific purpose of retaining and enhancing environmental values in the broader landscape. The retention of vegetation on-site in the proposed park, although providing ongoing habitat value for common urbanised fauna, demonstrates avoidance but regardless is not considered to benefit the Koala as it does not now nor will it on approval provide effective connectivity nor movement habitat values for utilisation by the species.</p> <p>Impacts of the interference of the KHA polygon will be mitigated through the implementation of a KMP and ultimately the VCFMP, wherein details surrounding the potential adverse impacts to Koalas are outlined, with risk assessments and a management framework and actions plan to thoroughly assess and monitor the area during works. Specific mitigation measures include (but are not limited to) a Fauna Spotter Catcher, development of a wildlife protection and management plan, FMP, temporary fencing, and potentially staged clearing. Further, due to what is understood to be unavoidable clearing to deliver Planning intent, an offset is proposed that can lead to the rehabilitation of a beneficial area with far greater Koala habitat value and linkages to more optimal habitat.</p>

Koala sensitive design and connectivity

PO2	Acceptable outcomes	Response to PO2
<p>The design and siting of development avoids fragmenting Koala habitat areas within the site.</p>	<p>No acceptable outcome is prescribed.</p>	<p>Presently, the site contains mapped core Koala Habitat Area which is highly fragmented (Plan 2). There is potential limited connectivity along a hazardous habitat routes via roadside reserve to other fragmented patches of habitat, but these areas are under development and vegetation in the road reserve is unlikely to be retained as the area develops.. Existing development is present to the west</p>

Performance outcomes	Acceptable outcomes	Response
		<p>and north of the proposal area with limited scattered tree values and the convergence of two major roads further confounding connectivity value.</p> <p>The site presently contains limited Koala connectivity values due to the absence of safe movement channels, and the proposal is not considered likely to significantly exacerbate existing high level fragmentation.</p>
<p>PO3</p> <p>The design and siting of development does not result in impediments that restrict the movement of koalas by providing for safe koala movement between highly connected patches of retained koala habitat area.</p>	<p>No acceptable outcome is prescribed.</p>	<p>Response to PO3</p> <p>The site does not contribute to highly connected patches of retained Koala habitat areas.</p> <p>As discussed in detail above, the site is effectively fragmented from Koala habitat values so is not currently 'highly connected' and does not maintain evidence of Koala activity despite intensive surveys. Existing development and Planning intent will ensure that the site will not become 'highly connected' in the future.</p>
<p>Koala safety from construction activities</p>		
<p>PO4</p> <p>The construction of the development does not increase the risk of injury or death of koala.</p>	<p>AO4.1</p> <p>A koala management plan is provided that includes:</p> <ol style="list-style-type: none"> 1. activities that may cause injury or death of koalas from construction activities; and 2. acceptable measures to avoid and mitigate injury or death of koalas from construction activities 	<p>Response to AO4.1 & AO4.2</p> <p>A Koala Management Plan has been developed to comply with AO4.1 and AO4.2, and is provided within Appendix D. The KMP is developed by a suitably qualified person and addresses:</p> <ol style="list-style-type: none"> 1. activities that may cause injury or death of koalas from construction activities; and 2. acceptable measures to avoid and mitigate injury or death of koalas from construction activities 3. compliance with the sequential clearing and koala spotter requirements under section 10 and 11 of the Nature Conservation (Koala) Conservation Plan 2017. <p>More specifically, the KMP addresses mitigation measures and risk management via the utilisation of the protocols within the attached KMP as well as the subsequent VCFMP outlining further mitigation measures (to be issued at Operational Works stage).</p>

Performance outcomes	Acceptable outcomes	Response
	<p>Note: To demonstrate compliance with this acceptable outcome, a koala management plan must be prepared by a suitably qualified and experienced person.</p> <p>AND</p> <p>AO4.2 Interfering with koala habitat complies with the sequential clearing and koala spotter requirements under section 10 and 11 of the Nature Conservation (Koala) Conservation Plan 2017.</p>	<p>Within these, potential impacts to Koalas are identified and outlined, with risk assessments, management frameworks and action plans to thoroughly assess and monitor the area during activity. Specific actions and mitigation measures include engagement of a Fauna Spotter Catcher, development of a Wildlife Protection and Management Plan (WPMP) a Wildlife and Habitat Impact Mitigation Plan (WHIMP), Vegetation Clearing and Fauna Management Plan (VCFMP), temporary fencing, staged clearing, stop works procedures, and post-clearing and construction works Wildlife Management Report. More specific outlines can be found in the KMP (Appendix D).</p>

Matters of State Environmental Significance

<p>PO5 Development:</p> <ol style="list-style-type: none"> 1. avoids impacts on matters of state environmental significance; or 2. minimises and mitigates impacts on matters of state environmental significance after demonstrating avoidance is not reasonably possible; and 3. provides an offset if, after demonstrating all reasonable avoidance, minimisation and 	<p>No acceptable outcome is prescribed.</p>	<p>Response to PO5. Other than non-juvenile Koala habitat trees within a mapped Koala habitat area, no other MNES were identified on-site despite intensive searches, nor are they expected to occur given the relatively high levels of disturbance and fragmentation.</p> <p>To achieve the planning intent of the site and a suitable plan of development, it is understood that most of the broader development site is proposed to be cleared of vegetation to deliver residential development, with the exception of the park retention area within the mapped KHA that demonstrates avoidance. The clearing of the proposed development portion will result in the removal of non-juvenile Koala habitat trees from the mapped KHA (which are MSES).</p>
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Performance outcomes	Acceptable outcomes	Response
<p>mitigation measures are undertaken, the development results in an acceptable significant residual impact on a matter of state environmental significance that is a prescribed environmental matter.</p> <p>Note: Guidance for determining if development will have a significant residual impact on koala habitat areas is provided in Chapter 2A of the Queensland Environmental Offsets Policy. Guidance for determining if development will have a significant residual impact on all other matters of state environmental significance is provided in the Significant Residual Impact Guideline, Department of State Development, Infrastructure and Planning, 2014.</p>		<p>The clearing site vegetation is not considered to compromise the connectivity of Koala habitat in the broader Logan Reserve locality. As demonstrated at PO2, the site is effectively fragmented from viable Koala Habitat Areas.</p> <p>From the responses above, the long-term viability of the patch of Koala habitat on-site relative to Koala utility is considered highly compromised. Further, potential adverse impacts to Koala, should they actually occur on-site, will be mitigated through the implementation of the KMP and a VCFMP.</p> <p>To compensate for the significant residual impact on NJKHTs within mapped core KHA (Plan 1), an offset is to be delivered in accordance with the <i>Environmental Offsets Act 2014</i>. The intent is for the offset to ensure no net loss in Koala habitat via investment in more optimal Koala habitat values as managed by the State.</p>

Category C and R vegetation

<p>PO6</p> <p>Development:</p> <ol style="list-style-type: none"> avoids impacts on category C areas of vegetation and category R areas of vegetation; or minimises and mitigates impacts on category C areas of vegetation and category R areas of vegetation after demonstrating avoidance is not reasonably possible. 	<p>No acceptable outcome is prescribed.</p>	<p>Not applicable.</p> <p>Areas of Category C and Category R vegetation are not mapped within the site boundary. Therefore, the development avoids impacting any areas mapped with this vegetation classification.</p>
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A1. Development Impact Assessment



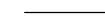








Notes:
 This plan was prepared as a desktop assessment tool. The information on this plan is not suitable for any other purpose. Property dimensions, areas, numbers of lots and contours and other physical features shown have been compiled from existing information and may not have been verified by field survey. These may need verification if the development application is approved and development proceeds, and may change when a full survey is undertaken or in order to comply with development approval conditions. No reliance should be placed on the information on this plan for detailed design or for any financial dealings involving the land. Saunders Havill Group therefore disclaims any liability for any loss or damage whatsoever or howsoever incurred, arising from any party using or relying upon this plan for any purpose other than as a document prepared for the sole purpose of accompanying a development application and which may be subject to alteration beyond the control of the Saunders Havill Group. Unless a development approval states otherwise, this is not an approved plan.

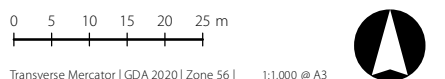
Layer Sources
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Legend

-  Site DCDB
-  Qld DCDB
- Engineering Detail**
-  Site plan
-  Road infrastructure
-  Basins
-  Koala Habitat
-  Impacted Koala Habitat [1.2 ha]
-  Koala Habitat Retained in Park [0.52 ha]
-  Koala Habitat Retained in Road Reserve [0.17 ha]

Issue	Date	Description	Drawn	Checked
A	10/11/2021	Preliminary	TF	AD



Transverse Mercator | GDA 2020 | Zone 56 | 1:1,000 @ A3

A2. Koala Connectivity Assessment







Notes:
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Legend

-  Site DCDB
-  Existing applications/approvals
-  State mapped Koala Habitat Area
-  Major Roads

Issue	Date	Description	Drawn	Checked
A	10/11/2021	Preliminary	TF	AD

0 50 100 150 200 250 m

Transverse Mercator | GDA 1994 | Zone 56 | 1:7,500 @ A3



5. Appendices

Appendix A

SAT Results

Appendix B

Wildlife Online Search Results

Appendix C

EPBC Act PMST Results

Appendix D

Koala Management Plan

Appendix A

SAT Results

SAT survey 1

Tree No.	Species	DBH	Scat presence
Tree 1	<i>Corymbia intermedia</i>	350	N
Tree 2	<i>Corymbia intermedia</i>	180	N
Tree 3	<i>Allocasuarina littoralis</i>	250	N
Tree 4	<i>Corymbia intermedia</i>	210	N
Tree 5	<i>Corymbia intermedia</i>	290	N
Tree 6	<i>Lophostemon suaveolens</i>	100	N
Tree 7	<i>Lophostemon suaveolens</i>	180	N
Tree 8	<i>Lophostemon suaveolens</i>	150	N
Tree 9	<i>Eucalyptus seeana</i>	150	N
Tree 10	<i>Lophostemon suaveolens</i>	120	N
Tree 11	<i>Lophostemon suaveolens</i>	170	N
Tree 12	<i>Lophostemon suaveolens</i>	160	N
Tree 13	<i>Corymbia intermedia</i>	190	N
Tree 14	<i>Lophostemon suaveolens</i>	100	N
Tree 15	<i>Corymbia intermedia</i>	340	N
Tree 16	<i>Alphitonia excelsa</i>	210	N
Tree 17	<i>Eucalyptus seeana</i>	230	N
Tree 18	<i>Corymbia intermedia</i>	300	N
Tree 19	<i>Corymbia intermedia</i>	140	N
Tree 20	<i>Corymbia intermedia</i>	240	N
Tree 21	<i>Corymbia intermedia</i>	150	N
Tree 22	<i>Corymbia intermedia</i>	230	N
Tree 23	<i>Corymbia intermedia</i>	300	N
Tree 24	<i>Melaleuca quinquenervia</i>	150	N
Tree 25	<i>Corymbia intermedia</i>	120	N
Tree 26	<i>Corymbia intermedia</i>	350	N
Tree 27	<i>Corymbia intermedia</i>	170	N
Tree 28	<i>Corymbia intermedia</i>	290	N
Tree 29	<i>Lophostemon suaveolens</i>	160	N
Tree 30	<i>Lophostemon suaveolens</i>	130	N

Appendix B

Wildlife Online Search Results



Queensland Government

WildNet species list

Search Criteria: Species List for a Specified Point
Species: All
Type: Native
Queensland status: All
Records: Confirmed
Date: Since 1980
Latitude: -27.7285
Longitude: 153.0918
Distance: 5
Email: kirstynhayward@saundershavill.com
Date submitted: Thursday 11 Nov 2021 09:08:28
Date extracted: Thursday 11 Nov 2021 09:10:02

The number of records retrieved = 244

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Information about your Species lists request is logged for quality assurance, user support and product enhancement purposes only.

The information provided should be appropriately acknowledged as being derived from WildNet database when it is used. As the WildNet Program is still in a process of collating and vetting data, it is possible the information given is not complete. Go to the WildNet database webpage (<https://www.qld.gov.au/environment/plants-animals/species-information/wildnet>) to find out more about WildNet and where to access other WildNet information products approved for publication. Feedback about WildNet species lists should be emailed to wildlife.online@des.qld.gov.au.

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Hylidae	<i>Litoria brevipalmata</i>	green thighed frog		C		2
animals	amphibians	Hylidae	<i>Litoria caerulea</i>	common green treefrog		C		1
animals	amphibians	Hylidae	<i>Litoria fallax</i>	eastern sedgefrog		C		7
animals	amphibians	Hylidae	<i>Litoria gracilentia</i>	graceful treefrog		C		1
animals	amphibians	Hylidae	<i>Litoria latopalmata</i>	broad palmed rocketfrog		C		1
animals	amphibians	Hylidae	<i>Litoria rubella</i>	ruddy treefrog		C		11
animals	amphibians	Limnodynastidae	<i>Limnodynastes peronii</i>	striped marshfrog		C		1
animals	amphibians	Limnodynastidae	<i>Limnodynastes tasmaniensis</i>	spotted grassfrog		C		1
animals	amphibians	Limnodynastidae	<i>Limnodynastes terraereginae</i>	scarlet sided pobblebonk		C		5
animals	amphibians	Limnodynastidae	<i>Platyplectrum ornatum</i>	ornate burrowing frog		C		1
animals	amphibians	Myobatrachidae	<i>Crinia parinsignifera</i>	beeping froglet		C		1
animals	amphibians	Myobatrachidae	<i>Crinia signifera</i>	clicking froglet		C		1
animals	birds	Acanthizidae	<i>Acanthiza pusilla</i>	brown thornbill		C		1
animals	birds	Accipitridae	<i>Aviceda subcristata</i>	Pacific baza		C		2
animals	birds	Accipitridae	<i>Elanus axillaris</i>	black-shouldered kite		C		1
animals	birds	Accipitridae	<i>Haliastur indus</i>	brahmyny kite		C		1
animals	birds	Aegothelidae	<i>Aegotheles cristatus</i>	Australian owl-nightjar		C		2
animals	birds	Alcedinidae	<i>Ceyx azureus</i>	azure kingfisher		C		1
animals	birds	Anatidae	<i>Anas superciliosa</i>	Pacific black duck		C		6
animals	birds	Anatidae	<i>Chenonetta jubata</i>	Australian wood duck		C		8
animals	birds	Anatidae	<i>Cygnus atratus</i>	black swan		C		5
animals	birds	Ardeidae	<i>Ardea intermedia</i>	intermediate egret		C		1
animals	birds	Ardeidae	<i>Bubulcus ibis</i>	cattle egret		C		9
animals	birds	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron		C		3
animals	birds	Ardeidae	<i>Nycticorax caledonicus</i>	nankeen night-heron		C		1
animals	birds	Artamidae	<i>Cracticus nigrogularis</i>	piebald butcherbird		C		9
animals	birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		C		3
animals	birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		C		10
animals	birds	Artamidae	<i>Strepera graculina</i>	piebald currawong		C		1
animals	birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		C		4
animals	birds	Cacatuidae	<i>Eolophus roseicapilla</i>	galah		C		7
animals	birds	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike		C		5
animals	birds	Charadriidae	<i>Vanellus miles</i>	masked lapwing		C		1
animals	birds	Charadriidae	<i>Vanellus miles novaehollandiae</i>	masked lapwing (southern subspecies)		C		7
animals	birds	Ciconiidae	<i>Ephippiorhynchus asiaticus</i>	black-necked stork		C		5
animals	birds	Climacteridae	<i>Climacteris picumnus</i>	brown treecreeper		C		1
animals	birds	Climacteridae	<i>Cormobates leucophaea metastasis</i>	white-throated treecreeper (southern)		C		1
animals	birds	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove		C		1
animals	birds	Columbidae	<i>Macropygia amboinensis</i>	brown cuckoo-dove		C		1
animals	birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		C		9
animals	birds	Coraciidae	<i>Eurystomus orientalis</i>	dollarbird		C		3
animals	birds	Corvidae	<i>Corvus orru</i>	Torresian crow		C		12
animals	birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		C		1
animals	birds	Dicruridae	<i>Dicrurus bracteatus</i>	spangled drongo		C		2
animals	birds	Estrildidae	<i>Neochmia temporalis</i>	red-browed finch		C		3
animals	birds	Estrildidae	<i>Taeniopygia bichenovii</i>	double-barred finch		C		1

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animals	birds	Halcyonidae	<i>Dacelo novaeguineae</i>	laughing kookaburra		C		8
animals	birds	Halcyonidae	<i>Todiramphus macleayii</i>	forest kingfisher		C		2
animals	birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		C		4
animals	birds	Hirundinidae	<i>Petrochelidon ariel</i>	fairy martin		C		2
animals	birds	Jacanidae	<i>Irediparra gallinacea</i>	comb-crested jacana		C		1
animals	birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		C		1
animals	birds	Maluridae	<i>Malurus lamberti</i>	variegated fairy-wren		C		1
animals	birds	Maluridae	<i>Malurus melanocephalus</i>	red-backed fairy-wren		C		1
animals	birds	Meliphagidae	<i>Entomyzon cyanotis</i>	blue-faced honeyeater		C		6
animals	birds	Meliphagidae	<i>Lichmera indistincta</i>	brown honeyeater		C		3
animals	birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		C		5
animals	birds	Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's honeyeater		C		1
animals	birds	Meliphagidae	<i>Melithreptus albogularis</i>	white-throated honeyeater		C		3
animals	birds	Meliphagidae	<i>Myzomela sanguinolenta</i>	scarlet honeyeater		C		1
animals	birds	Meliphagidae	<i>Philemon citreogularis</i>	little friarbird		C		2
animals	birds	Meliphagidae	<i>Philemon corniculatus</i>	noisy friarbird		C		6
animals	birds	Meropidae	<i>Merops ornatus</i>	rainbow bee-eater		C		1
animals	birds	Monarchidae	<i>Grallina cyanoleuca</i>	magpie-lark		C		10
animals	birds	Monarchidae	<i>Myiagra rubecula</i>	leaden flycatcher		C		1
animals	birds	Nectariniidae	<i>Dicaeum hirundinaceum</i>	mistletoebird		C		1
animals	birds	Neosittidae	<i>Daphoenositta chrysoptera</i>	varied sittella		C		1
animals	birds	Oriolidae	<i>Oriolus sagittatus</i>	olive-backed oriole		C		1
animals	birds	Oriolidae	<i>Sphecotheres vieillotii</i>	Australasian figbird		C		1
animals	birds	Pachycephalidae	<i>Colluricincla harmonica</i>	grey shrike-thrush		C		3
animals	birds	Pardalotidae	<i>Pardalotus striatus</i>	striated pardalote		C		4
animals	birds	Pelecanidae	<i>Pelecanus conspicillatus</i>	Australian pelican		C		1
animals	birds	Phalacrocoracidae	<i>Microcarbo melanoleucos</i>	little pied cormorant		C		3
animals	birds	Phalacrocoracidae	<i>Phalacrocorax sulcirostris</i>	little black cormorant		C		1
animals	birds	Phasianidae	<i>Coturnix ypsilophora</i>	brown quail		C		1
animals	birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		C		3
animals	birds	Psittacidae	<i>Platycercus adscitus</i>	pale-headed rosella		C		8
animals	birds	Psittacidae	<i>Platycercus adscitus palliceps</i>	pale-headed rosella (southern form)		C		1
animals	birds	Psittacidae	<i>Platycercus eximius</i>	eastern rosella		C		1
animals	birds	Psittacidae	<i>Trichoglossus chlorolepidotus</i>	scaly-breasted lorikeet		C		5
animals	birds	Psittacidae	<i>Trichoglossus moluccanus</i>	rainbow lorikeet		C		7
animals	birds	Rallidae	<i>Gallinula tenebrosa</i>	dusky moorhen		C		3
animals	birds	Rallidae	<i>Lewinia pectoralis</i>	Lewin's rail		C		1
animals	birds	Rallidae	<i>Porphyrio melanotus</i>	purple swamphen		C		4
animals	birds	Recurvirostridae	<i>Himantopus himantopus</i>	black-winged stilt		C		2
animals	birds	Rhipiduridae	<i>Rhipidura albiscapa</i>	grey fantail		C		1
animals	birds	Rhipiduridae	<i>Rhipidura leucophrys</i>	willie wagtail		C		6
animals	birds	Strigidae	<i>Ninox boobook</i>	southern boobook		C		3
animals	birds	Strigidae	<i>Ninox connivens</i>	barking owl		C		1
animals	birds	Strigidae	<i>Ninox strenua</i>	powerful owl		V		3
animals	birds	Threskiornithidae	<i>Platalea flavipes</i>	yellow-billed spoonbill		C		3
animals	birds	Threskiornithidae	<i>Plegadis falcinellus</i>	glossy ibis		SL		1

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animals	birds	Threskiornithidae	<i>Threskiornis molucca</i>	Australian white ibis		C		2
animals	birds	Threskiornithidae	<i>Threskiornis spinicollis</i>	straw-necked ibis		C		8
animals	birds	Timaliidae	<i>Zosterops lateralis</i>	silveryeye		C		4
animals	birds	Tytonidae	<i>Tyto novaehollandiae</i>	masked owl		C		1
animals	insects	Coenagrionidae	<i>Austroagrion watsoni</i>	eastern billabongfly				1
animals	insects	Coenagrionidae	<i>Ischnura heterosticta heterosticta</i>	common bluetail				1
animals	insects	Libellulidae	<i>Brachydiplax denticauda</i>	palemouth				1
animals	insects	Libellulidae	<i>Diplacodes melanopsis</i>	black-faced percher				1
animals	insects	Libellulidae	<i>Hydrobasileus brevistylus</i>	water prince				1
animals	insects	Libellulidae	<i>Orthetrum caledonicum</i>	blue skimmer				1
animals	insects	Nymphalidae	<i>Tirumala hamata hamata</i>	blue tiger				1
animals	mammals	Acrobatidae	<i>Acrobates pygmaeus</i>	feathertail glider			C	1
animals	mammals	Macropodidae	<i>Macropus giganteus</i>	eastern grey kangaroo			C	5
animals	mammals	Macropodidae	<i>Notamacropus dorsalis</i>	black-striped wallaby			C	1
animals	mammals	Miniopteridae	<i>Miniopterus australis</i>	little bent-wing bat			C	1
animals	mammals	Molossidae	<i>Austronomus australis</i>	white-striped freetail bat			C	1
animals	mammals	Muridae	<i>Rattus fuscipes</i>	bush rat			C	1
animals	mammals	Peramelidae	<i>Isoodon macrourus</i>	northern brown bandicoot			C	1
animals	mammals	Petauridae	<i>Petaurus australis australis</i>	yellow-bellied glider (southern subspecies)			V	1
animals	mammals	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum			C	2
animals	mammals	Phascolarctidae	<i>Phascolarctos cinereus</i>	koala		V	V	144
animals	mammals	Pseudocheiridae	<i>Petauroides armillatus</i>	central greater glider		E	V	3
animals	mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum			C	1
animals	mammals	Pteropodidae	<i>Pteropus alecto</i>	black flying-fox			C	1
animals	mammals	Tachyglossidae	<i>Tachyglossus aculeatus</i>	short-beaked echidna			SL	2
animals	mammals	Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's wattled bat			C	1
animals	reptiles	Agamidae	<i>Intellagama lesueurii</i>	eastern water dragon			C	2
animals	reptiles	Agamidae	<i>Pogona barbata</i>	bearded dragon			C	1
animals	reptiles	Chelidae	<i>Chelodina expansa</i>	broad-shelled river turtle			C	1/1
animals	reptiles	Colubridae	<i>Dendrelaphis punctulatus</i>	green tree snake			C	4
animals	reptiles	Elapidae	<i>Cacophis harriettae</i>	white-crowned snake			C	2
animals	reptiles	Elapidae	<i>Pseudonaja textilis</i>	eastern brown snake			C	2
animals	reptiles	Scincidae	<i>Cryptoblepharus pulcher pulcher</i>	elegant snake-eyed skink			C	2
animals	reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink			C	2
animals	uncertain	Indeterminate	<i>Indeterminate</i>	Unknown or Code Pending				3
fungi	Agaricomycetes	Polyporaceae	<i>Pycnoporus coccineus</i>				C	1/1
plants	green algae	Hydrodictyaceae	<i>Hydrodictyon reticulatum</i>				C	1/1
plants	land plants	Apiaceae	<i>Centella asiatica</i>				C	1
plants	land plants	Apocynaceae	<i>Parsonsia straminea</i>	monkey rope			C	3
plants	land plants	Arecaceae	<i>Archontophoenix cunninghamiana</i>	piccabeen palm			C	1
plants	land plants	Asteraceae	<i>Centipeda minima subsp. minima</i>				C	2/2
plants	land plants	Asteraceae	<i>Chrysocephalum apiculatum</i>	yellow buttons			C	1
plants	land plants	Asteraceae	<i>Chrysocephalum apiculatum subsp. exile</i>				C	1
plants	land plants	Asteraceae	<i>Ozothamnus diosmifolius</i>	white dogwood			C	1
plants	land plants	Asteraceae	<i>Solenogyne bellioides</i>				C	1/1

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plants	land plants	Caesalpiniaceae	<i>Senna barclayana</i>			C		1
plants	land plants	Campanulaceae	<i>Lobelia purpurascens</i>	white root		C		2
plants	land plants	Casuarinaceae	<i>Allocasuarina littoralis</i>			C		3
plants	land plants	Casuarinaceae	<i>Allocasuarina torulosa</i>			C		1
plants	land plants	Casuarinaceae	<i>Casuarina glauca</i>	swamp she-oak		C		1
plants	land plants	Colchicaceae	<i>Wurmbea dioica subsp. dioica</i>			C		1/1
plants	land plants	Commelinaceae	<i>Commelina diffusa</i>	wandering jew		C		1/1
plants	land plants	Commelinaceae	<i>Murdannia graminea</i>	murdannia		C		2/1
plants	land plants	Cyperaceae	<i>Cyperus</i>					1
plants	land plants	Cyperaceae	<i>Cyperus exaltatus</i>	tall flatsedge		C		1/1
plants	land plants	Cyperaceae	<i>Cyperus polystachyos</i>			C		2
plants	land plants	Cyperaceae	<i>Fimbristylis</i>					1
plants	land plants	Cyperaceae	<i>Gahnia aspera</i>			C		1
plants	land plants	Cyperaceae	<i>Lepidosperma laterale</i>			C		1
plants	land plants	Cyperaceae	<i>Machaerina articulata</i>			C		2
plants	land plants	Cyperaceae	<i>Ptilothrix deusta</i>			C		2
plants	land plants	Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		C		2
plants	land plants	Dicksoniaceae	<i>Calochlaena dubia</i>			C		1
plants	land plants	Dilleniaceae	<i>Hibbertia vestita</i>			C		1
plants	land plants	Elatinaceae	<i>Elatine gratioloides</i>	waterwort		C		1/1
plants	land plants	Ericaceae	<i>Melichrus adpressus</i>			C		1/1
plants	land plants	Euphorbiaceae	<i>Ricinocarpus pinifolius</i>	wedding bush		C		1/1
plants	land plants	Fabaceae	<i>Bossiaea scortechinii</i>			C		2/2
plants	land plants	Fabaceae	<i>Pultenaea spinosa</i>			C		3/3
plants	land plants	Fabaceae	<i>Tephrosia filipes subsp. filipes</i>			C		1/1
plants	land plants	Fabaceae	<i>Trifolium</i>					1
plants	land plants	Goodeniaceae	<i>Goodenia gracilis</i>			C		1/1
plants	land plants	Juncaceae	<i>Juncus</i>					1
plants	land plants	Lamiaceae	<i>Chloanthes parviflora</i>			C		1/1
plants	land plants	Lamiaceae	<i>Coleus australis</i>			C		1/1
plants	land plants	Lauraceae	<i>Cassytha muelleri</i>			C		1/1
plants	land plants	Lauraceae	<i>Endiandra discolor</i>	domatia tree		C		1/1
plants	land plants	Laxmanniaceae	<i>Lomandra hystrix</i>			C		2
plants	land plants	Laxmanniaceae	<i>Lomandra longifolia</i>			C		3
plants	land plants	Laxmanniaceae	<i>Lomandra multiflora subsp. multiflora</i>			C		1
plants	land plants	Menyanthaceae	<i>Nymphoides indica</i>	water snowflake		C		1
plants	land plants	Mimosaceae	<i>Acacia</i>					1
plants	land plants	Mimosaceae	<i>Acacia concurrens</i>			C		3
plants	land plants	Mimosaceae	<i>Acacia disparrima subsp. disparrima</i>			C		2
plants	land plants	Mimosaceae	<i>Acacia fimbriata</i>	Brisbane golden wattle		C		1
plants	land plants	Mimosaceae	<i>Acacia hispidula</i>			C		1/1
plants	land plants	Mimosaceae	<i>Acacia leiocalyx subsp. leiocalyx</i>			C		3
plants	land plants	Mimosaceae	<i>Acacia quadrilateralis</i>			C		1/1
plants	land plants	Molluginaceae	<i>Glinus oppositifolius</i>			C		1/1
plants	land plants	Moraceae	<i>Maclura cochinchinensis</i>	cockspur thorn		C		1
plants	land plants	Myrtaceae	<i>Angophora leiocarpa</i>	rusty gum		C		5

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plants	land plants	Myrtaceae	<i>Angophora woodsiana</i>	smudgee		C		2
plants	land plants	Myrtaceae	<i>Corymbia intermedia</i>	pink bloodwood		C		3
plants	land plants	Myrtaceae	<i>Corymbia torelliana</i>	cadaghi		C		3
plants	land plants	Myrtaceae	<i>Eucalyptus microcorys</i>			C		2
plants	land plants	Myrtaceae	<i>Eucalyptus pilularis</i>	blackbutt		C		1
plants	land plants	Myrtaceae	<i>Eucalyptus propinqua</i>	small-fruited grey gum		C		1
plants	land plants	Myrtaceae	<i>Eucalyptus racemosa subsp. racemosa</i>	scribbly gum		C		3
plants	land plants	Myrtaceae	<i>Eucalyptus robusta</i>	swamp mahogany		C		1
plants	land plants	Myrtaceae	<i>Eucalyptus seeana</i>	narrow-leaved red gum		C		2
plants	land plants	Myrtaceae	<i>Eucalyptus seeana var. constricta</i>			C		1
plants	land plants	Myrtaceae	<i>Eucalyptus siderophloia</i>			C		2
plants	land plants	Myrtaceae	<i>Eucalyptus tereticornis</i>			C		2
plants	land plants	Myrtaceae	<i>Leptospermum</i>					1
plants	land plants	Myrtaceae	<i>Leptospermum polygalifolium</i>	tantoon		C		2
plants	land plants	Myrtaceae	<i>Leptospermum trinervium</i>	woolly tea-tree		C		1/1
plants	land plants	Myrtaceae	<i>Lophostemon confertus</i>	brush box		C		1
plants	land plants	Myrtaceae	<i>Lophostemon suaveolens</i>	swamp box		C		4
plants	land plants	Myrtaceae	<i>Melaleuca bracteata</i>			C		1/1
plants	land plants	Myrtaceae	<i>Melaleuca irbyana</i>			E		6/6
plants	land plants	Myrtaceae	<i>Melaleuca linariifolia</i>	snow-in summer		C		2
plants	land plants	Myrtaceae	<i>Melaleuca nodosa</i>			C		2/1
plants	land plants	Myrtaceae	<i>Melaleuca pachyphylla</i>			C		1
plants	land plants	Myrtaceae	<i>Melaleuca quinquenervia</i>	swamp paperbark		C		4/1
plants	land plants	Myrtaceae	<i>Melaleuca salicina</i>			C		1
plants	land plants	Myrtaceae	<i>Melaleuca sieberi</i>			C		2
plants	land plants	Myrtaceae	<i>Melaleuca thymifolia</i>	thyme honeymyrtle		C		1
plants	land plants	Myrtaceae	<i>Melaleuca viminalis</i>			C		1
plants	land plants	Nephrolepidaceae	<i>Nephrolepis cordifolia</i>	fishbone fern		C		1
plants	land plants	Onagraceae	<i>Ludwigia peploides subsp. montevidensis</i>			C		1
plants	land plants	Orchidaceae	<i>Pterostylis bicolor</i>			C		1/1
plants	land plants	Orobanchaceae	<i>Centranthera cochinchinensis</i>			C		1/1
plants	land plants	Phyllanthaceae	<i>Glochidion ferdinandi</i>			C		1
plants	land plants	Picrodendraceae	<i>Petalostigma pubescens</i>	quinine tree		C		1/1
plants	land plants	Plantaginaceae	<i>Plantago debilis</i>	shade plantain		C		1/1
plants	land plants	Poaceae	<i>Cymbopogon refractus</i>	barbed-wire grass		C		1
plants	land plants	Poaceae	<i>Eragrostis</i>					1
plants	land plants	Poaceae	<i>Imperata cylindrica</i>	blady grass		C		3
plants	land plants	Poaceae	<i>Leersia hexandra</i>	swamp rice grass		C		1
plants	land plants	Poaceae	<i>Oplismenus aemulus var. lasiorhachis</i>			C		1
plants	land plants	Poaceae	<i>Paspalum</i>					1
plants	land plants	Poaceae	<i>Phragmites australis</i>	common reed		C		1/1
plants	land plants	Poaceae	<i>Setaria</i>					3
plants	land plants	Poaceae	<i>Themeda triandra</i>	kangaroo grass		C		3
plants	land plants	Polygonaceae	<i>Persicaria attenuata</i>			C		1
plants	land plants	Polygonaceae	<i>Persicaria lapathifolia</i>	pale knotweed		C		1/1
plants	land plants	Proteaceae	<i>Banksia integrifolia</i>			C		2

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plants	land plants	Proteaceae	<i>Grevillea baileyana</i>			C		1/1
plants	land plants	Proteaceae	<i>Grevillea robusta</i>			C		3
plants	land plants	Proteaceae	<i>Lomatia silaifolia</i>	crinkle bush		C		1
plants	land plants	Proteaceae	<i>Macadamia integrifolia</i>	macadamia nut		V	V	1
plants	land plants	Proteaceae	<i>Persoonia cornifolia</i>	broad-leaved geebung		C		1
plants	land plants	Ptychomitriaceae	<i>Ptychomitrium australe</i>			C		1/1
plants	land plants	Rhamnaceae	<i>Alphitonia excelsa</i>	soap tree		C		5
plants	land plants	Rutaceae	<i>Boronia rosmarinifolia</i>	forest boronia		C		2/2
plants	land plants	Rutaceae	<i>Cyanothamnus polygalifolius</i>			C		1/1
plants	land plants	Rutaceae	<i>Flindersia brayleyana</i>	Queensland maple		C		1
plants	land plants	Sapindaceae	<i>Dodonaea triquetra</i>	large-leaved hop bush		C		1
plants	land plants	Thelypteridaceae	<i>Christella dentata</i>	creek fern		C		1
plants	land plants	Typhaceae	<i>Typha orientalis</i>	broad-leaved cumbungi		C		1
plants	land plants	Violaceae	<i>Viola betonicifolia subsp. betonicifolia</i>			C		1/1
plants		Papilionoideae	<i>Jacksonia scoparia</i>			C		1

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 (EX), Extinct in the Wild (PE), Critically Endangered (CR), Endangered (E), Vulnerable (V), Near Threatened (NT), Special Least Concern (SL) and Least Concern (C).

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999*.

The values of EPBC are Extinct (EX), Extinct in the Wild (XW), Critically Endangered (CE), Endangered (E), Vulnerable (V) and Conservation Dependent (CD).

Records - The first number indicates the total number of records of the taxon (wildlife records and species listings for selected areas).

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

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

Appendix C

EPBC Act PMST 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: 11/11/21 10:08:01

[Summary](#)

[Details](#)

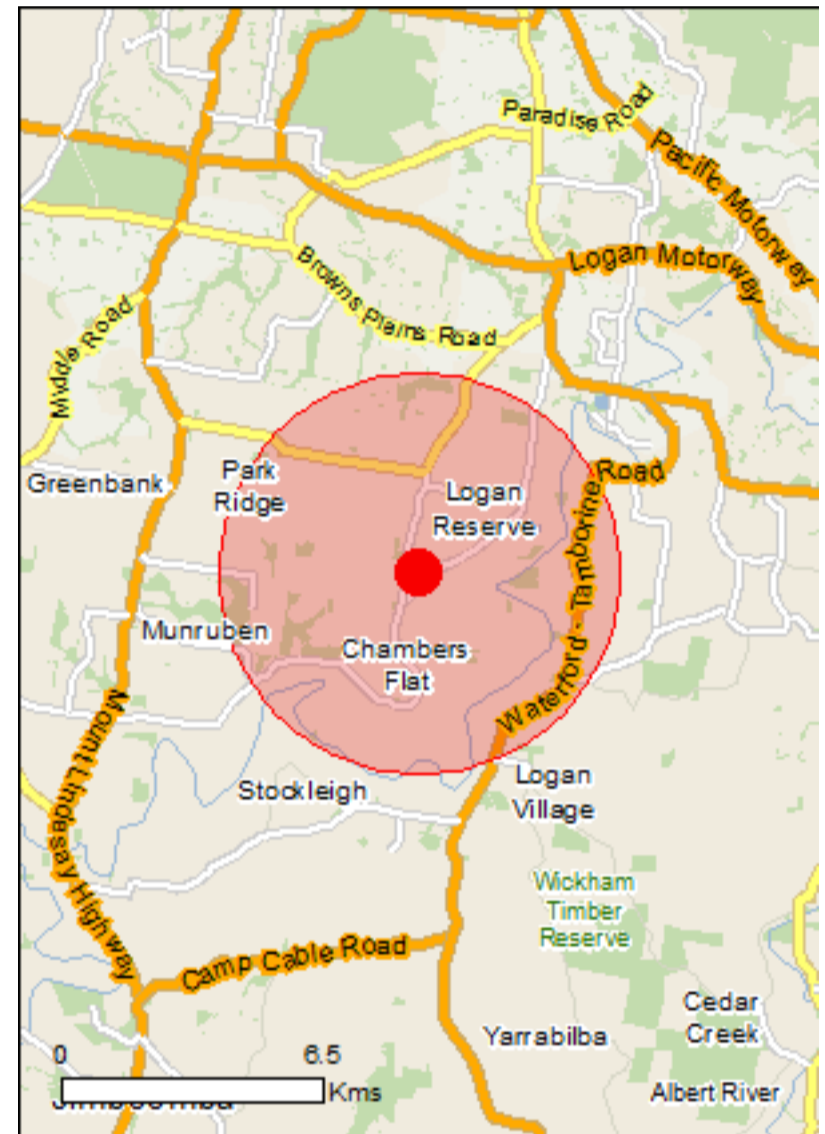
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

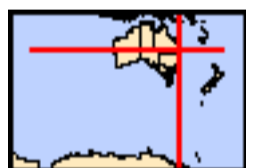
[Acknowledgements](#)



This map may contain data which are
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[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:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	5
Listed Threatened Species:	46
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:	None
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:	None
Regional Forest Agreements:	None
Invasive Species:	39
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	10 - 20km upstream

Listed Threatened Ecological Communities

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
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area
Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland	Critically Endangered	Community may 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

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to 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
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely 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

Name	Status	Type of Presence
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Thinornis cucullatus cucullatus Eastern Hooded Plover, Eastern Hooded Plover [90381]	Vulnerable	Species or species habitat may occur within area
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species habitat may occur within area
Fish		
Maccullochella mariensis Mary River Cod [83806]	Endangered	Translocated population known to occur within area
Frogs		
Mixophyes fleayi Fleay's Frog [25960]	Endangered	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 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 known to occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat known 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
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Plants		
Arthraxon hispidus Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Bosistoa transversa Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat likely to occur within area
Corchorus cunninghamii Native Jute [14659]	Endangered	Species or species habitat likely to occur within area
Cryptocarya foetida Stinking Cryptocarya, Stinking Laurel [11976]	Vulnerable	Species or species habitat may occur within area
Cupaniopsis shirleyana Wedge-leaf Tuckeroo [3205]	Vulnerable	Species or species habitat may occur within area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat may occur within area
Diploglottis campbellii Small-leaved Tamarind [21484]	Endangered	Species or species habitat may occur within area
Endiandra floydii Floyd's Walnut [52955]	Endangered	Species or species habitat may occur within area
Fontainea venosa [24040]	Vulnerable	Species or species habitat likely to occur within area
Gossia gonoclada Angle-stemmed Myrtle [78866]	Endangered	Species or species habitat known to occur within area
Macadamia integrifolia Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat likely to occur within area
Macadamia tetraphylla Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581]	Vulnerable	Species or species habitat may occur within area
Notelaea ipsviciensis Cooneana Olive [81858]	Critically Endangered	Species or species habitat may occur within area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat likely to occur within area
Planchonella eerwah Shiny-leaved Condoo, Black Plum, Wild Apple [17340]	Endangered	Species or species habitat likely to occur within area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat likely to 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 may occur within area

Reptiles

Name	Status	Type of Presence
Coeranoscincus reticulatus Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat likely to occur within area
Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may 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]	Vulnerable	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 likely to 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		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to 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 known to occur within area

Name	Threatened	Type of Presence
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

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 likely to 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 ibis Cattle Egret [59542]		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 known to 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]	Vulnerable	Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Lathamus discolor Swift Parrot [744]	Critically Endangered	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 likely to 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
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
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Thinornis rubricollis rubricollis Hooded Plover (eastern) [66726]	Vulnerable*	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

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		

Name	Status	Type of Presence
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		
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
Felis catus Cat, House Cat, Domestic Cat [19]		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

Name	Status	Type of Presence within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Alternanthera philoxeroides Alligator Weed [11620]		Species or species habitat likely to occur within area
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
Asparagus plumosus Climbing Asparagus-fern [48993]		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
Chrysanthemoides monilifera subsp. rotundata Bitou Bush [16332]		Species or species habitat likely to occur within area
Cryptostegia grandiflora Rubber Vine, Rubbervine, India Rubber Vine, India Rubbervine, Palay Rubbervine, Purple Allamanda [18913]		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
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Hymenachne amplexicaulis Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]		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
Opuntia spp. Prickly Pears [82753]		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,		Species or species

Name	Status	Type of Presence
Kariba Weed [13665]		habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		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 likely to 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

-27.72856 153.09188

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.

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Appendix D

Koala Management Plan



Koala Management Plan

SDAP v2.6 State Code 25 (Qld)

680 & 690 Chambers Flat Road and 69, 699 & 715 Logan Reserve Road, Logan Reserve Queensland, 4133

Prepared for JLF Group Pty Ltd

October 2021

10778 E

Document Control

Document: State Code 25 (Qld) Koala Management Plan – 680 & 690 Chambers Flat Road and 691, 699 and 715 Logan Reserve Road, Logan Reserve Queensland

Prepared for JLF Group Pty Ltd

Document Issue

Issue	Date	Prepared by	Checked by
A	11/11/2021	BM	AD

Prepared by

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Acronyms and Abbreviations

Legislation, policies and guidelines

Draft Code	<i>Draft Code of Practice for the Welfare of Animals Affected by Land-clearing and Other Habitat Impacts</i>
EMP Guidelines	<i>Environmental Management Plan Guidelines, prepared by the Commonwealth of Australia, 2014</i>
VMA	<i>Vegetation Management Act 1999 (Qld)</i>

Government departments

LCC	Logan City Council
DES	Department of Environment and Science (Qld)
DSDMIP	Department of State Development, Manufacturing, Infrastructure and Planning (Qld)

General terms

DBH	Diameter at Breast Height
ha	hectares
km	kilometres
KMP	Koala Management Plan
mm	millimetres
RE	Regional Ecosystems
SAT	Spot Assessment Technique
SDAP	State Development Assessment Provisions
SHG	Saunders Havill Group
VCFMP	Vegetation Clearing and Fauna Management Plan
WHIMP	Wildlife Habitat Impact Mitigation Plan
WPMP	Wildlife Protection and Management Plan

1. Introduction

Saunders Havill Group (SHG) have been engaged by JFL Group Pty Ltd to prepare a Koala Management Plan (KMP) to address the State Development Assessment Provisions (SDAP) *State Code 25: Development in South East Queensland Koala habitat areas* (v2.6), implemented by the Department of State Development, Infrastructure, Local Government and Planning (DSDILGP). Specifically, this KMP is required to demonstrate compliance with Performance Outcome 4 (PO4) within the State Code 25, where the KMP must include:

1. *activities that may cause injury or death of koalas from construction activities; and*
2. *acceptable measures to avoid and mitigate injury or death of koalas from construction activities.*

This KMP has been prepared in accordance with the document *Environmental Management Plan Guidelines, prepared by the Commonwealth of Australia, 2014* (EMP Guidelines). The purpose of this KMP is to provide a single explanatory management document for the inclusion in the design, construction and operation of the development. The objectives of this KMP are as follows:

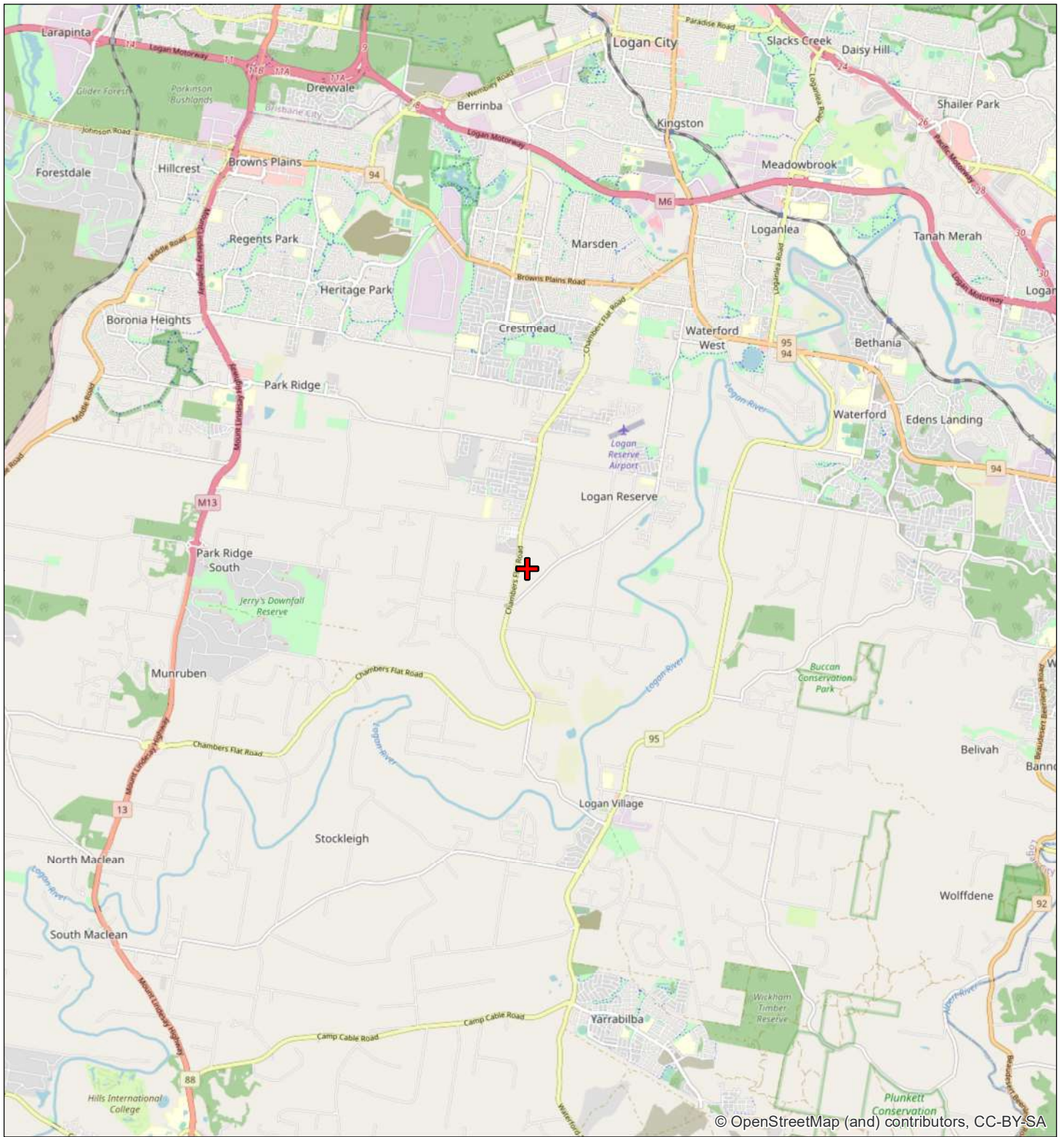
- 1) To highlight the existing flora, fauna and ecosystem values on the subject site and in surrounding areas;
- 2) Describe key results from survey data, including Koala occurrence and the availability and quality of habitat;
- 3) Identify key direct and indirect impacts on Koalas and describe proposed avoidance and mitigation measures; and,
- 4) List out actions and legislative requirements to be implemented to manage construction impacts.

2. Project description

This Koala Management Plan provides a response to State Code 25 for a development application on located at 680 - 688 & 690 Chambers Flat Road and 691 – 697, 699 and 715 Logan Reserve Road, Logan Reserve, Queensland (described as Lots 12, 14, 26, 28 & 29 on RP106853). This report supports the requirements of a Development Application (DA) to Logan City Council (LCC) for a Reconfiguration of a Lot (RoL) for low density urban residential sites along with attendant infrastructure including roads, parks and stormwater structures.

Contextually, the site comprises approximately 10.18 hectares (ha) located within the suburb of Logan Reserve, approximately 29 kilometres (km) south of Brisbane City CBD. The site is currently situated within an area dominated by rural residential and market garden large lots. Large parts of the site have been historically cleared and modified for residential and agricultural land use purposes. The proposed development is within an Emerging Community Zone. Refer to **Figure 1** for site context and **Figure 2** for site aerial.

Under the *Planning Regulation 2017* (PR) February 2020 amendments to the Koala habitat provisions, the site is located outside a Koala Priority Area (KPA). Lot 12 is dominated by mapped Core Koala Habitat Area with approximately 1.7 ha present outside of the existing residential footprint (refer **Figure 3**).



© OpenStreetMap (and) contributors, CC-BY-SA

Legend

 Site DCDB

Figure 1
Site Context

JLF Group Pty Ltd

File ref. 10778 E Figure 1 Site Context A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve



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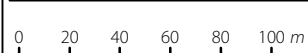
-  Site DCDB
-  Qld DCDB

Figure 2

Site Aerial

File ref. 10778 E Figure 2 Site Aerial A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve



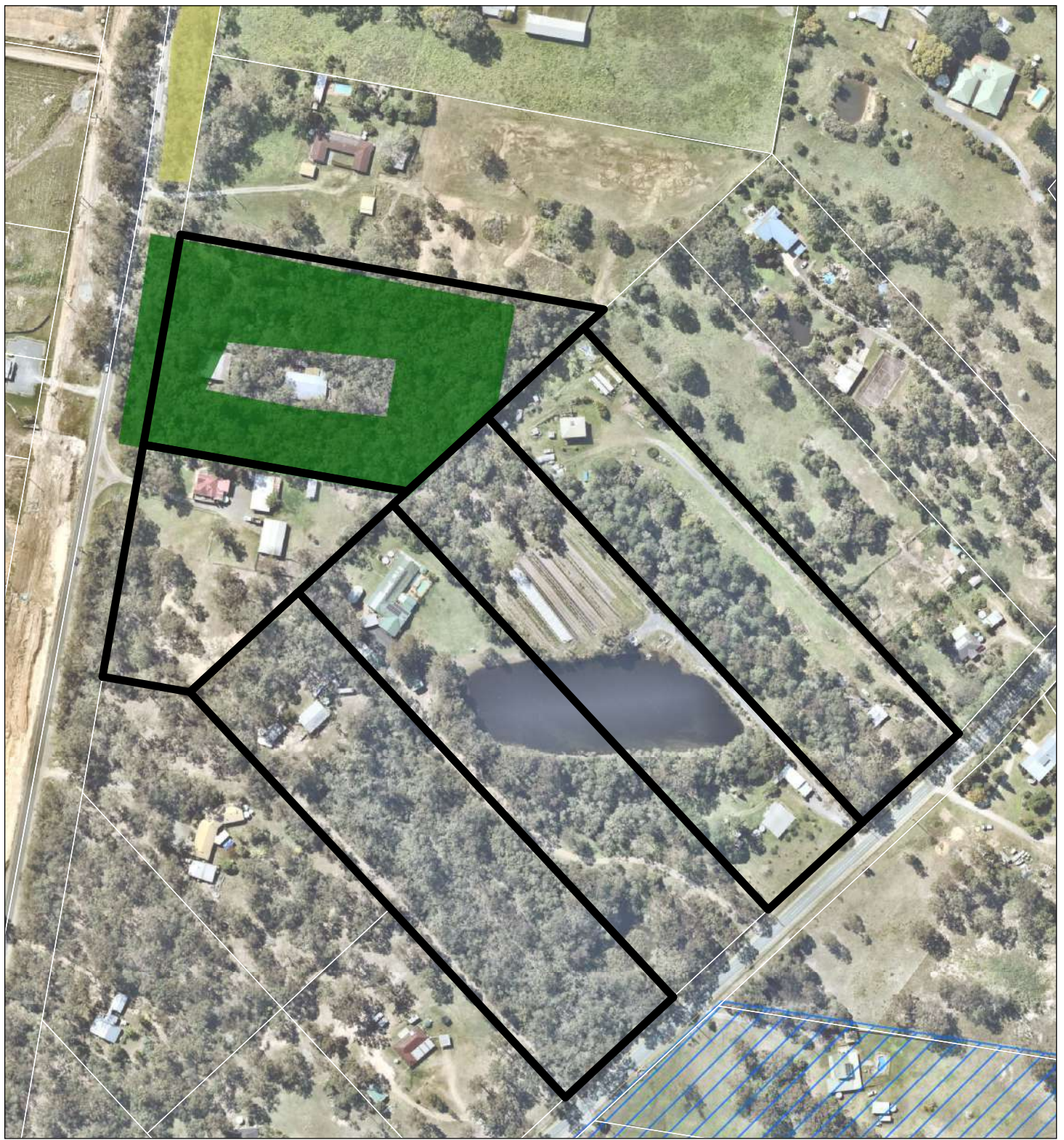
Scale (A4): 1:3,000 [GDA 2020 MGA Z56]



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Legend

-  Site DCDB
-  Qld DCDB

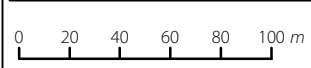
Koala Habitat Areas

-  Core Remnant Koala Habitat Areas
-  Core Regrowth Koala Habitat Areas
-  Locally Refined Koala Habitat Areas
-  Koala Priority Areas

Figure 3

*Koala Priority Areas and
Koala Habitat Areas*

File ref. 10778 E Figure 3 Koala Habitat 2019 A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve



Scale (A4): 1:3,000 [GDA 2020 MGA Z56]



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3. Summary of Ecological values

A desktop assessment revealed the subject site to contain 1.72 ha of mapped Category B (remnant) vegetation, which is reflective of the mapped core Koala Habitat Area in the eastern portion of the site (**Figure 3**).

3.1. Koala Surveys

One SAT survey was conducted within mapped koala habitat with Koala food trees present. SAT surveys involve a single ecologist combing the ground under koala food plant trees (or non-food plant trees if necessary) for a 1-metre radius around the trunk searching for scats. Each tree searched must be greater or equal to 100mm diameter at breast height (DBH) and search of each tree continues for up to 2 minutes. The search can cease prior to the 2-minute limit if scats are detected. Thirty trees meeting the specifications are analysed during each SAT survey.

Three scat meanders were carried out within vegetated areas within the investigation area. Meanders involve walking a winding transect and checking under all trees meeting specifications encountered. Detailed records of each tree are not recorded unless scats are detected. The location of the meander is recorded.

3.2. Vegetation Values

The site differs significantly across the component Lots, with Lot 12 being of primary relevance. Lots 13 and 29 share boundaries with the site where mapped Koala Habitat Area is inaccurately indicated to overlap. Refer also to the Ecological Assessment Report that accompanies this application for further details.

Lot 12

An area of approximately 2 ha of Category B (remnant) vegetation is mapped within Lot 12 and along its boundaries in the north-west extent of the investigation area consisting of 'Least Concern' RE12.9-10.4 (refer **Figure 4**). Remnant mapping within this area was generally correct with species present indicative of RE12.9-10.4. The area is densely vegetated and dominated by *Lophostemon suaveolens* (Swamp Box) and *Corymbia intermedia* (Pink Bloodwood) with *Eucalyptus racemosa* (Scribbly Gum), *Eucalyptus seeana* (Narrow-leaved Red Gum) and *Melaleuca linariifolia* (Snow-in-Summer) (refer **Photo set 1**).

The vegetation is heavily weed infested with both planted and invasive species including *Asparagus africanus* (Climbing Asparagus), *Dansevieria trifasciata* (Mother-in-law's Tongue), *Ochna serrulate* (Ochna), *Philodendron bipinnatifidum* (Tree Philodendron) and *Callisia fragrans* (Purple Succulent). In addition to the house and shed on-site, a significant number of car bodies/scrap metal are present in the central portion of the site (refer **Photo set 2**).

The extent of Koala habitat is generally mapped correctly within the exception of mapping extending over the shed in the western extent of the site. Koala habitat potential was confirmed through the presence of multiple recognised Koala habitat trees; including *Eucalyptus racemosa* (Scribbly Gum), *Corymbia intermedia* (Pink Bloodwood), *Eucalyptus seeana* (Narrow-leaved Red Gum) and *Lophostemon suaveolens* (Swamp Box) (refer **Photo set 1**).



Photo set 2: Dense weed infestation present at shrub/ground level as well as a number of car bodies present.



Photo set 1: Confirmed potential Koala habitat with species indicative of mapped 'Least Concern' 12.9-10.4.

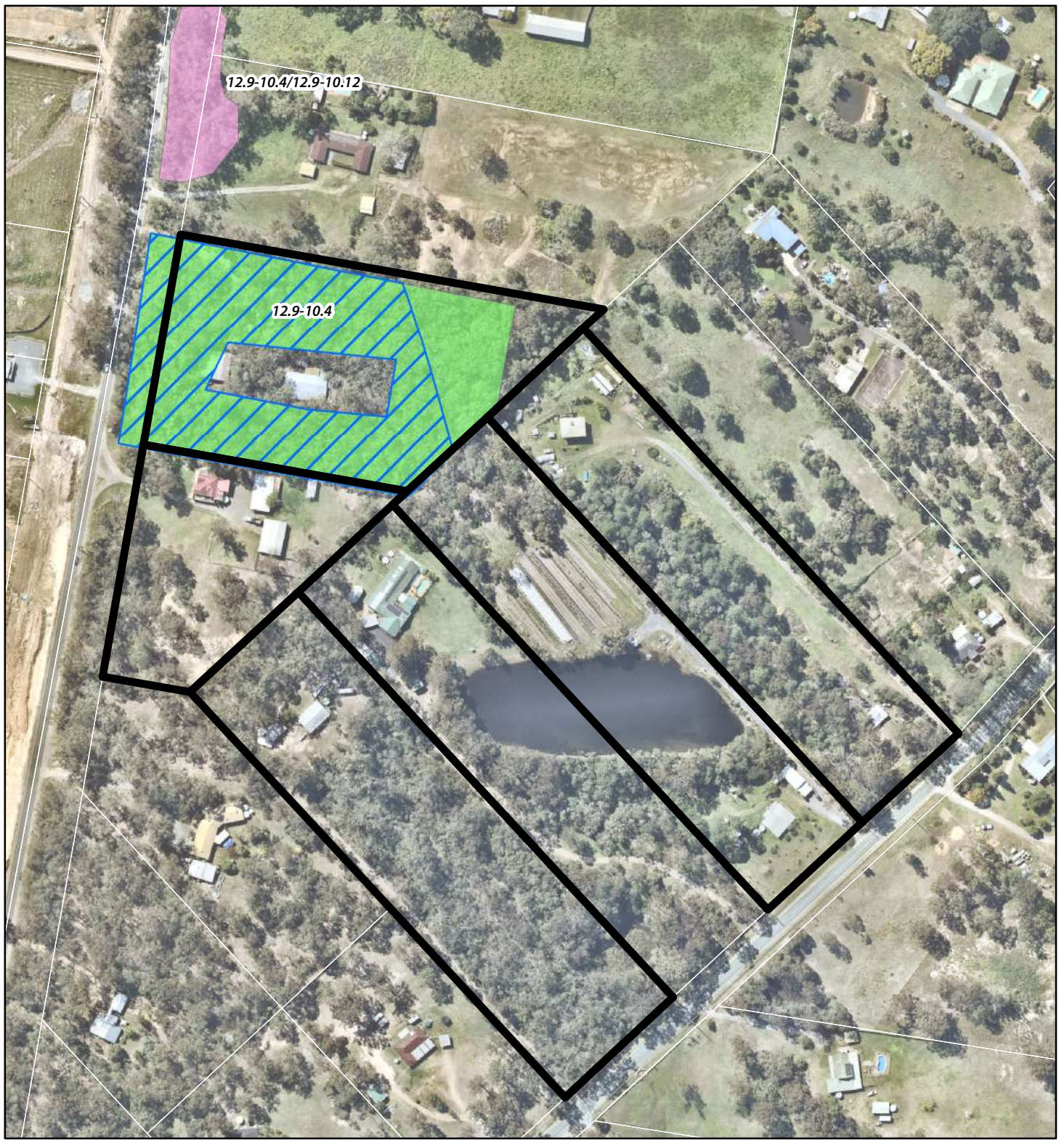
Lot 13

Maintained grasses with scattered native eucalypts are present on Lot 13. The Category B remnant vegetation was not observed on this Lot, but it is present along the fence line with Lot 12 to the extent that the mature trees overhang the property.

Lot 29

The Koala Habitat does not cross the boundary fence with Lot 12 except to the extent that the mature trees overhang the property boundary.

- Vegetation occurs along the northern Lot 29 boundary and is dominated by *Pinus elliotii* (Slash Pine) with relatively few scattered natives.
- Vegetation along the southern Lot 29 boundary is also dominated by *Pinus elliotii* (Slash Pine), however, it contains a sub-canopy that includes immature *Melaleuca quinquenervia* (Broad Leaf Paperbark) and *Lophostemon suaveolens* (Swamp Box).



Legend












- | | | | |
|--|----------------------|---|---|
|  | Site DCDB | Regional Ecosystems mapping | |
|  | Qld DCDB |  | Category A or B area containing endangered regional ecosystems |
|  | VM Watercourses |  | Category A or B area containing of concern regional ecosystems |
|  | VM Essential Habitat |  | Category A or B area that is a least concern regional ecosystem |
|  | VM Wetland |  | 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 |

Figure 4
Regulated Vegetation
Supporting Map

File ref. 10778 E Figure 4 RVSM A
Date 10/11/2021
Project Chambers Flat Road, Logan Reserve

0 20 40 60 80 100 m
Scale (A4): 1:3,000 [GDA 2020 MGA Z56]



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4. Impacts to the Koala

The proposal will result in the clearing of mapped Koala Habitat Area (refer **Plan 1**). The following direct and indirect impacts have been identified as having potential to occur as a result of construction.

Construction Impacts

- Loss of habitat value.
- Loss of non-juvenile koala habitat trees.
- Potential for injury or mortality caused by vegetation clearing.
- Potential for injury or mortality caused by vehicle use during construction.
- Species displacement into surrounding habitat areas.

4.1. Risk Assessment

Each of the identified potential impacts were analysed in the context of the proposed action within the Risk Assessment Table (refer **Table 1**) to identify where avoidance and mitigation measures are to be focused.

Table 1: Risk Assessment

Impact	Likelihood	Consequence	Risk Rating
Construction Phase			
Loss of habitat values	Almost certain (A)	Minor (2)	High
Loss of non-juvenile koala habitat trees	Almost certain (A)	Minor (2)	High
Injury and mortality due to vegetation clearing	Unlikely (D)	Major (4)	Moderate
Injury and mortality due to increased vehicle usage	Unlikely (D)	Major (4)	Moderate
Species displacement into other habitat areas	Possible (C)	Minor (2)	Moderate

As identified from the risk assessment above, management measures will focus on avoiding and mitigating impacts caused by:

- Loss of habitat.
- Risk of injury and death caused by:
 - vegetation clearing; and
 - vehicle strike.
- Barriers to dispersal into surrounding habitat areas.

1. Development Impact Assessment





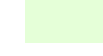



Notes:
 This plan was prepared as a desktop assessment tool. The information on this plan is not suitable for any other purpose. Property dimensions, areas, numbers of lots and contours and other physical features shown have been compiled from existing information and may not have been verified by field survey. These may need verification if the development application is approved and development proceeds, and may change when a full survey is undertaken or in order to comply with development approval conditions. No reliance should be placed on the information on this plan for detailed design or for any financial dealings involving the land. Saunders Havill Group therefore disclaims any liability for any loss or damage whatsoever or howsoever incurred, arising from any party using or relying upon this plan for any purpose other than as a document prepared for the sole purpose of accompanying a development application and which may be subject to alteration beyond the control of the Saunders Havill Group. Unless a development approval states otherwise, this is not an approved plan.

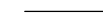



Layer Sources
 © State of Queensland 2021. Updated data available at <http://qldspatial.information.qld.gov.au/catalogue/>
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Legend

-  Site DCDB
-  Qld DCDB
-  Koala habitat areas
-  Primary vegetation management area
-  Secondary vegetation management area
-  Waterways

Engineering Detail

-  Site plan
-  Road infrastructure
-  Basins
-  Pump station

Issue	Date	Description	Drawn	Checked
A	10/11/2021	Preliminary	TF	AD

0 10 20 30 40 50 m

Transverse Mercator | GDA 2020 | Zone 56 | 1:2500 @ A3



5. KMP Framework

This KMP focuses on the management and safety of Koalas during the construction of the project. To achieve the objectives of the KMP, as detailed in **Section 1**, the implementation of specific management actions at each stage of project design and construction will occur. Management tasks and actions relevant to the project are explained throughout the following subsections. Specific actions are converted to schedules within **Section 6**, and documented using the S.M.A.R.T criteria (Specific, Measurable, Achievable, Reasonable and Time Specific).

5.1. General Management

Roles and Responsibilities

The successful implementation of this KMP requires a number of key personnel to complete various roles. While many of the contractors for the project are yet to be appointed, these will be specified within on-site working versions of the KMP.

Environmental Coordinator

SHG is the Environmental Coordinator for the project and is responsible for the development of this KMP and documentation for overarching environmental management. SHG will be responsible for managing non-compliance by appointed contractors and sub-contractors, including establishing additional management procedures.

Administering Authority

LCC is the government approval authority for the Local Government Area and issuer of development and operational approvals for the project.

Site Coordinator

The Site Coordinator is a representative of the project team (typically the Project Engineer) and is responsible for coordinating the project consultants and construction contractor.

Site Supervisor

The Site Supervisor is a representative of the Construction Contractor (to be appointed) and is responsible for overseeing all pre-clearing, clearing and construction activities. The Site Supervisor is responsible for ensuring all pre-clearing, clearing and construction activities are undertaken in accordance with this KMP and subsequent environmental management documentation. The Site Contractor will be responsible for engaging and commissioning the Fauna Spotter Catcher.

Fauna Spotter Catcher

A Department of Environment and Science (DES) approved Fauna Spotter Catcher is a person who holds a rehabilitation permit with an extended authority issued by DES specifying the holder may take, keep or use an animal whose habitat is about to be destroyed by a human activity. A DES approved Fauna Spotter Catcher will be engaged by the Proponent for pre-construction and construction stages of the project. It is noted that

the Fauna Spotter Catcher must hold a Rehabilitation Permit and a copy of this permit along with their contact details will be passed on to the Environmental Coordinator. The engaged Fauna Spotter Catcher will be responsible for undertaking pre-clearing surveys of the site and preparing all required pre-clearing and post-clearing reporting. The Fauna Spotter Catcher must be present on site during all clearing activities and is responsible for the relocation of native fauna.

A list of key contacts for the project is contained in **Table 2**.

Table 2: Key Management Personnel

Role	Nominated Person	Company
Proponent/ Project Coordinator	TBA	TBA
Environmental Coordinator	Dr Andrew Davies	Saunders Havill Group
LCC Contact	TBA	Logan City Council
Site Coordinator	TBA	TBA
Principal Site Contractor	TBA	TBA
Registered Fauna Spotter	TBA	TBA

Environmental Training

The KMP will be issued to all site contractors and sub-contractors, and will be made available within the site construction office. Elements of compliance with the KMP will form part of the responsibility of the Principal Site Contractor. Training on the KMP will be incorporated as part of the broader environmental management and workplace health and safety procedures for the site. This will include the following management plans actions:

- 1) Providing a copy of the KMP to all site contractors and sub-contractors.
- 2) Requirements of the KMP discussed during site induction.
- 3) Making available the final copy of the KMP within the site construction office.
- 4) Requirements of the KMP to be incorporated into workplace checklists, work method statement and toolbox talks.
- 5) Monthly review and report on compliance with the KMP as part of the Principal Contractor’s role.

5.2. Construction Management

Fauna

The sequential clearing of site vegetation will be undertaken in accordance with fauna management protocols implemented by a Fauna Spotter Catcher registered by DES. Additionally, the adoption of aspects of a leading practice fauna management model to guide works prior, during and post construction. This model is cited as the *Draft Code of Practice for the Welfare of Animals Affected by Land-clearing and Other Habitat Impacts*,

endorsed by the Australia Zoo Wildlife Warriors and Voiceless (the Draft Code). Under the Draft Code, the following procedures will apply to all clearing works:

Action 1- Engagement of Fauna Spotter Catcher

This action requires that the developer engage a Fauna Spotter Catcher with full registrations and licences provided in accordance with the DES.

Action 2- Fauna Spotter Catcher to prepare a Wildlife Protection and Management Plan (WPMP)

The WPMP will include the following information:

- description of the project with reference to impacts on wildlife and wildlife habitat;
- pre-development plan of the site showing habitat areas, features, corridors, riparian habitats and adjacent areas;
- results of any fauna surveys including pre-clearance surveys; and
- a wildlife and habitat impact assessment based on the proposed development works.

Action 3- Prepare a Wildlife and Habitat Impact Mitigation Plan (WHIMP)

Following the completion of the WPMP, the Fauna Spotter Catcher will prepare a more detailed WHIMP, which will provide details on:

- measures required to be completed to minimise wildlife and habitat impacts during operational works;
- wildlife capture and removal plan;
- contingency plan for wildlife requiring euthanasia, other veterinary procedures or captive care;
- wildlife storage and housing plan;
- wildlife release and disposal plan; and
- post works measures to minimise impacts on wildlife.

Action 4 – Role of Fauna Spotter Catcher at Pre-Start Meeting

Prior to the commencement of any construction works, a pre-start meeting is to be held between the project manager, site foreperson, plant operators and Local Government representatives (if required). At the pre-start meeting, the Fauna Spotter Catcher is to outline the clearing process and the requirements of the WPMP.

Action 5 – During Construction

The Fauna Spotter Catcher is to be on-site during all phases of construction which involve potential impacts on wildlife or habitat. This will enable the Fauna Spotter Catcher to make any necessary adjustments to the WPMP to cater for any specific issues encountered during the clearing works.

Action 6 – Post Works Reporting (Wildlife Management Report)

During the course of all site works, including the pre-clearance surveys, the Fauna Spotter Catcher is to keep an accurate record of all animals encountered, captured, incidents and disposals for each stage of the project.

The records should form part of the post-works Wildlife Management Report to be issued under licence requirements to DES. The Wildlife Management Report should consist of the following three sections:

1. Wildlife Habitat Management Plan – Aspects of the planning, design, construction and ongoing operation of the project in which risks to wildlife have been identified. This plan should also include recommendations and outline the type, frequency and timeframes for monitoring
2. Wildlife Capture and Disposal Plan – Should contain the following details for each captured animals:
 - a. Species.
 - b. Identification name or number.
 - c. Sex (M, F or unknown).
 - d. Approximate Age or Age Class (neonate, juvenile, sub-adult, adult).
 - e. Time and date of capture.
 - f. Method of capture.
 - g. Exact point of capture (GPS coordinates).
 - h. State of health.
 - i. Incidents associated with capture likely to affect health.
 - j. Veterinary intervention or treatments.
 - k. Time held in captivity.
 - l. Disposal method (euthanasia, translocation, re-release).
 - m. Date and time of disposal.
 - n. Detailed of disposal (GPS points of release).
 - o. For released animals, location relative to point of capture.
3. Animal Injury and Euthanasia Report – similar details for the Wildlife Capture and Disposal Plan should be included in this report.

Vegetation Management / Sequential Clearing

Vegetation clearing over the development footprint will occur sequentially and most likely in accordance with an endorsed Vegetation Clearing and Management Plan and Fauna Management Plan (VCFMP) to be provided at the Operational Works stage. VCFMP's if required will detail fauna exclusion fencing to be erected around construction areas to prevent fauna from dispersing into these hostile areas.

Sequential clearing means the clearing of vegetation that:

- ensures any Koalas in the area being cleared have enough time to move out of the clearing zone without human intervention. For lots with an area of more than 3 ha, this means:
 - i. vegetation clearing is to be carried out in stages, where the total area to be cleared in any one stage:
 - is no greater than 50 % of the area of a site that is 6 ha or smaller;

- is no greater than 3 ha or 3 % of the area of a site that is larger than 6 ha.
 - ii. between each stage and the next, there is at least one 12-hour period commencing at 6 pm on one day and concluding at 6 am the following day, during which no trees are cleared on the site.
 - iii. no tree in which a Koala is present, or a tree with a crown overlapping a tree in which a Koala is present, is cleared until the tree is vacated by the Koala.
- ensures vegetation clearing is directed away from threatening processes, or hostile environments, and towards any retained vegetation or habitat links, ensuring that:
 - i. Koalas are not pressured, through loss of habitat, to cross roads or move through developed or disturbed areas, such as residential areas or areas that require movement of greater than 100 m over cleared ground to reach suitable habitat;
 - ii. Koalas are not isolated to an “island” of habitat between hostile environments, such as road and cleared areas, unless there are no other more suitable habitat areas in which to direct Koalas; and
 - iii. Koalas can safely leave the site of clearing and relocate to adjacent habitat through maintained habitat links.

The following additional controls for the appointed DES Fauna Spotter Catcher during vegetation clearing include:

1. No vegetation clearing is to commence or continue without the presence of the appointed DES endorsed Fauna Spotter Catcher.
2. All trees scheduled for removal will be checked on the day of their removal (prior to the start of operations) for the presence of Koalas by the appointed DES endorsed Fauna Spotter Catcher.
3. The appointed DES endorsed Fauna Spotter Catcher is responsible for ensuring, throughout the duration of the clearing operations, that no tree in which a Koala is present, or a tree with a crown overlapping a tree in which a Koala is present, or a tree identified as being a risk to Koalas, should not be felled, damaged or interfered with until the Koala has moved from the clearing zone on its own volition.
4. Where a Koala is present within a clearing zone, the tree will be marked with distinctive flagging (and other advisory means as required) and machinery operators will be briefed on the location of the area. No clearing works can occur within 20 m of the tree retaining a Koala until the animal has moved on via its own volition (where the strategy is to allow the Koala to move of its own accord, overnight). On the following day, the tree and retained area, are to be checked again prior to their removal. If necessary, the procedure is repeated until the Koala has moved.
5. In the event that the Koala is sick or injured and needs medical attention, DES will be contacted and trapping by the Fauna Spotter Catcher may be required to allow the Koala to receive medical attention. Actions will be guided by DES and the Fauna Spotter Catcher.

Adaptive Management and Management Strategy

An adaptive management strategy is to be applied to this KMP to enable it to alter as necessary to better protect Koala from injury or mortality if required. As a part of this strategy the following minimal protocols are to be applied in the event of koala injury or mortality as a result of clearing or construction:

1. Clearing and construction is immediately ceased.
2. The DES is notified in writing within 48 hours of the Koala injury or mortality occurring.
3. Measures for minimising impacts to Koalas as a result of clearing and construction are revised, in consultation with a suitably qualified person to reduce the likelihood of Koala injury or mortality before clearing and construction recommences.

6. Management activities

A number of management activities have been identified within this KMP and broadly explained through **Section 5. Table 3** provides environmental management commitments to be implemented during construction works. Specific details relevant to each management commitment are provided, including timing, funding, responsible parties, and monitoring to ensure each commitment can be achieved. Each suite of management activities is categorised into pre-construction, during construction and operational measures. This KMP will be reviewed annually, or at the completion of each phase of the project, and where necessary edited.

Table 3: Management Roles and Responsibilities

Environmental Management Commitment	Responsibility	Timing	Funding	Monitoring / Frequency
PRE-COMMENCEMENT MANAGEMENT ACTIONS				
1. Provide a copy of the KMP to all contractors and subcontractors, and retain a final copy at the construction office on-site, at all times.	Proponent to provide to principal contractor. Principal Contractor to all sub-contractors	As part of contractor appointment and throughout construction.	Contractor costs associated with action to be included in tender scope funded by Proponent.	Provision for supplying the KMP to the Principal Contractor will occur with contractual appointment. The Principal Contractor is responsible for providing evidence that each appointed sub-contractor has been provided the KMP.
2. Key KMP Criteria to be included on the Workplace Health and Safety and Environmental Management work method statement.	Prepared by the principal contractor as part of other site induction checklists	Checklist to be completed prior to commencement and issued as part of all site inductions.	Principal Contractor via Proponent	The site induction process requires all visitors and works at the site to read and acknowledge work method statements as part of a signed checklist. This is provided to and signed by each new entrant to the site as part of induction procedures.
3. Contractor will review project compliance with the KMP, on a monthly basis, if required.	Principal Contractor in their role as Superintendent for the project.	Monthly	Principal Contractor via Proponent	Review of compliance on a monthly basis. Any non-compliances must be reported immediately.

Environmental Management Commitment	Responsibility	Timing	Funding	Monitoring / Frequency
4. Engagement of DES approved Fauna Spotter Catcher - ensure Fauna Spotter Catcher retains all necessary licenses and accreditations .	Proponent (or as passed onto Principal contractor)	Before clearing commences on any stage of works and during construction including any post construction reporting	Proponent	Pre-clearance reports issued to the Environmental Coordinator prior to commencement of works. Fauna Spotter Catcher on site during all works.
5. Develop Wildlife Protection and Management Plan (Prepared in accordance with elements of the Draft Queensland Code of Practice for the Welfare of Animals affected by Land Clearing).	Fauna Spotter Catcher	Before construction commences	Proponent	Prior to commencement of clearing in any stage.
6. Develop Wildlife and Habitat Impact Mitigation Plan (Prepared in accordance with elements of the Draft Queensland Code of Practice for the Welfare of Animals affected by Land Clearing).	Fauna Spotter Catcher	Before construction commences	Proponent	Prior to commencement of clearing in any stage
7. Attendance of Fauna Spotter Catcher at Pre-Start Meeting.	Fauna Spotter Catcher / Principal contractor	At the pre-start meeting for each new stage of clearing and construction works	Proponent	Fauna Spotter Catcher to confirm attendance.
8. Install temporary fauna exclusion fence or other suitable barrier around construction areas to prevent koala access into construction zone.	Contractors	After the clearing is completed and prior to construction occurring within the development area.	Proponent	Fence is to be monitored monthly by the Principal Contactor.

Environmental Management Commitment	Responsibility	Timing	Funding	Monitoring / Frequency
DURING CONSTRUCTION MANAGEMENT ACTIONS				
9. All clearing of koala habitat is to occur in a staged and sequential pattern enabling the directional flushing of native animals as guided by the suitably qualified Fauna Spotter Catcher.	Principal Contractor and or appointed clearing sub-contractor.	At the time of clearing works for each stage	Proponent	Management Action 9 for staged and sequential clearing may also be guided by the VCFMP if conditioned. Monitoring occurs as part of pre-start and completion inspections if required by officers from BCC.
10. Stop works procedures for clearing vegetation supporting any Koalas until such time that any present Koalas vacate the vegetation or are relocated by a suitable qualified person.	Fauna Spotter Catcher / Principal Contractor and or appointed clearing sub-contractor.	During clearing no tree in which a Koala is present, or a tree with a crown overlapping a tree in which a Koala is present, or a tree identified as being a risk to Koalas, to be felled, damaged or interfered with until the Koala has moved from the clearing zone of its own volition.	Proponent	Where a Koala is present within a clearing zone, the tree will be marked with distinctive flagging (and other advisory means as required) and machinery operators will be briefed on the location of the area. No clearing works can occur within 20 m of the tree retaining a Koala until the animal has moved on via its own volition (where the strategy is to allow the Koala to move of its own accord, overnight). On the following day, the tree and retained area, are to be checked again prior to their removal. If necessary, the procedure is repeated until the Koala has moved. In the event the Koala is sick or injured and needs medical attention, DES will be contacted and trapping by the Fauna Spotter Catcher may be required to allow the Koala to receive medical attention.
11. A Post clearing and construction works Wildlife Management Report is to be prepared by the appointed Fauna Spotter Catcher at the completion of each stage of works. (Prepared in accordance with elements of the <i>Draft</i>	Fauna Spotter/Catcher	Records to be kept during construction and final report submitted at completion of works	Proponent	Within 10 working days of the conclusion of each stage of construction and clearing.

Environmental Management Commitment	Responsibility	Timing	Funding	Monitoring / Frequency
<i>Queensland Code of Practice for the Welfare of Animals affected by Land Clearing).</i>				