Scenic Precinct, Springfield, Queensland (EPBC 2020/8651)

Preliminary Documentation Report

Prepared for Springfield City Group Pty Ltd
October 2025
Job 7399 E

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Executive Summary

This Preliminary Documentation has been prepared on behalf of the proponent, Springfield City Group Pty Ltd, in direct response to additional information requested by the Commonwealth Department of Agriculture, Water and the Environment (DAWE) (now **Department of Climate Change, Energy, the Environment and Water (DCCEEW or 'the department'))** as part of the 'controlled action' assessment by 'preliminary documentation' for Scenic Precinct, Springfield made on 29 July 2020 (EPBC 2020/8651).

The controlled action decision is based on DAWE's assessment of the project as potentially resulting in a Significant Impact on the following Matters of National Environmental Significance (MNES) protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act):

- Listed Threatened Species & Communities (Sections 18 & 18A) more specifically defined in the request for further information on the:
    - Koala (*Phascolarctos cinereus*) combined populations of Queensland, New South Wales and the Australian Capital Territory – Vulnerable
    - Grey-headed Flying-fox (*Pteropus poliocephalus*) – Vulnerable
- The department also considered there is a real chance of possibility of significant impacts to the following species:
    - Swift Parrot (*Lathamus discolor*) – Critically Endangered
    - Regent Honeyeater (*Anthochaera phrygia*) – Critically Endangered
    - White-throated Needletail (*Hirundapus caudacutus*) – Vulnerable and Migratory
- Following the Information Request, the DCCEEW also requested further information on the following species:
    - Greater Glider (*Petauroides volans*) – Vulnerable

Information provided within this report includes:

- A summary of the proposed development and a description of the assessment process;
- A description of the action including timeframes and staging;
- A description of MNES which may be affected by the proposal;
- Analysis of 'critical habitat' for the Koala, Grey-headed Flying-fox, Swift Parrot and Regent Honeyeater and the quantification of impacts on the habitat of these species where required;
- Critical habitat and connectivity analysis for the Greater Glider to support an assessment of no residual significant impact on the species;
- Critical habitat analysis for the White-throated Needletail to support an assessment of no residual significant impact on the species;

- A discussion of empirical research about the impacts of development on MNES which may be affected by the proposal;
- Procedures to be implemented prior and during vegetation clearing and construction;
- Measures to avoid, minimise and mitigate potential impacts on MNES;
- Consideration of social and economic matters;
- Details of the proposed environmental offset for listed significant impacts, and
- A number of preliminary mitigation and management measures for protection of MNES.

A summary of comments and conclusions relating to the above MNES, impacts, proposed offsets and mitigation measures is provided below.

Koala (*Phascolarctos cinereus*)

At the time of the controlled action decision, the Koala was listed as a 'vulnerable' species under the EPBC Act. A significant proportion of Queensland's native vegetation, especially in South East Queensland, is identified under the *EPBC Act Referral Guidelines for the Vulnerable Koala* as 'critical habitat' for Koala due to the prevalence of recognised Koala food tree species across most landscapes. The Scenic Precinct project area predominantly contains remnant native vegetation that includes species that are identified as Koala food and shelter trees. Initial field surveys did not observe Koalas within the referral area; however, subsequent contemporary surveys identified the species utilising the vegetation within and adjacent to the project area. The project will result in the removal and functional loss of 'critical habitat' for Koala that has the potential to have a 'significant impact' on the species based on utilisation of the site by Koalas and knowledge of their broader population dynamics.

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

The Grey-headed Flying-fox is listed as a 'vulnerable' species under the EPBC Act. It is considered highly mobile and able to utilise a wide range of floral food resources, including flowering eucalypts predominantly in the winter, across relatively expansive foraging areas. For this reason, it periodically displays overlap with Koala habitat in South East Queensland when foraging for eucalypt nectar, with suitable foraging habitat widespread in the greater Springfield and Greenbank region. The referral guidelines for Grey-headed Flying-fox focus on the assessment of potential impacts on roosting camps, with relatively minor provisions for the consideration of foraging habitat. The species was not recorded on the project area during initial field surveys, nor were roosting camps observed. However, contemporary field surveys and wildlife remotely piloted aircraft thermal surveys detected the presence of Grey-headed Flying-foxes within and surrounding the referral area. In addition, the presence of eucalypt dominated vegetation communities provides suitable foraging habitat for the species particularly during winter flowering events. Given the widespread distribution of the species across South East Queensland, the availability of habitat throughout the Springfield locality and temporal dynamic of the overlap with Koala habitat, potential impacts on the latter matter by default are presumed to be considered to significantly impact on the Grey-headed Flying-fox.

Swift Parrot (*Lathamus discolor*)

Under the EPBC Act, the Swift Parrot is listed as 'critically endangered.' An assessment of foraging habitat values within the referral area identified the presence of preferred foraging species listed under the *National Recovery Plan for the Swift Parrot* including *Corymbia citriodora* and *Eucalyptus tereticornis*. The proposal will result in the removal of preferred foraging species and as such, a significant residual impact is anticipated. A feature-based offset is proposed to compensate for the loss of 1,755 habitat features for the Swift Parrot.

Regent Honeyeater (*Anthochaera phrygia*)

Under the EPBC Act, the Regent Honeyeater is listed as 'critically endangered.' An assessment of foraging habitat values within the referral area identified the presence of preferred foraging species listed under the *National Recovery Plan for the Regent Honeyeater* including *Corymbia citriodora* and supporting species *Eucalyptus fibrosa*. The proposal will result in the removal of preferred foraging species and as such, a significant residual impact is anticipated. A feature-based offset is proposed to compensate for the loss of 1,891 habitat features for the Regent Honeyeater.

White-throated Needletail (*Hirundapus caudacutus*)

The White-throated Needletail is listed as 'vulnerable' under the EPBC Act. A review of the technical detail and published scientific literature for the White-throated Needletail, specifically relating to the abundance, distribution, ecology and habitat preference, and consideration of the scope of the proposed impact and off-site retention areas in the adjacent corridor that will remain into perpetuity and managed by Council, it is concluded that a significant residual impact on this species resulting from this development is considered unlikely.

Greater Glider (*Petauroides volans*)

At the time of the controlled action decision the Greater Glider was listed as a 'vulnerable' species under the EPBC Act. The Greater Glider is an arboreal nocturnal marsupial, largely restricted to eucalypt forest and woodlands that feeds on eucalypt leaves and flowers. The species requires hollows for denning and prefers large hollows in large old growth trees. Critical habitat for the Greater Glider is considered to be large contiguous areas of eucalypt forest which contain mature hollow-bearing trees or fragmented habitat patches connected to larger patches of habitat that may facilitate dispersal of the species (DCCEEW, 2022). The Scenic Precinct project area predominantly contains remnant native vegetation that includes a variety of eucalypt species. However, the site has been subject to disturbance in the form of fire, vehicle use and logging, leaving relatively few large and hollow-bearing trees within the impact site. The Scenic Precinct is surrounded by modified areas including residential and commercial developments, main roads and a major train line. This infrastructure acts as significant movement barriers to the site from existing remnant vegetation to the south within White Rock Conservation Area and to the east within Greenbank Military Base, which are known Greater Glider habitat areas. Greater Glider were not identified within the referral area during targeted spotlighting and aerial wildlife surveys in September 2023, nor have they ever been recorded as part of pre- and post-clearance fauna surveys and reporting from the surrounding Springfield development area. It is considered highly unlikely the species occurs or would recolonise the area due to substantial surrounding fragmenting factors and it is concluded that a significant impact on the Greater Glider is unlikely.

Impacts

The Scenic Precinct project area occupies a total land area of 24.20 ha and the entirety of this area is considered to contain 'critical habitat' for the Koala, Grey-headed Flying-fox, Swift Parrot and Regent Honeyeater. The refined proposal area will result in the clearing of 24.20 ha containing critical habitat for the Koala, Grey-headed Flying-fox, Regent Honeyeater and Swift Parrot. The proposed action is unlikely to have a significant residual impact on the Greater Glider or White-throated Needletail.

Environmental Offsets

Environmental offsets for impacts to critical habitat will be resolved by providing an environmental offset on land external to the site via a third party offset provider. Environmental offsets have been calculated and will be delivered in accordance with the EPBC Act Environmental Offsets Policy. An Offset Management Plan has been developed for the proposed offset area which details existing values for Koala, Grey-headed Flying Fox, Swift Parrot and Regent Honeyeater, environmental outcomes and a management and monitoring program.

Management Plans & Mitigation Measures

Numerous management and mitigation measures and controls will be adopted as part of mandatory requirements conditioned by Ipswich City Council due to the site's location within the Springfield Structure Plan and best practice management adopted by **Springfield City Group**. This document includes a number of preliminary management measures relating specifically to Koala, Grey-headed Flying-fox, Swift Parrot and Regent Honeyeater. The management measures remain preliminary to provide DCCEEW with some certainty that potential impacts can be mitigated and managed. Vegetation, fauna, stormwater, erosion and sediment control issues will all be managed through a mandatory need to deliver management plans to Ipswich City Council for assessment, approval and implementation. It is noted that best practice controls proposed by Springfield City Group go above and beyond mandatory ICC standards.

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Attachment A3: Referral Material and Technical Studies
Attachment A4: Wildlife Aerial Thermal Imagery Analysis
Attachment A5: Greater Glider Connectivity Analysis
Attachment A6: Greater Springfield Fauna Spotter Catcher Analysis
Attachment A7: Impact Area Raw Transect Data
Attachment A8: Rosevale Offset Management Plan – ROA 4
Attachment A9: Cultural Heritage Conservation Plan

Acronyms and Abbreviations

Legislation, Policies and Guidelines

EOP	EPBC Act environmental offsets policy (Cth)
EPBC	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
NCA	*Nature Conservation Act 1992* (Qld)
SPP	State Planning Policy (Qld)
SPRP	State Regulatory Planning Provisions (Qld)
VMA	*Vegetation Management Act 1999* (Qld)

Government Departments

DAWE	Department of Agriculture, Water and the Environment (Cth – former)
DCCEEW	Department of Climate Change, Energy, Environment and Water (Cth)
DAF	Department of Agriculture and Fisheries (Qld – former)
DES	Department of Environment and Science (Qld – former)
DETSI	Department of Environment, Tourism, Science and Innovation (Qld)
DPI	Department of Primary Industries (Qld)
DSDTI	Department of State Development, Tourism and Innovation (Qld)
EDQ	Economic Development Queensland (as part of DSDTI)
EHP	Former, Department of Environmental and Heritage Protection (Qld – former)
ICC	Ipswich City Council
DTMR	Department of Transport and Main Road (Qld)

General Terms

ACT	Australian Capital Territory
ADP	Area Development Plan
EDL	Ecologically Dominant Layer
ESCP	Erosion and Sediment Control Plan
ESD	Ecologically Sustainable Development
GHFF	Grey-headed Flying-fox
GHFF FHA	GHFF Foraging Habitat Assessment tool
KHAT	Koala Habitat Assessment Tool (as per the former Koala Referral Guidelines)
KSAT	Koala Spot Assessment Technique Survey
LAP	Local Area Plan
MEO	Montauban Environmental Offsets
MHQA	Modified Habitat Quality Assessment methodology
MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
NSW	New South Wales
OAG	Offsets Assessment Guide Calculator
OPW	Operational Works
PMST	Protected Matters Search Tool

QLD	Queensland
ROA	Rosevale Offset Area
RE	Regional Ecosystem
RMP	Rehabilitation Management Plan
SBMP	Site Based Management Plan
SEQERF	South East Queensland Ecological Restoration Guidelines
SHG	Saunders Havill Group
SMP	Stormwater Management Plan
SRRC	Scenic Rim Regional Council
SRI	Significant Residual Impact
SSP	Springfield Structure Plan
TEC	Threatened Ecological Community
VCFMP	Vegetation Clearing and Fauna Management Plan
WPMP	Wildlife Protection and Management Plan
WHIMP	Wildlife Habitat Impact Mitigation Plan
WWBW	Waterway for waterway barrier works

Reference Documents

Draft Code

Hanger, J & Nottidgem B., Queensland code of practice for the welfare of wild animals affected by land-clearing and other habitat impacts and wildlife spotter /catchers, Australia Wildlife Hospital, 2009.

EPBC Environmental Offsets Policy (EOP)

Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy (October 2012), Commonwealth of Australia, 2012.

EPBC Offsets Assessment Guide (OAG)

Environment Protection and Biodiversity Conservation Act 1999 How to use the offsets assessment guide, (October 2012), Commonwealth of Australia, 2012.

FSRDM

Fauna Sensitive Road Design Manual Volume 2: Preferred Practices, State of Queensland (Department of Transport and Main Roads), 2010.

Koala Referral Guidelines

EPBC Act referral guidelines for the vulnerable koala (combined populations of Queensland, New South Wales and the Australian Capital Territory, Commonwealth of Australia, 2014.

SI Guidelines (SIG 1.1)

Matters of National Environmental Significance: Significant impact guidelines 1.1 *Environment Protection and Biodiversity Conservation Act 1999*, Commonwealth of Australia, 2013.

1. Introduction

Saunders Havill Group (SHG) act on behalf of **Springfield City Group Pty Ltd** in the coordination and production of the response to the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Controlled Action Determination assessment on Preliminary Documentation for the proposed Scenic Precinct, Springfield (the project) (EPBC Reference: 2020/8651).

On 30 June 2020 a referral under the EPBC Act was made to the Commonwealth **Department of Agriculture, Water and the Environment (DAWE)** for a controlled action assessment (refer **Attachment A1** for Controlled Action notice). On 29 July 2020, the referral was deemed a Controlled Action requiring assessment by "Preliminary Documentation."

The Controlled Action decision was based on the determination of potential impacts on Matters of National Environmental Significance (MNES) including:

- Listed threatened species and communities (sections 18 & 18A)
- Listed migratory species (sections 20 & 20A)

Listed threatened species and communities (sections 18 & 18A) and listed migratory species (sections 20 & 20A) protected under Part 3 of the EPBC Act that may or a likely to be significantly impacted include:

- Koala (*Phascolarctos cinereus*) combined populations of Queensland, New South Wales (NSW) and the Australian Capital Territory (ACT) – Vulnerable
- Grey-headed Flying Fox (*Pteropus poliocephalus*) – Vulnerable
- Swift Parrot (*Lathamus discolor*) – Critically Endangered
- Regent Honeyeater (*Anthochaera phrygia*) – Critically Endangered
- White-throated Needletail (*Hirundapus caudacutus*) – Vulnerable and Migratory
- Greater Glider (*Petauroides volans*) – Vulnerable

It is acknowledged that the referral, which included an assessment of the project against the applicable EPBC Act guidelines and policies, including the *Significant Impact Guidelines 1.1*, nominated the project as 'a controlled action.'

Subsequent to the July 2020 controlled action determination, DAWE provided a list of additional information required to be addressed within the Preliminary Documentation Report. A copy of this PD additional information request is included as **Attachment A2** and each item has been extracted as each subsequent chapter of this PD. As part of this assessment process, the Preliminary Documentation must be published for public comment.

The purpose of this Preliminary Documentation Report is to provide additional information to DCCEEW to inform the Preliminary Documentation assessment process and ultimately obtain formal approval under the EPBC Act for the Scenic Precinct, Springfield.

For readability of this document, the Referral Material and Technical Studies has been provided as **Attachment A3** of this document. The purpose of the PD and Referral Material are summarised below.

Preliminary Documentation refers to this document. This includes relevant figures, plans, tables and supporting material required to support full assessment of the action by DCCEEW. These have been referenced with the prefix A (*i.e.,* Figure A1, Table A1, Plan A1, Attachment A1). Figures, Plans and Tables are provided throughout the document in line with intext referencing, and Attachments are consolidated in **Section 11** for ease of reference. Refer to the table of contents (above) and list of attachments (refer **Section 11**) for further details.

The following sections within this Preliminary Documentation Report address the item requirements of the request for additional information, and have been numbered to correspond to each of the additional information item requests, specifically:

- Section 2: Description of the Action
- Section 3: Description of the Environment and Matters of National Environment Significance
- Section 4: Quantification of Impacts
- Section 5: Avoidance and Mitigation
- Section 6: Proposed Offsets
- Section 7: Economic and Social Matters
- Section 8: Ecological Sustainable Development

Referral Material and Technical Documents refers to a copy of the referral material submitted for the controlled action assessment as well as any supporting studies and request for information responses, in full, prepared by technical consultants in preparation for this PD. This includes details of the land-based offset. It is noted that relevant sections from each of these documents have been brought forward and incorporated into the PD for ease of reference and readability. It is also noted that changes to the referral material are not possible, and the PD supersedes the information in the referral. The referral material is provided at **Attachment A3**.

Reference Table

This section provides a reference table indicating report chapters which correspond with items requested within the additional information request included as **Attachment A2**. Each item has been extracted and provided within the corresponding chapter of this PD.

Table A1: Reference Table

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8.0	Ecologically Sustainable Development	8

2. Description of the Action

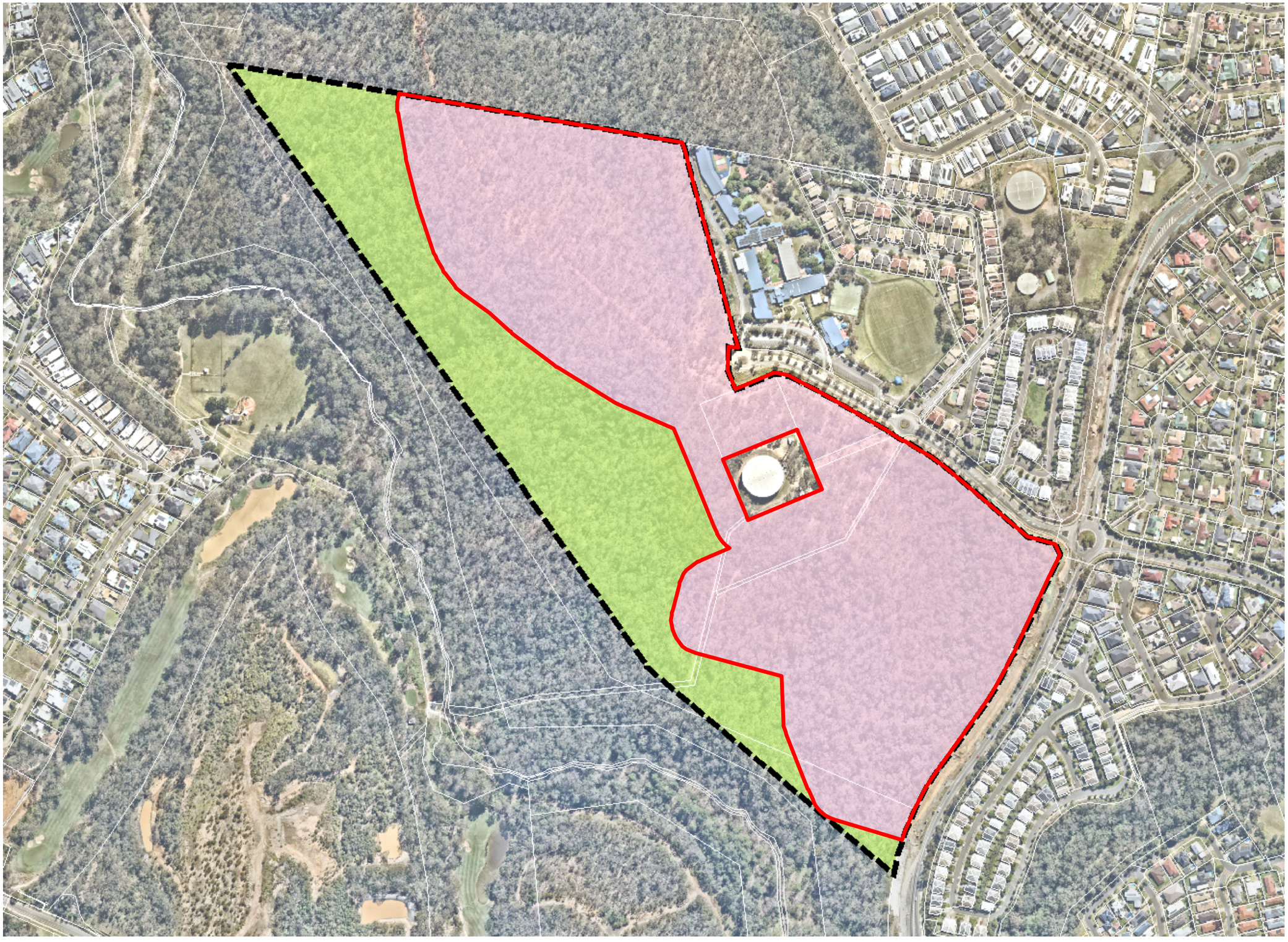
The following sub-sections respond to Item 2 of the PD request which requires the proponent to provide a description of the action.

A summary of the project attributes and relevant State and local environmental attributes is provided in **Table A2**.

Table A2: Project Area Summary

Address	Springfield College Drive, Springfield
RPD	Lot 51 on SP242316, part of Lot 1 on RP863336 and part of Lot 50 on SP242316
Project area	24.20 ha
Protected Plants (under the *Nature Conservation Act 1992)*	Partially within High Risk Area
Vegetation Management Act 1999	Category B (Least Concern RE12.9-10.2, RE12.9-10.19, Of Concern RE12.9-10.7, RE12.3.11) Category C (Least Concern RE12.9-10.2, RE12.9-10.19, Of Concern RE12.9-10.7, RE12.3.11) Category X Watercourses Essential Habitat for *Phascolarctos cinereus* (Koala), *Ninox strenua* (Powerful Owl) and *Coleus habrophyllus*
Fisheries Act 1994	Low Risk (Green) WWBW
Water Act 2000	Unmapped features
MSES	MSES – Wildlife Habitat (endangered or vulnerable, special least concern, Koala habitat area – core, koala habitat areas – locally refined), MSES – Regulated vegetation (Category B, essential habitat)
Koala Habitat	Koala habitat area
LGA	Ipswich City Council
Planning Scheme / Local Plan	Ipswich City Planning Scheme 2006 Springfield Structure Plan
Springfield Structure Plan (SSP)	Open Space and Community Residential
Existing Land Use	Bushland
Proposed Land Use	Urban Development, refer master plan included as **Plan A1**.

1. Proposed Development Masterplan



Notes:
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Legend

- Qld DCDB
- Referral Area (24.2 ha)
- Development Footprint (24.2 ha)
- Scenic Precinct (36.1 ha)
- Linear Park (11.9 ha)

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 25 50 75 100 m

Transverse Mercator | GDA 1994 | Zone 56 | 1:4,500 @ A3

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SPRINGFIELD CITY GROUP

Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A1 Proposed Development Masterplan E

2.1 The location, boundaries and size of the impact

Item 2.1(a) of the PD Request asks for ***"the location, boundaries, and size (in hectares) of the disturbance footprint, and of adjoining areas and vegetation, which may be indirectly impacted by the proposal, including material stockpiles, vehicle access and associated activities."***

The following provides details on the impact area:

Table A3: Details on impact area

Address	Springfield College Drive, Springfield
RPD	Lot 51 on SP242316, part of Lot 1 on RP863336 and part of Lot 50 on SP242316
Referral Area	24.20 ha
Impact Area	24.20 ha

Contextually, the site is located within Springfield, Ipswich and lies within the Springfield Structure Plan (SSP) area. The SSP sets out the broader planning framework for land within the structure plan boundary. The Scenic Precinct will be developed in accordance with the SSP. The SSP designates the land as community residential and open space.

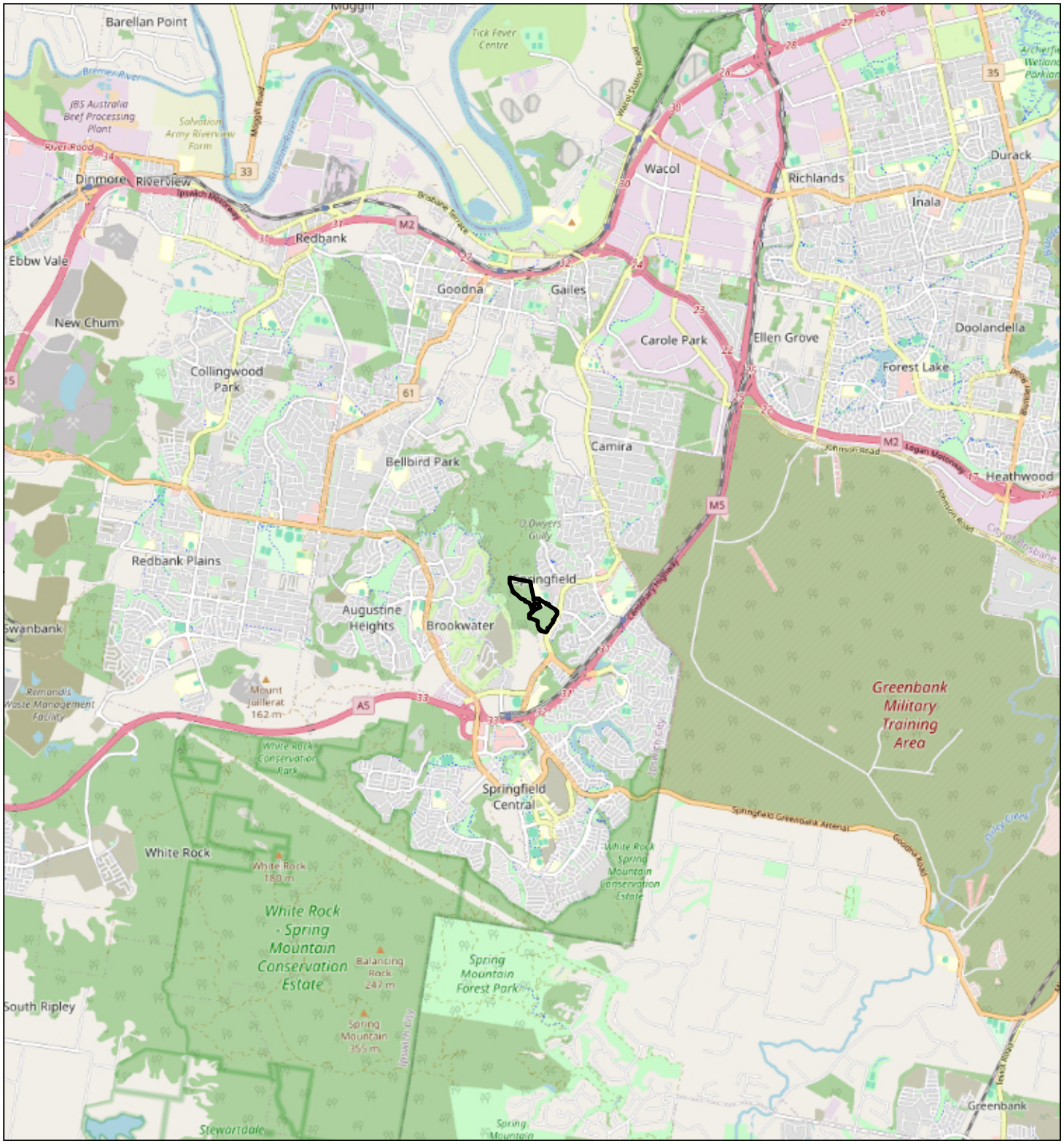
The project area is located in a landscape that has historically supported similar land uses; however, the landscape has rapidly evolved since the inception of the Springfield Master Plan area. Although the site retains native vegetation, the larger tract of vegetation, which the site is part of, has been subject to historic modification.

The project area is located across three (3) land parcels, described as Lot 51 on SP242316, part of Lot 1 on RP863336 and part of Lot 50 on SP242316. The site is located adjacent to the Opossum Creek Parklands and Springfield Anglican College. The site context is displayed in **Figure A1** and site aerial in **Figure A2**. The referral area is located approximately 1.5 km north of Springfield Central and 15.3 km south-east of Ipswich Town Centre. The site consists of remnant eucalypt woodland vegetation, mapped as Category B (remnant) under the VMA. The surrounding landscape contains a matrix of mixed uses, including residential development, open space, infrastructure, community and commercial. The site is bounded by land earmarked for development to the north (EPBC 2019/8575) and the Peninsula Precinct to the south (EPBC 2020/8629). Refer to **Plan A2** for contiguous landscape analysis.

The project design has been guided by physical constraints, *in situ* ecological values informed by specialist consultant reports and land use zoning. Approximately half of the background land parcel is zoned as Community Residential and the remaining as Open Space under the SSP. As such, the location of the community residential use is considered to be aligned with on-ground values and the planning intent of the area (refer **Plan A1**). The proposed park and open space area is located to provide a buffer to the adjoining Opossum Creek values located west of the site.

The proposed development footprint will necessitate the disturbance of 24.20 ha of land. The proposed development will include a mixed precinct comprising:

- Town Business;
- Retail;
- Childcare;
- Utilities;
- Parklands;
- Roads and infrastructure;
- Place(s) of worship;
- Education; and
- Town Residential.



Legend

Site DCDB

Figure 1

Site Context

Springfield City Group Pty Ltd

File ref. 7399 E Figure A1 Site Context E
Date 27/10/2025
Project Scenic Precinct

0 1 2 3 km

N

Scale (A4): 1:90,000 [GDA 1994 MGA Z56]

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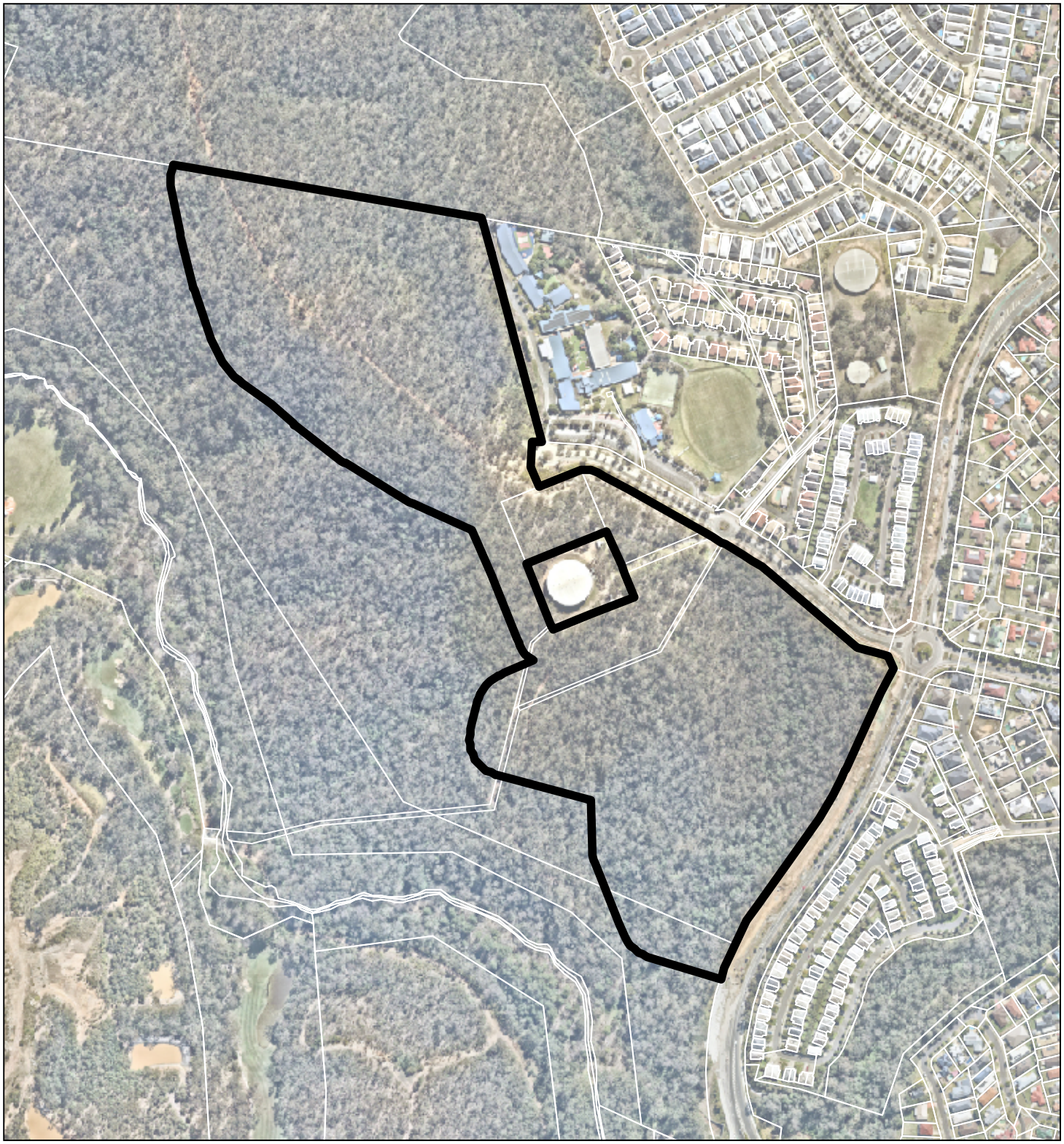

Legend

Qld DCDB

Referral Area

Figure A2

Site Aerial

Springfield City Group Pty Ltd

File ref. 7399 E Figure A2 Site Aerial E
Date 27/10/2025
Project Scenic Precinct

0 50 100 150 200 *m*

N

Scale (A4): 1:6,000 [GDA 1994 MGA Z56]

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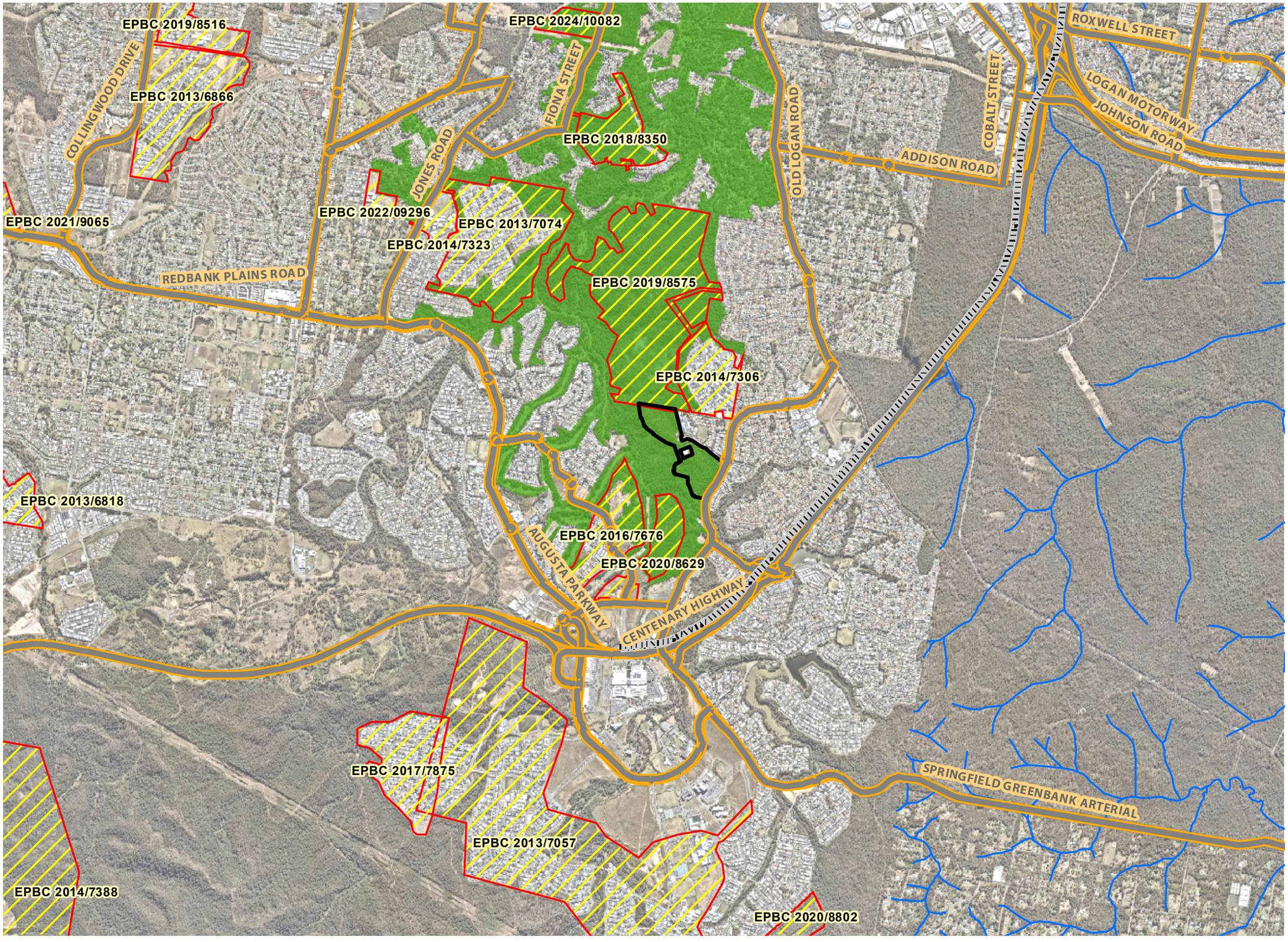
A2. Contiguous Landscape Analysis



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Legend

- Referral Area
- Size of habitat area adjoining referral area - 878.4 ha
- Watercourse
- Surrounding EPBC Referrals
- Major and arterial roads
- Railway

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 250 500 750 1,000 m

Transverse Mercator | GDA 1994 | Zone 56 | 1:35,000 @ A3

saunders havill group

SPRINGFIELD CITY GROUP

Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A2 Contiguous Landscape Analysis E

2.2 Timeframes and staging

Item 2.1(b) of the PD Request asks for ***"a description of all components of action, including the anticipated timing and duration (including start and completion dates) of each component of the proposed action. This should include a detailed outline of the expected timing of any staged clearing over the construction period."***

The project was scheduled to commence in Q4 2026 and finished by Q1 2044, subject to receiving local approvals.

Due to the topography and necessary earthworks to balance the cut and fill across the site, clearing will be undertaken in one stage in a sequential manner under the direction of a Queensland Government endorsed Fauna Spotter Catcher.

Approvals with Ipswich City Council will be sought following EPBC Act approval. The local approval process was delayed due to uncertainties surrounding the timeframes under the EPBC Act approval process. The local approval process is described below.

The Springfield Structure Plan (SSP) identifies development areas and sectors, the high-level 'structure' and the Land Use Concept Master Plan. Approval of the Precinct Plan / Local Area Plan (LAP) is the first phase of local government approval through ICC as required under the SSP.

While the SSP provides the broadscale intended land use, this is further refined through the development and approval of an overarching Precinct Plan. The purpose of the Precinct Plan is to provide a thorough understanding and analysis of the site-specific characteristics and context, and the requirements of the SSP in order to demonstrate the preferred and practicable form of development.

Following approval of the ADP, the final stage of Council approvals is the Operational Works Plan. The operational works (OPW) approvals represent the final design and bulk earthworks outcomes approved by Council and typically occur as stages within the approved ADP. The extent of detail is wide ranging and includes, for example, where each street tree will be planted and the pavement type for footpaths. These ultimate design details directly inform the on-ground implementation and civil construction methodologies. An example of details typically included as part of OPW plans include:

- areas to be grassed,
- footpath alignments,
- locations for future plantings and
- flora species types.

2.3 Construction and operation

Item 2.1(c) of the PD Request asks for ***"a description of the construction and operation of the residential development and associated works (ie. activities that comprise its operation)".***

Item 2.1(d) of the PD Request asks for ***"An indicative layout plan for the project area, including the location and type of land use, key infrastructure, and the number and location of dwellings, other buildings, open space, and conservation areas."***

The project represents an important opportunity to establish a master-planned residential subdivision in the Ipswich City Council region in accordance with the Ipswich City Plan 2025.

Under the Ipswich City Plan, the site is zoned as Community Residential and Open Space. The plan of development is aligned with these zones. Once completed, the project is expected to provide a mixed-used precinct. The configuration of residential lots is guided by site attributes (such as topography, vegetation, and location), discussions with Ipswich City Council during pre-lodgement meetings, applicable planning scheme requirements, and biodiversity and ecological considerations including *in situ* ecological values.

For the purposes of this PD assessment, the project is described as clearing, earthworks and the functional loss of 24.20 ha for the following uses and activities:

- Town Business;
- Retail;
- Childcare;
- Utilities;
- Parklands;
- Roads and infrastructure;
- Place(s) of worship;
- Education; and
- Town Residential.

2.4 Relationship to other actions

Item 2.2 of the PD states the ***"The Department notes that Springfield City Group Pty Ltd has previously referred the approved First Nine residential development at Lot 161 on SP27165, Brookwater Drive, Queensland (EPBC 2016/7676), located adjacent to the current referral. The Department further notes that Springfield City Pty Ltd has recently referred the Peninsula Precinct, Springfield, Queensland (EPBC 2020/8629) located to the south of the current referral."***

The PD Request asks to ***"confirm whether or not the current referral is related to the above proposals and if it is part of a larger action."***

The project is under separate State and Local government approvals to that of the adjacent Peninsula Precinct (EPBC 2020/8629). The relatedness of these projects is attributable to their proximity (*i.e.,* common parcel boundaries) in the Queensland Government designated urban footprint, and the alignment of future land uses between these projects (which is an inherent component of town planning).

The project does not form a stage or component of a larger action for the following reasons:

- Scenic Precinct can occur in isolation (e.g. is not reliant on access, infrastructure etc. from the surrounding proposal) and thus is considered independent and individually viable.
- The delivery timeframes for each project are distinct from each other. Depending on the relevant market (*i.e.,* residential, commercial) and community use requirements, each project may take up to 20 years to complete or a shorter time frame in response to market demand.
- Matters of National Environmental Significance are considered separately by each proposal, although due consideration of cumulative impacts has been made to ascertain that impacts would not be enhanced if combined as part of a larger action.

3. Description of the Environment and Matters of National Environmental Significance

This section responds to Item 3 of the PD request which requests the proponent provide a description of the environment affected by and surrounding the project area, over both the short and long term.

3.1 Description of potential MNES that occur on, and adjacent to, the Project

Item 3.1 of the PD Request asks for ***"a description of any potential matters of national environmental significance (MNES) (including but not limited to those listed above [on Page 2 of the PD Request]) that occur in the project area and adjacent areas."***

Appendix C of the *'7399 E Scenic Precinct Ecological Assessment – Matters of National Environmental Significance, prepared by Saunders Havill Group for Springfield City Group, dated 3 April 2020'* (included at **Attachment A3** of this PD) provides a Likelihood of Occurrence Assessment for MNES identified in the *EPBC Act* Protected Matters Search Tool as having the potential to occur within 5 km of the site. The search coordinates used to generate the Protected Matters Report are -27.65784,152.90625.

A refined version of the Likelihood of Occurrence Assessment has been completed and provided within this PD. The Likelihood of Occurrence Assessment utilising the assessment criteria provided in **Table A4** has been updated to include an updated list of relevant MNES incorporating contemporary database records and field survey data. Refer to **Table A5** for the refined assessment including the following MNES:

- Koala (*Phascolarctos cinereus*);
- Grey-headed Flying-fox (*Pteropus poliocephalus*);
- Regent Honeyeater *(Anthochaera phrygia)*;
- Swift Parrot *(Lathamus discolor)*;
- Greater Glider (*Petauroides volans*);
- *Dasyurus maculatus maculatus* (Spotted-tailed Quoll)
- *Hirundapus caudacutus* (White-throated Needletail);
- *Notelaea lloydii* (Lloyd's Olive); and
- *Coleus habrophyllus (Plectranthus habrophyllus).*

Detailed surveys to determine presence of potential MNES have been completed in accordance with the relevant Commonwealth survey guidelines from 2020 to 2023, including but not limited to, targeted flora surveys, spotlighting and Unmanned Aerial Vehicle (UAV) drone surveys. The methodology and timing of these surveys is described in **Section 3.4**.

Further detailed literature review of preferred species habitat and assessment of the site for the additional species identified by the Department is contained in the sections below, to demonstrate justification as to why the Likelihood of Occurrence Assessment identified these species as unlikely to occur.

Table A4: Likelihood of Occurrence Assessment Criteria

Likelihood of occurrence	Assessment criteria[1]
Unlikely	The investigation area does not contain habitat types or resources known to be utilised by the species during any stage of its lifecycle. OR No contemporary[2] species records within 5 km of the investigation area and at least one of the following criteria is met: • The investigation area is beyond the known geographic range of the species; OR • The investigation area does not contain habitat types or resources known to be utilised by that species during any stage of its lifecycle ; OR • The investigation area and/or surrounding land is highly disturbed[3].
Low	There are contemporary species records more than 1 km but less than 5 km of the investigation area, and it contains habitat types or resources known to be utilised by the species. OR There are contemporary species records more than 5 km but within 20 km of the investigation area and the following criteria are met: • The investigation area contains habitat types or resources known to be utilised by the species; AND • No major barriers to dispersal[4] for the species exist between the location of the record and the investigation area; AND • The investigation area and/or surrounding land is relatively undisturbed and there is potential for individuals of the species to survive in the short-term.
Moderate	There are contemporary species records within 1 km of the investigation area and it contains habitat types or resources known to be utilised by the species. OR

[1] Criteria should be used as a guide only. Site- and species-specific factors should be considered by the assessment.
[2] Within 20 years of the date of the assessment.
[3] Contains minimal vegetation cover with a dominant land use such as development, extractive industries, intensive agriculture
[4] Barriers to dispersal will be species specific, but for tree or ground dwelling fauna may include major roads with no fauna crossing features or dense development.

Likelihood of occurrence	Assessment criteria[1]
	There are contemporary species records within 5 km of the investigation area and the following criteria are met: • The investigation area contains habitat types or resources known to be utilised by the species; AND • No major barriers to dispersal for the species between the location of the record and the investigation area; AND • The investigation area and/or surrounding land is relatively undisturbed and there is potential for individuals of the species to survive in the short-term.
High	There are contemporary species records within 1 km of the investigation area and the following criteria are met: • The investigation area contains habitat types or resources known to be utilised by the species; AND • No major barriers to dispersal for the species between the location of the record and the investigation area; AND • The investigation area and/or surrounding land is relatively undisturbed and there is potential for individuals of the species to survive in the short-term.
Known	Species positively identified during field surveys within the investigation area OR there are multiple contemporary species records within the investigation area.

Table A5: Refined version of likelihood of occurrence assessment for relevant MNES adapted from the MNES – Ecological Technical Report (Attachment A3 – Appendix 2)

Scientific Name	Common Name	EPBC Status	NCA Status	Habitat (foraging and resting) Preferences, Breeding/nesting and Seasonal Influences	Likelihood of Occurrence
Phascolarctos cinereus	Koala	Vulnerable	Vulnerable	The Koala is endemic to Australia and is widespread in coastal and inland areas from north-east Queensland to Eyre Peninsula, SA, (SEWPAC, 2012d). Koalas inhabit a range of temperate, sub-tropical and tropical forest, woodland and semi-arid communities dominated by Eucalyptus spp. (SEWPAC, 2012d). The Koala is a leaf-eating specialist. Its diet is restricted mainly to foliage of Eucalyptus spp. It may also consume foliage of related genera, including Corymbia spp., Angophora spp. and Lophostemon spp. and at times supplement its diet with other species, including Leptospermum spp. and Melaleuca spp. (SEWPAC, 2012d).	Koalas are known to occur within the proposed action site and adjacent to within creeklines corridors due to the dominance of eucalypt woodland. The presence of koala has been confirmed through multiple means including ecological field surveys, drone surveys and public database records. A more detailed assessment of surveys and technical information is provided in **Section 3.3.4**. **This species was assigned a likelihood of occurrence of 'known' as it has been observed in the area and adjacent to the site.**
Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Vulnerable	The Grey-headed Flying-fox requires foraging resources and roosting sites. It is a canopy-feeding frugivore and nectarivore, which utilises vegetation communities including rainforests, open forests, closed and open woodlands, Melaleuca swamps and Banksia woodlands. It also feeds in introduced tree species in urban areas and in commercial fruit crops. The primary food source is blossom from Eucalyptus and related genera, and in some areas it also utilises a wide range of rainforest fruits. None of the vegetation communities used by the Grey-headed Flying-fox produces continuous foraging resources all-year round, and the species has adopted complex migration traits in response to seasonal food availability (SEWPAC, 2012g).	No camps or evidence of foraging was observed within the project area; however, food resources and foraging habitat occur within the referral area. Although not observed on-site during the initial survey period, more contemporary surveys identified several Grey-headed Flying-foxes within the referral area and surrounding Opossum Creek. However, no roosts were observed within or adjacent to the referral area. A total of 10 known active roosts (active between 2019 and 2020) are present within a 20 km radius of the site which includes: ▪ Nationally Important Mount Ommaney, Westlake Drive (400) ▪ Camira, Barbara Street (140)

Scientific Name	Common Name	EPBC Status	NCA Status	Habitat (foraging and resting) Preferences, Breeding/nesting and Seasonal Influences	Likelihood of Occurrence
				The Grey-headed Flying-fox roosts in aggregations of various sizes on exposed branches, commonly of emergent trees. Roost sites are typically located near water, such as lakes, rivers or the coast. Roost vegetation includes rainforest patches, stands of Melaleuca, mangroves and riparian vegetation, however colonies also use highly modified vegetation in urban and suburban areas. The species can maintain fidelity to roost sites for extended periods, although new sites have been colonised in recent times (SEWPAC, 2012g). Distribution: Queensland: Black Swamp, Caboolture (Wararba Creek), Camira, Canungra (Gold Coast), Cascade Gardens (Gold Coast), Curlew Park (Sandgate), Dayboro (Strong Road), Eerwahvale, Esk, Giffin Park (Norman Creek), Goat Island (Noosaville), Gympie, Helensvale (Gold Coast), Hervey Bay, Indooroopilly, Kandanga, Kinmong Creek, Lytton Road, Meakin Park, Parklands, Peachester, Samford (Days Road) Sandstone Point, Sparkes Hill, State Forest 38, Stradbroke Island, Tallebudgera, Upper Rocky Creek/Murphys Creek, Victoria Point (Egret Drive), Woodend and Woodford (SEWPAC, 2012g).	▪ Bundamba, Paice Street (574) ▪ Parkinson, Avondale Crescent (419) ▪ Goleby Avenue, Queens Park (595) ▪ Yamanto (479) ▪ Woodend (191) ▪ Beryl Roberts Park, Coopers Plains (745) ▪ Sunnybank, Les Atkinson Park (452) ▪ Warana Court, Boronia Heights (848) The closest GHFF camps to the project area are not of national significance and exist approximately 3.6 km to the north-east, approximately 6.3 km to the north-west, approximately 8.9 km to the north-west and 12.5 km to the east, and approximately 5.5 km to the east of the project area (Camira, Barbara Street (140), Redbank – Pan Pacific Peace Garden (428), Bundamba, Paice St (574) and Parkinson, Avondale Crescent (419), respectively). One (1) nationally significant Flying-fox camp is located 12.5 km north of the site being Mount Ommaney – Westlake Drive (400). It is noted the Flinders-Karawatha Bioregional Corridor which constitutes >20,000 ha of continuous remnant vegetation is located approximately 1.4 km east of the site and forms critical foraging habitat for the species. GHFFs were observed foraging on the site during 2023 nocturnal surveys. A more detailed assessment of surveys and technical information is provided in **Section 3.3.5.**

Scientific Name	Common Name	EPBC Status	NCA Status	Habitat (foraging and resting) Preferences, Breeding/nesting and Seasonal Influences	Likelihood of Occurrence
					This species was assigned a likelihood of occurrence of 'known.'
Petauroides volans (NCA listed Petauroides armillatus)	*Greater Glider*	Vulnerable	Vulnerable	The Greater Glider is an arboreal nocturnal marsupial that is mostly restricted to eucalypt forests and woodlands, although it occurs in highest abundance in taller, montane, moist eucalypt forests with abundant (large) hollow-bearing trees for shelter and a variety of eucalypt species for feeding. Diet consists of eucalypt leaves, and occasionally flowers. Small home ranges and low dispersability make this species sensitive to clearing and fragmentation, with low persistence in small forest fragments.	There is a high level of surrounding fragmentation and lack of connecting habitat to contiguous vegetation areas affecting the overall suitability of the site to support Greater Glider. The referral area is surrounded by recently developed areas within the suburbs of Bellbird Park, Brookwater and Springfield. Connecting habitat is limited to lineal strips of vegetation provide limited potential for consistent population-level connectivity. Additionally, significant linear infrastructure including the Centenary Highway and adjoining rail easement represent a significant barrier for movement between the potential habitat areas within the referral area and contiguous habitat areas to the east and south-west where required gliding distances on either side of the barriers regularly exceed 100 m. The absence of a Greater Glider population within the proposed action site and broader habitat patch is corroborated through the presence of records of the species within a 5 km radius of the site being limited to White Rock Conservation Park located approximately 3.5 km to the south-west and Greenbank Military Training Area located approximately 2 km to the east. Additionally, targeted spotlighting and drone surveys completed within the referral area and broader patch have not detected the species. It is noted that one (1) ALA record dated August 2023 is located within an active construction zone adjacent to the broader vegetation patch to the south. The validity of the record was queried with ALA and iNaturalist who confirmed the original coordinate was obfuscated due to its sensitive nature. The publicly

Scientific Name	Common Name	EPBC Status	NCA Status	Habitat (foraging and resting) Preferences, Breeding/nesting and Seasonal Influences	Likelihood of Occurrence
					available positional accuracy was increased to a 0.2 x 0.2 degree cell (29 km area) and the coordinate is replaced with a random point within that cell. The ungeneralised coordinate was provided which confirmed its location within White Rock Conservation Park. The closest verifiable record is 3 km east of the site within the contiguous vegetation areas of Greenbank Military Training Area. However, this record is separated by significant expanses of urban development with limited connecting vegetation. In this case, while the record is within a 5 km radius of the site, the high level of fragmentation substantially reduces the ability of the species to access the site. A more detailed review of greater glider likelihood of occurrence incorporating site habitat attributes and landscape connectivity assessment is provided in **Section 3.3.6.** **This species was assigned a likelihood of occurrence of 'low.'**
Anthochaera Phrygia	Regent Honeyeater	Critically Endangered	Critically Endangered	Regent Honeyeaters mostly occur in dry Box-Ironbark Eucalypt woodland and dry sclerophyll forest associations in areas of low to moderate relief, wherein they prefer moister, more fertile sites. These areas are generally associated with creek flats and river valleys and foothills. These woodlands have significantly large numbers of mature trees, high canopy cover and abundance of mistletoes. They are a generalist forager, which mainly feed on nectar from a wide range of eucalypts and mistletoes, although it feeds mainly on the nectar from a relatively small number of eucalypts that produce high volumes of nectar. Key eucalypt species include *Eucalyptus sideroxylon* (Mugga Ironbark), *E. melliodora* (Yellow Box), *E. albens* (White Box), *E. robusta* (Swamp Mahogany), *Corymbia*	Potential foraging habitat for the Regent Honeyeater occurs on and adjacent to the subject site. The project area is dominated by *Corymbia citriodora* (Spotted Gum) with other winter flowering eucalypt species also present. It is noted that Regent Honeyeaters prefer large, old growth eucalypts as they are more productive nectar sources, however, large diameter old growth trees were sparsely observed throughout the referral area, likely a result of historical disturbances such as logging and fire. While the site contains potential foraging habitat for the species, it is considered more likely that the species would utilise the vast areas of protected and higher quality habitats available in the

Scientific Name	Common Name	EPBC Status	NCA Status	Habitat (foraging and resting) Preferences, Breeding/nesting and Seasonal Influences	Likelihood of Occurrence
				maculata (Spotted Gum) or *C. citriodora* (Spotted Gum). *Corymbia citriodora* is known as the Queensland variety of Spotted Gum.	nearby vicinity of the site. The Greenbank Military Base is located approximately 2 km east of the site and White Rock Conservation Park located within the Flinders-Karawatha Bioregional Corridor which constitutes >20,000 ha of continuous remnant vegetation is located approximately 3.5 km south of the site. The Regent Honeyeater was recorded in 2019 approximately 1 km south-east of the site in the Springfield Lakes area, therefore is identified as having potential to occur on-site. A more detailed assessment of surveys and technical information is provided in **Section 3.3.2**. **Due to the presence of potential foraging habitat on-site and recent records of the species in the locality, this species was assigned a likelihood of occurrence of 'moderate.'**
Lathamus discolor	Swift Parrot	Critically Endangered	Endangered	The Swift Parrot breeds in Tasmania during spring to early summer. During autumn and winter the species migrates to the mainland where it follows a nomadic existence linked to the availability and timing of flowering of trees in various locations. They are known to prefer *Corymbia citriodora* (Spotted Gum) as a primary feed species in Queensland among other species such as *Eucalyptus robusta* (Swamp Mahogany), *E. tereticornis* (Forest Red Gum), *E. sideroxylon* (Mugga Ironbark), *E. albens* (White Box) and *E. macrocarpa* (Grey Box).	Potential foraging habitat for the Swift Parrot occurs on and adjacent to the subject site. The project area is dominated by *Corymbia citriodora* (Spotted Gum) which is identified as a primary foraging species for the Swift Parrot in Queensland. The Opossum Creek corridor, outside of the project area, contains a higher abundance and diversity of suitable foraging species such as *E. tereticornis* (Forest Red Gum) than the referral area. While the site contains potential foraging habitat for the species, it is considered more likely that Swift Parrot would utilise the vast areas of protected and higher quality habitats available in the nearby vicinity of the site. The Greenbank Military Base is located approximately 2 km east of the site and White Rock Conservation Park located within the Flinders-Karawatha Bioregional Corridor

Scientific Name	Common Name	EPBC Status	NCA Status	Habitat (foraging and resting) Preferences, Breeding/nesting and Seasonal Influences	Likelihood of Occurrence
					which constitutes >20,000 ha of continuous remnant vegetation is located approximately 3.5 km south of the site. The Swift Parrot has been recorded in the broader locality within the Springfield Lakes area in 2019 and in Kingston in 2014, therefore is considered to have potential to occur on-site. A more detailed assessment of surveys and technical information is provided in **Section 3.3.1**. **Due to the presence of potential foraging habitat on-site and recent records of the species in the locality, this species was assigned a likelihood of occurrence of 'moderate.'**
Hirundapus caudacutus	White-throated Needletail	Vulnerable and migratory	Vulnerable	The White-throated Needletail is predominantly an aerial species and occurs over most types of habitat. They are probably recorded most often above wooded areas, including open forest and rainforest, and may also fly between trees or in clearings, below the canopy, but they are less commonly recorded flying above woodland. They also commonly occur over heathland, but less often over treeless areas, such as grassland or swamps.	The site contains suitable foraging habitat for the White-throated Needletail. The Flinders-Karawatha Bioregional Corridor which constitutes >20,000 ha of continuous remnant vegetation is located approximately 2 km east of the site and forms critical foraging habitat for the species. WildNet records indicate the species has previously been recorded on the site, however, this record was in the year 1990. Targeted bird surveys were conducted in January 2021 to detect the White-throated Needletail. A flock of swifts were observed over the site during the surveys, however, due to the erratic flight patterns and high altitude, they were not able to be positively identified as White-throated Needletail. A more detailed assessment of surveys and technical information is provided in **Section 3.3.3**.

Scientific Name	Common Name	EPBC Status	NCA Status	Habitat (foraging and resting) Preferences, Breeding/nesting and Seasonal Influences	Likelihood of Occurrence
					Due to the presence of potential foraging and roosting habitat on-site and presence of a historical record, this species was assigned a likelihood of occurrence of 'moderate.'
Coleus habrophyllus **(also known as *Plectranthus habrophyllus*)**	-	Endangered	Endangered	Specimens of *Coleus habrophyllus* have been recorded growing on chert or sandstone outcrops, in open woodlands often in shaded situations near vine forest. Seven populations are known including: Oxley Creek, Greenbank; Opposum Creek, Springfield; Woogaroo Creek, Goodna; three populations within White Rock Conservation Park, incorporating Six Mile Creek Conservation Park near Ormeau (south of Beenleigh).	This species has niche habitat requirements including rocky outcrops with limited to no weeds and a relatively undisturbed understorey and shaded location. The population situated on Mountain Creek to the south of the referral area is located on a rocky outcrop facing south-east and contains limited to no weed incursion. Field surveys identified potentially suitable microhabitat in the form of rocky outcrop in the eastern portion of the site. The area was largely free of weeds and is located on a south-south-east facing slope, both of which are suitable habitat niches for *Coleus habrophyllus*. Following the identification of this suitable habitat, targeted searches of the area for the species were undertaken, however, only the common *Plectranthus parviflorus* was identified. Given that *C. habrophyllus* was not identified during the extensive targeted surveys of the potential habitat, the species is not considered to be present within the project area. **This species was assigned a likelihood of occurrence of 'low' based on the absence of the species from the site despite the identification of potential microhabitat.**
Dasyurus maclatus maculatus	Spotted-tailed Quoll (SE mainland population)	Endangered	Endangered	The Spotted-tailed Quoll occurs in eucalypt forest and woodland and requires the presence of suitable denning habitat for shelter and breeding requirements which may include hollow logs, tree hollows, rock outcrops or caves.	Field surveys confirmed the limited availability of potential denning sites such as rock outcrops, hollow logs or caves throughout the referral area. The site is unlikely to provide ideal breeding and foraging habitat due to the lack of suitable den sites.

Scientific Name	Common Name	EPBC Status	NCA Status	Habitat (foraging and resting) Preferences, Breeding/nesting and Seasonal Influences	Likelihood of Occurrence
				This species is predominantly found in unlogged forest or forest that has been minimally disturbed due to wide breeding ranges and. This species is predominantly nocturnal and species rests during the day in dens. Individuals require an abundance of food such as birds and small mammals, and large areas of relatively intact vegetation through which to forage. Latrines of the Spot-tailed Quoll are sites where groups of individuals repeatedly urinate and defecate over long periods of time, resulting in the bleaching of the soil substrate and an accumulation of scats. For a highly cryptic species such as the Spot-tailed Quoll, these sites provide focal points for studies into distribution, diet, habitat, population structure, and management. Latrines are typically found in rocky creek beds, at the bases of cliffs, and on roads. The mean home range for males is 992 ± 276 ha, and 244 ± 72 ha for females.	Preferred habitats in the locality are associated with the Greenbank Military Training area located 2 km east of the site, and the White Rock Conservation Park within the Flinders-Karawatha Bioregional Corridor located approximately 3.5 km south of the site. Historical records are generally contained within these habitat reserves. The placement of the site in an urban context indicates higher potential for increased threat from predators such as wild dogs and red foxes. It is noted that predation from red foxes, wild dogs and domestic dogs are primary threats to quolls, and evidence of wild or domestic dogs and foxes in particular have been observed on and adjoining the site. Review of ALA records indicates the presence of one (1) record from 2004 located approximately 4.6 km north-east of the site at the intersection of the Logan Motorway and Centenary Highway in Carole Park. The record is located within the Greenbank Military Training Area. Records of the Spotted-tailed Quoll are predominantly several kilometres south-east of the site within the Logan locality. **Due to the lack of suitable denning habitat, the high potential for threats and the presence of preferred and contiguous habitats in the locality of the site, it is considered 'unlikely' that the Spotted-tailed Quoll would occur on-site.**
Notelaea lloydii	Lloyd's Olive	Vulnerable	Vulnerable	*Notelaea lloydii* is endemic to south-east Queensland between Mt Brisbane, near Somerset Dam, to just south of Beaudesert and as far west as Mt Berryman near Laidley, a range of approximately 120 km.	Field survey confirms there is some potential habitat on-site in the form of mature eucalypt woodland on gentle slopes, however, preferred ecotonal and moist habitats are lacking. More suitable habitat is considered to occur within the Opossum Creek corridor

Scientific Name	Common Name	EPBC Status	NCA Status	Habitat (foraging and resting) Preferences, Breeding/nesting and Seasonal Influences	Likelihood of Occurrence
				The species occurs on undulating to hilly terrain either in moist gullies or on gentle to steep dry slopes, but is rarely found on rocky outcrops. Soil types are mostly shallow, well drained and stony to very rocky in texture. Found in the ecotone between eucalypt open forests and vine thickets at 80-480 m above sea level (asl).	to the west of the site. Field surveys on-site and in the adjoining creek corridor did not detect the species. In addition, a review of ALA records indicate there are no records of the species within 5 km of the site. **It is considered that the species is 'unlikely' to occur on-site.**

3.2 Description of the current land use and natural environment

Item 3.2 of the PD Request asks for ***"a description of the current land use, topography, surface and ground water bodies, waterways and vegetation communities (habitat types as they relate to the above listed threatened species) on the proposed action-site and adjoining areas."***

The following subsections provide information of the current land use and environmental features recorded and assessed during the field survey period.

3.2.1 Current land use

A review of historical aerial imagery and ground-truthing assessments indicates that the property was historically utilised as part of the broader forestry practices throughout the Springfield area, including logging and the creation of *Eucalyptus grandis* plantations. Since 1980 it has remained in a relatively natural state except for minor clearing to establish vehicle access tracks.

3.2.2 Topography

Elevation across the site ranges from 40 m above sea level (ASL) where the site slopes towards Opossum Creek up to 100 m ASL in the northern portion of the site. The site generally slopes towards the south and west. The slope is considered steep as it approaches Opossum Creek. Refer to **Figure A3** for referral area toporgraphy.

3.2.3 Waterways and waterbodies

A 'low risk' green waterway for waterway barrier works (WWBW) is mapped in the north-eastern corner of the site under the Queensland *Fisheries Act 1994*. This watercourse is mapped as a Stream Order 1 under the VMA. Several unnamed tributaries of Opossum creek are mapped on-site under the *Water Act 2000*. Opossum Creek, which is mapped as a Stream Order 4, 'major-risk' purple waterway for waterway barrier works (WWBW) under the *Fisheries Act 1994* is located to the west and downslope of the site (refer **Figure A3**). At the closest point, the waterway is within 100 m of the impact area and runs in a north-south direction parallel with the south-west boundary.

3.2.4 Vegetation Communities

The EPBC Act Online Protected Matters Search Tool (PMST) lists six (6) Threatened Ecological Communities (TECs) as likely to occur within the area and within 5 km of the site:

- 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 Regional Ecosystem (RE) 12.1.1 or 12.3.20. Neither *Casuarina glauca* (Swamp Oak) nor RE12.1.1 or 12.3.20 were identified on-site, and therefore the TEC is not present.
- The Lowland Rainforest of Subtropical Australia has typically relatively low abundance of species from the genera *Eucalyptus, Melaleuca* and *Casuarina*. Buttresses are common as is an abundance and diversity of vines. This community is usually associated with RE 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 which were recorded on or adjacent to the site.

- The Poplar Box Grassy Woodland on Alluvial Plains ecological community. No species representing these characteristics or vegetation communities were observed within the subject site. The site is not mapped as containing any regional ecosystem communities associated with this ecological community.
- The White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland TEC is characterised by a species-rich understorey of native tussock grasses, herbs and scattered shrubs and the dominance of White Box, Yellow Box, or Blakely's Red gum trees. This community is usually associated with RE 11.8.2a, 11.8.8, 11.9.9a, 13.3.1, 13.11.8 and 13.12.9. It can also be a small component of RE11.3.23, 12.8.16, 13.3.4, 13.11.3 and 13.11.4, none of which were recorded on or adjacent to the site.
- Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland Bioregions varies from tall open forest to woodland, although partial clearing may have reduced the canopy to scattered trees in some areas. The tree canopy is dominated by eucalypts and/or other myrtaceous trees (specifically from the *Angophora, Corymbia*, *Lophostemon* and *Syncarpia* genera), often as a mixture of species. A mid-layer or sub-canopy of small trees may be present – with scattered to dense shrubs. For example, *Melaleuca*, *Leptospermum* and related genera may form dense thickets beneath the main canopy, or in gaps between canopy trees. The ecological community generally has a more diverse and abundant groundcover than ecological communities on locally adjoining slopes. Its groundcover typically includes grasses, forbs, ferns, sedges and scramblers. The ecological community typically forms 'mosaics' with other floodplain forest communities, lowland woodlands and treeless wetlands. The following Regional Ecosystems form part of or align with the TEC: 12.3.2, 12.3.2a, 12.3.3, 12.3.3a, 12.3.3b, 12.3.3d, 12.3.4a, 12.3.7, 12.3.7c, 12.3.7d 12.3.10, 12.3.11, 12.3.11a, 12.3.11b, 12.3.12, 12.3.14a, 12.3.15, 12.3.19, none of which were recorded on or adjacent to the site.
- Grey box-grey gum wet forest of subtropical eastern Australia is described as a forest where the canopy dominated by its characteristic Eucalyptus species (being *Eucalyptus moluccana* or *Eucalyptus propinqua* less commonly *Eucalyptus punctata*) with or without *Araucaria cunninghamii* (hoop pine) and with an understorey that typically includes significant cover of species with drier vine-forest (rainforest) affiliations. In Queensland REs likely to represent or contain the ecological community includes RE 12.9-10.3 and 12.8.14a. None of these associated regional ecosystems were identified within the referral area.

The site contains 21.13 ha of Category B (remnant) and 1.67 ha of Category C (high value regrowth) vegetation mapped under the Queensland VMA (refer **Figure A4**). The vegetation is mapped as composite RE12.9-10.2/12.9-10.7/12.9-10.19 (65/20/15%) which are classed under the VMA as 'Least Concern', 'Of Concern' and 'Least Concern', respectively (refer **Figure A5**). A description of the mapped Regional Ecosystems per the Queensland Herbarium is provided in **Table A6**.

Additionally, the Australian Soil Resource Information System (ASRIS) maps chromosols across the referral area and suit the landscape description outlined below (refer **Figure A6**).

Description	Chromosols are texture-contrast soils. Extensive areas of Chromosols are in the Western Downs and the Maranoa districts—west of the Great Dividing Range.

Under the State mapping, the vegetation is mapped as 'Essential Habitat' for *Phascolarctos cinereus* (Koala), *Ninox strenua* (Powerful Owl) and *Coleus habrophyllus*. Field survey confirmed that the project area contains predominantly remnant vegetation with some disturbance in the form of vehicle access tracks. The vegetation on-site is considered to be accurately mapped as 'remnant' vegetation, in large part due to the cessation of logging activities.

Table A6: Regional Ecosystem Descriptions (Queensland Herbarium)

Regional Ecosystem	VMA Status	Description
12.9-10.2 (65%)	Least Concern	*Corymbia citriodora* subsp. *variegata* open forest or woodland usually with *Eucalyptus crebra*. Other species such as *Eucalyptus tereticornis, E. moluccana, E. acmenoides* and *E. siderophloia* may be present in scattered patches or in low densities. Understorey can be grassy or shrubby. Shrubby understorey of *Lophostemon confertus* (whipstick form) often present in northern parts of bioregion. Occurs on Cainozoic and Mesozoic sediments. Not a Wetland. (BVG1M: 10b).
12.9-10.7 (20%)	Of Concern	*Eucalyptus crebra* +/- *E. tereticornis, Corymbia tessellaris, Angophora leiocarpa, E. melanophloia* woodland. Occurs on Cainozoic and Mesozoic sediments. Not a Wetland. (BVG1M: 13c).
12.9-10.19 (15%)	Least Concern	*Eucalyptus fibrosa* subsp. *fibrosa* woodland +/- *Corymbia citriodora* subsp. *variegata*, *E. acmenoides* or *E. portuensis*, *Angophora leiocarpa, E. major*. Understorey often sparse. Localised occurrences of *Eucalyptus sideroxylon*. Occurs on Cainozoic and Mesozoic sediments. Not a Wetland. (BVG1M: 12a).

The dominant RE was identified to be 'Least Concern' RE12.9-10.2 due to the dominance of *Corymbia citriodora* (Spotted Gum) and *Eucalyptus crebra* (Narrow-leaved Ironbark). Refer to **Photo 1**.

Elements of RE12.9-10.7 and RE12.9-10.19 were present as indicated by the presence of other canopy species including *Eucalyptus moluccana* (Gum-topped Box), *Eucalyptus fibrosa* (Broad-leaved Ironbark), *Eucalyptus tereticornis* (Forest Red Gum), *Eucalyptus acmenoides* (White Mahogany) and *Angophora leiocarpa* (Smooth-barked Apple). The understorey contained a mix of *Acacia* species including *Acacia concurrens* (Black Wattle), *Acacia leiocalyx* (Early Flowering Black Wattle), *Acacia disparrima* (Hickory Wattle), *Acacia fimbriata* (Brisbane Wattle), and *Alphitonia excelsa* (Soap Tree). The ground layer was dominated by native forbs and grasses such as *Aristida vagans* (Threeawn Speargrass), *Themeda triandra* (Kangaroo Grass), *Cymbopogon refractus* (Barbed Wire Grass), *Heteropogon contortus* (Black Speargrass), and contained an abundance of leaf litter. The ground layer was largely devoid of weeds except for isolated areas of *Lantana*

camara (Lantana) and *Lantana montevidensis* (Creeping Lantana) infestations. The canopy height and coverage of the confirmed 'remnant' RE12.9-10.2 is consistent with the remnant status definition.

The remaining 1.40 ha of land is mapped as 'non-remnant'. This area is located on the eastern part of the site, adjoining Springfield College Road where disturbance has historically occurred for the purpose of surrounding development. The extent of the 'non-remnant' vegetation is considered consistent with the mapping of Category X areas under the VMA.

The site is considered one (1) Assessment Unit which is described as Remnant Regional Ecosystem 12.9-10.2 and is 24.2 ha in size as shown on **Plan A3**.

Photo 1: Assessment Unit 1 – Remnant RE12.9-10.2

3.2.5 Habitat for threatened species

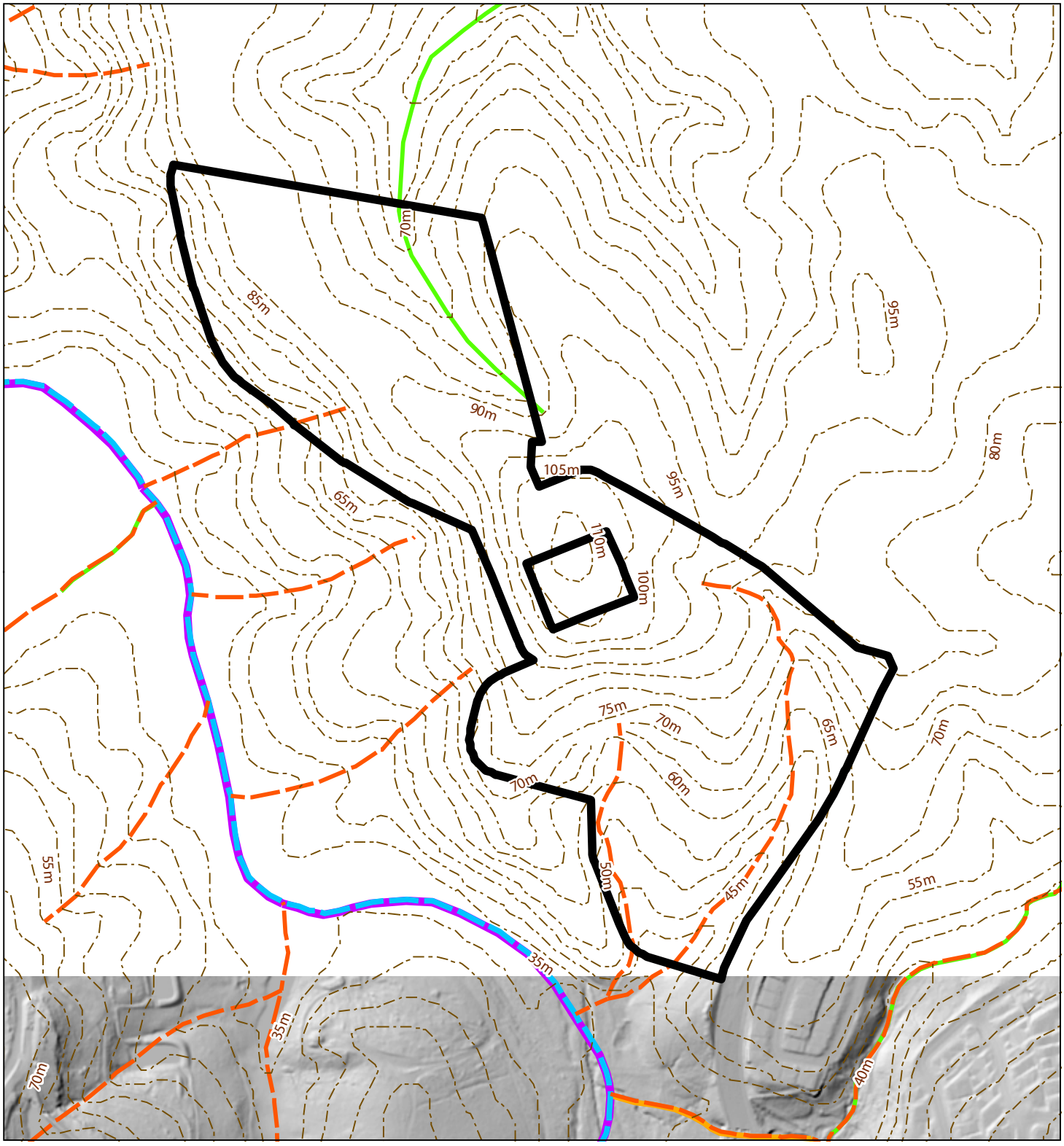
The site is dominated by remnant eucalypt forest predominantly containing 'Least Concern' RE12.9-10.2. Vegetation within the project area is dominated by eucalypts which may provide habitat to support a number of different threatened species. Dominant canopy species include *Corymbia citriodora* (Spotted Gum) and *Eucalyptus crebra* (Narrow-leaved Ironbark) with *E. tereticornis* (Forest Red Gum), *E. acmenoides* (White Mahogany) and *Angophora leiocarpa* (Smooth-barked Apple).

Within the original referral technical studies (refer **Attachment A3**) a number of MNES were identified as having the potential to occur within or adjoining the referral area and therefore were targeted as part of the field survey effort. One MNES flora species was observed during field survey effort as being located outside of the referral boundary: *Coleus habrophyllus* (Shaggy-leaved Coleus). The species was located outside of the impact area within dedicated vegetation retention areas and therefore is considered highly unlikely to be impacted by the action. As detailed ecological surveys have been undertaken across the referral area including niche habitat areas, there is a high level of confidence that the balance of the site and impact area does not contain this species.

MNES considered to have potential to occur on or be at higher risk of being impacted by the proposed development as per the revised likelihood of occurrence assessment provided in **Table A5** include:

- *Phascolarctos cinereus* (Koala);
- *Pteropus poliocephalus* (Grey-headed Flying-fox);
- *Hirundapus caudacutus* (White-throated Needletail);
- *Lathamus discolor* (Swift Parrot); and
- *Anthochaera phrygia* (Regent Honeyeater).

Species habitat is described in further detail **Section 3.3**.



Legend

- Referral Area
- 5 Metre Contours
- Water Act 2000 - Watercourses
- Water Act 2000 - Drainage Features

Waterways (QLD)

Risk of Impact

- 1 - Low
- 2 - Moderate
- 3 - High
- 4 - Major
- 5 - Major (Tidal)

Figure A3

Site Topography and Water Resources

Springfield City Group Pty Ltd

File ref. 7399 E Figure A3 Topography E
Date 28/10/2025
Project Scenic Precinct

0 50 100 150 200 *m*

Scale (A4): 1:6,000 [GDA 1994 MGA Z56]

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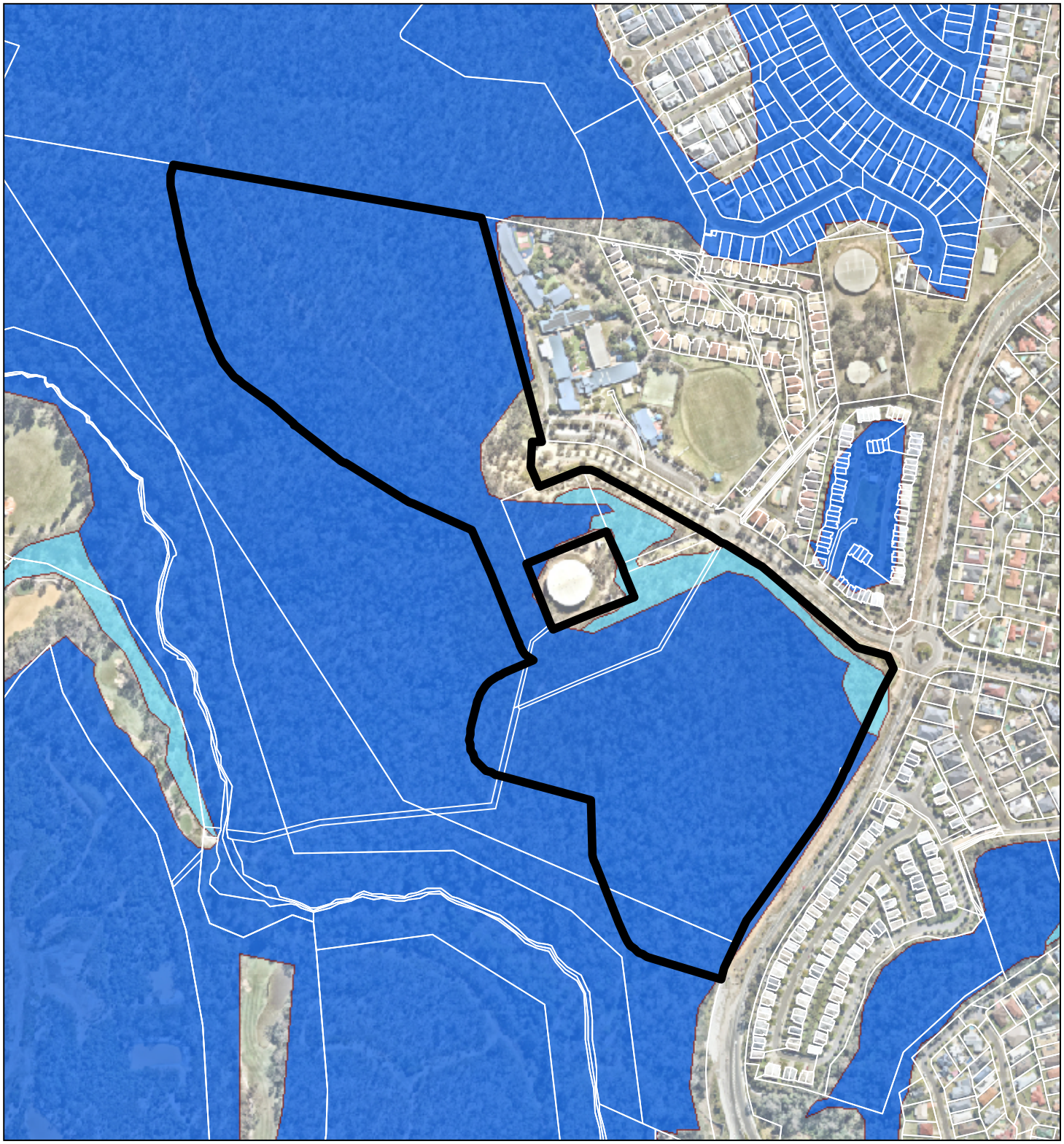

Legend

- Qld DCDB
- Referral Area

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
- Water
- Area not categorised

Figure A4

Regulated Vegetation Management Map (Qld)

Springfield City Group Pty Ltd

File ref. 7399 E Figure A4 RVM QLD E
Date 27/10/2025
Project Scenic Precinct

0 50 100 150 200 *m*

Scale (A4): 1:6,000 [GDA 1994 MGA Z56]

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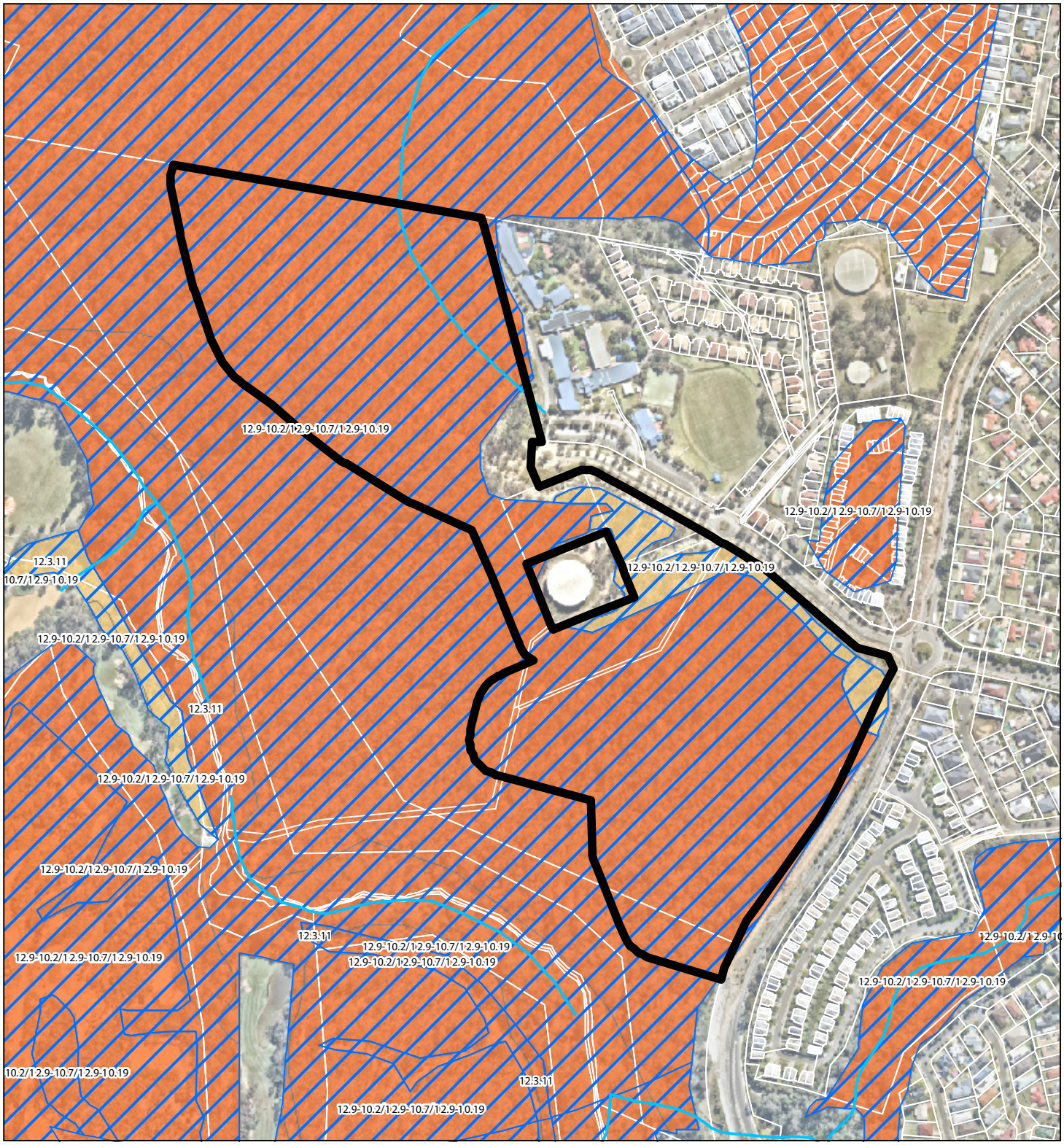

Legend

- Qld DCDB
- Referral Area
- VM Watercourses
- VM Essential Habitat
- VM Wetland

Vegetation Management Regional Ecosystems Map

- Category A or B area containing endangered regional ecosystems
- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem
- Category 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 A5

Vegetation Management Regional Ecosystem Map (Qld)

Springfield City Group Pty Ltd

File ref. 7399 E Figure A5 VMRE E
Date 27/10/2025
Project Scenic Precinct

0 50 100 150 200 *m*

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Scale (A4): 1:6,000 [GDA 1994 MGA Z56]

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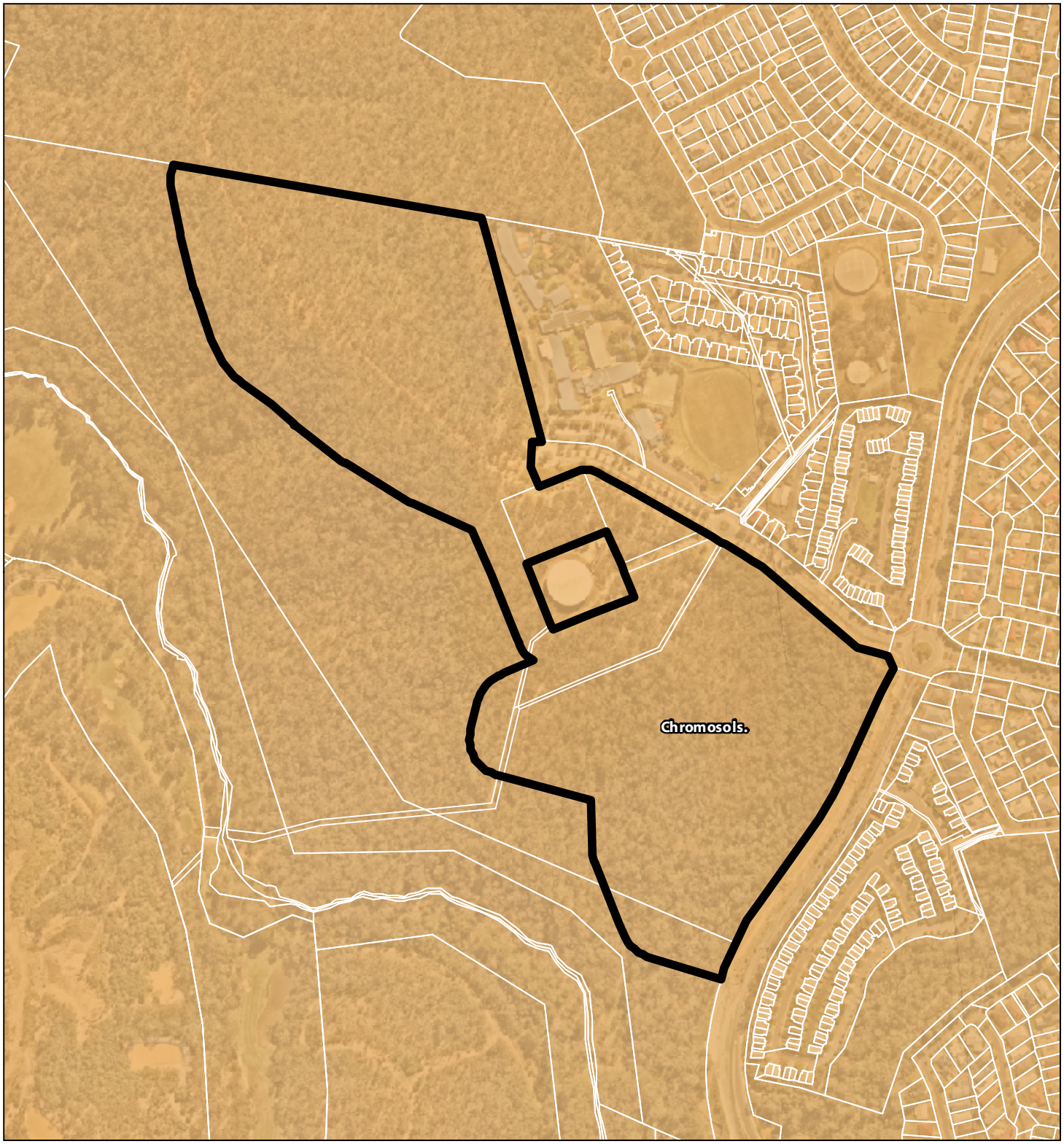

Legend

Qld DCDB

Referral Area

Figure A6

ASIRIS Soils

Springfield City Group Pty Ltd

File ref. 7399 E Figure A6 ASIRIS E
Date 27/10/2025
Project Scenic Precinct

0 50 100 150 200 *m*

N

Scale (A4): 1:6,000 [GDA 1994 MGA Z56]

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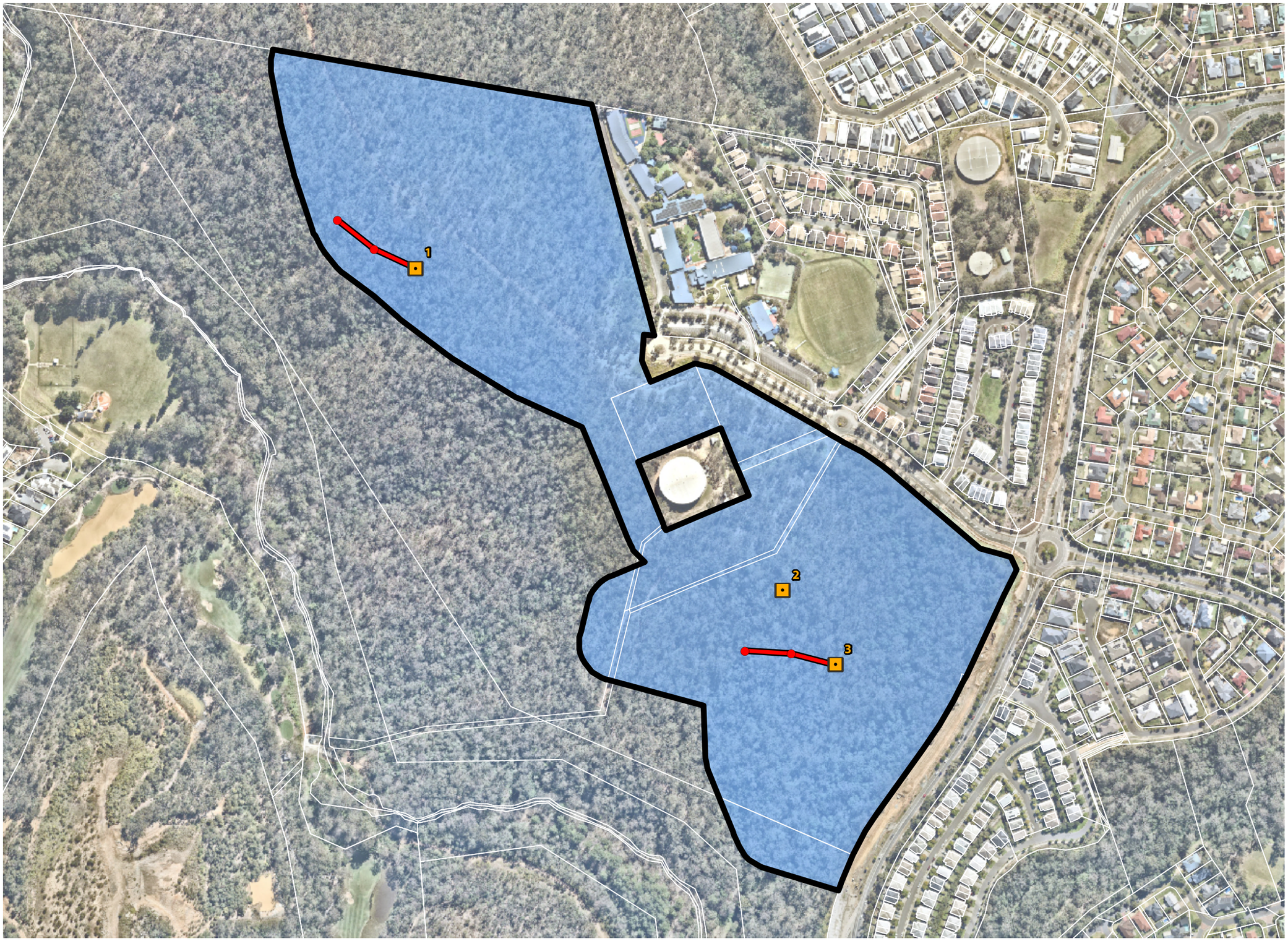
A3. Assessment Units



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.

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Legend

- Qld DCDB
- Referral Area [24.2 ha]
- Assessment Unit 1 - Remnant RE 12.9-10.2 [24.2 ha]
- Habitat Quality Transect
- SAT Survey Locations

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 25 50 75 100 m

Transverse Mercator | GDA 1994 | Zone 56 | 1:4,000 @ A3

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29/10/2025 | 7399 E A3 Assessment Units E

3.3 Technical detail on MNES present at, or in the vicinity to, the project site (as listed in 2.1)

Item 3.3 of the PD Request asks for ***"listed threatened species and ecological communities that have the potential, or are likely, to be present at and in the vicinity of the project site, including but not limited to those listed above, this section must provide the following:***

a. Information on the abundance, distribution, ecology and habitat preference of the species or communities.

b. Quantification of the extent of habitat and (if known) the number of individuals present, or historical patterns of use on, and surrounding, the development footprint (including maps identifying known or potential habitat).

c. Assessment of quality and importance of known potential habitat for the species or communities within the proposed action-site and surrounding areas.

d. Information detailing known populations or recorded within at least five kilometres of the development footprint and (if known) the size of these populations.

e. Information on the survey methodology used, including a map/s of survey points or transects, how the survey points or transects were selected, when surveys were conducted (e.g. dates, time of day, season, etc) and search effort (e.g. 20 hours over 8 days).

f. An assessment of the adequacy of any surveys undertaken (including survey effort and timing). In particular, the extent to which these surveys were appropriate for the species and undertaken in accordance with the relevant survey guidelines.

g. Results of any surveys undertaken.

3.3.1 Swift Parrot (Lathamus discolor)

a. Information on the abundance, distribution, ecology and habitat preference of the species or communities.

Distribution

The Swift Parrot breeds in Tasmania during the summer and the entire population migrates north to mainland Australia for the winter. They occupy habitats across all tenures, with the majority of habitats occurring outside formal conservation reserves. The breeding range of the Swift Parrot is largely restricted to the east and south-east coast of Tasmania and closely mirrors the distribution of blue gum (*Eucalyptus globulus*). The species breeds in the north-west of the state between Launceston and Smithton, however, the number of birds involved and frequency of these breeding events is not well understood. Potential breeding habitat remaining in the northwest is scarce and highly fragmented. Whilst on the mainland the Swift Parrot disperses widely, foraging on flowers and lerps in *Eucalyptus spp.* mainly in Victoria and New South Wales. Only a small number of Swift Parrots are observed in Queensland on a regular basis. Within Queensland, the preferred foraging species include *Eucalyptus macrocarpa, Eucalyptus melliodora, Eucalyptus robusta, Eucalyptus tereticornis* and *Corymbia citriodora*. The species prefers large trees which flower consistently.

Habitat and Ecology

Swift Parrots breed in tree-hollows in old-growth or other forest with suitable hollows, in relatively close proximity to the main food source, flowering Tasmanian blue gum. Several pairs often nest in close proximity, in the same or neighbouring trees. Breeding success is correlated with the intensity and extent of flowering, which is highly variable between years. In poor years, swamp (black) gum (*Eucalyptus ovata*) is used as food source.

They feed preferentially in the largest trees available. Their distribution fluctuates with food availability as they feed on psyllid lerps, seeds and fruit. Non-breeding birds preferentially feed in inland box-ironbark and grassy woodlands, and coastal swamp mahogany (*Eucalyptus robusta*) and spotted gum (*Corymbia maculata*) woodland when in flower; otherwise often in coastal forests from eastern Victorian to the central coast of New South Wales. Key foraging species include Yellow Gum (*E. leucoxylon*), Red Ironbark (*E. tricarpa*), Mugga Ironbark (*E. sideroxylon*), Grey Box (*E. macrocarpa*), White Box (*E. albens*), Yellow Box (*E. melliodora*), Swamp Mahogany (*E. robusta*), Forest Red Gum (*E. tereticornis*), Blackbutt (*E. pilularis*), and Spotted Gum (*Corymbia maculata*). It is noted that *Corymbia citriodora* is recognised synonymously in terms of foraging value for the species. The species prefers large trees which flower consistently (DCCEEW, 2024).

Threats

The *National Recovery Plan for the Swift Parrot* (DCCEEW, 2024) identifies urban development and tree clearing as a key threat for the species' persistence. In Queensland, urban development is of particular concern to the Swift Parrot at the northern extent of their winter range. In particular, the Gold Coast, Toowoomba and the Greater Brisbane region are at risk from tree removal associated with residential and industrial development.

b. *Quantification of the extent of habitat and (if known) the number of individuals present, or historical patterns of use on, and surrounding, the development footprint (including maps identifying known or potential habitat.*

Swift Parrot habitat within SEQ is limited to foraging resources as their occurrence on the Australian mainland, and therefore in SEQ, is dictated by seasonal dispersal patterns to support the foraging part of their life cycle which only occurs during winter months.

The Swift Parrot has been sighted in the broader locality within the Springfield Lakes area, approximately 1 km south-east of the project area in 2021 and approximately 10 km south-east of the site and in the Logan suburb of Kingston in 2014 approximately 20 km east of the site (refer **Plan A4**). Given the proximity of the site to the location of the recent sightings, there is potential that the vegetation on-site may form part of the broader foraging area for the Swift Parrot.

Foraging resources, and therefore potential foraging habitat, is broadly defined as winter flowering eucalypt trees. Habitat for the swift parrot within the referral area includes winter flowering foraging species being *C. citriodora, E. tereticornis, E. crebra, E. siderophloia, E. moluccana* and *E. fibrosa*. It is noted that the site contains only two (2) of the ten (10) preferred foraging species listed under the National Recovery Plan for the Swift Parrot (DCCEEW, 2024) being *C. citriodora/C. maculata*. As the referral area contains preferred foraging eucalypts which may provide foraging habitat for the species, it is considered to contain critical habitat for the swift parrot.

c. *Assessment of quality and importance of known potential habitat for the species or communities within the proposed action-site and surrounding areas.*

The potential for Swift Parrot to occur in South East Queensland and the broader locality is likely which is supported by the presence of records in the locality within the past five years and the habitat destruction that resulted from the 2019 / 2020 bushfires in the southern portion of the foraging range which may lead to a potential shift in foraging patterns. The potential for Swift Parrot occurrence in the locality is acknowledged, however, the relative importance of the vegetation within the referral area to support swift parrot is considered reduced based on the abundance of foraging resources in the locality that are protected and the quality of potential foraging resources within the referral area.

The quality and importance of foraging habitat has been considered based on landscape and contextual factors and on an assessment of *in situ* values within the referral area.

<u>Context factors</u>

Potential foraging habitat is considered abundant within the landscape and SEQ generally. Within a 5 km and 20 km radius surrounding the referral area, foraging resources are abundant and are predominantly located within contiguous habitat areas located within the Flinders-Karawatha Bioregional Corridor that includes White Rock Conservation Park and the Greenbank Military Training Area (refer **Plan A5**). Mapped swift parrot foraging habitat within SEQ is mapped in **Plan A6** identifying a large volume of potential habitat across the region.

The Greenbank Military Base is located approximately 2 km east of the site and White Rock Conservation Park located within the Flinders-Karawatha Corridor is located approximately 3.5 km south of the site and are considered higher quality foraging habitats which are likely to be preferred over the vegetation on-site (refer **Plan A5**).

On-site factors

It is noted that the Swift Parrot prefers larger diameter foraging trees as they are more productive nectar sources. The site contains scattered trees defined as 'large' under the Queensland Herbarium Benchmark guideline; however, the site is considered to lack old growth eucalypt trees. Large trees are sparse throughout the project area with large specimens largely restricted to Opossum Creek to the south-west of the referral area. Analysis of the Habitat Quality transect data against the BioCondition Benchmark (v3.6) indicates that the average number of trees per hectare equal to or greater than the large tree benchmark for RE12.9-10.2 is four (4). The benchmark of large trees per hectare for the 'remnant' vegetation communities (RE12.9-10.2) as per the Queensland Herbarium Benchmark guideline is 38. As such, the vegetation community within the project area meets approximately 10% of the large tree benchmark for the RE12.9-10.2, indicating reduced quality of potential foraging species for the Swift Parrot.

The placement of the site within an urban location also increases the prevalence of aggressive nectarivorous birds including *Manorina melanocephala* (Noisy Miner) and *Trichoglossus moluccanus* (Rainbow Lorikeet) which were confirmed on-site.

d. Information detailing known populations or recorded within at least five kilometres of the development footprint and (if known) the size of these populations.

No known populations occur within 5 km of the development footprint; however, the site is within the distribution of where the species is likely to occur according to the Swift Parrot Recovery Plan (DCCEEW, 2024). The Swift Parrot was sighted in the locality within the Springfield Lakes area, approximately 1 km south-east of the site in 2021 and in the Logan suburb of Kingston in 2014 approximately 20 km east of the site (refer **Plan A4**). The presence of a local record suggests potential for the Swift Parrot to occur sporadically within the region.

The Swift Parrot occurs as a single migratory population with breeding occurring in Tasmania and foraging on the Australian mainland. Time spent on the Australian mainland is temporally limited to the foraging season (*i.e.,* winter months) and the documented and potential distribution is spatially quite broad, predominantly encompassing New South Wales and Victoria foraging habitat with some reach into Queensland. Occurrence is limited to flocks or pairs within the foraging range.

The lack of recorded sightings within the locality since the year 2000 may be attributed to the relationship between observers and potential habitat areas. It is likely that potential occurrence of Swift Parrot within the broader locality is confined to habitat areas within the extensive Flinders-Karawatha Bioregional Corridor and White Rock Conservation Park where the chance of observation is inherently limited. Springfield Lakes is a highly frequented area therefore increasing the chance of incidental observation.

e. Information on the survey methodology used, including a map/s of survey points or transects, how the survey points or transects were selected, when surveys were conducted (e.g. dates, time of day, season, etc) and search effort (e.g. 20 hours over 8 days).

Noting the cryptic nature of detection for the Swift Parrot and relatively narrow survey window (winter), surveys to detect the presence of Swift Parrot were not completed, with surveys instead focussing on describing and quantifying the availability of potential foraging habitat within the referral area.

Survey plots to measure the availability of preferred foraging habitat for the Swift Parrot was completed in March 2020. Refer to **Section 4.7.1** for details of the survey methodology.

Preferred foraging habitat include species identified as preferred foraging species under the National Recovery Plan for the Swift Parrot (DCCEEW, 2024).

f. An assessment of the adequacy of any surveys undertaken (including survey effort and timing). In particular, the extent to which these surveys were appropriate for the species and undertaken in accordance with the relevant survey guidelines.

It is considered the assessment of foraging habitat values is appropriate for the species as a way of informing the potential for the species to occur and assessment of critical habitat.

The use of a plot or transect is a widely used method for collecting vegetation composition data in a variety of environments and often uses stem counts as an index of habitat quality.

Stem density data of preferred foraging species at each MHQA transect was collected in accordance with the stem count methodology provided in the *Methodology for surveying and mapping regional ecosystems and vegetation communities in Queensland* (version 5.0) (Neldner et al. 2019). The methodology detailed in Neldner et al. (2019) uses a plot area of 50 X 10 m. For the purposes of this assessment, the area was modified to 100 X 20 m to align with the MHQA plot, however, the actual count assessment method remains the same.

Further details and justification of the methodology is provided in **Section 4.7.1**.

g. Results of any surveys undertaken.

Refer to **Section 4.7** for details of the impact assessment.

A4. Swift Parrot records and potential and known foraging habitat

Notes:
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Legend

- Referral Area
- 5km Referral Area Buffer
- 20km Referral Area Buffer
- Swift Parrot records within 20km of referral area (ALA, 2025) [43]
- Potential and known Swift Parrot habitat within 20km of referral area [34.1%]

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 1 2 3 4 5 km

Transverse Mercator | GDA 1994 | Zone 56 | 1:185,000 @ A3

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A4 Swift Parrot Records Habitat E

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A5. Surrounding Conservation Areas

Notes:
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Legend

- Referral Area

Protected areas, nature refuges and heritage areas

- White Rock Conservation Park
- Greenbank Military Training Area
- Flinders-Karawatha Bioregional Corridor

Ipswich LGA Conservation Areas

- White Rock-Spring Mountain Conservation Estate

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 200 400 600 800 1,000 m

Transverse Mercator | GDA 1994 | Zone 56 | 1:45,000 @ A3

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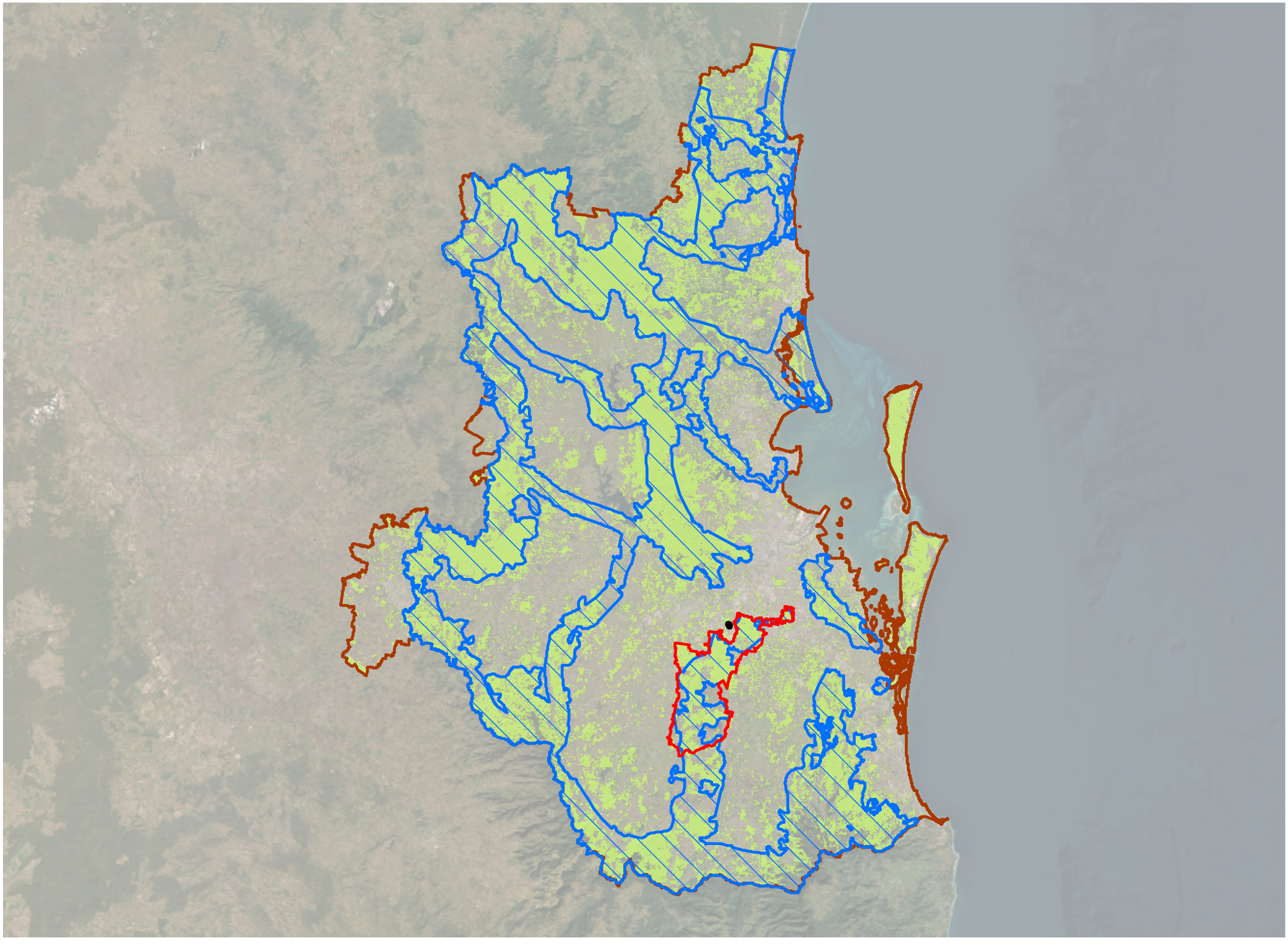
Address / RPD: 51/SP242316

29/10/2025 | 7399 E A5 Surrounding Conservation E

A6. Swift Parrot Foraging Habitat SEQ



Notes:
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Legend

- Referral Area
- SEQ Boundary
- SEQ Regional Plan Biodiversity Corridor
- Flinders-Karawatha Bioregional Corridor
- Swift Parrot Foraging Habitat

Issue	Date	Description	Drawn	Checked
E	29/10/2025	Preliminary	TF	AW

0 10 20 30 km

Transverse Mercator | GDA 1994 | Zone 56 | 1:1,100,000 @ A3

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Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A6 Swift Parrot SEQ E

3.3.2 Regent Honeyeater (*Anthochaera phrygia*)

a. *Information on the abundance, distribution, ecology and habitat preference of the species or communities.*

Distribution

The Regent Honeyeater is endemic to mainland south-eastern Australia. It has a patchy distribution which extends from South East Queensland, through NSW and the ACT, to central Victoria. Records are widely distributed across its range; however, it is only found regularly at a few localities in NSW and Victoria where most of the sightings have been recorded. There are four known key breeding areas: three in NSW and one in Victoria.

The species range and numbers have contracted greatly since about the 1940s. It previously ranged from near Rockhampton in Queensland to Wilmington in South Australia. It was last recorded in South Australia in 1977 and is now probably extinct in that state. There were reports of 'immense' numbers and 'very large flocks' in the early 20th century, and now flocks of more than 30 birds are uncommon.

Habitat and Ecology

The species mostly inhabits inland slopes of the Great Dividing Range, in areas of low to moderate relief with moist, fertile soils. It is most commonly associated with box-ironbark eucalypt woodland and dry sclerophyll forest, but also inhabits riparian vegetation such as she-oak (*Casuarina* sp.) where it feeds on needle-leaved mistletoe and sometimes breeds. It sometimes utilises lowland coastal forest, which may act as a refuge when its usual habitat is affected by drought. It also uses a range of other habitats including remnant patches in farmland and urban areas, roadside reserves and travelling stock routes.

The Regent Honeyeater's diet primarily consists of nectar, but also includes invertebrates (mostly insects) and their exudates (e.g. lerps and honeydew), and occasionally fruit. Its time spent foraging for nectar ranges from 10% to 90% depending on availability. It obtains nectar chiefly from eucalypts and mistletoe and appears reliant on select species which provide reliable nectar flows. It prefers taller and larger diameter trees for foraging, as these typically produce more nectar. Key tree species for the Regent Honeyeater include *Eucalyptus sideroxylon, Eucalyptus melliodora, Eucalyptus albens, Eucalyptus leucoxylon, Corymbia maculata/citriodora, Eucalyptus robusta.* Mistletoe species important for foraging include *Amyema cambagei*, *A. miquelii* and *Dendropthoe vitellina* (DoE, 2016).

The species' movement patterns are thought to be governed by the flowering of select eucalypt species. It is nomadic and partly migratory, with some predictable seasonal movements observed. The species is highly mobile and capable of travelling large distances; however, the regularity and extent of long-distance movements are unknown. Aggregations historically occurred at nectar sources, mostly during autumn and winter, but these events are now rare. The species roosts communally in small groups or large flocks, in trees with dense foliage. Foraging trees are rarely used as roosting sites.

b. *Quantification of the extent of habitat and (if known) the number of individuals present, or historical patterns of use on, and surrounding, the development footprint (including maps identifying known or potential habitat.*

Regent Honeyeater habitat within SEQ is limited to foraging resources as their occurrence on the Australian mainland, and therefore in SEQ, is dictated by seasonal dispersal patterns to support the foraging part of their life cycle which only occurs during winter months.

The Regent Honeyeater was recorded in 2019 approximately 3.5 km to the south of the site in the Springfield Lakes area. The presence of a local record suggests potential for Regent Honeyeater to occur sporadically within the region. Refer to **Plan A7** for the location of records and potential habitat surrounding the referral area.

In terms of foraging tree species, the Regent Honeyeater relies on winter flowering eucalypt trees for foraging within its foraging range. A total of thirteen (13) eucalypt species have been observed on-site which includes four (4) winter flowering species. Key foraging species observed within the referral area include *Corymbia citriodora* (Spotted Gum), *Eucalyptus tereticornis* (Forest Red Gum) and *E. fibrosa* (Broad-leaved Ironbark) with *E. crebra* (Narrow-leaved Ironbark). Only one (1) preferred foraging species listed under the National Recovery Plan for the Regent Honeyeater (DoE, 2016) is present within the referral area being *C. citriodora*/*C. maculata*. *Eucalyptus fibrosa* is also identified as a regionally important winter flowering species due to its ability to provide important nectar flows (DoE 2016). As the site contains species with flowering phenologies that are required by the Regent Honeyeater to meet foraging requirements in Queensland, it is considered potential habitat for the species.

c. *Assessment of quality and importance of known potential habitat for the species or communities within the proposed action-site and surrounding areas.*

The potential for Regent Honeyeater to occur in South East Queensland and the broader locality is likely which is supported by the presence of records in the locality within the past five years and the habitat destruction that resulted from the 2019 / 2020 bushfires in the southern portion of the foraging range which may lead to a potential shift in foraging patterns. The potential for Regent Honeyeater occurrence in the locality is acknowledged, however, the relative importance of the vegetation within the referral area to support the species is considered reduced based on the abundance of foraging resources in the locality that are protected compared to the quality and abundance of preferred foraging resources within the referral area, examined further below.

The quality and importance of foraging habitat has been considered based on landscape and contextual factors and on an assessment of *in situ* values within the referral area.

<u>Context factors</u>

Potential foraging habitat is considered abundant within the landscape and SEQ generally. Within a 5 km and 20 km radius surrounding the referral area, foraging resources are abundant and are predominantly located within contiguous habitat areas located within the Flinders-Karawatha Bioregional Corridor that includes White Rock Conservation Park and the Greenbank Military Training Area (refer **Plan A7**).

Mapped Regent Honeyeater foraging habitat within SEQ is shown on **Plan A8** identifying a large volume of potential habitat across the region connected via regional corridors, indicating availability of foraging resources is unlikely to be a limiting factor for the species within SEQ.

On-site factors

While the site contains potential foraging habitat, it is not considered important for the Regent Honeyeater, in the context of higher quality and protected foraging habitat available in the landscape and potential for high incidence of competition from other species. The Regent Honeyeater prefers the wettest, most fertile sites within box-ironbark associations such as along creek flats, broad river valleys and foothills of which the site is lacking. The Greenbank Military Base is located approximately 2 km east of the site and White Rock Conservation Park located within the Flinders-Karawatha Corridor is located approximately 3.5 km south of the site and are considered higher quality foraging habitats which are likely to be preferred over the vegetation on-site.

It is noted that the Regent Honeyeater prefers larger diameter foraging trees as they are more productive nectar sources. The site is highly lacking these large, old growth trees due to historical land management practices. Analysis of the Habitat Quality transect data indicates that the average number of trees per ha equal to or greater than the large tree benchmark for RE12.9-10.2 is four (4). The benchmark of large trees per hectare for the 'remnant' vegetation communities (RE12.9-10.2) as per the Queensland Herbarium BioCondition Benchmark (v3.6) guideline is 38. As such, the vegetation community within the project area meets approximately 10% of the large tree benchmark for RE12.9-10.2.

The placement of the site within an urban location also increases the prevalence of aggressive nectarivorous honeyeaters such as the *Manorina melanocephala* (Noisy Miner) and *Philemon corniculatus* (Noisy Friarbird) which were confirmed on-site and are demonstrated to outcompete Regent Honeyeaters.

Given the mobility of the species and abundance of preferential foraging habitat within close proximity of the site (Greenbank Military Base and White Rock Conservation Park located within the Flinders-Karawatha Corridor), potential foraging habitat on-site is not considered of a significant or high quality.

d. Information detailing known populations or recorded within at least five kilometres of the development footprint and (if known) the size of these populations.

The Regent Honeyeater was recorded in 2019 approximately 3.5 km south of the site in the Springfield Lakes area (refer **Plan A7**). The presence of a local record suggests potential for Regent Honeyeater to occur sporadically within the region, however, no populations are known to occur within 5 km of the development footprint.

e. Information on the survey methodology used, including a map/s of survey points or transects, how the survey points or transects were selected, when surveys were conducted (e.g. dates, time of day, season, etc) and search effort (e.g. 20 hours over 8 days).

Noting the cryptic nature of detection for the Regent Honeyeater and relatively narrow survey window (winter), surveys to detect the presence of Regent Honeyeater were not completed, with surveys instead focussing on describing and quantifying the availability of potential foraging habitat within the referral area.

Survey plots to measure the availability of preferred foraging habitat for the Regent Honeyeater was completed in March 2020. Refer to **Section 4.8.1** for details of the survey methodology.

Preferred foraging habitat include species identified as preferred foraging species under the National Recovery Plan for the Regent Honeyeater (DoE, 2016).

a. *An assessment of the adequacy of any surveys undertaken (including survey effort and timing). In particular, the extent to which these surveys were appropriate for the species and undertaken in accordance with the relevant survey guidelines.*

It is considered the assessment of foraging habitat values is appropriate for the species as a way of informing the potential for the species to occur and assessment of critical habitat.

The use of a plot or transect is a widely used method for collecting vegetation composition data in a variety of environments and often uses stem counts as an index of habitat quality.

Stem density data of preferred foraging species at each MHQA transect was collected in accordance with the stem count methodology provided in the *Methodology for surveying and mapping regional ecosystems and vegetation communities in Queensland* (version 5.0) (Neldner et al. 2019). The methodology detailed in Neldner et al. (2019) uses a plot area of 50 X 10 m. For the purposes of this assessment, the area was modified to 100 X 20 m to align with the MHQA plot, however, the actual count assessment method remains the same.

Further details and justification of the methodology is provided in **Section 4.8.1**.

b. *Results of any surveys undertaken.*

Refer to **Section 4.8** for details of the impact assessment.

A7. Regent Honeyeater records and potential and known foraging habitat

Notes:
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Legend

- Referral Area
- 5km Referral Area Buffer
- 20km Referral Area Buffer
- Regent Honeyeater records within 20km of referral area (ALA, 2025) [192]
  Note: Records are generalised on a grid system for protection of the species.
- Potential and known Regent Honeyeater habitat within 20km of referral area [34.1%]

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	30/10/2025	Amendments	TF	AW

0 1 2 3 4 5 km

Transverse Mercator | GDA 1994 | Zone 56 | 1:185,000 @ A3

Address / RPD: 163/SP291400

30/10/2025 | 7399 E A7 Regent Honeyeater Records Habitat E

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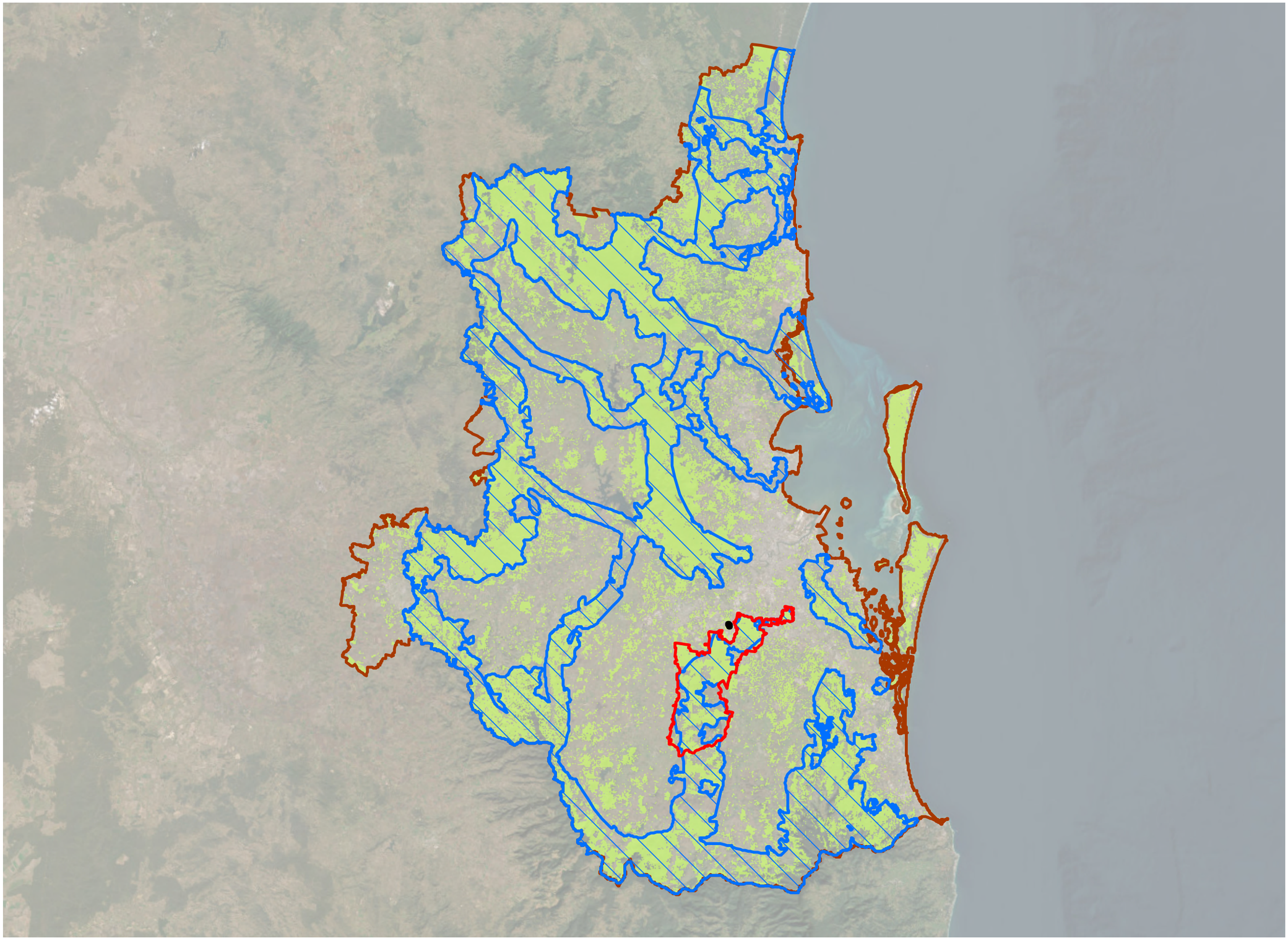
Peninsula Precinct

A8. Regent Honeyeater Foraging Habitat SEQ



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Legend

- Referral Area
- SEQ Boundary
- SEQ Regional Plan Biodiversity Corridor
- Flinders-Karawatha Bioregional Corridor
- Regent Honeyeater Foraging Habitat

Issue	Date	Description	Drawn	Checked
E	30/10/2025	Preliminary	TF	AW

0 10 20 30 km

Transverse Mercator | GDA 1994 | Zone 56 | 1:1,100,000 @ A3

saunders havill group

SPRINGFIELD CITY GROUP

Scenic Precinct

Address / RPD: 51/SP242316

30/10/2025 | 7399 E A8 Regent Honeyeater SEQ E

3.3.3 White-throated Needletail (*Hirundapus caudacutus*)

a. Information on the abundance, distribution, ecology and habitat preference of the species or communities.

Distribution

White-throated Needletails often occur in large numbers over eastern and northern Australia.

Habitat and Ecology

This species is a non-breeding migrant to Australia, arriving from their breeding grounds in the northern hemisphere in October each year and leaving between May and August.

White-throated Needletails are aerial birds and because of this, it has been stated that conventional habitat descriptions are inapplicable, but there are, nevertheless, certain preferences exhibited by the species. Although they occur over most types of habitat; they are probably recorded most often above wooded areas, including open forest and rainforest, and may also fly between trees or in clearings, below the canopy. They also commonly occur over heathland, but less often over treeless areas, such as grassland or swamps.

White-throated Needletails almost always forage aerially, primarily on insects, at heights up to 'cloud level', above a wide variety of habitats ranging from heavily treed forests to open habitats, such as farmland, heathland or mudflats. White-throated Needletails are known to roost in woodland and forest habitat, amongst canopy or in hollows. The species breeds in the northern hemisphere in wooded lowlands and sparsely vegetated hills, as well as mountains covered with coniferous forests.

b. Quantification of the extent of habitat and (if known) the number of individuals present, or historical patterns of use on, and surrounding, the development footprint (including maps identifying known or potential habitat.

The ALA spatial portal shows several records within the broader landscape, with the closest being approximately 1.9 km south-east within the Springfield Lakes area, recorded in 2018 (refer **Plan A9**). Historical records include one record published in 1990 located approximately 2.3 km north-west of the site, another in 1990 is located directly south of the site within the Peninsula Precinct (EPBC 2020/8629) and one approximately 3.5 km south of the site within the suburb of Spring Mountain when the landscape was historically much more vegetated.

Approximately 24.20 ha of vegetation containing potential habitat for the White-throated Needletail is located on-site. In the broader landscape, higher quality and vast areas of habitat are present within the Greenbank Military Base located 2 km east of the site and White Rock Conservation Park located within the Flinders-Karawatha Corridor approximately 3.5 km south of the site.

Refer to **Plan A9** for known and suitable White-throated Needletail habitat within a 20 km radius of the site, including the location of protected areas and corridors.

c. Assessment of quality and importance of known potential habitat for the species or communities within the proposed action-site and surrounding areas.

The site contains vegetation that is potential foraging and roosting habitat for the White-throated Needletail, however, given the extent of potential habitat in the broader landscape associated with the large areas of nearby protected land including the Greenbank Military Base located approximately 2 km east of the site and White Rock Conservation Park located within the Flinders-Karawatha Corridor approximately 3.5 km south of the site, the small area of habitat on-site is not considered to comprise important habitat for the species.

d. Information detailing known populations or recorded within at least five kilometres of the development footprint and (if known) the size of these populations.

Detailed analysis of public database records show several records White-throated Needletail within 5 km of the project area within the past 20 years (refer **Plan A9**). This is consistent with a broad landscape use across potential habitat.

e. Information on the survey methodology used, including a map/s of survey points or transects, how the survey points or transects were selected, when surveys were conducted (e.g. dates, time of day, season, etc) and search effort (e.g. 20 hours over 8 days).

A total of five (5) dawn bird surveys over five (5) days were completed in January 2021 (summer) which were completed between 08:00 and 11:00 hrs (24 hr time) (refer **Plan A10**). Surveys included carefully watching the airspace above the site from a vantage point adjacent to the site and also by walking through the vegetation on-site. Further, two (2) dusk surveys were completed in September 2023 (spring) for a period of two (2) hours each from 16:00 to 18:00 hrs. Total survey effort was approximately 20 hours. A summary of these survey dates is provided in **Table A7**. A full summary of bird survey methodology is provided in **3.4.3.1**.

Table A7: White-throated Needletail targeted survey dates

Survey date	Survey type	Survey effort
6 January 2021	Dawn bird survey Targeted threatened bird surveys – Dawn	3 hrs
7 January 2021	Dawn bird survey Targeted threatened bird surveys – Dawn	3 hrs
8 January 2021	Dawn bird survey Targeted threatened bird surveys – Dawn	3 hrs
11 January 2021	Dawn bird survey Targeted threatened bird surveys – Dawn	3 hrs
12 January 2021	Dawn bird survey Targeted threatened bird surveys – Dawn	3 hrs
11 September 2023	Targeted threatened bird surveys – Dusk	2 hrs
20 September 2023	Targeted threatened bird surveys – Dusk	2 hrs
Total		**19 hrs**

f. An assessment of the adequacy of any surveys undertaken (including survey effort and timing). In particular, the extent to which these surveys were appropriate for the species and undertaken in accordance with the relevant survey guidelines.

Surveys for were in accordance with the requirements listed on the SPRAT profile which states that surveys must be conducted between October and April in eastern Australia. However, survey methodologies for the species are vague. The completed survey effort is considered adequate to assess detection of White-throated Needletail.

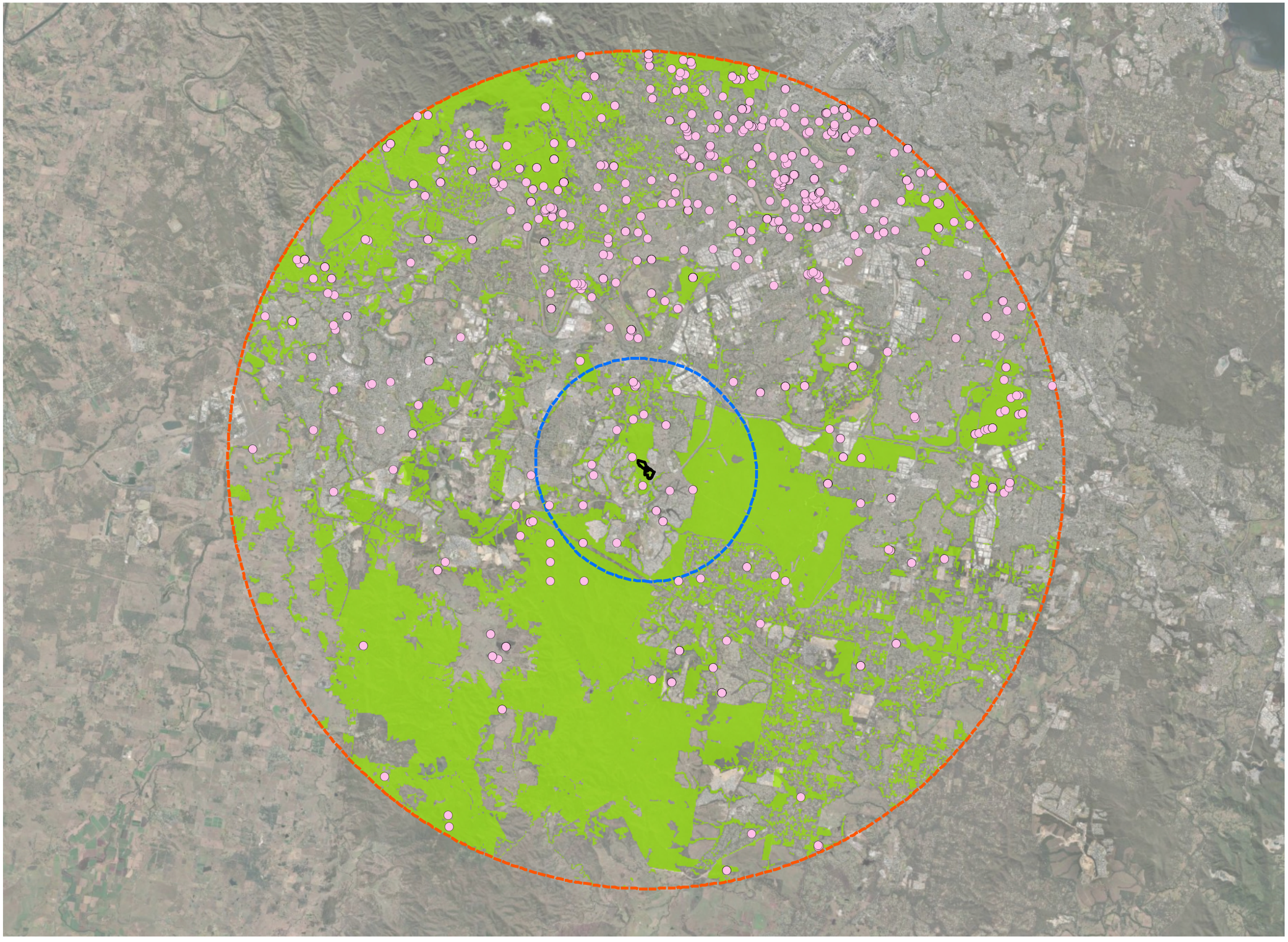
According to the SPRAT profile, the White-throated Needletail has not been well surveyed throughout Australia as it is difficult to conduct systematic surveys due to its mobility and ability to cover huge distances in a day. In the past there have been attempts to survey the species by soliciting and collating sightings from scattered observers at disparate sites throughout the species' range in Australia between 1951 and 1967, and though they were organised, these cannot be considered to have been systematic. It is unlikely that further survey efforts would be able to provide more information regarding the species' location on and around the site.

g. Results of any surveys undertaken.

During the targeted surveys, a flock of swifts of approximately 15 individuals was observed flying over the site on 8 January 2021. Due to the high altitude of the flock in the airspace and highly mobile nature, it was difficult to confirm an identification of the species at the time of survey. It was noted that the birds were quite large and had a square-shape tail which is a characteristic feature of the White-throated Needletail. The species is quite distinct, as it is larger than other swifts that occur in Australia, such as the Fork-tailed Swift, and its blunt tail instantly distinguishes it from that species.

Based on the similarity of the observed features to that of the White-throated Needletail, there is a high likelihood that the observed specimens were White-throated Needletails. Notably, the flock was not observed during the survey to be utilising the vegetation on-site for roosting, with activity restricted to the airspace above the site.

A9. White-throated Needletail records and potential and known foraging habitat



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Legend

- Referral Area
- 5km Referral Area Buffer
- 20km Referral Area Buffer
- White-throated Needletail records within 20km of referral area (ALA, 2025) [43]
- Potential and known White-throated Needletail habitat within 20km of referral area [34.1%]

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	30/10/2025	Amendments	TF	AW

0 1 2 3 4 5 km

Transverse Mercator | GDA 1994 | Zone 56 | 1:185,000 @ A3

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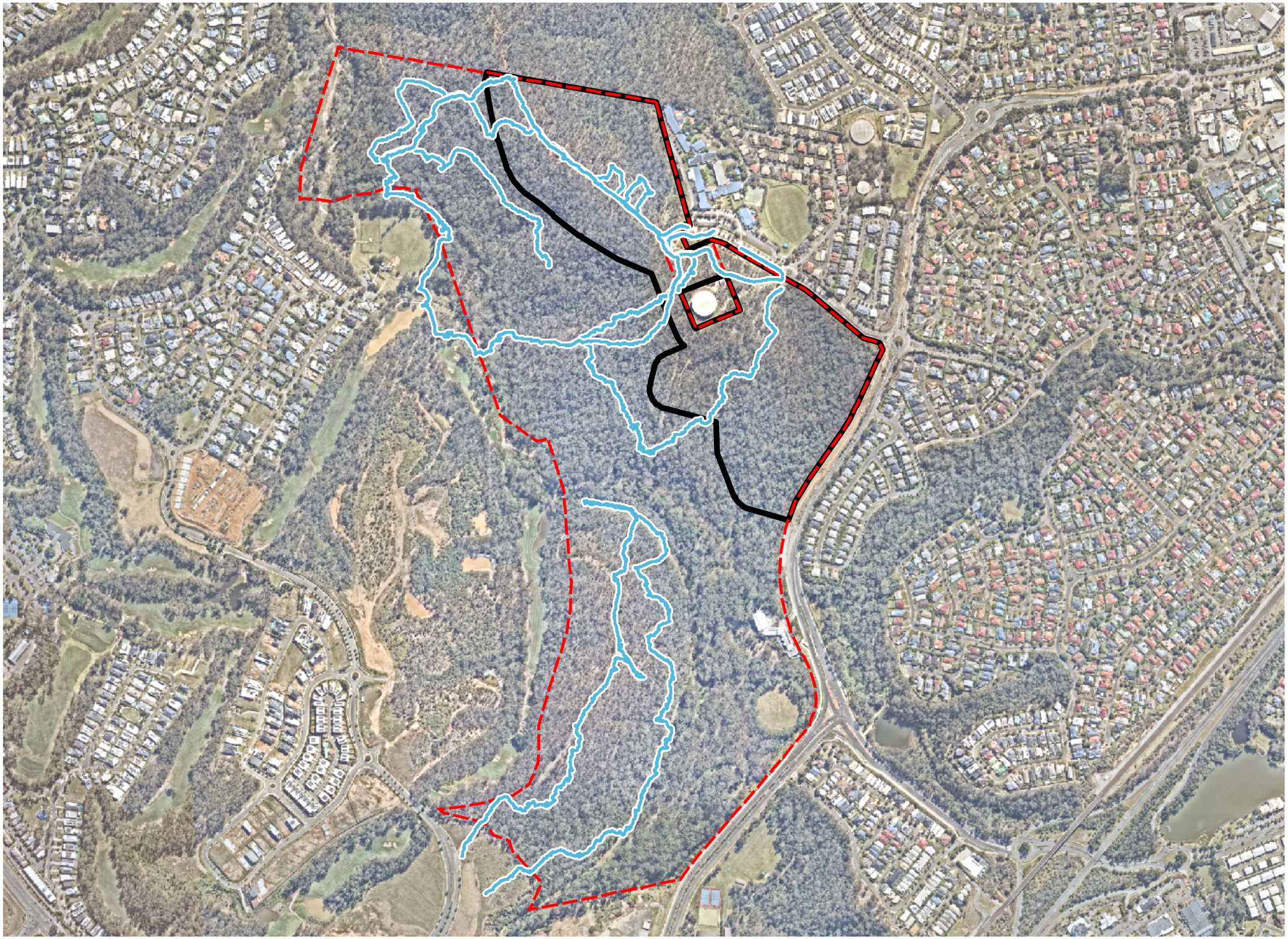
Scenic Precinct

Address / RPD: 51/SP242316

30/10/2025 | 7399 E A9 White-throated Needletail Records Habitat E

A10. White-throated Needletail Surveys



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Legend

- Referral Area
- SHG Survey Effort Extent
- Bird Surveys – January 2021 (Summer)

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	30/10/2025	Amendments	TF	AW

0 50 100 150 200 m

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

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SPRINGFIELD CITY GROUP

Scenic Precinct

Address / RPD: 51/SP242316

30/10/2025 | 7399 E A10 White-throated Needletail Surveys E

3.3.4 Koala (Phascolarctos cinereus)

a. Information on the abundance, distribution, ecology and habitat preference of the species or communities.

Distribution

The EPBC Act listed Koala is found from north east Queensland to the southern New South Wales state border. As a consequence of translocations, the Koala are found outside their historic range, for example, Kangaroo Island. The distribution of Koala is influenced by altitude, temperature and leaf moisture. The density of the Koala population in coastal regions is generally greater than inland areas.

Habitat and Ecology

In South East Queensland, a recent study completed by Rhodes et al. (2015) indicates that the average Koala density across the region is estimated to be 0.04 Koalas/ha. The majority of the region is predicted to have low population densities, suggesting that Koalas in South East Queensland may be relatively widely distributed, but of low density in most areas (Rhodes et al. 2015). Rhodes et al. (2015) found a negative relationship between temperature and Koala densities, which is associated with low Koala densities in Ipswich and west Logan, where temperatures are relatively high. The Rhodes et al. (2015) data indicates that the average Koala density in the Logan LGA from 1996 to 2015 is 0.12 Koalas/ha. Utilising this data and extrapolating the more recent figures, the Koala density in the Logan LGA from 2008 until 2015 is 0.04 Koalas/ha, while from 1996 to 2008, the Koala density was 0.26 Koalas/ha. The Rhodes et al. (2015) survey also indicates that the Koala density in Ipswich is approximately 0.033 Koalas/ha based on surveys completed in 2011 and 2012.

Home ranges are also known to vary considerably due to a variety of factors including location (e.g. home ranges in habitats of lower productivity being larger than those within higher quality habitats) and availability of preferred forage trees, though typically, males have larger home ranges on average than females. In South East Queensland, Koala Coast home ranges were found to vary between 2-20 ha (Thompson 2006), whilst in rural South East Queensland, home ranges varied between 5.3-91.4 ha (White 1999). Koalas successfully use highly fragmented habitats that have only small remnants of the original vegetation (White 1999; QEPA 2006a and references cited therein). They also use young forest and highly modified vegetation such as grazed, disturbed or thinned forest and regrowth areas, moving significant distances across the ground between preferred trees (e.g. White 1999). Research has also found they prefer larger trees (QEPA 2006a and references cited therein).

While Koalas choose their habitat based on the suitability of food trees, the reasons for choosing these trees are not well understood. Soil fertility is thought to strongly influence the acceptability, palatability and nutritional content of selected browse species, whilst chemical composition is also suspected as a major factor determining the acceptance of selected foliage (Cork & Sanson 1990, Cork & Braithwaite 1996; Moore & Foley 2000; Moore et al. 2005). Collectively, the suite of tree species considered to be of primary and/or secondary importance to Koalas within South East Queensland include the following (after: Pahl 1993; QEPA 2002 & 2006a; & EHP 2012): *Eucalyptus acmenoides, E. carnea, E. crebra, E. exserta, E. fibrosa, E. grandis, E. major, E. moluccana, E. populnea, E. propinqua, E. racemosa, E. resinifera, E. robusta, E. seeana, E. siderophloia, E. signata, E. tereticornis, E. tindaliae, E. microcorys, E. umbra, Corymbia citriodora, C. intermedia, Lophostemon confertus*, and *Melaleuca quinquenervia*.

Current data indicate that Koalas in the South East Queensland (though also the Brigalow Belt and Mulga Lands bioregions) are subject to substantial declines (Dique et al. 2004; DERM 2009). The so-called Koala Coast has been the subject of long-term monitoring of Koala ecology and population dynamics and the data derived from the area have been widely used as an important reference to assess the overall health of the Koala population of South East Queensland, as well as provided reference points for assessments of Koala elsewhere in the bioregion. On the basis of the results of the former DERM (now DES) 2008 Koala Coast Koala survey, the 2008 population estimate of 2,279 Koalas represented a 51% decline in less than three years and a 64% decline in the decade following the original 1996-1999 estimate of 6246 Koalas (see data cited in Dique et al. 2004 and DERM 2009). This decline in Koala population is supported by the recent Rhodes *et al*. (2015) study which indicates Koala populations have declined across South East Queensland.

Threats

DERM (2009) identified that the largest declines occurred in bushland areas which showed a 59% reduction in Koala numbers compared with a 30% reduction in urban areas. The large reduction of Koalas in otherwise secure bushland was thought to be a flow on effect from excessive habitat loss and mortality in urban areas (DERM 2009). DERM (2009) concluded that the reduction in adequate recruitment to apparently secure bushland habitat areas is likely to be evidence of a dynamic process operating between the urban and bushland Koala populations. DERM (2010) concluded that whilst there was a decline detected between the 2008 and 2010 surveys, the apparent difference was not statistically significant, meaning that there was no clear evidence of a decrease between the two years when margins of error were considered. DERM (2010) also concluded that the long-term downward trend since the 1996-1999 survey was still statistically significant, showing a 68 per cent decline between 1996-1999 and the most recent (2010) survey.

The influence of wild dog predation within the Ipswich City Council Local Government (LGA) is largely unknown as data within the LGA consists predominantly of publicly reported records collated by the Ipswich Koala Protection Society (ICC, 2017). However, dog attacks and vehicle strikes have been identified as primary threats within the LGA by the local government (ICC, 2017). Generally speaking, the main identified threats to the koala are loss and fragmentation of habitat, vehicle strike, disease, and predation by dogs (*Canis lupus familiaris*) (DERM 2009). Studies completed as part of the Moreton Bay Rail project (DTMR, 2016) found that between 2013 and 2016, 113 Koalas had been killed by wild dogs with an additional 38 koala deaths suspected as wild dog predation, 82 Koala deaths caused by illness and nine (9) vehicle strike deaths. While this study was not completed within the Ipswich City Council LGA, it represents one of the few dedicated studies successful in illustrating the significance of the threat of wild dogs on the Koala in urban and peri-urban areas. The findings of this study and threat of wild dogs is corroborated by multiple studies (Beyer et al., 2018; Hanger et al., 2017; Mifsud, 2011).

b. Quantification of the extent of habitat and (if known) the number of individuals present, or historical patterns of use on, and surrounding, the development footprint (including maps identifying known or potential habitat.

The Koala has the potential to occur on-site as the land is dominated by vegetation containing non-juvenile Koala habitat trees. Approximately 24.20 ha of vegetation containing suitable habitat for the Koala is present on-site (refer **Plan A11**).

Vegetation surveys conducted across the site determined the referral area is dominated by species that achieve the definition of 'woodland' and 'forest' as referenced in the Koala Referral Guidelines. Ecological survey of the site shows the project area is predominantly dominated by species of the genus *Corymbia* and *Eucalyptus*. Specifically, these species included *Corymbia citriodora* (Spotted Gum), *Eucalyptus crebra* (Narrow-leaved Ironbark) and *Eucalyptus acmenoides* (White Mahogany). This vegetation was determined to consist of one (1) vegetation community, defined as RE12.9-10.2.

The vegetation within the referral area is also part of a larger patch extending to the north-west and southern adjoining lots; however, these are earmarked for development under (EPBC 2019/8575 and EPBC 2020/8629). The referral area is surrounded by incompatible land uses to the east and north of the site in the form of main roads, a school and residential areas. Opossum Creek adjoins the site to the west which will notably be retained within the landscape, providing ecological connection to the north. It is considered that movement capacity is limited to the north and east of the site due to the presence of main roads (Springfield Parkway), Springfield Anglican College and residential areas.

Areas of ecological significance and preferred Koala habitat are present within the broader locality including Flinders-Karawatha Bioregional Corridor, White Rock Conversation Area, Greenbank Military Training Area and the White Rock-Spring Mountain Conservation Estate (refer **Plan A5**).

The species is known to occur within the Springfield locality and evidence of activity has been confirmed within and adjoining the referral area via ecological assessment and through review of publicly available records on ALA. These records are shown on **Plan A12**.

c. *Assessment of quality and importance of known potential habitat for the species or communities within the proposed action-site and surrounding areas.*

The referral area contains 24.2 ha of vegetation identified as suitable for the Koala (refer **Plan A11**) and is located within a broader patch of vegetation which represents a large pocket of vegetation surrounded by urban development. While the referral area is part of a large remaining pocket of vegetation, connectivity to surrounding contiguous vegetation areas is highly compromised, except via Opossum and Woogaroo Creeks. It is important to recognise that these habitat areas do not link with broader habitat areas where local populations of Koala are more likely to be present such as within White Rock Conservation Park due to the presence of land barriers including Centenary Highway, arterial roads and surrounding residential areas. Recognising the importance of these waterway corridors as means of local connectivity for the Koala, it is noted that SCG propose to rehabilitate an area of 11.9 ha adjoining the referral area which will serve to retain and improve functional connectivity within this area.

d. *Information detailing known populations or recorded within at least five kilometres of the development footprint and (if known) the size of these populations.*

Detailed analysis of public records (ALA) show approximately 200 records of the Koala within a 5 km radius of the project area in the past 20 years (refer **Plan A12**). Some of these records are confirmed within the adjoining Opossum Creek corridor, confirming use as a Koala movement corridor.

Additionally, DETSI Koala hospital records show a large portion of Koala records to the north of the referral area have been for sick / injured or deceased individuals. The data available suggest a koala population is present within the immediate and broader locality, however, due to the urban / residential designation to support a growing population, risk to koala has increased. More specific population information within 5 km or more of the referral area such as relating to the size of the population are not known other than what can be extrapolated via records.

e. *Information on the survey methodology used, including a map/s of survey points or transects, how the survey points or transects were selected, when surveys were conducted (e.g. dates, time of day, season, etc) and search effort (e.g. 20 hours over 8 days).*

Spotlighting and Wildlife Aerial Thermal drone surveys

During September 2023, targeted nocturnal Koala detection surveys were conducted within the refereral area for a period of three (3) nights which included a combination of spotlighting and RPA (remotely piloted aircraft). Surveys were completed generally in accordance with the *Survey Guidelines for Australia's Threatened Mammals.*

Spotlighting surveys were completed on 11, 13 and 20 September 2023. Targeted surveys involved spotlighting on-foot by two (2) SHG ecologists for approximately 15 hours across the entire Scenic Precinct and adjoining areas of the Opossum Creek habitat corridor as per recommended survey guidelines (refer **Plan A13**). During two (2) of the three (3) nights of spotlighting, targeted Wildlife Aerial Thermal surveys were also conducted simultaneously by two (2) SHG mapping personnel. These surveys involved using RPA (remotely piloted aircraft) equipped with a thermal sensor to detect the presence of Koala within the referral area. The methodology and findings of the wildlife aerial thermal surveys are provided at **Attachment A4**.

A summary of survey dates and methods applied by for targeted surveys focusing on direct observation is provided in **Table A8**, below.

Table A8: Summary of targeted Koala surveys

Survey date	Methods applied	Survey effort
16 March 2020	SAT surveys	60 minutes
11 September 2023	Spotlighting	300-person minutes
13 September 2023	Spotlighting, RPA Wildlife Aerial Thermal surveys	60-person minutes
20 September 2023	Spotlighting, RPA Wildlife Aerial Thermal surveys	Two transect lines – 360-person minutes and 180-person minutes

Spot Assessment Technique Method

In accordance with the *EPBC Act Referral Guidelines for the Vulnerable Koala*, the Spot Assessment Technique (SAT) was applied in to search the site for the potential presence of the Koala. The SAT method is an assessment of Koala activity involving a search for any Koalas and signs of Koala usage. The SAT involves

identifying a focal tree where a Koala or scats are found. The next closest habitat tree to the first tree is then assessed and so on until the 30 closest trees to the original focal tree have been recorded. The number of trees showing evidence of Koalas is expressed as a percentage of the total number of trees sampled to indicate the frequency of Koala usage. Assessment of each tree involves a systematic search for Koala scats beneath the tree within a 1 m radius of the trunk. After approximately 2-minutes of searching for scats, the base of the trunk is observed for scratches and the crown for potential Koala presence. A total of three (3) SAT surveys were completed on 16 March 2020.

A Koala scat meander is a method used to identify a Koala habitat focal tree for use in a SAT survey. Each scat meander consists of searching for Koala scats under tree species likely to be utilised by Koalas. A search for Koala scats at the base of the tree is undertaken and where none are found the trunk is observed for scratches and the crown of the tree for potential Koalas present. If no scats, indicators of presence/utilisation or Koalas are observed, another nearby tree is chosen and the search is repeated. The process continues until a scat, indicator or Koala is found or 30-minutes has expired.

Refer to **Plan A13** for location of field surveys targeting Koala.

f. An assessment of the adequacy of any surveys undertaken (including survey effort and timing). In particular, the extent to which these surveys were appropriate for the species and undertaken in accordance with the relevant survey guidelines.

The SAT methodology is considered to be an accurate technique for estimating low-density Koala populations (Mossaz, 2010). Research by Rhodes et al. (2015) found Koala density in South East Queensland council areas (excluding areas inland of Ipswich) to be on average 0.07 Koalas/ha based on data collected from 2005 to 2015. Therefore, the SAT survey methodology is considered to provide an accurate determination on Koala activity levels in South East Queensland.

g. Results of any surveys undertaken.

<u>Spotlighting and RPA surveys</u>

Contemporary field surveys identified two (2) Koalas within the referral area. Over the broader six (6) day survey period which incorporated diurnal habitat assessments, incidental observation and nocturnal spotlighting, a Koala was observed on a total of four (4) occasions (1 during diurnal surveys, 1 by spotlight, 2 by Remotely Piloted Aircraft (RPA)). For the two Koalas observed during spotlighting/RPA surveys it is difficult to discern whether these surveys identified the same or different Koala individuals therefore it is considered that there may be 1-2 Koalas utilising the referral area and surrounding habitat during the time of survey (September 2023) (refer **Plan A13**).

<u>SAT surveys</u>

SAT survey results are interpreted using the broad population categories provided in the Australian Koala Foundation Koala activity level classification table. These categories being 'East Coast (low)', 'East Coast (med-high)' and 'Western (med-high)' are shown in **Table A9** and are used to estimate Koala activity within a given area. Depending on the population category applied, Koala activity is described as 'low', 'moderate', or 'high'. Population categories are assigned as follows:

- Sites considered to be suitable or have high suitability for koalas are assigned the 'East Coast (med-high)' category;
- Sites considered to have low suitability are assigned the 'East Coast (low)' category; and
- The 'Western (med-high)' category does not apply to South East Queensland local government areas.

Table A9: Koala Activity Level Classification (Phillips and Callaghan 2011)

Activity	East Coast (low)	East Coast (med-high)	Western (med-high)
Low	<3.33%	<22.5%	<35.8
Moderate	3.33-12.6%	22.5-32.8%	35.8-46.7
High	>12.6%	>32.8	>46.7

It is considered that the referral area is most accurately described by the East Coast (med-high) population category for multiple reasons. The East Coast (med-high) activity thresholds are applicable in habitats dominated by residual, transferral or alluvial type landscapes considered med-high nutrient soils with good water holding capacity (Steve Phillips, personal communication). The ASRIS maps chromosols across the referral area and suit the landscape description outlined below (refer **Figure A6**). Preferred habitat features are broadly present within the referral area which may indicate a higher expected density of Koalas. This includes the presence of riparian corridors and alluvial (fertile) soils and presence of preferred forage tree *Eucalyptus tereticornis* (Forest Red Gum) and *Eucalyptus propinqua* (Grey Gum), particularly within adjoining watercourses.

Description	Chromosols are texture-contrast soils. Extensive areas of Chromosols are in the Western Downs and the Maranoa districts—west of the Great Dividing Range.

Additionally, the estimated population density for RE12.9-10.2 is approximately 0.2 Koalas per hectare, as indicated in a Koala study completed in the Ipswich LGA (Bussey and Ellis, 2016). Phillips and Callaghan (2011) consider areas of with a density of >0.1 Koalas per hectare to qualify for the East Coast (med-high) category.

Table A10 presents the Koala usage scores for the three (3) SAT surveys completed. The relatively low levels of Koala usage at the site may be a result of major changes in the immediate landscape including the extension main roads and recent high density residential development.

As outlined above, contemporary surveys in September 2023 identified approximately two (2) Koalas within the site and surrounding habitat via RPA surveys (refer **Plan A13** and **Section 3.4.3** for further details).

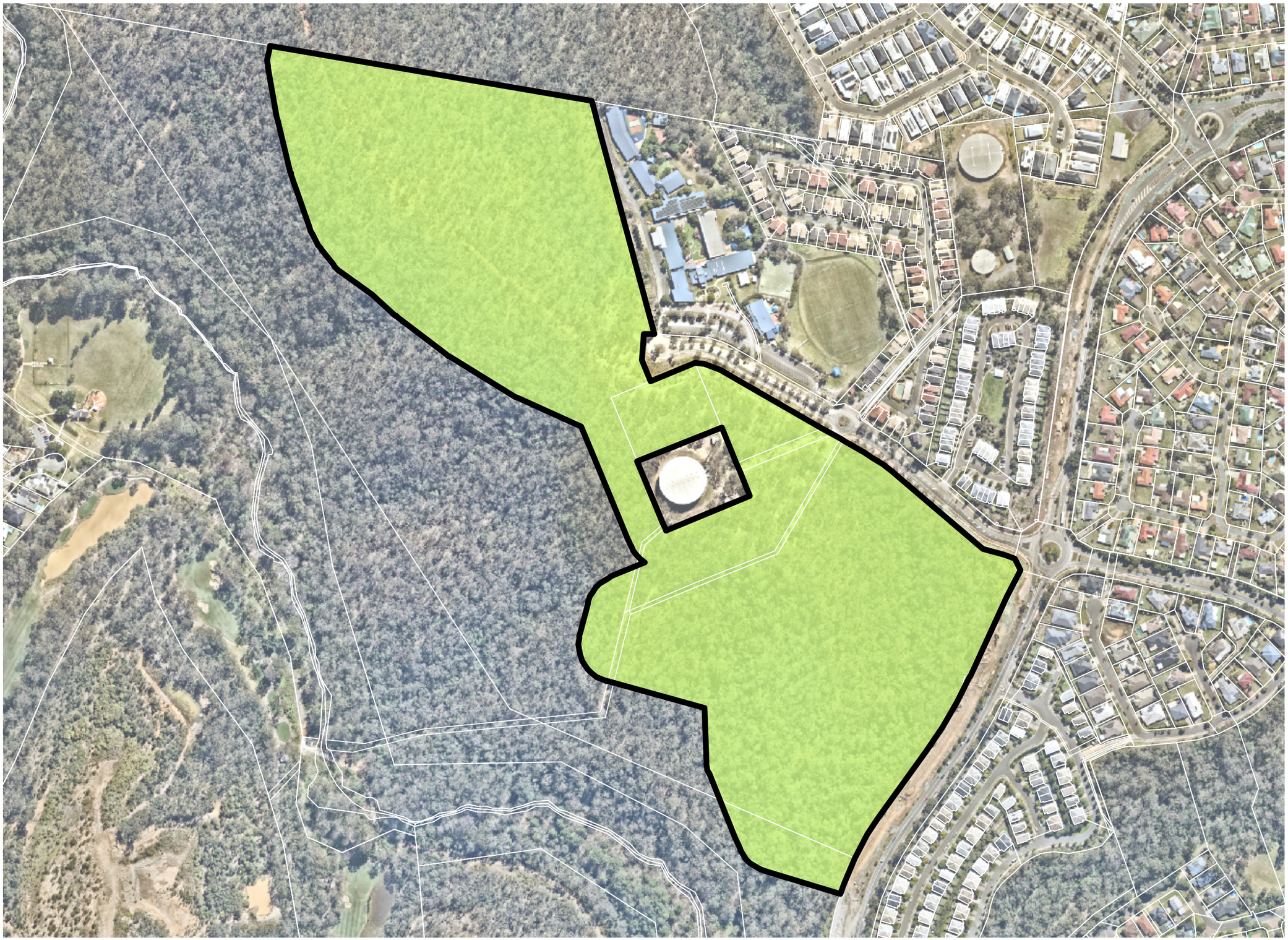
Table A10: Summary of SAT Results

SAT Site Number	Evidence of Koala Use (%)	Koala Use (High/Medium/Low)
1	6.66%	Low
2	0 %	Low
3	6.66 %	Low

Incidental observations

Opportunistic searches for Koalas were also undertaken as part of the field survey effort. No Koalas were observed on the site during initial surveys in 2020; however, one (1) Koala individual was observed west of the site on the edge of Brookwater Golf Course during January bird 2021 surveys. The individual was identified as diseased and was subsequently rescued by the Moggill Koala Rehabilitation Centre for treatment.

A11. Impact Site Critical Koala Habitat



Notes:
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Legend

- Qld DCDB
- Referral Area [24.2 ha]
- Koala Habitat On-site [24.2 ha]

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 25 50 75 100 m

Transverse Mercator | GDA 1994 | Zone 56 | 1:3,962 @ A3

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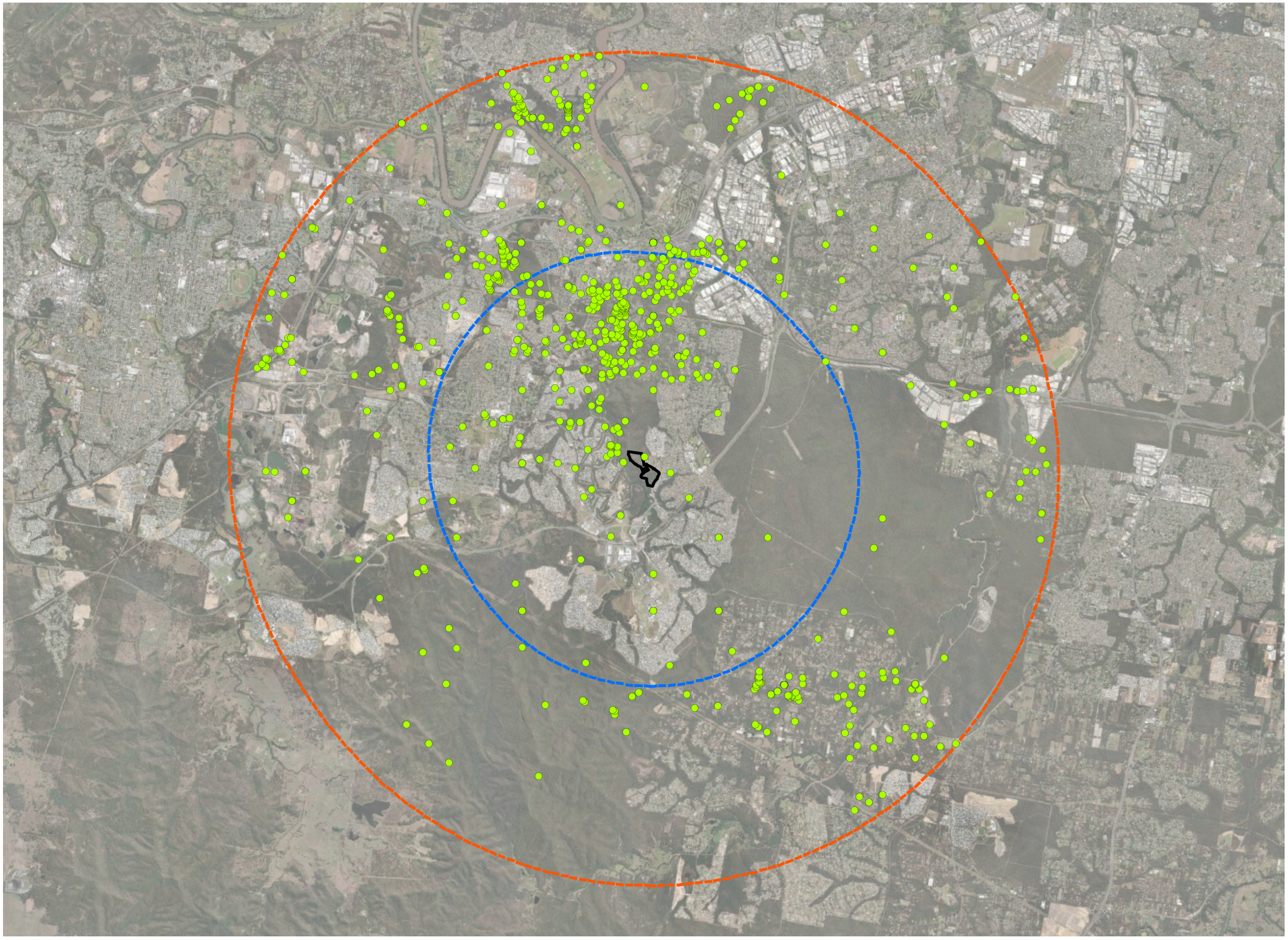
Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A11 Impact Site Critical Koala Habitat E

A12. Koala Records (ALA, 2025)



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Legend

- Referral Area
- 5km Referral Area Buffer
- 10km Referral Area Buffer
- Koala records within 10km of referral area (ALA, 2025) [821]

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 1 2 3 km

Transverse Mercator | GDA 1994 | Zone 56 | 1:95,000 @ A3

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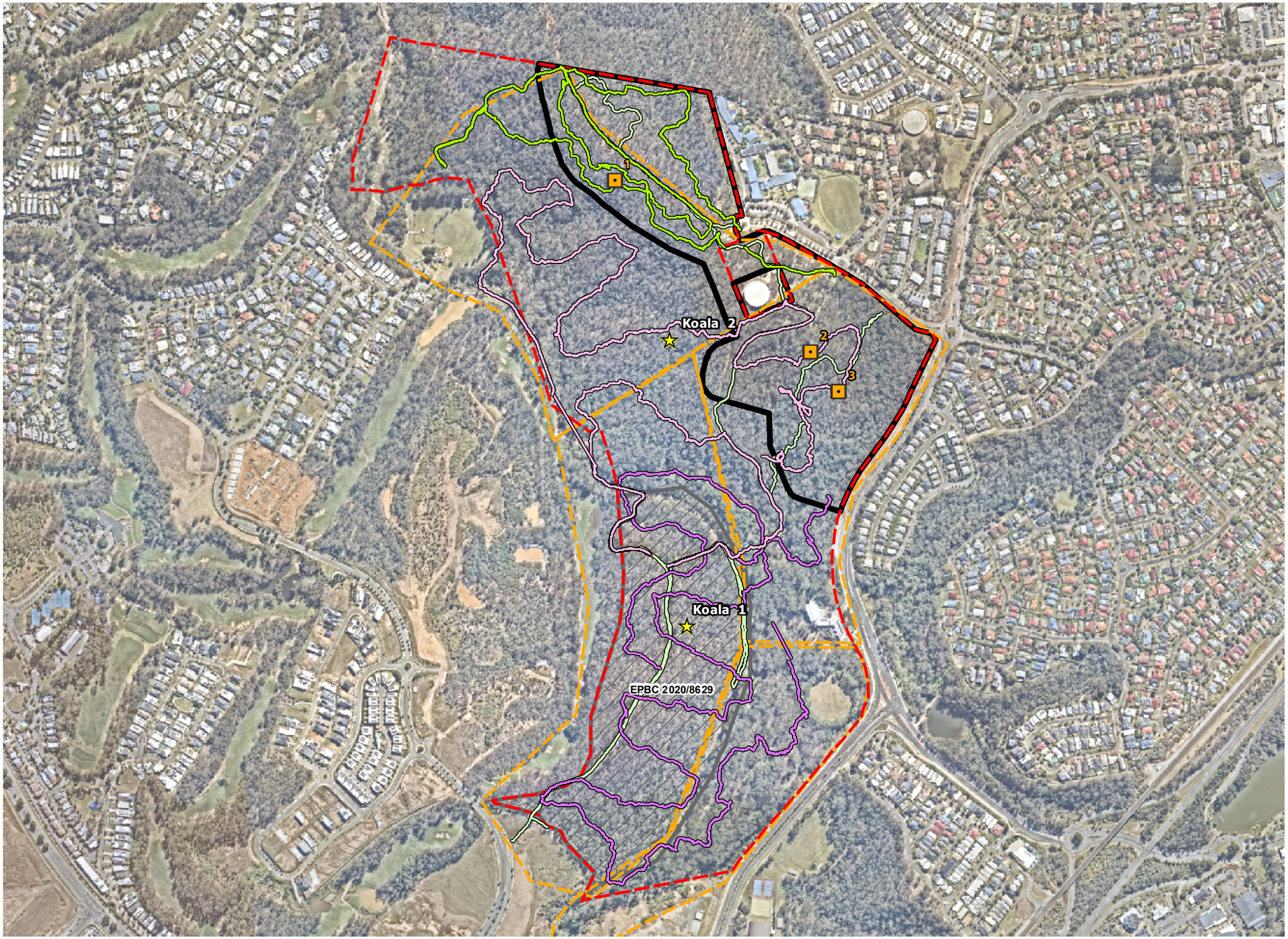
Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A12 Koala Records E

A13. Koala Survey Effort



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Legend

- Referral Area
- SHG Survey Effort Extent
- RPA Survey Effort Extents
- Spotlighting (22/11/2022)
- Spotlighting (11/09/2023)
- Spotlighting (13/09/2023)
- Spotlighting (20/09/2023)
- Koala Observation
- SAT Survey Locations

Issue	Date	Description	Drawn	Checked
E	29/10/2025	Preliminary	TF	AW

0 50 100 150 200 m

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

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Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A13 Koala Survey Effort E

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

a. Information on the abundance, distribution, ecology and habitat preference of the species or communities.

Distribution

The Grey-headed Flying-fox occurs between Rockhampton in Queensland to Melbourne in Victoria. The species will usually selectively forage where food is available and as such, its patterns of occurrence and relative abundance vary between seasons and years. There are no separate or distinct populations due to the constant genetic exchange and movement between camps throughout its geographic range.

Habitat and Ecology

The species requires foraging resources and roosting sites to persist, and is known to use a wide variety of habitats including subtropical and temperate rainforests, tall sclerophyll forest and woodlands, heaths, swamps and also urban and agricultural areas where food trees have been cultivated. The species is highly adaptive with its diverse native diet, which it can supplement with introduced species. It is known to forage within a variety of habitat areas as each resource does not produce food throughout the entire year.

b. Quantification of the extent of habitat and (if known) the number of individuals present, or historical patterns of use on, and surrounding, the development footprint (including maps identifying known or potential habitat.

South East Queensland has a permanent and abundant population of Grey-headed Flying-fox and available habitat is spread throughout the region given the high prevalence of eucalypt vegetation communities and protected areas. An area of 24.20 ha of remnant vegetation containing suitable habitat for the Grey-headed Flying-fox is present on-site (refer **Plan A14**).

The closest Grey-headed Flying-fox camps to the project area are not of national significance exist approximately 3.6 km to the north-east, approximately 6.3 km to the north-west, approximately 8.9 km to the north-west and 12.5 km to the east, and approximately 5.5 km to the east of the project area (Camira, Barbara Street (140), Redbank – Pan Pacific Peace Garden (428), Bundamba, Paice St (574) and Parkinson, Avondale Crescent (419), respectively). One (1) nationally significant Flying-fox camp is located 12.5 km north of the site being Mount Ommaney – Westlake Drive (400) (refer **Plan A15**).

It is noted roost activity can change spatially and temporally and intermittent monitoring data provides an unclear picture of which roosts are currently active. The Interactive Flying-Fox Web Viewer which was intermittently updated with monitoring data from various roost sites was decommissioned on 25 June 2025. The location of the above identified roost sites is unlikely to reflect GHFF activity at all points in time, rather provides a broad area of known occurrence showing roost sites which are currently occupied, previously occupied or may be occupied again in the future.

A search of the ALA spatial portal returned 25 records for the species using a 5 km search radius from the site, and 691 records for the species using a 20 km radius of the site (refer **Plan A16**). The closest of the records to the site are located within the Springfield Lakes area. These records are distributed widely around the site including throughout the suburbs of Camira, Redbank Plains and Springfield Central. Several of

these records were made by the former Queensland Department of Environment and Resource Management, with one of the records cited by Queensland Parks and Wildlife Service.

Notably, during contemporary field surveys in September 2023, several Grey-headed Flying-fox individuals were observed within and surrounding the referral area feeding on flowering eucalypt trees.

c. *Assessment of quality and importance of known potential habitat for the species or communities within the proposed action-site and surrounding areas.*

South East Queensland has a permanent and abundant population of Grey-headed Flying-fox and available habitat is spread throughout the region given the high prevalence of eucalypts. The habitat on-site did not contain any special or unique values. Its removal is unlikely to have a significant impact on the availability of habitat in the landscape, given the vast quantity and availability of eucalypts in the surrounding area associated with the Greenbank Military Base and White Rock Conservation Park located within the Flinders-Karawatha Corridor.

No camps or evidence of foraging was observed within the project area during extensive field surveys; however, food resources and foraging habitat occur within the referral area. Evidence of foraging was observed during contemporary surveys, with several Grey-headed Flying-fox individuals located feeding on flowering Eucalypt trees within the referral area and surrounding habitat.

d. *Information detailing known populations or recorded within at least five kilometres of the development footprint and (if known) the size of these populations.*

A total of 10 known roosting locations present within a 20 km radius of the site which includes:

- Nationally Important Mount Ommaney, Westlake Drive (400)
- Camira, Barbara Street (140)
- Bundamba, Paice Street (574)
- Parkinson, Avondale Crescent (419)
- Goleby Avenue, Queens Park (595)
- Yamanto (479)
- Woodend (191)
- Beryl Roberts Park, Coopers Plains (745)
- Sunnybank, Les Atkinson Park (452)
- Warana Court, Boronia Heights (848)

The closest Grey-headed Flying Fox camps to the project area are not of national significance and exist approximately 3.6 km to the north-east, approximately 6.3 km to the north-west, approximately 8.9 km to the north-west and 12.5 km to the east, and approximately 5.5 km to the east of the project area (Camira, Barbara Street (140), Redbank – Pan Pacific Peace Garden (428), Bundamba, Paice St (574) and Parkinson, Avondale Crescent (419), respectively). Refer to **Plan A15** for active and inactive roost sites.

It is noted roost activity can change spatially and temporally and intermittent monitoring data provides an unclear picture of which roosts are currently active. The Interactive Flying-Fox Web Viewer which was intermittently updated with monitoring data from various roost sites was decommissioned on 25 June 2025.

The location of the above identified roost sites is unlikely to reflect GHFF activity at all points in time, rather provides a broad area of known occurrence showing roost sites which are currently occupied, previously occupied or may be occupied again in the future.

Potential foraging trees are present on the subject site and alternative foraging habitat is freely available in the broader landscape. Primary foraging habitat within the broader landscape is associated with the Greenbank Military Base and White Rock Conservation Park located within the Flinders-Karawatha Corridor.

A search of the ALA spatial portal returned 25 records for the species using a 5 km search radius from the site, and 691 records for the species using a 20 km radius of the site (refer **Plan A16**). The closest of the records to the site are located within the Springfield Lakes area. These records are distributed widely around the site including throughout the suburbs of Camira, Redbank Plains and Springfield Central. Several of these records were made by the former Queensland Department of Environment and Resource Management, with one of the records cited by Queensland Parks and Wildlife Service.

e. Information on the survey methodology used, including a map/s of survey points or transects, how the survey points or transects were selected, when surveys were conducted (e.g. dates, time of day, season, etc) and search effort (e.g. 20 hours over 8 days).

Targeted surveys for detection of Grey-headed Flying-fox were completed during spotlighting and RPA surveys on 11, 13 and 20 September 2023. Spotlighting surveys were conducted over three (3) nights in September 2023 for approximately 15 hours with two observers (refer **Plan A17**). In addition, aerial thermal wildlife surveys were conducted in conjunction with spotlighting using remotely piloted aircraft in order to detect cryptic nocturnal wildlife. Further detail of contemporary field survey effort is outlined in **Section 3.4.3.8**.

f. An assessment of the adequacy of any surveys undertaken (including survey effort and timing). In particular, the extent to which these surveys were appropriate for the species and undertaken in accordance with the relevant survey guidelines.

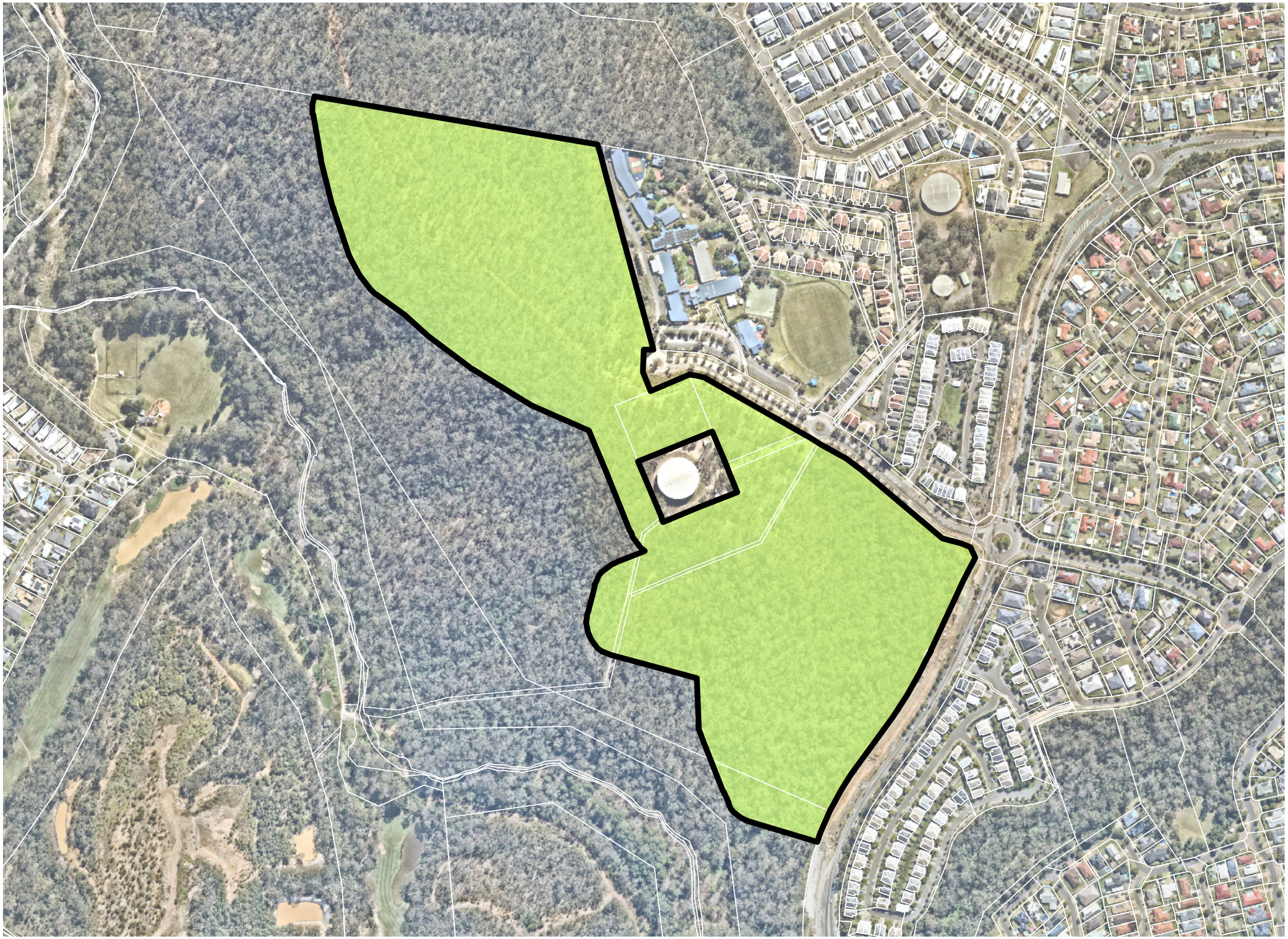
The survey methods were applied in accordance with the accepted methodologies detailed in the *Survey guidelines for Australia's threatened bats* which include diurnal searches for food trees and roosts and nocturnal surveys (spotlighting). The flying fox roost search was conducted during the day within the survey area, watching for flying foxes and listening for their distinctive calls as recommended by guidelines. This search is not only for flying fox camps, but the presence of food plants to assess the potential importance of the survey area to the species. This involved assessing tree canopies whilst completing meanders across the site. The search for flying fox roosts was justified due to the proximity of the site to an active flying fox camp located at Camira, Barbara Street, approximately 1.3 km north-east of the site.

g. Results of any surveys undertaken.

Diurnal surveys did not locate roosting sites in the referral area or within the immediate vicinity of the site.

Evidence of usage of the site by Grey-headed Flying-fox was not detected during initial field surveys in 2020 and 2021. Nocturnal field surveys completed in September 2023 identified Grey-headed Flying-fox individuals feeding on flowering eucalypt trees within the referral area and adjacent creek corridor.

A14. Impact Site Grey-headed Flying-fox Foraging Habitat



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Legend

- Qld DCDB
- Referral Area [24.2 ha]
- Grey-headed Flying-fox Foraging Habitat On-site [24.2 ha]

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 25 50 75 100 m

Transverse Mercator | GDA 1994 | Zone 56 | 1:4,500 @ A3

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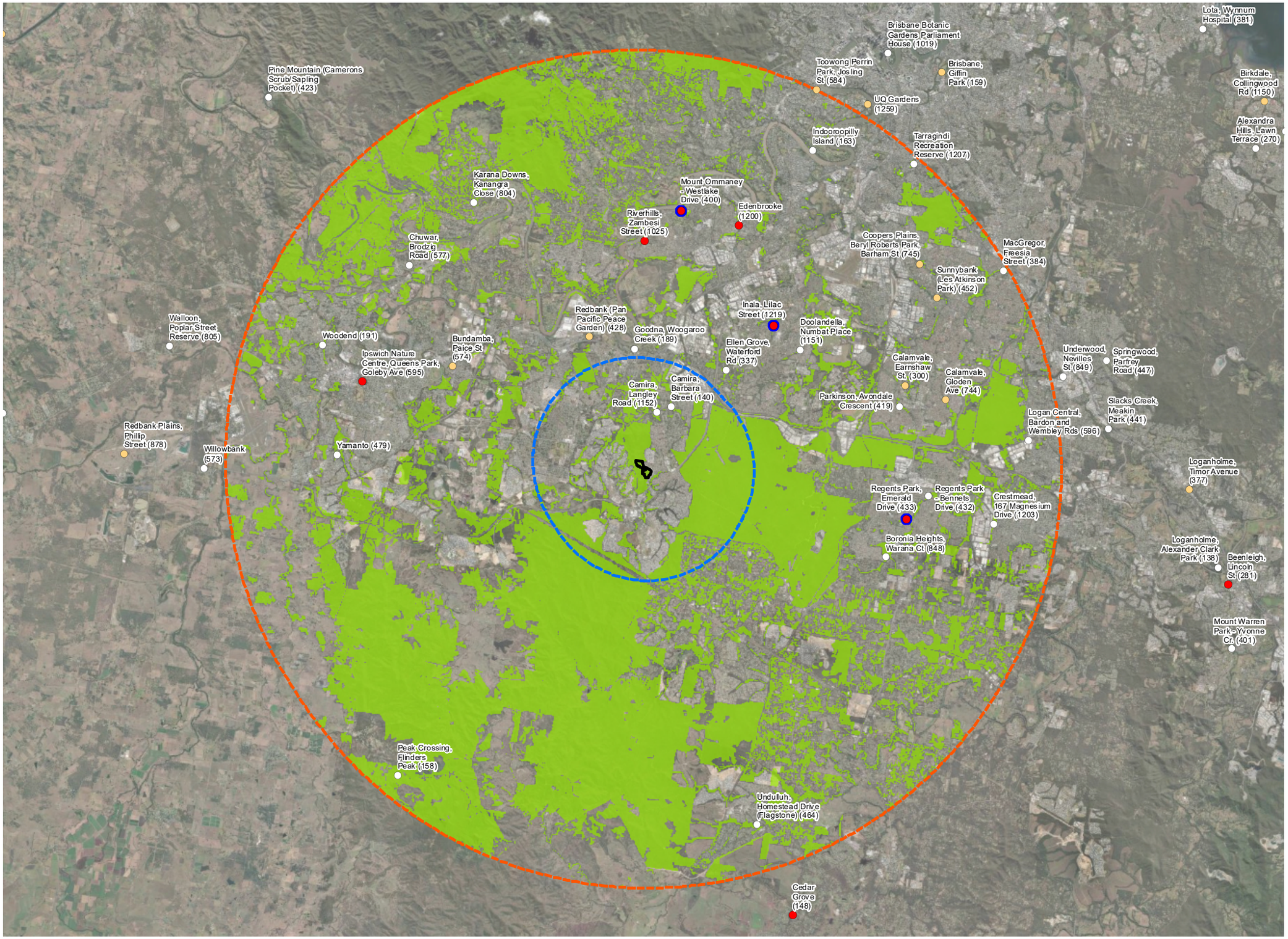
Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A14 Impact Site GHFF Habitat E

A15. Impact Site Grey-headed Flying-fox Context



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Legend

- Referral Area
- 5km Referral Area Buffer
- 20km Referral Area Buffer
- Potential and known Grey-headed Flying-fox foraging habitat within 20km of referral area [34.4%]

Grey-headed Flying-fox Roosts (ALA, 2025)

- Grey-headed Flying-fox roost inactive within recent surveys [19 within 20km of referral area]
- Grey-headed Flying-fox roost active within recent surveys [6 within 20km of referral area]
- Grey-headed Flying-fox roost active within recent surveys with a population level of 3 or above [3 within 20km of referral area]
- Nationally significant Grey-headed Flying-fox roost active within recent surveys [0 within 20km of referral area]
- Nationally significant Grey-headed Flying-fox roost active within recent surveys with a population level of 3 or above [3 within 20km of referral area]

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 1 2 3 4 5 km

Transverse Mercator | GDA 1994 | Zone 56 | 1:185,000 @ A3

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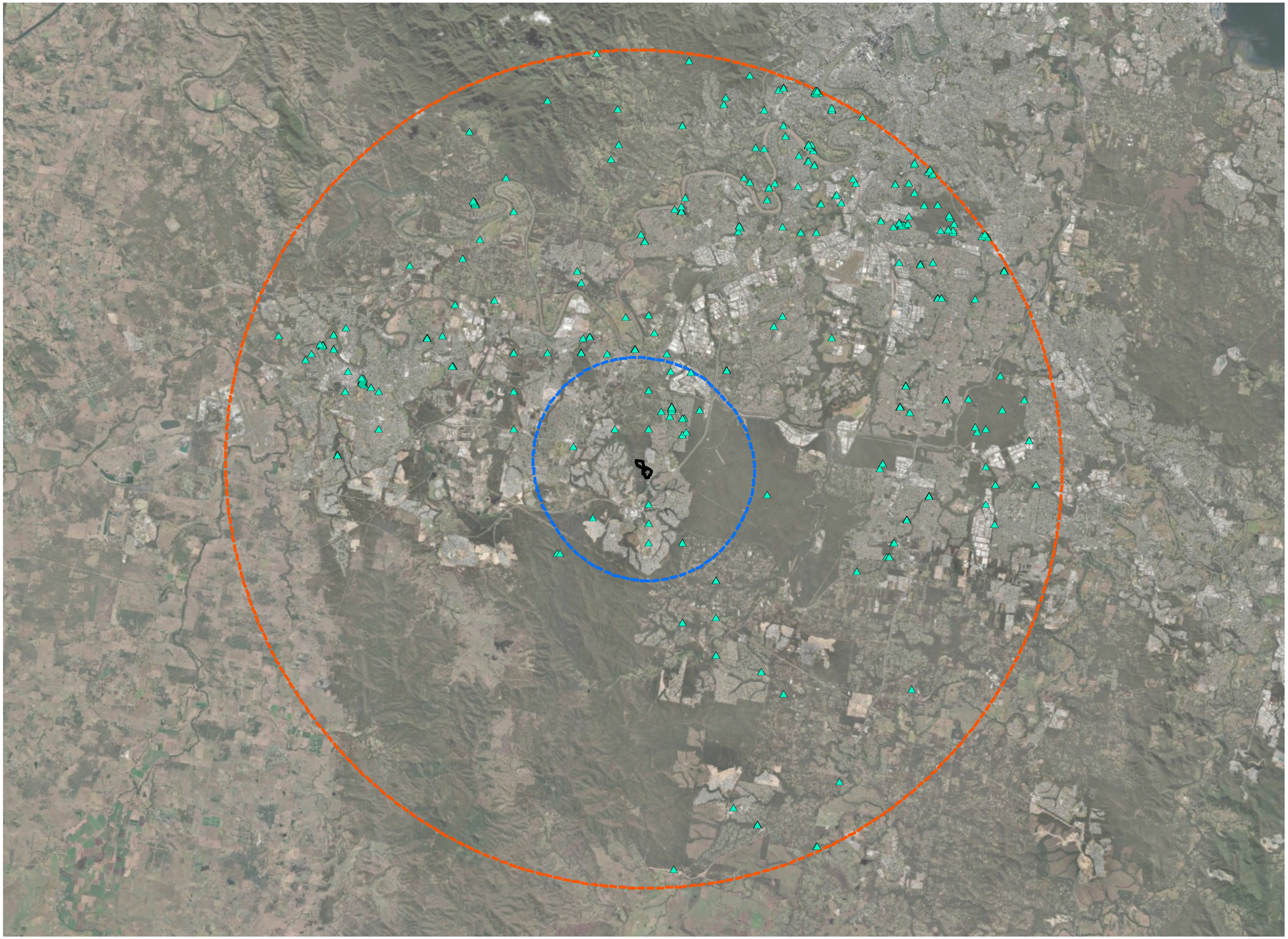
Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A15 Impact Site Grey-headed Flying Fox Context E

A16. Grey-headed Flying-fox Records (ALA, 2025)



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Legend

- Referral Area
- 5km Referral Area Buffer
- 20km Referral Area Buffer
- Grey-headed Flying-fox record within 20km of referral area (ALA, 2025) [761]

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 1 2 3 4 5 km

Transverse Mercator | GDA 1994 | Zone 56 | 1:185,000 @ A3

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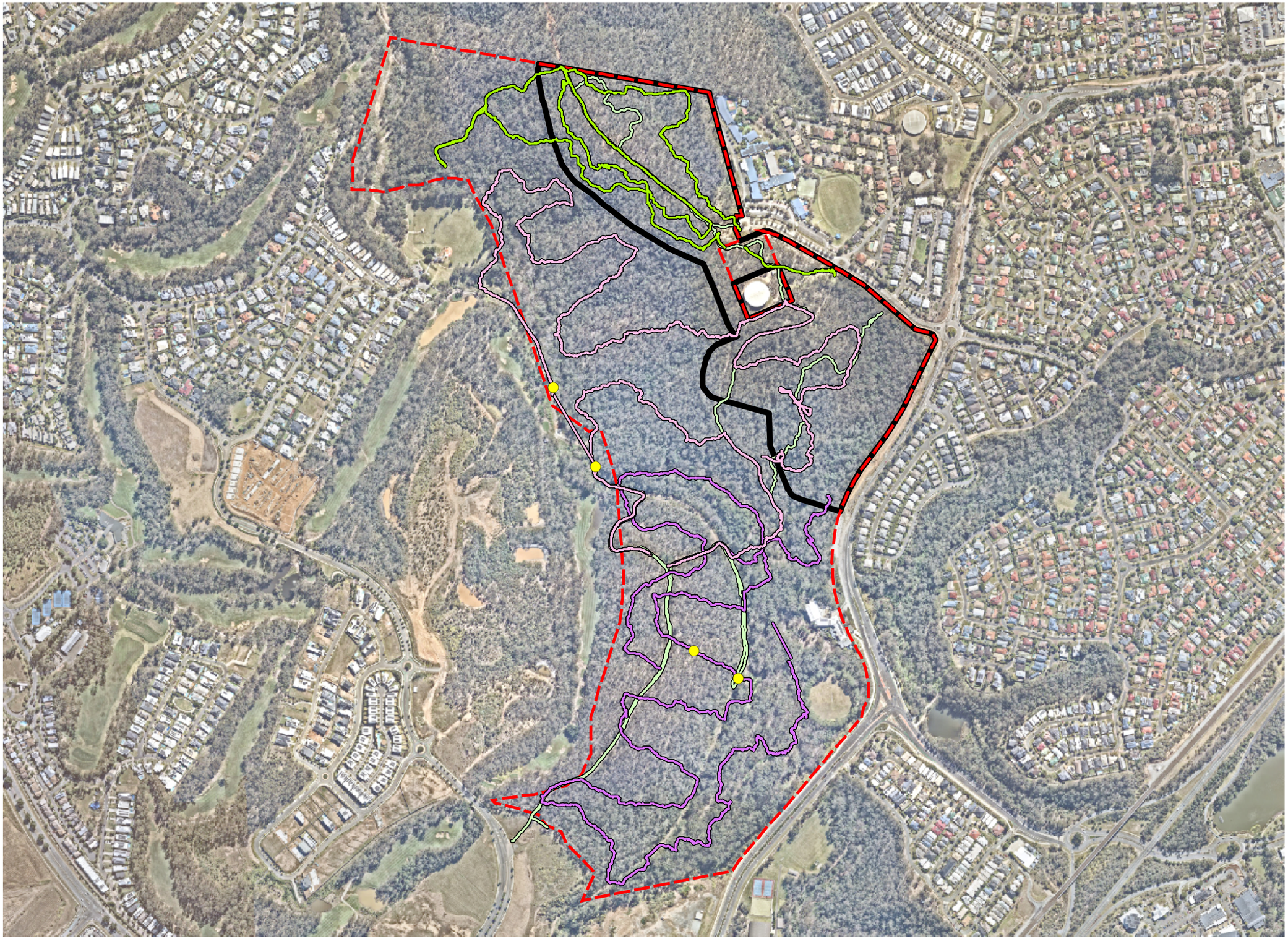
Address / RPD: 51/SP242316

29/10/2025 | 7399 E A16 Grey-headed Flying Fox Records E

A17. Grey-headed Flying-fox Survey Effort



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Legend

- Referral Area
- SHG Survey Effort Extent
- Spotlighting (22/11/2022)
- Spotlighting (11/09/2023)
- Spotlighting (13/09/2023)
- Spotlighting (20/09/2023)
- Grey-headed Flying-fox observed

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 50 100 150 200 m

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

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Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A17 GHFF Survey Effort E

3.3.6 Greater Glider (Petauroides volans)

a. Information on the abundance, distribution, ecology and habitat preference of the species or communities.

Distribution

The Greater Glider is restricted to eastern Australia, occurring from the Windsor Tableland in north Queensland through to central Victoria (Wombat State Forest), with an elevational range from sea level to 1,200 m above sea level.

Habitat and Ecology

The Greater Glider is an arboreal nocturnal marsupial, largely restricted to eucalypt forest and woodlands. It is primarily folivorous with a diet mostly comprising of eucalypt leaves and occasionally flowers. It is typically found in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows. The species favours forests with a diversity of eucalypt species, due to seasonal variation in its preferred tree species.

During the day it shelters in tree hollows, with a particular preference for large hollows in large, old growth trees (Smith *et al.,* 2007). The presence of large trees and hollow-bearing trees within a forest provides essential foraging and sheltering resources for Greater Gliders in Queensland, while small trees may also be selected for foraging and occasionally denning (Eyre *et al.* 2022). Hollows utilised by Greater Gliders have been described by a mean diameter entrance of 18 cm (Kehl & Borsboom 1984) and between 8 to 15 cm (Mackowski 1984). However Greater Glider individuals located within Woodlinks development (EPBC ref 2013/6866) in 2019 were associated with hollows ranging from 50-100mm diameter (i.e. 5-10 cm).

The species is considered to be particularly sensitive to forest clearance and intensive logging practices (Kavanagh and Wheeler, 2004). Subsequently, Greater Gliders have relatively low persistence in small forest fragments and disperse poorly across vegetation that is not native forest. Modelling suggest that they require native forest patches of at least 160 km^2 to maintain viable populations (Eyre 2006). Studies also suggest that the number of Greater Gliders decline with an increase in percentage of land cleared within 1 km (Eyre 2006).

b. Quantification of the extent of habitat and (if known) the number of individuals present, or historical patterns of use on, and surrounding, the development footprint (including maps identifying known or potential habitat.

The site is located within a large, fragmented patch of remnant eucalypt vegetation located in the emerging and well-established City of Springfield. The action proposes medium and standard density residential development being adjacent to the City Centre, schools, train station, other critical infrastructure and amenities. At the regional scale, the area is not included in any State mapped ecological corridors under the *ShapingSEQ 2017* and therefore is not supported by ecological land uses for broader connectivity. Locally, the vegetation on-site retains a degree of landscape connection as set out in the open space provisions of the Springfield Structure Plan including areas like the Brookwater Golf Course and adjoining creek corridors including O'Dwyer's Gully, Opossum Creek and Woogaroo Creek. The connecting areas are predominantly

comprised of lineal strands of retained vegetation, trees in parkland settings, newly rehabilitated vegetation which limit movement and persistence opportunities of the disturbance-sensitive Greater Glider.

Where connected lineal vegetation appears to occur within identified linkages to the proposed action site, area plans in this submission show corridors are a mix of non-remnant, regrowth or remnant vegetation mapped under the *Vegetation Management Act 1999* and vary in width from 15 m at the narrowest points up to 100 m in less disturbed areas (refer **Plan A18**). Corridor linkages are intersected and severed at multiple locations by major infrastructure including the Springfield Line rail corridor and major or minor roads, with the most significant of these being the Centenary Highway (refer **Plan A19**).

Vegetation within the referral area is mapped as remnant vegetation dominated by species of the genus *Corymbia* and *Eucalyptus*. Specifically, these species included *Corymbia citriodora* (Spotted Gum), *Eucalyptus crebra* (Narrow-leaved Ironbark) and *Eucalyptus acmenoides* (White Mahogany). This vegetation was determined to consist of one (1) vegetation community, defined as RE12.9-10.2. Suitable woodland habitat also extends into the north-west and southern adjoining lots; however, these are earmarked for development.

Greater Glider records available on public databases (*i.e.,* Atlas of Living Australia) within the past 5 to 10 years are almost exclusively located within large, connected tracts of remnant bushland, near or with direct connectivity to State Government Protected Estates and National Parks (refer **Plan A20**). The exception to this is a record recently published in late 2024 (dated August 2023) shown as occurring on the First Nine Project site which was cleared in accordance with EPBC 2016/7676 in 2020. The validity of the record was queried with ALA and iNaturalist who confirmed the original coordinate was obfuscated due to its sensitive nature. The publicly available positional accuracy was increased to a 0.2 x 0.2 degree cell (29 km area) and the coordinate was replaced with a random point within that cell. The ungeneralised coordinate was provided which confirmed its location within White Rock Conservation Park. Historical records (*i.e.,* pre-2000) are present surrounding the site; however, these records are reflective of a time when the surrounding landscape was predominantly vegetated and well-connected.

Long-term and extensive establishment of housing and supporting infrastructure results in the vegetation patch as being functionally disconnected from the contiguous conservation areas within the locality including the White Rock Conservation Park and Flinders-Karawatha Bioregional Corridor. Under the *Vegetation Management Action 1999*, remnant and regrowth mapped vegetation, used as an indicator of tree age and maturity, within the landscape is reduced to fragments, isolated patches or linear strands which do not connect into the larger tracts of surrounding bushland and remain severed by significant infrastructure (refer **Plan A19**).

Delineating the extent of potential habitat for the Greater Glider in Queensland is dependent on a number of habitat factors including the presence of suitable regional ecosystems, confirmed records, live and dead hollow-bearing trees for denning and habitat connectivity (Eyre et al. 2022). Greater Glider suitable regional ecosystems identified by Eyre et al. (2022) are highly fragmented within the surrounding landscape and are restricted to narrow, linear corridors adjoined by urban environments (refer **Plan A21**). Integrating the other habitat factors listed above, it is likely that the potential habitat for Greater Glider is less extensive than that

shown on **Plan A21** which is based on the location of suitable regional ecosystems alone. The vegetation on-site while mapped as remnant vegetation under the VMA, has been historically disturbed through logging and as a result, lacks the density of large, old growth habitat trees required to support the Greater Glider, with a dominance of small hollows (0-100 mm entry hole). The former timber harvesting use of the entire Springfield Structure Plan Area is reflected in the Griffith University assessment of mature vegetation age (Norma & Mackey, 2024) (refer **Plan A22**) which identifies the vegetation patch as predominantly 'Young to intermediate Age.'

Using contemporary aerial photography and knowledge of the local area, four (4) potential linkage corridors of connected vegetation have been explored for the potential of supporting Greater Glider movement (refer plan series at **Attachment A5**). A detailed review of these corridors is provided in **Attachment 5, 1.1-4.2** which highlights and describes each major barrier and pinch points within each corridor. This includes main roads (Centenary Highway, Brookwater Drive, Eden Station Drive and Springfield Greenbank Arterial Road), Springfield Anglican College and residential areas.

The Conservation Advice for the *Petauroides volans* (greater glider (southern and central) – July 5, 2022, notes that '*Greater gliders disperse poorly across vegetation that is not native forest and so do not readily recolonise isolated sites*.' The land on which the project occurs has been subjected to extensive ecological survey by numerous ecological experts and has not been recorded as supporting the greater glider species. Records of expanding development zones over the past 8 years in Springfield support this finding, with the land providing only marginal aspects of greater glider habitat definitions based on the premise of one day being considered suitable to support the species. For greater gliders to utilise the proposed action site it is considered that recolonisation would need to occur from nearby unconnected Protected Estates and National Parks which would require the species to navigate unconnected fragments of immature vegetation, cross multiple major infrastructure corridors, navigate narrow (15 m) compromised pinch points directly adjacent to housing and roads to ultimately persist in an environment of ever-expanding city infrastructure and housing.

Additionally, Fauna Spotter Catcher data has been collated across a large portion of Greater Springfield. The Greater Glider has never been recorded in any detailed pre- or post-clearance fauna surveys undertaken through the surrounding Springfield City developments, including Springfield Rise (EPBC 2013/7057), Kalina (EPBC 2014/7306), Woogaroo Heights (EPBC 2017/7875) and Brookwater (EPBC 2016/7676) (refer **Attachment A6** for further details). This includes detailed pre-clearance fauna surveys undertaken over much larger approved development areas pre-, during and post-clearing totalling 222 days between July 2017 and November 2021. Notably, the Fauna Spotter Catcher data analysed relates to clearing events that were undertaken when Springfield was much more connected.

Based on this analysis, it is considered unlikely that recolonisation of this area of bushland would occur.

c. *Assessment of quality and importance of known potential habitat for the species or communities within the proposed action-site and surrounding areas.*

Approximately 24.2 ha of the referral area contains remnant eucalypt open forest with a diversity of eucalypt species. However, the site is not considered to comprise tall, montane moist eucalypt forest preferred by

the species. The site contains some large trees (> 460mm DBH), however, field surveys identified relatively few hollows suitable for Greater Glider denning defined as a > 100 mm entry diameter (approximately 23 hollow-bearing trees within the project site) (refer **Plan A23**). The majority of the hollows found within the referral area were small in size (0 – 100 mm) while only twenty (20) hollows were > 100 mm (refer **Plan A24**). Suitable hollows and large trees were found in higher abundance through the Opossum Creek waterway corridor to the west and south of the project area, which is proposed for retention although already compromised be existing development. Opossum Creek adjoins the site to the west and is proposed to be retained within the landscape. It is noted existing disturbance and development to the west already compromises this habitat value. These areas contain patches of historic mature plantation of *Eucalyptus grandis* (Flooded Gum) species throughout the creek line.

The site has been subject to disturbance from historic clearing, vehicle use and fire damage which are known deterrents to the species. Some larger trees and hollow-bearing trees are present within the referral area, which are required by the species for breeding and shelter. The site is substantially fragmented from surrounding Greater Glider habitat with limited connectivity to larger tracts of bushland such as White Rock Conservation Park which aligns with nearby recent records (refer **Plan A20**). Furthermore, the site is surrounded by urban areas inclusive of roads, schools and residential houses, this presents significant noise interference into the project site which is a likely deterrent to the species.

As mentioned previously**,** movement into the referral area vegetation from these known habitats is highly limited for this species and is considered functionally disconnected. Given the current and proposed development surrounding the referral area, with the landscape largely fragmented between areas where records are found and the project site, there is a level of uncertainty as to whether recolonisation of the site would ever occur.

d. Information detailing known populations or recorded within at least five kilometres of the development footprint and (if known) the size of these populations.

Contiguous vegetation areas known to support the greater Glider are present within 5 km of the site outside of the urban landscape in which in the site is located. Greater Gliders are known to occur within nearby contiguous vegetation areas including Greenbank Military Training Area located approximately 2.3 km east of the site and within White Rock Conservation Park are located 3.6 km south-west of the site (refer **Plan A20**). The size of the population is not known. Historical records (*i.e.,* pre-2000) are present surrounding the site; however, these records are reflective of a time when the surrounding landscape was predominantly vegetated and well-connected.

e. Information on the survey methodology used, including a map/s of survey points or transects, how the survey points or transects were selected, when surveys were conducted (e.g. dates, time of day, season, etc) and search effort (e.g. 20 hours over 8 days).

Field surveys completed were a combination of targeted spotlighting and wildlife aerial surveys, and diurnal habitat assessments.

Greater Glider targeted detection surveys were conducted for a period three (3) nights 11, 13, and 20 September (spring) (refer **Plan A25**). Targeted Greater Glider surveys involved spotlighting on-foot by two (2) SHG ecologists for approximately 15 hours across the entire Peninsula and Scenic Project areas and Opossum Creek habitat corridor completed in accordance with recommended survey guidelines (refer **Plan A25**). During two (2) of the three (3) nights of spotlighting, targeted Wildlife Aerial Thermal surveys were also conducted simultaneously by two (2) SHG mapping personnel. These surveys involved using RPA (remotely piloted aircraft) equipped with a thermal sensor to detect the presence of Greater Glider within the referral area. The methodology and findings of the wildlife aerial thermal surveys are provided in **Attachment A4**.

Diurnal habitat assessment surveys were completed on 7, 8 and 18 September 2023 (spring). Habitat assessment surveys included the identification of all trees containing hollows and all trees with DBH > 460 mm (refer **Plan A23**). In Queensland, Greater Gliders preferentially select trees > 500 mm for denning and trees of this size are more likely to contain suitable hollows for sheltering (Eyre & Smith et al. 2022). Trees >460 mm DBH were GPS located across the referral area and within a broader survey area of 88.6 ha incorporating the retained Opossum Creek corridor. The threshold of 460 mm was used to account for the average large tree benchmark for Queensland Greater Glider Regional Ecosystems used by Eyre and Smith et al. (2022). As Greater Gliders require hollow-bearing trees for denning, large trees are considered a suitable proxy for potential habitat as these trees have the potential for forming denning resources into the future (Eyre and Smith et al. 2022).

f. An assessment of the adequacy of any surveys undertaken (including survey effort and timing). In particular, the extent to which these surveys were appropriate for the species and undertaken in accordance with the relevant survey guidelines.

Research into the effectiveness of spotlighting in detection for Greater Glider indicated that where the species is present and sufficient survey effort has been given, detection is highly likely (Eyre 2006 Lindenmayer et al. 2001a; Kavanagh 1984). Targeted surveys for presence completed in September 2023 did not detect the species.

Species-specific field surveys for determining species presence and habitat suitable for the Greater Glider were undertaken over a 15-hour period during September 2023. The surveys included identification of large hollow bearing trees and spotlighting transects covering the entire site. The diurnal hollow surveys were completed on 7 – 8 September and 18 September 2023. In addition, spotlighting surveys were completed on 11, 13 and 20 September. The method implemented was an adaptation from *Terrestrial Vertebrate Fauna Survey Guidelines for Queensland* (2022), while also meeting the survey standards produced by The Department of Sustainability and Environment (Victoria, Australia), *Approved Survey Standards: Greater Glider Petauroides volans* (May 2011) (version 1.0). These surveys are typically applied prior to logging and are considered adequate to detect presence of the species. It is noted the Victorian method standard is designed for large areas of forest to support forestry activities; therefore, the method has been scaled down to suit the smaller project area and is considered suitable in the survey effort applied.

For spotlighting, the requirement to cover a total distance of as close to 1 km as possible per transect was targeted at a pace of 10 minutes per 100 m, as outlined within The Department of Environment, Land, Water

and Planning Forest Protection Survey Program *Survey Guideline – Spotlighting and Call Playback* (2020) (version 4.1) and Conservation Regulator Victoria *Guidance Note: Reporting detections of Greater Gliders* (2021). Multiple transects were conducted where necessary to meet the total of 1 km requirement of the guideline, notably, all transects except Transect 2 exceeds 1 km in length. All fauna species observed located in trees during the transects were recorded. This included birds and frogs as well as arboreal mammals. During the spotlighting surveys, hollows were observed with a spotlight and binoculars. In accordance with the *Terrestrial Vertebrate Fauna Survey Guidelines for Queensland* (2022) a high-quality pair of binoculars and 14W spotlight was used to detect arboreal species.

The total distance of spotlighting surveys conducted within and adjoining the site was 10.19 km across two nights with a survey effort of approximately 450 minutes (refer **Table A11**). While the duration of the surveys do not entirely meet the duration requirements outlined in the Conservation Regulator Victoria Guidance Note: *Reporting detections of Greater Gliders* (2021) (which would be 1019 minutes for 10.19 km), it is considered that 10.19 km survey effort was adequate to identify the presence / absence of Greater Glider across the site and surrounding vegetation given the scale of the survey area. Furthermore, as two observers surveyed the site the total duration of surveys is 900-person minutes in accordance with *Terrestrial Vertebrate Fauna Survey Guidelines for Queensland* (2022) which is considered to be adequate to detect the presence of Greater Glider onsite.

In addition, two observers surveyed the referral area and surrounding Opossum Creek on three (3) separate occasions during the survey period on different nights as per the *Terrestrial Vertebrate Fauna Survey Guidelines for Queensland* (2022). These surveys included spotlighting close to dusk (< 1 hr after dusk) on one occasion and twice later (> 1 hr after dusk) (Eyre and Ferguson et al. 2022).

It is considered that the survey effort, timing, and equipment used was appropriate for surveying Greater Gliders and was undertaken suitably in accordance with the relevant survey guidelines discussed above. Considering that studies have shown that detection of the species is highly likely where sufficient spotlighting survey effort has occurred and the species is present, supporting a low likelihood the species is present within the referral area.

Table A11: Greater Glider Survey Guidelines compared to SHG Survey Effort

Transect	Date	Time	Duration	Observers	Distance
Transect 1	11 September 2023	18:30 – 21:00	150 minutes	Two (300-person minutes)	3.47 km
Transect 2	11 September 2023	21:00 – 21:30	30 minutes	Two (60-person minutes	0.25 km
Transect 3	20 September 2023	18:00 – 19:30	90 minutes	Two (180-person minutes)	1.81 km

Transect	Date	Time	Duration	Observers	Distance
Transect 4	20 September 2023	20:00 – 23:00	180 minutes	Two (360-person minutes	4.66 km
Total	N /A	N/A	450 minutes		10.19 km
Survey Guidelines (Victoria)	N / A	10 mins per 100 m	1 hr 40 minutes per transect		1 km per transect
Survey Guidelines (Queensland)			30-person minutes		100 m x 100 m survey site, 100 m per transect

g. Results of any surveys undertaken.

Greater Glider Habitat Assessment

A total of 164 potential habitat trees were recorded in the Scenic Precinct project area, while 629 were recorded through the broader survey area (refer **Table A12**). Within the survey area, *Eucalyptus crebra* (Narrow-leaved Ironbark) dominated the habitat tree plot with 222 trees recorded (35.29%). Notably, large patches of *Eucalyptus grandis* (Flooded Gum) plantation are present within the creek corridor.

The majority of habitat and hollow-bearing trees within the survey area had a DBH between 400 and 600 mm (54.45%), refer **Table A13**, with the balance ranging from 600 to 1100 mm DBH. A total of 43 hollows were found within the Scenic Precinct referral area (refer **Table A14**) with the majority (29) of these representing small hollows (0 – 100mm). Trees identified to contain hollows within the Scenic Precinct referral area and broader survey area are shown on **Plan A23** with a breakdown of hollow counts shown on **Plan A24**.

Table A12: Habitat and Hollow Tree Plot Summary within survey area

Scientific Name	Common Name	Number Recorded	Percentage Recorded (%)
Angophora leiocarpa	Small Barked Apple	3	0.48%
Angophora melanoxylon	Coolabah Apple	1	0.16%
Angophora subvelutina	Broad-leaved Apple	2	0.32%
Cinnamomum camphora	Camphor Laurel	1	0.16%
Corymbia citriodora	Spotted Gum	40	6.36%
Corymbia intermedia	Pink Bloodwood	3	0.48%
Corymbia tessellaris	Moreton-Bay Ash	1	0.16%
DEAD/STAG	N/A	17	2.70%
Eucalyptus acmenoides	White Mahogany	5	0.79%
Eucalyptus crebra	Narrow-Leaved Ironbark	222	35.29%

Scientific Name	Common Name	Number Recorded	Percentage Recorded (%)
Eucalyptus fibrosa	Broad-Leaved Ironbark	66	10.49%
Eucalyptus grandis	Flooded Gum	107	17.01%
Eucalyptus major	Grey Gum	2	0.32%
Eucalyptus microcorys	Tallowwood	13	2.07%
Eucalyptus moluccana	Gum-topped Box	55	8.74%
Eucalyptus propinqua	Small-fruited Grey Gum	1	0.16%
Eucalyptus robusta	Swamp Mahogany	5	0.79%
Eucalyptus siderophloia	Broad-leaved Ironbark	57	9.06%
Eucalyptus tereticornis	Forest Red Gum	23	3.66%
Lophostemon confertus	Brush Box	2	0.32%
Lophostemon suaveolens	Swamp Box	2	0.32%
Celtis sinensis	Chinese Elm	1	0.16%
TOTAL		**629**	**100%**

Table A13: Number of hollow bearing trees with DBH summary within survey area

Total DBH (mm)	Number Recorded	Percentage Recorded (%)
400-500	17	16.83%
500-600	38	37.62%
600-700	25	24.75%
700-800	14	13.86%
800-900	5	4.95%
900-1000	1	0.99%
1000-1100	1	0.99%
TOTAL	**101**	**100%**

Table A14: Size of hollows identified during Hollow-bearing Tree Plot

Hollow Type	Scenic Referral Area	Survey Area Total
Small Hollows 0 – 100mm	29	130
Medium Hollows 100 – 300mm	11	56
Large Hollows > 300mm	3	16
TOTAL	**43**	**202**

Spotlighting and RPA Surveys

Targeted Greater Glider surveys involved spotlighting on-foot by two (2) SHG ecologists for approximately 15 two person hours across the entire Scenic Project area and Opossum Creek habitat corridor (refer **Plan A25**). During two (2) of the three (3) nights of spotlighting, targeted Wildlife Aerial Thermal surveys were conducted simultaneously by two (2) SHG mapping personnel. These surveys involved using RPA (remotely piloted aircraft) equipped with a thermal sensor to detect the presence of Greater Glider within the referral area. The methodology and findings of the wildlife aerial thermal surveys are provided in **Attachment A4**. Results of fauna spotlighting surveys are presented in **Table A15** below. Surveys did not detect the presence of Greater Glider within the project impact area or the habitat corridor west and south of the impact. Numerous native fauna species were detected along with one (1) introduced species, *Rhinella marina* (Cane Toad). Common Brushtail Possum (*Trichosurus vulpecula*) were also observed which may compete for Greater Glider for hollows.

Table A15: Contemporary Field Survey Effort Fauna Detected

Scientific Name	Common name	Conservation Status	Taxa	Native/ Introduced	Count	Location
Diurnal Habitat Assessment Fauna Species 07.09.2023						
Phascolarctos cinereus	Koala	*Vulnerable*	Mammal	Native	1	Peninsula Precinct
Macropus giganteus	Eastern Grey Kangaroo	*Least Concern*	Mammal	Native	2	Peninsula Precinct
Varanus varius	Lace Monitor	*Least Concern*	Reptile	Native	1	Peninsula Precinct
Spotlight Night 1 Fauna Species 11.09.2023						
Cracticus torquatus	Grey Butcherbird	*Least Concern*	Bird	Native	1	Scenic Precinct
Megalurus timoriensis	Tawny Grassbird	*Least Concern*	Bird	Native	1	Scenic Precinct
Strepera graculina	Pied Currawong	*Least Concern*	Bird	Native	3	Scenic Precinct
Macropus giganteus	Eastern Grey Kangaroo	*Least Concern*	Mammal	Native	1	Scenic Precinct
Trichosurus vulpecula	Common Brushtail Possum	*Least Concern*	Mammal	Native	2	North-western habitat corridor
Spotlight Night 2 Fauna Species 13.09.2023						
Cacatua galerita	Sulphur-crested Cockatoo	*Least Concern*	Bird	Native	2	South-eastern habitat corridor
Cracticus torquatus	Grey Butcherbird	*Least Concern*	Bird	Native	2	South-eastern habitat corridor
Podargus strigoides	Tawny Frogmouth	*Least Concern*	Bird	Native	1	Peninsula Precinct
Macropus giganteus	Eastern Grey Kangaroo	*Least Concern*	Mammal	Native	2	Eastern habitat corridor

Scientific Name	Common name	Conservation Status	Taxa	Native/ Introduced	Count	Location
Macropus parryi	Whiptail Wallaby	*Least Concern*	Mammal	Native	5	Peninsula Precinct /Eastern habitat corridor
Phascolarctos cinereus	Koala	*Vulnerable*	Mammal	Native	2 (1 by spotlight, 1 by RPA)	Eastern habitat corridor, Peninsula
Pteropus poliocephalus	Grey-headed Flying-fox	*Vulnerable*	Mammal	Native	3	Peninsula Precinct
Trichosurus vulpecula	Common Brushtail Possum	*Least Concern*	Mammal	Native	2	Peninsula Precinct
Spotlight Night 3 Fauna Species 20.09.2023						
Adelotus brevis	Tusked Frog	*Vulnerable (QLD)*	Amphibian	Native	1	Central waterway / habitat corridor
Rhinella marina	Cane Toad	N/A	Amphibian	Introduced	5	Scenic Precinct / habitat corridor
Corvus orru	Torresian Crow	*Least Concern (QLD)*	Bird	Native	2 (RPA)	Scenic Precinct / habitat corridor
Dacelo novaeguineae	Kookuburra	*Least Concern*	Bird	Native	2	North-western habitat corridor
Podargus strigoides	Tawny Frogmouth	*Least Concern*	Bird	Native	1	Scenic Precinct
Trichoglossus moluccanus	Rainbow Lorikeet	*Least Concern (QLD)*	Bird	Native	2 (RPA)	Scenic Precinct / habitat corridor
Isoodon macrourus	Northern Brown Bandicoot	*Least Concern*	Mammal	Native	1	North-western habitat corridor
Petaurus breviceps	Sugar Glider	*Least Concern*	Mammal	Native	1	North-western habitat corridor
Phascolarctos cinereus	Koala	*Vulnerable*	Mammal	Native	1 (RPA)	Central habitat corridor
Pseudocheirus peregrinus	Common Ringtail Possum	*Least Concern*	Mammal	Native	3	North-western waterway / habitat corridor
Pteropus poliocephalus	Grey-headed Flying-fox	*Vulnerable*	Mammal	Native	7 (5 by spotlight, 2 by RPA)	North-western habitat corridor
Trichosurus cunninghami	Mountain Brushtail Possum	*Least Concern*	Mammal	Native	1	Central waterway / habitat corridor
Trichosurus vulpecula	Common Brushtail Possum	*Least Concern*	Mammal	Native	4	Scenic Precinct / habitat corridor

A18. Queensland Vegetation Mapping

Notes:
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Legend

- Referral Area

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

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 200 400 600 800 1,000 m

Transverse Mercator | GDA 1994 | Zone 56 | 1:25,000 @ A3

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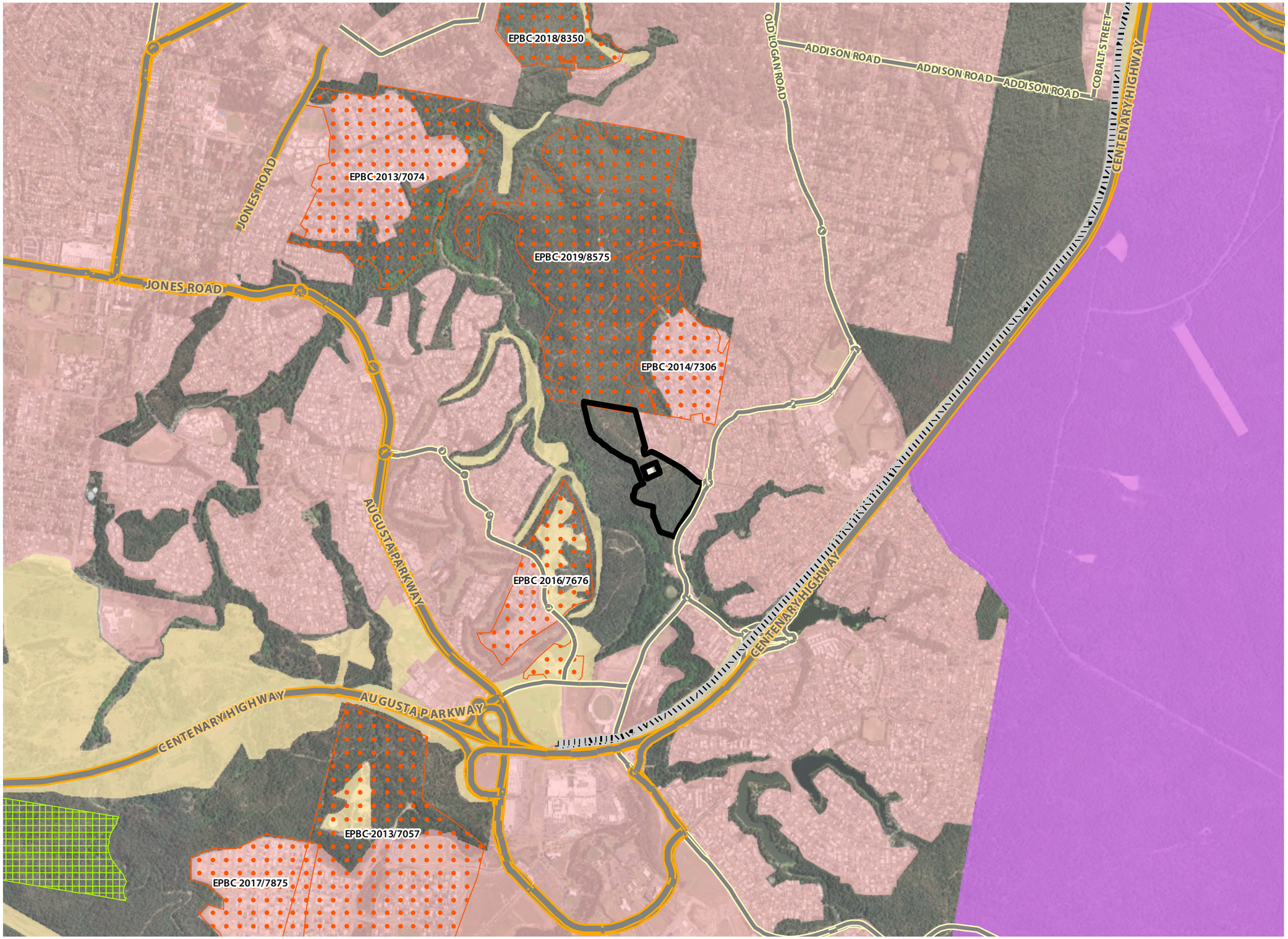
SPRINGFIELD CITY GROUP

Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A18 Qld Vegetation Mapping E

A19. Barrier Analysis



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Legend

- Referral Area
- White Rock Conservation Park

Barriers

- EPBC Referral Areas
- Greenbank Military Training Area
- Established residential/industrial uses
- Cleared land
- Rail network
- Highway or 4-lane arterial road
- Major roads

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 200 400 600 800 1,000 m

Transverse Mercator | GDA 1994 | Zone 56 | 1:25,000 @ A3

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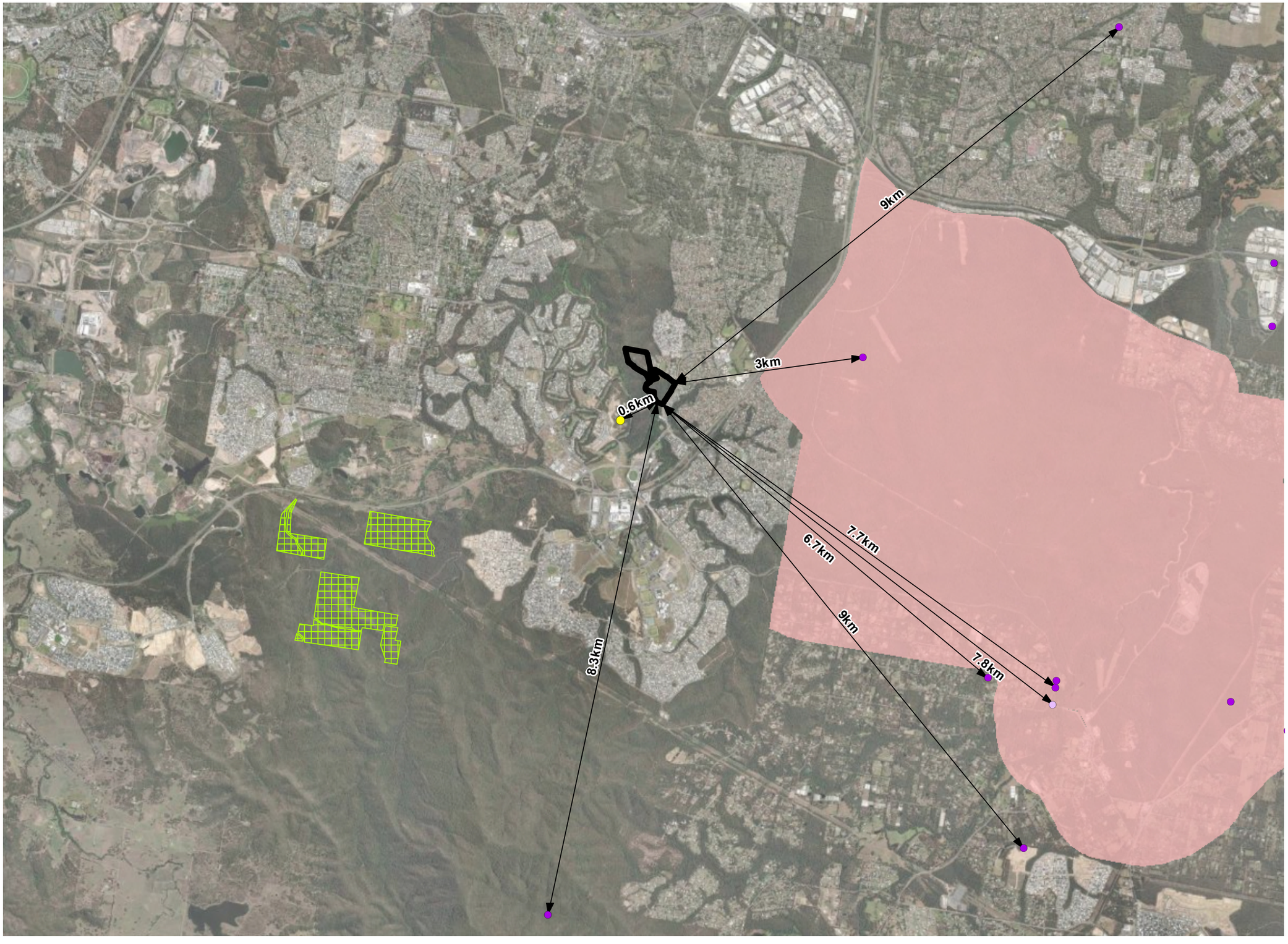
SPRINGFIELD CITY GROUP

Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A19 Barrier Analysis E

A20. Greater Glider records



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Legend

- Referral Area
- White Rock Conservation Park
- Greenbank Military Training Area

Greater Glider Records (ALA, 2025)

- Greater Glider records recorded 10-20 years ago (ALA, 2025) - 0
- Greater Glider records recorded 5-10 years ago (ALA, 2025) - 1
- Greater Glider records recorded within the past 5 years (ALA, 2025) - 9
- Greater glider record recorded in active construction site dated August 2023. The record was queried with ALA who confirmed the original record was obfuscated to the current position due to its sensitive nature.
- Distance to Greater Glider records

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 500 1,000 1,500 2,000 m

Transverse Mercator | GDA 1994 | Zone 56 | 1:60,000 @ A3

saunders havill group

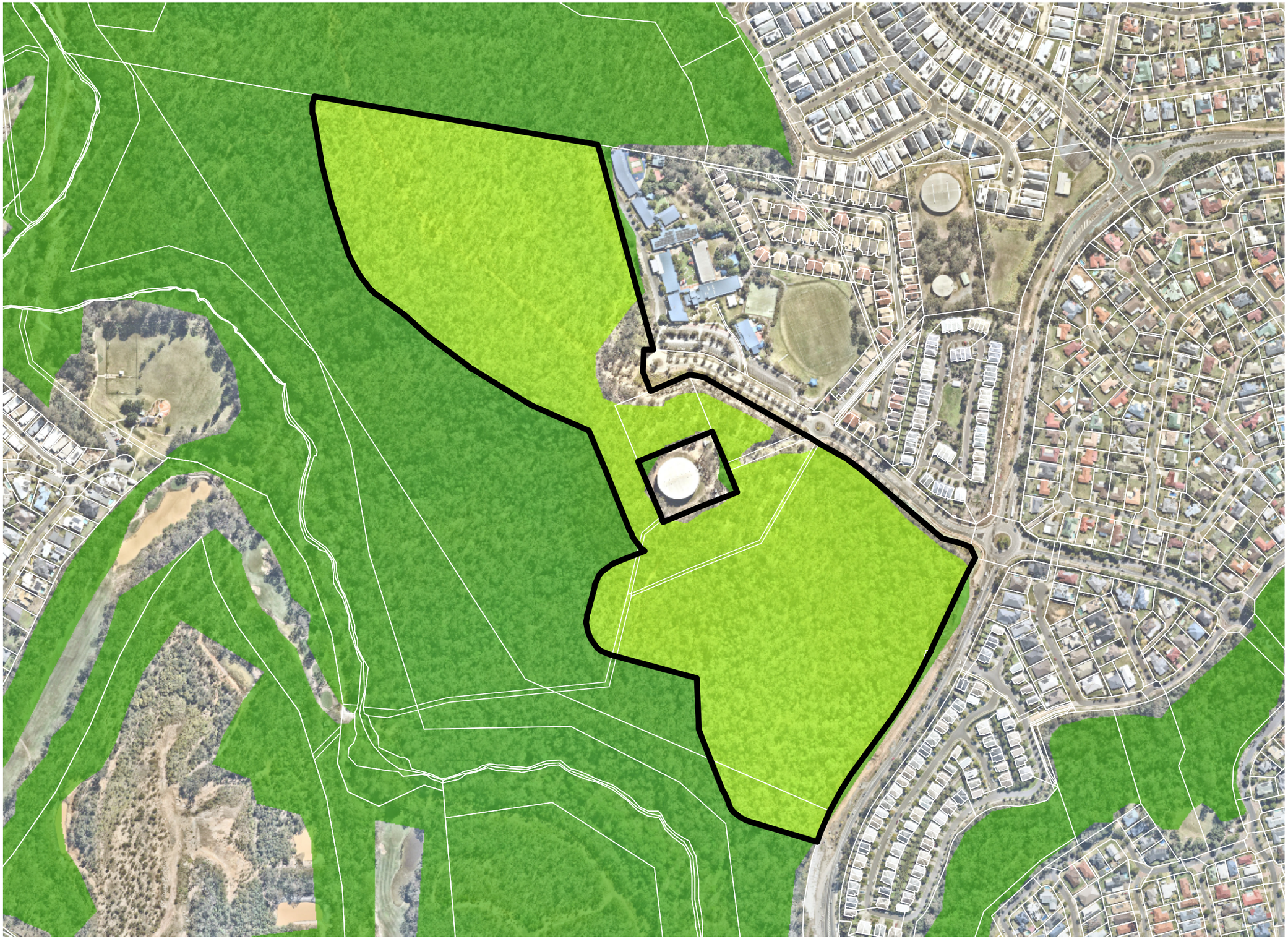
SPRINGFIELD CITY GROUP

Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A20 GG Records E

A21. Greater Glider suitable regional ecosystems



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Legend

- Qld DCDB
- Referral Area - 24.2 ha
- Greater Glider regional ecosystems with a known or possible association with Queensland greater gliders (Eyre et al. 2022) on-site - 22.9 ha
- Greater Glider regional ecosystems with a known or possible association with Queensland greater gliders (Eyre et al. 2022).

Citation: Eyre TJ., Smith G.C., Venz M.F., Mathieson M.T., Hogan L.D., Starr, C., Winter, J. and McDonald, K. 2022. Guide to greater glider habitat in Queensland, report prepared for the Department of Agriculture, Water and the Environment, Canberra. Department of Environment and Science, Queensland Government. Brisbane. Guide to greater glider habitat in Queensland – DCCEEW.

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 20 40 60 80 100 m

Transverse Mercator | GDA 1994 | Zone 56 | 1:4,500 @ A3

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Scenic Precinct

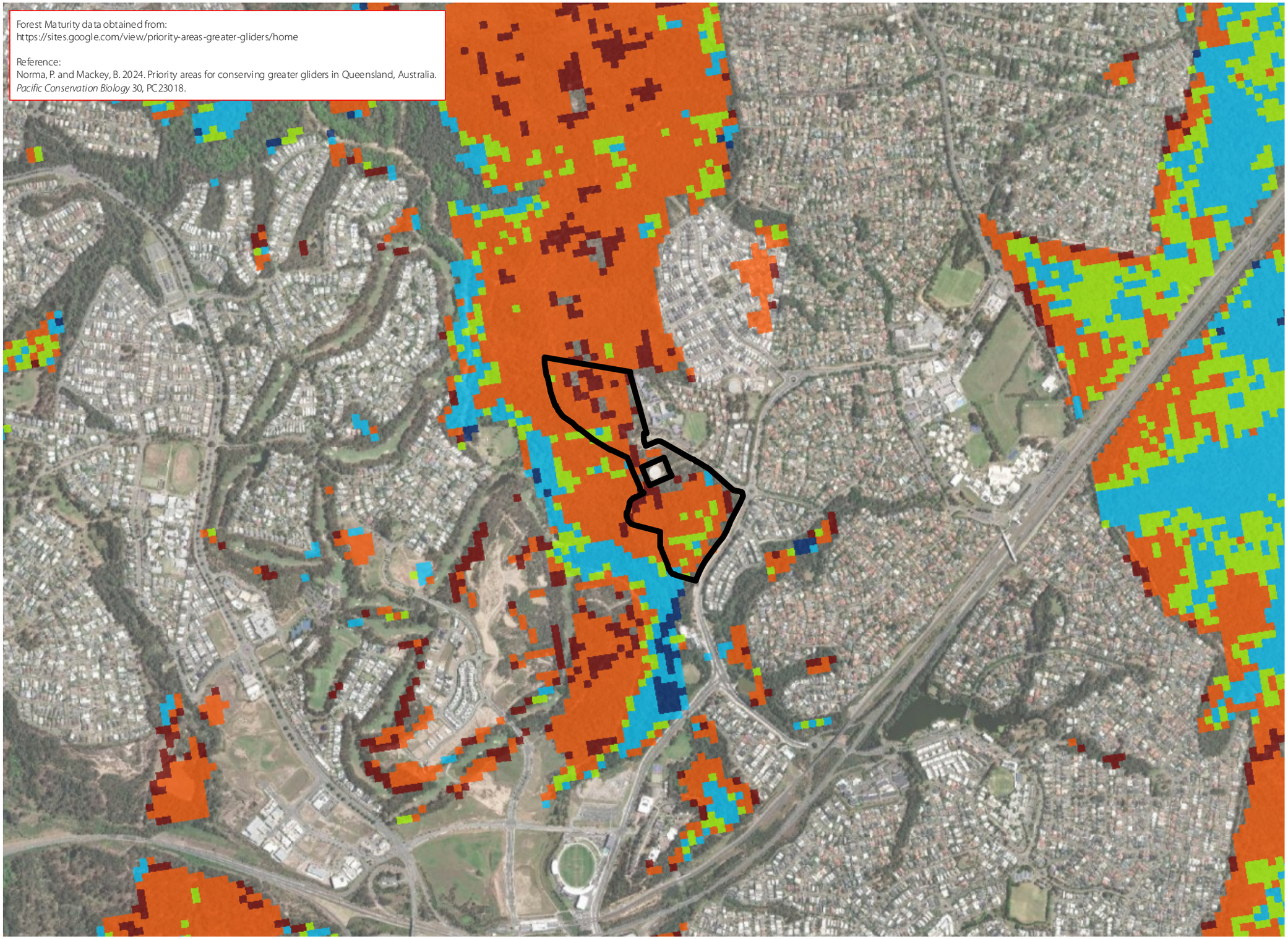
Address / RPD: 51/SP242316

29/10/2025 | 7399 E A21 Greater Glider Suitable REs E

A22. Forest Maturity Map (Griffi th University)

Forest Maturity data obtained from:
https://sites.google.com/view/priority-areas-greater-gliders/home

Reference:
Norma, P. and Mackey, B. 2024. Priority areas for conserving greater gliders in Queensland, Australia. *Pacific Conservation Biology* 30, PC23018.



Notes:
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Legend

- Referral Area

Forest Maturity Map

- Mature Vegetation
- Intermediate to Mature Aged Vegetation
- Intermediate Aged Vegetation
- Young to Intermediate Aged Vegetation
- Young Vegetation

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 100 200 300 400 500 m

Transverse Mercator | GDA 1994 | Zone 56 | 1:15,000 @ A3

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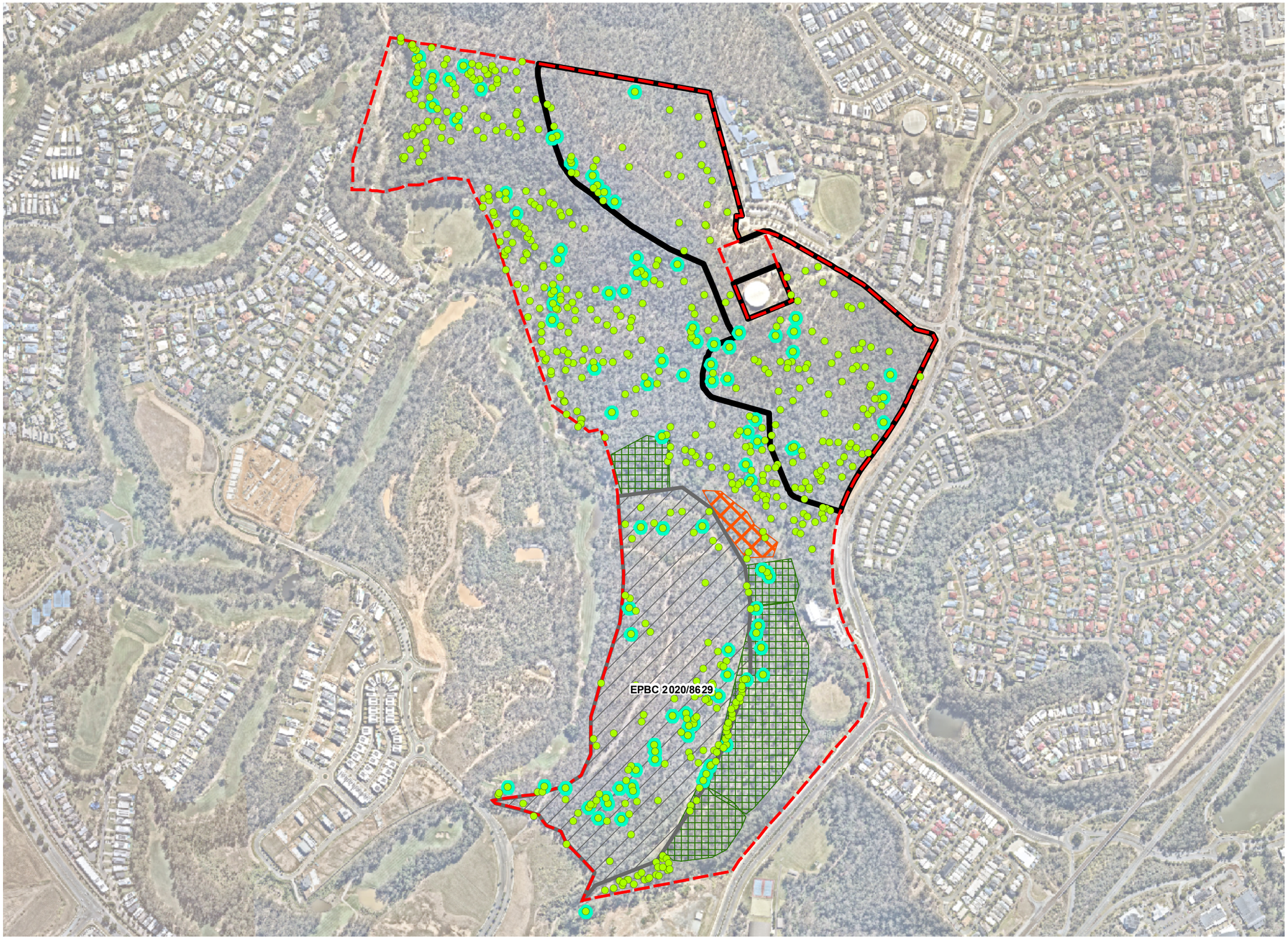
Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A22 Forest Maturity E

A23. Greater Glider Diurnal Habitat Assessment and Hollow-tree Plot



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Legend

- Referral Area
- Survey Effort Extent
- Eucalyptus grandis patch
- Celtis sinensis patch

GPS Tree Plot

- Tree with DBH > 460mm [628]
- Tree with Hollows [101]

Issue	Date	Description	Drawn	Checked
E	29/10/2025	Preliminary	TF	AW

0 50 100 150 200 m

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

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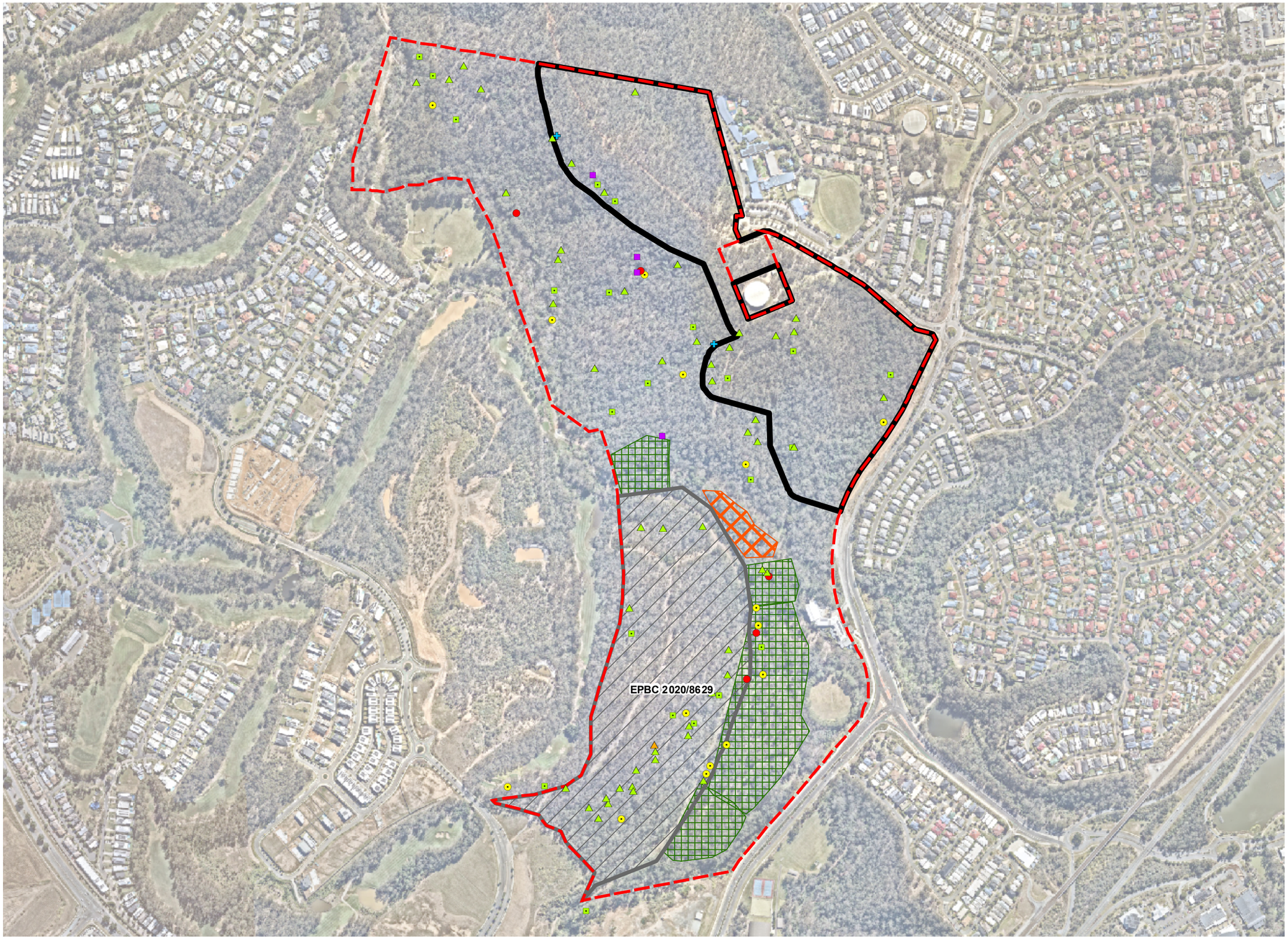
Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A23 GG Diurnal Assessment E

A24. Tree Plot Assessment – Hollow Categories



Notes:
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Legend

- Referral Area
- Survey Effort Extent
- Eucalyptus grandis patch
- Celtis sinensis patch

GPS Tree Plot

Tree with Hollow/s - Small [85 small hollows]	[52]
Tree with Hollows - Small and Medium [42 small hollows, 29 medium hollows]	[22]
Tree with Hollows - Small and Large [2 small hollows, 1 large hollow]	[1]
Tree with Hollow/s - Medium [18 medium hollows]	[15]
Tree with Hollow/s - Medium and Large [6 medium hollows, 5 large hollows]	[4]
Tree with Hollow/s - Large [6 large hollows)	[5]
Tree with Hollow/s - Small, Medium and Large [4 small hollows, 3 medium hollows, 4 large hollows]	[2]

Issue	Date	Description	Drawn	Checked
E	29/10/2025	Preliminary	TF	AW

0 50 100 150 200 m

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

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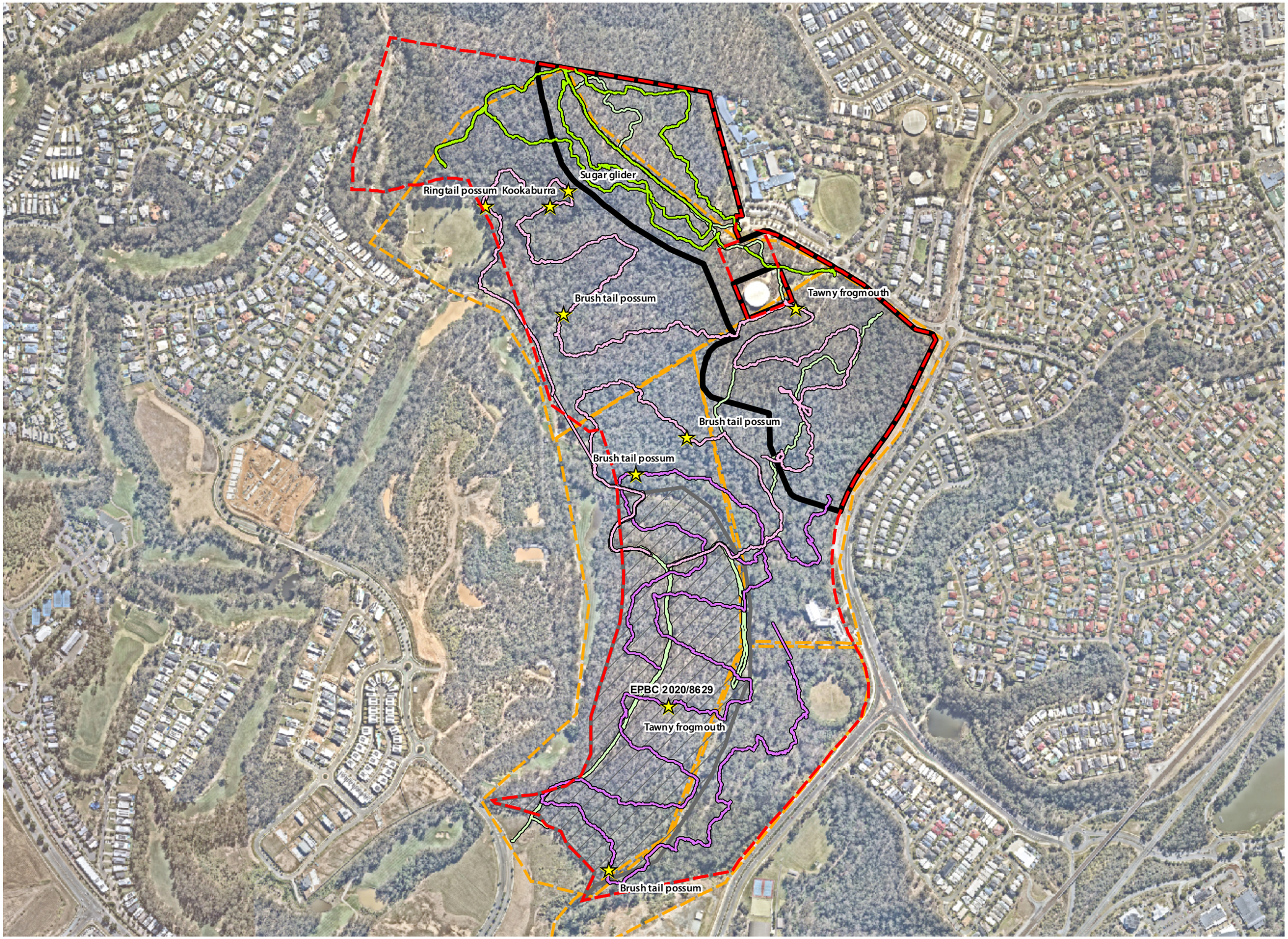
Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A24 Hollow Assessment E

A25. Greater Glider Targeted Spotlighting Field Survey



Notes:
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Legend

- Referral Area
- SHG Survey Effort Extent
- RPA Survey Effort Extents
- Spotlighting (22/11/2022)
- Spotlighting (11/09/2023)
- Spotlighting (13/09/2023)
- Spotlighting (20/09/2023)
- Fauna observations

Issue	Date	Description	Drawn	Checked
E	30/10/2025	Preliminary	TF	AW

0 50 100 150 200 m

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

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Scenic Precinct

Address / RPD: 51/SP242316

30/10/2025 | 7399 E A25 Targeted Spotlighting E

3.4 Information about the methods, data and literature used to identify and assess environmental values

Item 3.4 of the PD Request asks for *"**information about the methods, data and scientific literature used to identify and assess the environmental values on the proposed action-site and surrounding area, including survey data and historical records. Survey data for the proposed action-site must be provided for the above listed threatened species, should be as recent as possible, and must not have been collected more than five years before the date of this letter**."*

This PD provides all literature reviewed and cited within a reference list. The source of survey methods, guidelines and historical records are also provided. All survey methods undertaken have been guided by best practice and where applicable, Commonwealth and State survey guidelines for threatened species. This includes the following methodologies:

- *Terrestrial Vertebrate Fauna Survey Guidelines.*
- *Survey guidelines for Australia's Threatened Bats.*
- *Survey Guidelines for Australia's Threatened Mammals.*
- *Survey Guidelines for Australia's Threatened Birds.*
- *EPBC Act Referral Guidelines for the Vulnerable Koala.*
- Queensland *Guide to determining terrestrial habitat quality: A toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy* (version 1.2)
- *Biocondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland* (version 2.1)

A reference list has been provided with this PD Report (refer **Section 10**) which includes all literature reviewed and cited, as well as the sources of survey methods, guidelines and historical records. All survey methods undertaken have been guided by best practice and where applicable, Commonwealth and State survey guidelines for threatened species.

3.4.1 Desktop analysis

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

- Commonwealth MNES protected under the EPBC Act on and around the referral area using the protected matters search tool with a 5 km radius;
- Queensland *Nature Conservation Act 1992* (NCA) listed threatened species on and around the referral area using the Wildlife Online database search tool with a 5 km radius;
- Public environmental databases including Atlas of Living Australia and BioMaps;
- National Flying-fox monitoring viewer (Commonwealth);
- State regulated vegetation management and vegetation supporting maps under the Queensland *Vegetation Management Act 1999* (VMA) including essential habitat mapping; and

- Local government records where MNES threatened species and communities are known to occur in the area.

Additionally, a review of aerial photography history was undertaken via QImagery to assist with the broad delineation of vegetation communities and to determine historical patterns to local vegetation communities.

3.4.2 Scientific Permits

Ecological field surveys were conducted on the subject site in the attempt to confirm presence of potential MNES. Fauna surveys were conducted under the following permits held by Saunders Havill Group:

- Scientific Purposes Permit **WA0022007** granted under Section 12(f) of Nature Conservation (Administration) Regulation 2017
- Department of Agriculture and Fisheries (DAF) Ethics clearance **CA 2020/02/1355**
- Scientific User Registration **SUR000451**

3.4.3 Field Survey Methods

Field surveys utilising the methods outlined in the following subsections were conducted to describe ecological value of the referral area and to detect MNES fauna species. Field surveys were undertaken during seasonal conditions generally favourable to the detection and identification of the targeted fauna species. Field survey methods were completed in accordance with the relevant survey guidelines over within 3 tranches:

- Tranche 1 – 16 March 2020 on a bright a sunny day with no rainfall.
- Tranche 2 – 6, 7, 8, 11 and 12 January 2021 during relatively warm conditions with minimal recent rainfall within the Springfield Central.
- Tranche 3 – 7, 8, 11, 13, 18 and 20 September 2023 during relatively clear conditions.

Due to the proximity and similar timing of the Scenic Precinct (EPBC 2020/8651) and adjoining Peninsula Precinct (EPBC 2020/8629) which are both development projects for the same proponent, surveys were generally undertaken simultaneously and across both project areas. The survey area for certain methodologies including spotlighting, RPA wildlife aerial drone surveys and bird surveys were undertaken across a combined survey area of 88.6 ha encompassing both project areas and adjoining vegetation areas within the Opossum Creek corridor.

Refer to **Table A16** for weather data and targeted MNES survey techniques implemented across the survey period.

A summary of field survey techniques applied targeting specific MNES, the survey guidelines used, total combined survey effort and field survey personnel and qualifications for each method are provided in **Table A17**.

Table A16: Field Survey Methods Summary

Date	Time	Weather Conditions	Methods
16 March 2020	8.00 am – 3.00 pm AEST	16.1°C min – 27.7°C max 0 mm rainfall	MHQA transects, SAT surveys, scat meander, general meanders, GHFF roost search
6 January 2021	6.00 am – 9.00 am AEST	20.0°C min – 35.2°C max 0 mm rainfall	Dawn bird survey
7 January 2021	6.00 am – 9.00 am AEST	21.1°C min – 26.4°C max 53 mm rainfall	Dawn bird survey
8 January 2021	6.00 am – 9.00 am AEST	20.1°C min – 27.4°C max 0 mm rainfall	Dawn bird survey
11 January 2021	6.00 am – 9.00 am AEST	15.3°C min – 27.9°C max 0 mm rainfall	Dawn bird survey
12 January 2021	6.00 am – 9.00 am AEST	14.4°C min – 29.6°C max 0 mm rainfall	Dawn bird survey
7 September 2023	8.00 am – 3.00 pm AEST	11.2°C min - 28.1°C max 0 mm rainfall	Greater Glider habitat assessment – large tree and hollow identification, GHFF roost search
8 September 2023	8.00 am – 3.00 pm AEST	11.7°C min - 28.1°C max 0 mm rainfall	Greater Glider habitat assessment – large tree and hollow identification, GHFF roost search
11 September 2023	3.00 pm – 11 pm AEST	8.8°C min - 22.1°C max 0 mm rainfall	Greater Glider habitat assessment – large tree and hollow identification, Dusk bird survey, Spotlighting
13 September 2023	3.00 pm – 11 pm AEST	5.8°C min - 24.8°C max 0 mm rainfall	Spotlighting, UAV Drone survey
18 September 2023	8.00 am – 3.00 pm AEST	9.1°C min - 28.5°C max 0 mm rainfall	Greater Glider habitat assessment – large tree and hollow identification
20 September 2023	3.00 pm – 11 pm AEST	9.6°C min - 30.8°C max 0 mm rainfall	Dusk bird survey, Spotlighting, UAV Drone survey

Source: Bureau of Meteorology – Bellbird Park (040985) for rainfall data and Greenbank defence (140009) for temperature data.

Table A17: Summary of targeted field survey techniques and survey effort

Scientific Name	Common Name	Survey guidelines	Techniques Implemented and survey effort	Field personnel qualifications
Phascolarctos cinereus	Koala	*Survey guidelines for Australia's threatened mammals* Phillips and Callaghan (2011)	• 3 Spot Assessment Technique surveys • 15 hours of spotlighting meanders over 3 days. • Assessment of foraging and breeding values (habitat suitability)	**Senior Ecologist** • 5 years of relevant experience • Bachelor of Science (Ecology and Zoology) **Ecologist** • Three years of relevant experience • Bachelor of Science (Ecology) and Master of Environmental Management
Pteropus poliocephalus	Grey-headed flying-fox	*Survey guidelines for Australia's threatened bats*	• Daytime roost/camp searches (2020, 2023) • 15 hours of spotlighting meanders over 3 days (March 2019 and August 2023) • Assessment of foraging values, stem density assessment plots, and habitat suitability	**Senior Ecologist** • 15+ years of relevant experience • Bachelor of Applied Science (Natural Systems and Wildlife Management) **Senior Ecologist** • 5 years of relevant experience • Bachelor of Science (Ecology and Zoology) **Graduate Ecologist** • Two years of relevant experience • Bachelor of Science (Ecology)
Petauroides volans	Greater glider	*Survey guidelines for Australia's threatened mammals* *Reporting detections of*	• 15 hours of spotlighting meanders over 5 days (September 2023) • Assessment of breeding habitat (hollows) and foraging values (September 2023)	**Senior Ecologist** • 5 years of relevant experience • Bachelor of Science (Ecology and Zoology)

Scientific Name	Common Name	Survey guidelines	Techniques Implemented and survey effort	Field personnel qualifications
		Southern Greater Gliders (Conservation Regulator Victoria) *Approved Survey Standards: Greater Glider Petauroides volans V1.0* (Department of Sustainability and Environment (Victoria, Australia, May 2011)	• GPS location of hollow-bearing trees and significant trees (≥460 mm diameter measured at breast height) within and adjoining project area (September 2023)	**Senior Ecologist** • 5 years of relevant experience • Bachelor of Environmental Management (Natural Systems and Wildlife) **Graduate Ecologist** • Two years of relevant experience • Bachelor of Science (Ecology)
Anthochaera phrygia	Regent honeyeater	*Survey guidelines for Australia's threatened birds*	• Stem density assessment plots – assessment of foraging values (winter flowering eucalypts)	**Senior Ecologist** • 5 years of relevant experience • Bachelor of Science (Ecology and Zoology) **Ecologist** • Three years of relevant experience • Bachelor of Science (Ecology) and Master of Environmental Management
Lathamus discolor	Swift parrot	*Survey guidelines for Australia's threatened birds*	• Stem density assessment plots – assessment of foraging values (winter flowering eucalypts)	**Senior Ecologist** • 5 years of relevant experience • Bachelor of Science (Ecology and Zoology) **Ecologist** • Three years of relevant experience

Scientific Name	Common Name	Survey guidelines	Techniques Implemented and survey effort	Field personnel qualifications
				• Bachelor of Science (Ecology) and Master of Environmental Management
Hirundapus caudacutus	White-throated Needletail	*Survey guidelines for Australia's threatened birds*	• 20 hours of dawn meander surveys over 5 days in January 2021 (summer)	**Principal Ecologist** • 10+ years of relevant experience • Bachelor of Science (Threatened Species Ecology and Zoology) **Ecologist** • Three years of relevant experience • Bachelor of Science (Ecology) and Master of Environmental Management

3.4.3.1 Targeted Bird surveys

Targeted bird surveys were completed in accordance with the *Survey Guidelines for Australia's Threatened Birds* to address survey requirements for identified MNES bird species with consideration to species-specific survey requirements.

This technique is a non-intrusive active area search that provides a direct census of bird species occurrence and abundance. Surveys involved walking slowly through woodland habitat with an emphasis on areas containing flowering eucalypts. Birds were identified either from direct observation or their calls. Inclement weather was avoided as this greatly reduces the detection of bird species.

Targeted dawn surveys for the White-throated Needletail were completed from 6 – 12 January 2021 (inclusive). The five (5) dawn surveys occurred between 06:30 and 09:00. Total survey effort was over 20 hours. In accordance with the *Survey Guidelines for Australia's Threatened Birds* bird surveys were targeted in areas of flowering eucalypt trees due to the large size of the site. Prior to the bird surveys, a survey to scope out and locate areas of flowering eucalypt trees was completed during initial surveys (16 March 2020).

Contemporary dusk bird surveys across the referral area and surrounding bushland were completed between 15:00 and 17:30 on 11 and 20 September 2023. All avian species observed during the targeted survey assessment period were recorded. Furthermore, birds were opportunistically surveyed across the referral area for the duration of the broader site surveys in 2020, 2021 and 2023.

3.4.3.2 Koala habitat and SAT surveys

Tools for determining localised levels of use by *Phascolarctos cinereus* (Koala) included the Spot Assessment Technique (SAT) and opportunistic observations for Koala and Koala activity throughout the field survey effort. The SAT surveys were undertaken in accordance with methodology developed by the Australian Koala Foundation (AKF) and Phillips and Callaghan (2011) and specified in the *EPBC Act Referral Guidelines for the Vulnerable Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)*.

The SAT method is an assessment of Koala activity involving a search for any Koalas and signs of Koala usage. The SAT involves identifying a non-juvenile tree of any species within the site that is either observed to have a koala or scats, or is known to be a food tree or otherwise important for koalas, and recording any evidence of koala usage of that tree including physical presence, identifiable scratches or scats. The nearest non-juvenile tree is then identified and the same data recorded. The next closest non-juvenile tree to the first tree is then assessed and so on until 30 trees have been surveyed. Assessment of each tree involves a systematic search for Koala scats beneath the tree within a 1 m radius of the trunk. After approximately two minutes of searching for scats, the base of the trunk is observed for scratches and the crown for Koala. The number of trees showing evidence of Koala activity is expressed as a percentage of the total number of trees sampled to indicate the frequency of Koala usage.

A total of three (3) SAT surveys were completed within the project area on 16 March 2020.

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

The referral area was walked on multiple occasions over several years to ensure all species (flora and fauna) were recorded and identified. Particular attention was paid to any threatened species that were listed as possibly occurring on or within the vicinity of the application area and specific micro-assemblages which may support these threatened species. This included observations for vertebrate fauna present on or that may utilise the referral area, including faunal lists and significance status of species under the Commonwealth's EPBC Act including the 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. Identification and description of the fauna habitats present within the area included any habitat trees. Specific attention was paid to threatened flora and fauna species.

For the purposes of this report, a significant flora and fauna species has been defined as a species that is scheduled as 'critically endangered', 'endangered', 'vulnerable' or conservation dependent under the Commonwealth EPBC Act.

3.4.3.4 Scats, tracks and other traces search

Surveys for scats, tracks and other fauna traces were conducted throughout the survey period during May and June 2021. Both predator and non-predator scats were sought during all searches. Only those samples definitively identified were included in the survey results. Specific search efforts were made to locate the presence of Koalas or evidence of their occurrence on the subject lands and the local area. In addition, particular notice of potential dens, scats and tracks for invasive species was taken to identify predator-prey interactions and understand existing impacts within the referral area.

3.4.3.5 Flying fox roost searches

Targeted surveys for Grey-headed Flying-fox were conducted on 16 March 2020 and 7 and 8 September 2023 for flying-fox roost searches. The searches were completed in accordance with the accepted methodologies detailed in the *Survey guidelines for Australia's threatened bats*.

The flying fox roost search was conducted during the day within the survey area, watching for flying-foxes and listening for their distinctive calls. This search is not only for flying-fox camps, but the presence of food plants to assess the potential importance of the survey area to the species. This involved assessing tree canopies whilst completing meanders across the site. The search for flying-fox roosts was justified due to the proximity of the site to an active flying-fox camp located at Camira, Barbara Street (140), approximately 3.6 km north-east of the site.

3.4.3.6 Ground-truthing of vegetation communities

Vegetation was ground-truthed and assessed against current VMA Regional Ecosystem (RE) mapping and pre-clear mapping. This included reviewing the accuracy and extent of mapped RE types in addition to the broad vegetation condition. Particular attention was made in identifying the presence and extents (where applicable) of threatened ecological communities (TECs) listed as having the potential to occur on or proximal to the site.

A comprehensive flora survey was undertaken using a methodology consistent with the established formats used by the Queensland Herbarium (Nelder et al. 2020 and Hnatiuk et al. 2009). Survey methodology comprised an initial visual audit, followed by quantitative assessment of vegetation associations and communities. Distinct vegetation community boundaries were delineated during field survey assessment.

Targeted surveys to assess vegetation communities on-site and on land adjacent to the subject site were completed on 16 March 2020.

3.4.3.7 Large trees and Hollow Habitat Assessment

Greater Glider habitat assessments were conducted over a period of three (3) days in September 2023. All trees containing hollows and all trees with DBH >460 mm were identified and GPS located within the Scenic project site and surrounding vegetation within the Opossum Creek Corridor. The following data was recorded:

A handheld GPS device (Trimble) is used to record sub-metre accurate locations (in some cases survey accurate locations are used), and the following parameters of each tree specimen recorded:

- tree species, via a combination of observations of the gum nuts, buds, leaves, bark and growth form;
- diameter of the trunk of the tree is measured using the standard method of Diameter at Breast Height (DBH);
- height of the tree is measured using a laser rangefinder with three-point measurement capability (inclinometer);
- canopy spread;
- health assessment (*i.e.*, canopy, trunk); and
- habitat values (for example, presence and/or number of hollows, nests, termites, scratches and scats).

3.4.3.8 Spotlighting

A combination of high-powered spotlights and head torches were used to detect nocturnal mammals, birds and reptiles within the referral area in accordance with the relevant Commonwealth and State survey guidelines. Spotlighting meander surveys were completed on foot by two observers and involved slowly walking through eucalypt woodland at an average pace of 10 minutes per 100 m. Observers took care to ensure areas already surveyed were not revisited during the same survey transect. It was also ensured that surveys were not completed during inclement weather such as strong winds or rain to limit the potential for reduced detectability.

Spotlighting surveys were completed in accordance with the prescribed spotlighting methodology for arboreal mammals and nocturnal bird species within the relevant survey guidelines including *Survey Guidelines for Australia's Threatened Mammals*. A total of three (3) two-person spotlighting meander surveys have been completed over the project area including 11, 13 and 20 September for a total survey period of 15 hours. Each spotlighting meander transect was completed over a period of approximately three or more hours between 16:00 and 21:30. The spotlighting surveys covered the entire Scenic project site along with the Opossum Creek corridor west and south of the site.

3.4.3.9 RPA Wildlife Aerial Thermal Surveys

Targeted Wildlife Aerial Thermal drone surveys by qualified mapping personnel. These surveys used RPA (remotely piloted aircraft) equipped with a thermal sensor to detect the presence of arboreal mammals including Koala and Greater Glider.

Targeted Wildlife Aerial Thermal surveys were conducted by two (2) SHG mapping personnel. These surveys involved using RPA (remotely piloted aircraft) equipped with a thermal sensor to detect the presence of Greater Glider within the referral area. The methodology and findings of the wildlife aerial thermal surveys are provided in **Attachment A4**.

The targeted surveys were undertaken during evenings well after dark when temperatures were lower (20:00-2:00) to fully utilise the thermal sensor capabilities. A combination of autonomous flight and manual operation was used to undertake the survey. This method allows for detailed searching of large areas in a single evening. Frequent stops were necessary to observe for suspicious thermal signatures (other than target species) and assess whether closer inspection was necessary (*i.e.,* small heat signatures and animal activities that can be readily classified e.g. Flying-foxes).

When a potential thermal signature was detected, the RPA was put into "hover mode" to maintain position without further outputs from the pilot. Thermal and RGB still images are then captured for further analysis during the desktop processing. After confirming the features of the image to be wildlife, several still images were taken to capture the subject from different angles. Direct overhead still image was also captured to provide GPS location. The georeferenced location is also recorded within Flight Hub 2 to assist with desktop analysis. After performing the image and location capture, the RPA then resumes automated flight along the predetermined flight path until the area search is complete.

3.4.3.10 Modified Habitat Quality Assessment (MHQA)

The Modified Habitat Quality Assessment (MHQA) methodology was utilised to assess the referral area condition, site context and species stocking rate. Refer to **Section 4.4** for more detail on methodology. In order to determine the quantum and quality of the habitat suitable for Koala within the referral area, vegetation/habitat quality was derived from the Modified Habitat Quality Assessment tool. A total of two (2) MHQA transects were completed within the referral area.

4. Quantification of Impacts

4.1 Intended Land Uses

Item 4.1 of the PD Request asks for *"**a description of the intended land uses proposed as part of the completed development, including any proposed conservation areas or retained movement corridors, and associated ongoing activities, and details of the intended party that would be responsible for future management activities.**"*

Springfield City Group is proposing to develop a master planned residential community on this land. The proposed development footprint will necessitate the disturbance of 24.20 ha of land (refer **Plan A26**). The proposed development will include a mixed precinct comprising:

- Town Business;
- Retail;
- Childcare;
- Utilities;
- Parklands;
- Roads and infrastructure;
- Place(s) of worship;
- Education; and
- Town Residential.

The site and background land parcel are zoned community residential and open space under the local planning scheme. The site plan of development is considered to align with on-ground values and the planning intent of the area (refer **Plan A1**), with the open space area to be delivered adjoining the referral area providing a future permanent buffer to the adjoining Opossum Creek values located west of the site.

4.2 Proposed impact and retention areas

Item 4.2 of the PD Request requests *"**current maps and coordinates/shapefile of the proposed impact area and areas of habitat for MNES proposed to be retained. Maps must clearly identify development footprints, buffer zones, and any conservation areas where impacts will be avoided, and areas of adjacent habitat that would be subject to indirect impacts, including areas that are to be retained within and adjacent to the site.**"*

Item 4.3 of the PD Request asks to *"**Confirm the area of habitat that will be directly and indirectly impacted by the proposed action, including areas where:***

a) Connectivity to surrounding habitat will be retained or removed

***b) Adjacent habitat will be subject to intensification of ongoing impacts (for example, through increased levels of dust or polluted runoff).**"*

A total of 24.2 ha of vegetation within the referral area will be impacted to facilitate the construction of a mixed use precinct comprising town business, retail, childcare, utilities, parklands, roads and infrastructure, place(s) of worship, education and/or town residential. Impacts will be contained wholly within the referral area with setbacks and buffers achieved to the adjoining waterway corridor associated with Opossum Creek in accordance with ICC specifications under the *Ipswich City Plan 2025*.

At this stage, the action is limited to a master plan development footprint as the project has not progressed to detailed design phase associated with obtaining local government approvals. Detailed design will contemplate topographical constraints, stormwater and dispersive soils requirements, and setbacks to the adjoining waterway corridor as required by ICC. The Opossum Creek corridor is designated as open space in the *Ipswich City Plan 2025* and ICC will require detailed assessment of how the corridor will be retained and protected as part of obtaining ADP and OPW approvals. The general exclusion zone of the development encompassing the proposed retention areas adjoining the referral area and part of the Opossum Creek corridor is depicted on **Plan A1**. ICC typically require a minimum 40 m setback of development activities from waterway centrelines to protect riparian values and maintain landscape function. Detailed assessment of the adjoining waterway corridor will be required as part of the documentation prepared for the local approval process whereby details of setbacks will be planned and demonstrated.

Presently, the referral area is exposed to constant urban and construction noise sources from major roads, surrounding schools and a combination of government-based projects and private area developments. Project design will facilitate all residential and vehicle access from the south to connect with existing roads. No collector roads are proposed to be constructed across the creek corridor with access to be via Springfield College Drive. The project land holding is centrally located adjoining existing impacts associated with the Springfield Anglican College and Springfield College Drive and as a result will not disrupt any environmental connectivity associated with Opossum Creek corridor.

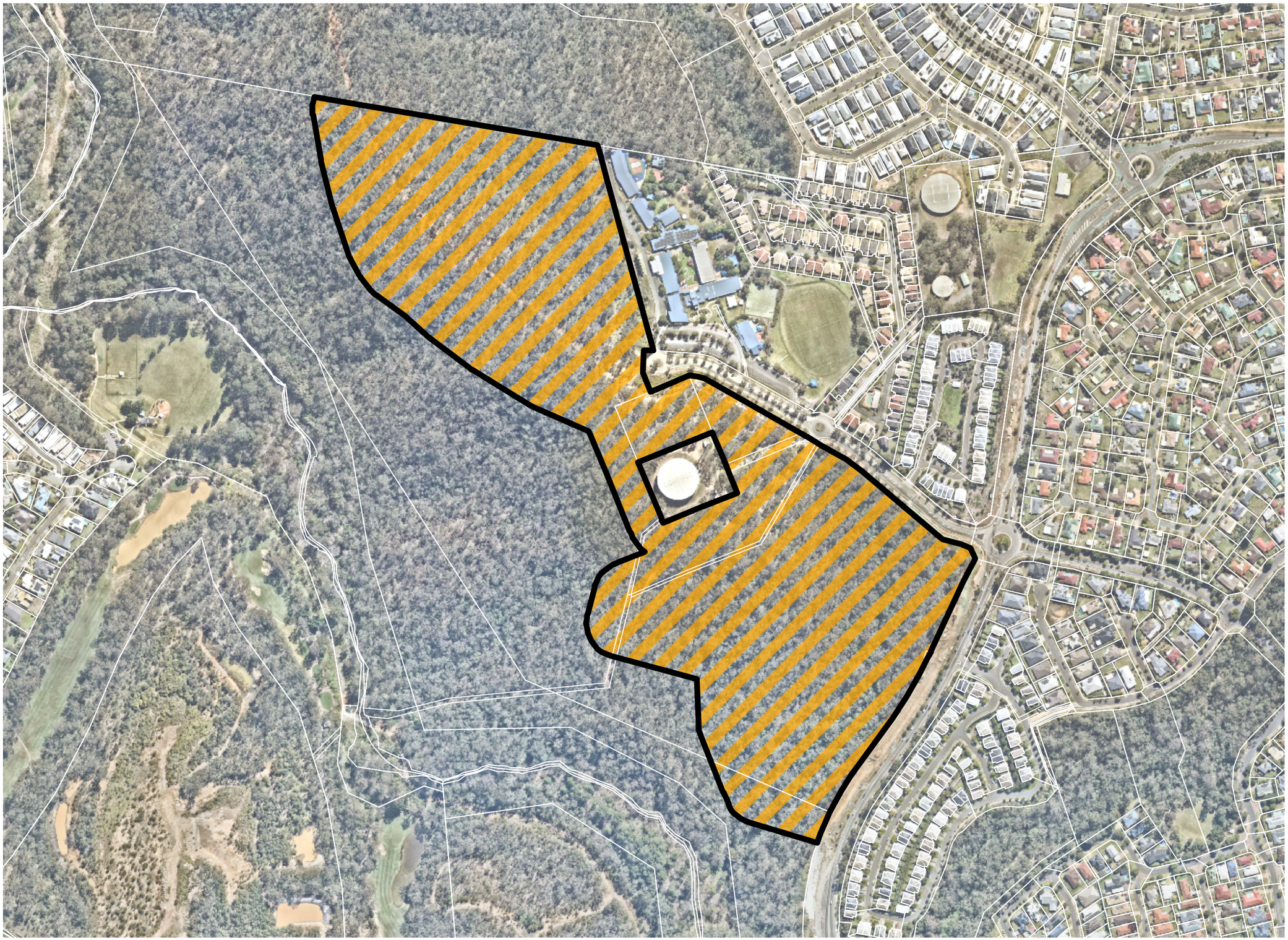
It is known that Koalas occur within the vegetated areas within and adjoining the referral area and utilise the network of corridors provided via Opossum Creek, Woogaroo Creek and O'Dwyer's Gully. The location of the Scenic Precinct on the south-eastern boundary of the broader patch represents a dead-end for connectivity to the east for fauna including the Koala with roads and education facilities located immediately east. The Opossum Creek corridor in particular is identified as a local connectivity route which is limited in certain respects by the location of surrounding infrastructure. This includes the location of Springfield Parkway and Hymba Yumba Independent School to the south and Brookwater Golf Course to the west.

Opossum Creek environmental corridor is proposed as a 100 m wide retained vegetation area on land dedicated by the Springfield City Group as part of the broader environmental network for the city. Overarching planning for the region by ICC will enable the retention of this corridor in perpetuity allowing for continuous fauna movement and refuge as the region continues to develop. Lineal connectivity will be maintained throughout the creek corridor to the north and south via existing connections. Broadly, the Proponent proposes to rehabilitate the adjoining vegetation retention area which includes part of the Opossum Creek corridor and will likely be conditioned to do so by ICC as part of ADP and OPW approvals. Proposed rehabilitation works will include at a minimum, weed management, waterway stabilisation and infill planting where required.

While the volume of habitat within the broader patch will decrease as a result of the action, the maintenance and improvement of retained vegetation inclusive of the Opossum Creek corridor with the delivery of the Scenic and Peninsula Precincts will ensure local population connectivity of fauna including the Koala is maintained.

Indirect impacts on the adjoining Opossum Creek corridor as a result of the development may include dust deposition during construction (i.e., temporary) and increased light and noise during construction and during operation. These indirect impacts are discussed further in **Section 4.10** with mitigation measures detailed in **Section 5**.

A26. Development Impact



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.

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Legend

- Qld DCDB
- Referral Area [24.2 ha]
- Development Footprint [24.2 ha]

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 25 50 75 100 m

Transverse Mercator | GDA 1994 | Zone 56 | 1:4,500 @ A3

saunders havill group

SPRINGFIELD CITY GROUP

Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A26 Development Impact E

4.3 MNES Impact Assessment

Item 4.4 of the PD Request asks to *"**Confirm the quantity and quality of suitable habitat to be impacted within the project area.**"*

The following subsections provide detailed information regarding the quantification of impacts for Koala, Grey-headed Flying-fox, Swift Parrot, Regent Honeyeater, Greater Glider and White-throated Needletail.

In addition, an assessment against the Significant Impact Guidelines (SIG 1.1) has been completed for the following MNES to determine whether or not the impact is likely to be significant on the following species:

- Swift parrot (*Lathamus discolor*) – Critically Endangered (**Section 4.4.2**);
- Regent honeyeater (*Anthochaera phrygia*) – Critically Endangered (**Section 4.5.2**); and
- Greater glider (*Petauroides volans*) – Vulnerable (**Section 4.6.2**).

Specific definitions relating to the significant impact assessment are presented in **Table A18**.

Table A18: Significant Impact Guidelines 1.1 definitions

Term	Species Listing Status applicable	Definition
Important population	Vulnerable species	An **'important population'** is a population that is necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and / or that are: ▪ key source populations either for breeding or dispersal ▪ populations that are necessary for maintaining genetic diversity, and/or ▪ populations that are near the limit of the species range.
Population of a species	Critically Endangered and Endangered species	A **'population of a species'** is defined under the EPBC Act as an occurrence of the species in a particular area. In relation to critically endangered, endangered or vulnerable threatened species, occurrences include but are not limited to: ▪ a geographically distinct regional population, or collection of local populations, or ▪ a population, or collection of local populations, that occurs within a particular bioregion.
Invasive species	Critically Endangered and Endangered species	An **'invasive species'** is an introduced species, including an introduced (translocated) native species, which out-competes native species for space and resources or which is a predator of native species. Introducing an invasive species into an area may result in that species becoming established. An invasive species may harm listed threatened species or

Term	Species Listing Status applicable	Definition
		ecological communities by direct competition, modification of habitat or predation.
Habitat critical to the survival of a species of ecological community	Critically Endangered and Endangered species	**'Habitat critical to the survival of a species or ecological community'** refers to areas that are necessary: ▪ for activities such as foraging, breeding, roosting, or dispersal ▪ for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators) ▪ to maintain genetic diversity and long-term evolutionary development, or ▪ for the reintroduction of populations or recovery of the species or ecological community. Such habitat may be but is not limited to: habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/or habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act.
Significant Impact	Critically Endangered, Endangered and Vulnerable species	A **'significant impact'** is an impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts. A proponent should consider all of these factors when determining whether an action is likely to have a significant impact on matters of national environmental significance In order to decide whether an action is likely to have a significant impact, it is necessary to take into account the nature and magnitude of potential impacts. In determining the nature and magnitude of an action's impacts, it is important to consider matters such as: • the sensitivity of the environment which will be impacted • the timing, duration and frequency of the proposed development and its impacts • all on-site and off-site impacts • all direct and indirect impacts • the total impact which can be attributed to the proposed development over the entire geographic area affected, and over time • existing levels of impact from other sources, and • the degree of confidence with which the impacts of the proposed development are known and understood.

4.4 Koala

4.4.1 Modified Habitat Quality Assessment

The action proposes to impact **24.20 ha** of vegetation that is identified as providing critical habitat for the Koala. The habitat critical to the survival of the Koala is presented in **Plan A11**.

4.4.2 Assessment Methodology

To determine the quantum impact and quality of the habitat suitable for koala on-site, vegetation / habitat quality was derived from the Modified Habitat Quality Assessment (MHQA) tool. This assessment method utilises the Queensland *Guide to determining terrestrial habitat quality: A toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy* Version 1.2 April 2017 and the Queensland *BioCondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland V2.2 February 2015* (BioCondition method) combined with site context and species stocking rate assessments to determine the habitat quality of the project area.

The purpose of this guideline is to provide a methodology for proponents to determine the habitat quality of a site under the Queensland Environmental Offsets framework. The guideline is a step-by-step methodology explaining how to measure habitat quality for land-based offsets. This methodology has been adopted and tailored/modified to assess the impacts and offsets relating to Koala. The BioCondition method provides the base methodology for the terrestrial habitat quality and in some cases the scoring and methods from BioCondition have been used within the MHQA Tool. These instances are identified within the methodology.

<u>Assessment Units</u>

The variance in quality of habitat on an impact or offset site is accounted for by delineating sites into assessment units (AUs). AUs are mapped to determine where the sample sites will be and how many are required to adequately assess the site's condition. AUs can be defined using desktop information but can be refined during field surveys where appropriate. In general, they should be relatively homogenous, defined by a distinct regional ecosystem or habitat type and distinct from other patches of vegetation on the site.

The vegetation on-site is considered to be consistently representative of Remnant RE12.9-10.2 across the site therefore the site is considered one (1) assessment unit (refer **Plan A3**).

<u>Modified Habitat Quality Assessment</u>

The *Guide to determining terrestrial habitat quality: A toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy* Version 1.2 April 2017 methodology recognises the following three (3) key indicators:

1. site condition – a general condition assessment of vegetation compared to a benchmark;
2. site context – an analysis of the site in relation to the surrounding environment; and
3. species habitat index – the ability of the site to support a species.

The MHQA for the Koala used here combines the three (3) key indicators from the Queensland State Government guide into two (2) (site condition and site context) with each being weighted 30% of the final score. The balance of the weighting, 40%, has been attributed to the third indicator (species stocking rate), that is independent of the Queensland State Government habitat quality assessment. The species stocking rate has been added to the MHQA to better incorporate MNES, and specifically the vulnerable *Phascolarctos cinereus* (Koala). The following subsections detail the methodology utilised to assess the site condition, site context and species stocking rate under the Koala MHQA.

The following section details the methodology utilised to assess the site condition, site context and species stocking rate under the MHQA.

Site Condition (30 %)

Assessing site condition is an integral step in determining specific quantification of impacts, while also determining whether an offset site is suitable to establish a desired capacity to support the prescribed environmental matters being offset. The on-site condition is a key element of habitat quality and has a direct influence on the biodiversity it supports. Site condition is assessed using a suite of attributes to describe the structure and function of the vegetation community and is benchmarked against the expected range for a relatively undisturbed community.

The site condition assessment under the MHQA is assessed using 15 condition characteristics. Each condition characteristic and the relevant scoring and benchmark percentage is provided in **Table A19**.

Table A19: Koala site condition scoring attributes (BioCondition Manual)

Site condition attribute	Scoring and benchmark percentage				
(1) Recruitment of woody perennial species in ecologically dominant layer in EDL*	Score	0	3		5
	Benchmark	<20%	≥20-75%		≥75%
(2) Native plant species richness – trees	Score	0	2.5		5
	Benchmark	<25%	≥25-90%		≥90%
(3) Native plant species richness – shrubs	Score	0	2.5		5
	Benchmark	<25%	≥25-90%		≥90%
(4) Native plant species richness – grasses	Score	0	2.5		5
	Benchmark	<25%	≥25-90%		≥90%
(5) Native plant species richness – forbs	Score	0	2.5		5
	Benchmark	<25%	≥25-90%		≥90%
(6) Tree canopy height	Score	0	3		5
	Benchmark	<25%	≥25-70%		≥70%
(7) Tree canopy cover	Score	0	2	3	5
	Benchmark	<10%	≥10%-<50%	≥200%	≥50-200%
(8) Shrub canopy cover	Score	0	3		5
	Benchmark	<10%	≥10%-<50% or ≥200%		≥50-<200%
(9) Native perennial grass cover	Score	0	1	3	5
	Benchmark	<10%	≥10-50%	≥50-90%	≥90%
(10) Organic litter	Score	0	3		5
	Benchmark	<10%	≥10%-50% or ≥200%		≥50-<200%

Site condition attribute	Scoring and benchmark percentage				
(11) Large trees	Score	0	5	10	15
	Benchmark	0%	0-50%	≥50-100%	≥100%
(12) Coarse woody debris	Score	0	2		5
	Benchmark	<10%	<50% or ≥200%		≥50% or <200%
(13) Non-native plant cover	Score	0	3	5	10
	Benchmark	>50%	≥25-50%	≥5-25%	<5%
(14) Quality and availability of food and foraging habitat	Score	1	5		10
	Benchmark	SC1-13 attributes = <27/80 (<33% of benchmark)	SC1-13 attributes = >27/80-<54/80 (33% of benchmark)		SC1-13 attributes = >54/80
(15) Quality and availability of shelter	Score	1	5		10
	Benchmark	SC1-13 attributes = <27/80 (<33% of benchmark)	SC1-13 attributes = >27/80-<54/80 (33% of benchmark)		SC1-13 attributes = >54/80 (≥66% of benchmark)

Assessment methodology of the above condition characteristics mostly do not differ from the traditional terrestrial habitat quality assessment. In developing the MHQA to better incorporate MNES, two (2) species habitat index characteristics, being, (1) quality and availability of food and foraging habitat, and (2) quality and availability of shelter have been added to the site condition indicator. The two Koala habitat index attributes are based on the balance site condition attributes as listed, being species recruitment through to non-native plant cover, where the scores for each of these attributes are summed to provide a data driven condition attribute score out of 80. Scoring for quality and availability of food and shelter is then attributed as follows; the bottom 33% (or <27/80) scores 1, the middle 33% (or between 27/80 and 54/80) scores 5 and the top 33% (or >54/80) scores 10. Site condition drivers therefore determine the habitat quality indices of food and shelter in a repeatable metric.

A total of two (2) MHQA transects were completed across the site on 16 March 2020. Refer **Plan A3** for the location of MHQA transects.

Site Context (30 %)

The site context assessment considers the landscape characteristics adjoining the site. Site context is measured using a suite of attributes to describe the location of the habitat within the surrounding landscape and the influence of its associated threats. This assessment also considers the influence of adjacent vegetated areas and ecological corridors. Under the MHQA, site context is measured using seven characteristics. In developing the MHQA, three species habitat index characteristics were nominated to form part of the site context characteristics: role of site location to overall species population in the state, threats to the species, and species mobility capacity. The seven characteristics are listed below with details of how each are measured in accordance with the *Guide to determining terrestrial habitat quality: A toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy* version 1.2.

- Size of patch – Measured as the area of vegetation in which the assessment unit(s) is contained, and add on all other directly connecting areas of koala habitat. The calculation of the area of the patch size uses the method outlined in the BioCondition assessment manual v2.2 that considers the patch to be areas connected by corridors greater than 200 m wide within a 1 km radius of the site. This methodology includes use of a "segmentation" process that removes areas connected to the assessment area by narrow corridors (refer **Plan A27**);
- Connectedness – Relates to the capacity that the species have to disperse through the landscape. This attribute is calculated using GIS by measuring the length koala habitat along the boundary of the site, calculated as a percentage (refer **Plan A27**);
- Context – The context score is calculated by GIS to quantify the amount of vegetation immediately surrounding the assessment site. It is measured as the percentage of koala habitat within a 1 km radius of the site (refer **Plan A27**);
- Ecological corridors – This attribute is as per the methods of the Guide to determining terrestrial habitat quality V1.2 and is used to determine if a site is located within or shares a boundary with an ecological corridor that facilitates long term ecosystem function by connecting large patches of remnant vegetation with sufficient tract size (corridor width in relation to the fragmentation of the landscape) (EHP 2014). These corridors support the habitat of MNES by providing opportunity for long term dispersal of habitat species following landscape level changes in climate. Although the ecological corridors allow for the dispersal of MNES themselves, for example, Koala, this is not their primary function when assessing the attribute. An 'ecological corridor' is represented as any 'Riparian' or 'Terrestrial' feature within the 'CORR_TYPE' attribute table of the 'Queensland biodiversity and vegetation offsets special features' map. The mapping can also be viewed on Queensland Globe in the 'Statewide Biodiversity Corridors' layer (refer **Plan A28**);
- Role of site location to species overall population in the state – This attribute is based on the observed role of the site in relation to the overall population of the species. The scoring table considers the species' use of the site – such as whether it is used for feeding and/or nesting and the effect that damage to or removal of the site would have to the likelihood of the species' overall population survival.
- Threats to the species – This attribute identifies the presence and severity of threatening processes observed at or adjacent to the site which may include clearing associated with development, creation of a barrier to movement, introduction or spread of disease or pathogens, risk of high-intensity fires, degradation of habitat from hydrological change and introducing or increasing mortality attributed to vehicle strike or dog attacks. The highest threat level is given to a site if it isolated from other Koala habitat, or if major roads without exclusion measures, or residential encroachment is within 1500 m of the site boundary.
- Species mobility capacity – Scored based on the presence and severity of factors that would contribute to a reduction in the mobility of the species such as barriers that would result in a long-term reduction in genetic fitness or access to important resources. Examples of mobility limited factors include roads, large, cleared areas and weed infestations. Under the Habitat Quality Guideline, this is measured in terms of a percentage reduction.

In developing the MHQA, three (3) species habitat index characteristics were nominated — role of site location to overall species population in the state, threats to the species and species mobility capacity.

Unlike the traditional habitat quality assessment methodology where site connectedness is assessed against the surrounding remnant vegetation only, the MHQA site connectedness is assessed against the surrounding MNES habitat, in this instance, Koala habitat. While remnant eucalypt forest vegetation is critical habitat for Koala, equally Koalas can utilise areas of non-remnant vegetation or high value regrowth vegetation that does not yet achieve remnant status. Therefore, site context under the MHQA accounts for surrounding Koala habitat rather than remnant vegetation.

Habitat critical to the survival of the Koala was determined using the combination of the Unsupervised Classification tool within ESRI's ArcGIS software and the most recently available aerial photograph from Nearmap.com. The Unsupervised Classification tool is able to determine vegetation areas through the near infrared (NIR) composite band of the Landsat 8 imagery available online. The tool is able to create a dataset of vegetation areas without the analyst's intervention providing a rapid method for mapping habitat critical to the survival of the Koala over large regions such as South East Queensland. Nearmap.com aerial image is used for calibration purposes, particularly when dealing with smaller scale EPBC assessment areas. The dataset created by the Unsupervised Classification tool is revised using the latest aerial imagery available from Nearmap.com at scale of 1:40,000 and provides a more accurate depiction of habitat critical to the survival of the Koala at the assessment scale for EPBC referrals.

Scoring attributes extracted from the Habitat Quality Guideline are provided in **Table A20**.

Table A20: Koala site context scoring attributes

Site context attribute	**Scoring and benchmark percentage**				
Size of patch	0	2	5	7	10
	<5 ha	5-25 ha	26-100 ha	101-200 ha	>200 ha
Connectedness	0	2	4		5
	0-10%	>10-<50%	50-75%		>75% or >500 ha
Context	0	2	4		5
	<10% habitat	>10-30% habitat	>30-75% habitat		>75% habitat
Ecological corridors	0	4	6		
	Not within	Sharing a common boundary	Within (whole or part)		
Role of the site location to species overall population in the state	1	4	5		
	Not or unlikely to be critical to survival of the koala	Likely to be critical to survival of the koala	Critical to the survival of the koala		
Threats to the species	1	7	15		
	High threat level	Moderate threat level	Low threat level		
Species mobility capacity	1	4	7	10	

Site context attribute	Scoring and benchmark percentage			
	Severely restricted (76-100% reduction)	High restricted (51-75% reduction)	Moderately restricted (26-50% reduction)	Minor restriction (0-25% reduction)

Species Stocking Rate (40 %)

The MHQA incorporates species stocking rate as an attribute not discussed under the traditional terrestrial habitat assessment methodology. Species stocking rates are estimates of the Koala carrying capacity of the site at the time of undertaking the survey. Given the discreet nature of the Koala and limited to no published literature on habitat carrying capacity of the species, the species stocking rate scoring methodology has been derived through the collation of site-specific surveys and surrounding contextual habitat analysis.

Species stocking rate is calculated using the following parameters:

- Species presence on or adjacent to the site – whether or not evidence of koala has been recorded within or adjoining the site. Evidence may be direct in the form of observation of koalas, or indirect via the presence of scats.
- Species usage of the site (habitat type and evidenced usage) – the type of habitat includes vegetation structure such as whether it contains remnant, regrowth or non-remnant vegetation values, and evidenced usage is the confirmed presence or use of the species within the habitat. Both factors are used to inform the species usage of the site. Depending on the level of variability in vegetation and usage patterns across the site, this characteristic may be scored differently for assessment units.
- Approximate density of the species on the site – measured through the use of Spot Assessment Technique (SAT) (Phillips *et al.* 2011) and targeted searches with a high probability of detection, including UAV drone surveys. The combination of methods produces a higher reliability of data when extrapolating koala density. The SAT method is an industry recognised technique for identifying presence/absence of koala and measuring activity. SAT survey results are interpreted using the broad population categories provided in the Australian Koala Foundation Koala activity level classification table to infer an activity level or approximate density. These categories being 'East Coast (low)', 'East Coast (med-high)' and 'Western (med-high)' are shown in **Table A9**. (refer **Section 3.3.4, f)**). Depending on the population category applied, Koala activity is described as 0%, 'low', 'moderate', or 'high'.
- Role/importance of species population on site – the extent to which the site is considered a key source population for breeding, dispersal, is necessary for maintaining genetic diversity or near the limit of the species' range.

Baseline Koala activity levels were determined through utilising the SAT method (Phillips et al. 2011). The SAT method is an industry recognised technique for identifying presence/absence of Koala at a site and is specified as an appropriate survey method in the *EPBC Act Referral Guidelines for the Vulnerable Koala*. Results from the SAT surveys are compared against current available published scientific literature to identify an estimated Koala carrying capacity (stocking rate) to be determined. The SAT methodology is explained in further detail in **Section 3.3.4**. **Table A21** outlines the attributes utilised to assess species stocking rate.

Table A21: Species Stocking Rate Scoring

Attribute	**Scoring and criteria**				
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score (/10)	0	5	10	
		No	Yes – adjacent to site	Yes – on-site	
Species usage of the site (habitat type and evidenced usage)	Score (/15)	0	5	10	15
		Not habitat	Dispersal habitat	Foraging habitat	Breeding habitat
Approximate density (per ha)	Score (/30)	0	10	20	30
		0%	Low	Medium	High
Role/importance of species population on site*	Score (/15)	0	5	10	15
		0	5-15	20-35	40-45
Total SSR	/70				
SSR Score	/4				

*Species Stocking Rate supplementary table – Total supplementary score 0 = 0, 5-15 = 5, 20-35 = 10, 40-45 = 15			
Key source population for breeding	Score (/10)	0	10
		No	Yes/Possibly
Key source population for dispersal	Score (/5)	0	5
		No	Yes/Possibly
Necessary for maintaining genetic diversity	Score (/15)	0	15
		No	Yes/Possibly
Near the limit of the species range	Score (/15)	0	15
		No	Yes

Scoring Weight Justification

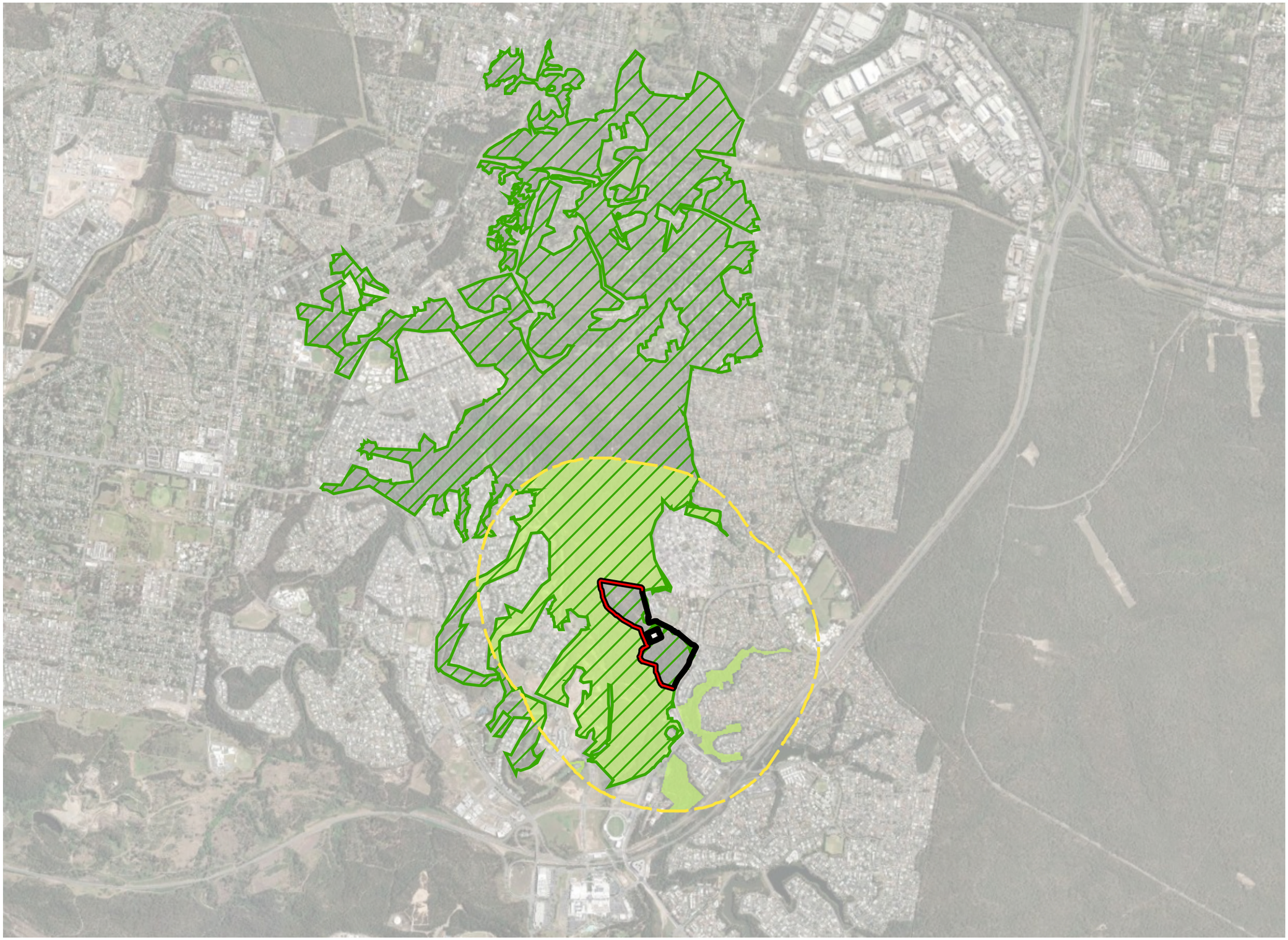
For this project, Site Condition and Site Context were given a weighted score out of three (3), while Species Stocking Rate given a weighted score out of four (4).

Species Stocking Rate was assigned the highest weighting as it is considered the greatest determinant of site suitability for the Koala. Species Stocking Rate is an important component when assessing the overall habitat quality of a site as it indicates species usage.

Site Condition and Site Context were assigned the equal weighting (scored out of 3). The Koala is known to occupy a variety of habitats, ranging from non-remnant regrowth eucalypt forest/woodland through to old growth remnant forest/woodland, however, the site condition of the habitat is considered to directly influence the long-term Koala carrying capacity. Site Context is considered an important component when assessing the Koala as it directly relates to the long-term survival rate of the species. The proximity of the site to other areas of suitable habitat, the movement pattern through the landscape of the Koala (and/or barriers inhibiting movement) and threats to the species are important attributes to assess when considering the overall functionality of the site.

It is considered that the provision of this weighted scoring most accurately quantifies the ecological requirements of the Koala, which will then assist in determining whether an offset site is suitable to establish a desired capacity to support the prescribed environmental matters being offset.

A27. Impact Site Koala Context Assessment



Notes:
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Legend

- Referral Area
- 1km Referral Area Buffer
- Size of Koala critical habitat patch adjoining referral area (878.4 ha)
- Percentage of Koala critical habitat within 1km of referral area (44.2%)
- Percentage of referral area boundary length supporting a Koala critical habitat connection off and on site (52.4%)

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 250 500 750 1,000 m

Transverse Mercator | GDA 1994 | Zone 56 | 1:31,000 @ A3

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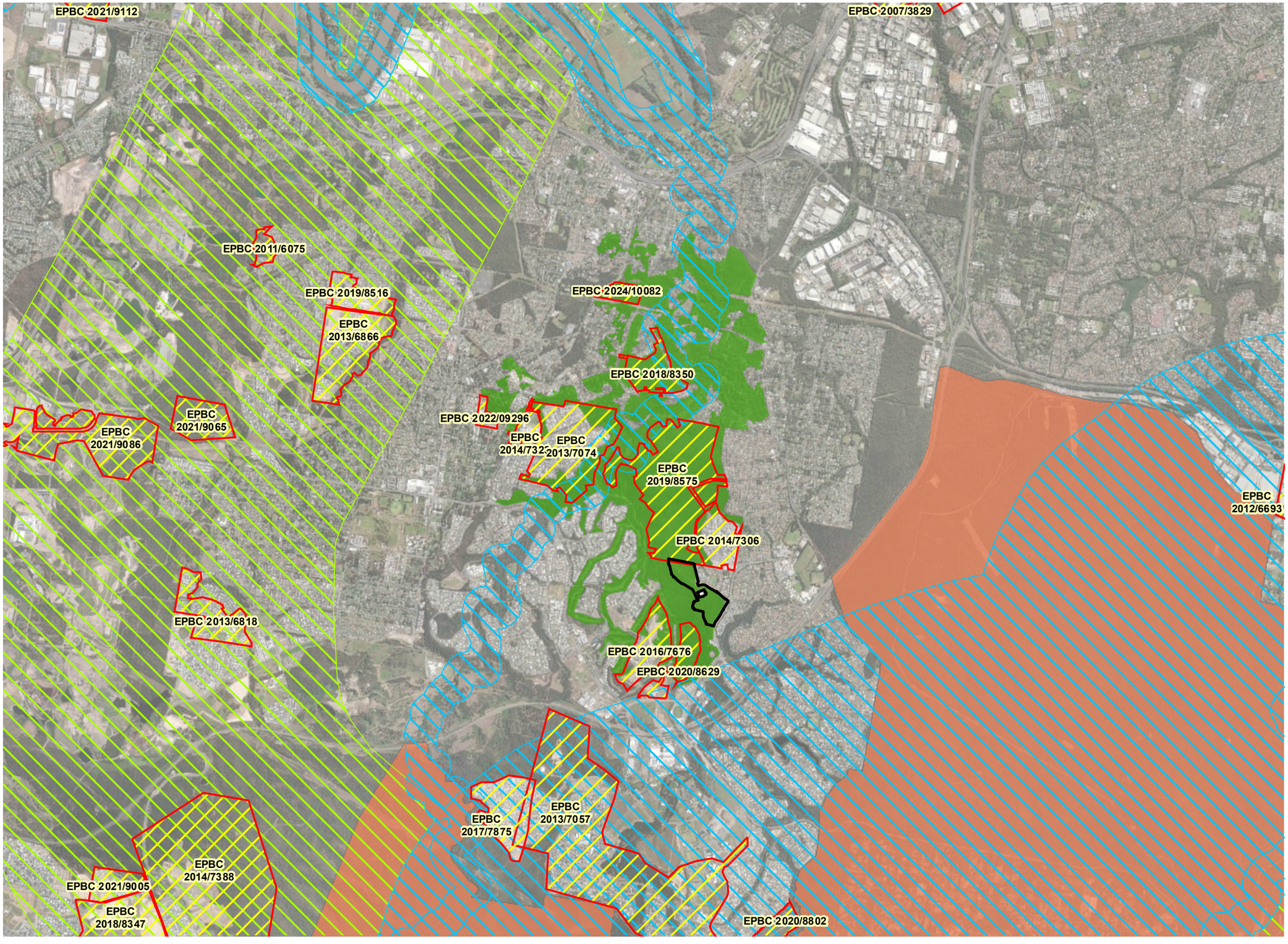
A28. Ecological Corridors



Notes:
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Legend

- Referral Area
- Habitat Connectivity
- Surrounding EPBC Referrals
- SEQ Regional Plan 2017 Regional Biodiversity Corridor

Statewide Corridor Buffers

- Regional Significance
- State Significance

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

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29/10/2025 | 7399 E A28 Ecological Corridors E

4.4.3 Discussion

A total of two (2) MHQA transects were conducted across the AU 1, described as remnant RE12.9-10.2. The averages of the transects were taken achieve a single site condition score for the site.

The habitat quality scores for each assessment unit, combining Site Condition, Site Context and Species Stocking Rate are reported in **Table A22** and **Table A23**. The scores for Site Condition are derived directly from the MHQA Tool data. These scores are then used to determine the scores for Quality and Availability of Food and Foraging Habitat, and Quality and Availability of Shelter. The site was given an overall weighted habitat quality score of **6.13 out of 100**.

Site Condition (30%)

The vegetation community on-site achieved an average score for Site Condition of **1.86 out of 3**. The transects generally scored poorly for large trees per ha, coarse woody debris, native perennial grass cover and non-native plant cover and scored moderately for species richness of shrubs, grasses and forbs. Refer to **Photo sets 2 and 3** for photos facing north, south, east and west captured at the 50 m transect mark. The raw transect data for the impact area is located at **Attachment A7**.

Site Context (30%)

Combining each attribute below, site context scored **1.98 out of 3**.

Size of patch

This attribute is a measure of the size of the patch of vegetation in which the assessment unit is located. The scoring reflects the importance of large patches in the landscape and is based on the size of the patch of critical Koala habitat connected to the site in this instance. This attribute is scored such that is reflects the fact that larger patches are less susceptible to ecological edge effects and are more likely to sustain viable populations of native flora and fauna than smaller patches. The size of patch attribute was calculated using GIS, and achieved a score of **10 out of 10** as the site of critical Koala habitat patch was calculated to be 878.4 ha (greater than 200 ha as per the *Queensland BioCondition Assessment* methodology (refer **Plan A27**).

While bushland on-site is presently connected to remnant vegetation north and south of the site, these lots are both undergoing EPBC Act assessments (EPBC 2019/8575 and EPBC 2020/8629) (refer **Plan A2**). Following the commencement of clearing of these lots to the south, the site will be further fragmented from potential habitat. Remaining linkages will be limited to Opossum Creek Corridor to the south and west which connect through a State significant ecological corridor in the north (refer **Plan A23**).

Connectedness

As a landscape level attribute, connectedness aims to assess the degree to which the assessment unit is connected with adjacent native vegetation. Connectedness relates to the capacity of the species to disperse through the landscape between sustainable patches of habitat and therefore has important implications for species persistence. Connectedness was calculated using GIS, with the percentage of project area boundary length supporting a Koala critical habitat connection off and on-site was calculated at 52.4%, and

consequently this attribute scored a **4 out of 5** as per the *Queensland BioCondition Assessment* methodology (refer **Plan A27**).

Context

The context attribute refers to the amount of critical Koala habitat that is retained within a 1 km buffer of the site being assessed and is calculated using GIS. Retained critical Koala habitat within a 1 km buffer of the site was calculated at 44.2%, and therefore the context attribute achieved a score of **4 out of 5** as per the *Queensland BioCondition Assessment* methodology (refer **Plan A27**).

Ecological Corridors

GIS mapping was utilised to identify the site's role in any ecological corridors on or adjacent to the site (refer **Plan A28**). The site does not form part of any mapped ecological corridors. Therefore, this attribute was scored **0 out of 6**.

Role of site location to species overall population in the state

This attribute aims to quantify the geographical importance of the site for Koala populations across the broader state. This attribute achieved a score of **5 out of 5**. This score was assigned as the site is considered to contain critical habitat for the Koala (as per the EPBC referral determination).

Threats to the species

The threats to the species attribute aims to quantify the risk to survival of the Koala on-site. Key known threats to the survival of the Koala include proximity to main roads due to the risk of motor vehicle strike, as well as predation by wild or domestic dogs. This attribute was scored a **7 out of 15** indicating a moderate level of threats.

The risk of motor vehicle strike to Koalas on or adjoining the site would be relatively high as the site is bound by Springfield Parkway to the east with residences and roads within the surrounding landscape. A review of the Koala Hospital Records show that two (2) Koala deaths have occurred nearby the site. One (1) is located approximately 900 m south-east of the site and the other approximately 1.5 km south-west, both in association with Centenary Highway.

It is noted that anticipated growth and planned residential development throughout Springfield Central will result in increased traffic flows. Multiple Koala deaths are noted in the surrounding landscape in association with major roads (refer **Plan A29**). Threats to Koala are anticipated to increase as a result of the development.

In addition, evidence of dogs utilising the site was recorded during field survey. The site is utilised by members of the public to walk their domestic dogs, where the presence of dogs can deter Koala presence (DEHP, ND). Due to the situation of the site abutting extensive residential estates, and with modified bushland to the west associated with industrial and extractive resource uses, access to the site by wild dogs or those off-leash is considered an increased risk to Koala mortality.

Species mobility capacity

Species mobility capacity is used to quantify the ability of the species to move from the site and through the surrounding landscape in order to meet its needs for survival. Species mobility capacity is considered particularly important in response to rapid changes to the surrounding environment, such as the commencement of land clearing. Grey-headed Flying Fox and avi-fauna for example are considered highly mobile species due to their ability to fly quickly and over land barriers such as highways or residential developments. Conversely, the Koala is considered a relatively immobile species due to its slow-moving nature and vulnerability to threats on ground as outlined above.

Species mobility capacity for the Koala on-site was assigned the moderate score of **7 out of 10**. While bushland on-site is presently connected to bushland north and south of the site, two (2) EPBC Act determinations exist across the bushland adjoining the site to the north and south. In addition, Springfield Anglican College, residential developments and Springfield Parkway disconnect the site to the north, west and south-east. Following the commencement of clearing of these lots to the north and west, the site will be disconnected from surrounding bushland for relatively immobile species such as the Koala, with the exception of the remaining connectivity along Opossum Creek.

Species Stocking Rate (40%)

The final component of the MHQA technique is species stocking rate. Species stocking rates are estimates of the Koala carrying capacity of the site at the time of undertaking the survey. A species stocking rate score of **40 out of 70** was attributed to the site for a score of **2.29 out of 3**. This was largely attributed to the fact that that presence was confirmed on-site, the site contains breeding habitat and a low evidence of usage was identified as confirmed through SAT surveys and supported by spotlighting and RPA wildlife aerial thermal surveys (refer **Table A23**).

Results of Koala specific SAT surveys are provided in **Table A10.**

Summary

To summarise, the action is considered to impact on moderate quality Koala habitat, however, not on an important Koala population, having a impact score of **6.13 out of 10** (refer **Table A22**). The vegetation on the site is part of a contiguous landscape of habitat by existing barriers and threats with future development scheduled for the adjoining north-west and southern land parcels. Substantial avoidance, management and mitigation measures are considered to result in a manageable impact on Koala habitat in the context of the Springfield Central area. It is considered that any potential impacts on any transient Koalas during clearing and operation can be appropriately managed through the proposed mitigation and management measures.

A29. Koala Hospital Records

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Legend

- Referral Area
- 5km Referral Area Buffer
- Major and arterial roads

Qld Koala hospital records

- Deceased
- Injured
- Sick and/or wasted
- Sick & Injured
- Orphaned
- Fall & orphaned
- Vehide hit
- Vehide hit & orphaned
- Other incident type/ category not recorded

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 250 500 750 1,000 m

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Address / RPD: 51/SP242316

29/10/2025 | 7399 E A29 Koala Hospital Records E

North

South

East

West

Photo set 2: AU1 – Transect 1 centre photos

North

South

East

West

Photo set 3: AU1 – Transect 2 centre photos

Table A22: Koala MHQA Results – Assessment Unit 1

Assessment Unit - Regional Ecosystem	AU1 – Remnant (RE12.9-10.2)					
	RE12.9-10.2 Benchmark	Transect 1	Transect 2	Average of Transect(s)	% Benchmark	Score
SITE CONDITION						
Recruitment of woody perennial species in EDL	100	100	100	100.00	100.00	5.0
Native plant species richness - trees	6	14	11	12.50	208.33	5.0
Native plant species richness - shrubs	7	5	6	5.50	78.57	2.5
Native plant species richness - grasses	7	6	5	5.50	78.57	2.5
Native plant species richness - forbs	13	11	14	12.50	96.15	5.0
Tree canopy height (Canopy)*	21	18	17	17.50	83.33	5.0
Tree canopy height (Sub-canopy)*	12	14	14	14.00	116.67	5.0
					*Average tree canopy height	5.0
Tree canopy cover (Canopy)**	64	81.9	75.9	78.90	123.28	5.0
Tree canopy cover (Sub-canopy)**	20	65.6	52.5	59.05	295.25	3.0
					**Average tree canopy cover	4.0
Shrub canopy cover	6	6.2	8.3	7.25	120.83	5.0
Native grass cover*	21	9	1	5.00	23.81	1.0
Organic litter*	48	62.4	64.6	63.50	132.29	5.0
Large trees (euc plus non-euc) (per ha)	38	6	2	4.00	10.53	5.0
Coarse woody debris (per ha)	506	117	159	138.00	27.27	2.0
Non-native plant cover	0	5	25	15.00	15.00	5.0
Quality and availability of food and foraging habitat	NA	5	5	5.00	-	5.0
Quality and availability of shelter	NA	5	5	5.00	-	5.0
					Site Condition Score (/100)	62
					Overall Site Condition Score - out of 3	1.86

Assessment Unit - Regional Ecosystem	AU1 – Remnant (RE12.9-10.2)					
	RE12.9-10.2 Benchmark	Transect 1	Transect 2	Average of Transect(s)	% Benchmark	Score
SITE CONTEXT						
Size of patch	10	10	10	10		10
Connectedness	5	4	4	4		4
Context	5	4	4	4		4
Ecological Corridors	6	0	0	0		0
Role of site location to species overall population in the state	5	5	5	5		5
Threats to the species	15	7	7	7		7
Species mobility capacity	10	7	7	7		7
					Site Context Score (/56)	37
					Overall Site Context Score - out of 3	1.98
SPECIES STOCKING RATE						
Koala Stocking Rate (utilising SSR & SSR Supplementary Table(s)	40	40	40	40		
					Species Stocking Rate Score (/70)	40
					Overall Species Stocking Rate Score - out of 4	2.29
					Overall Assessment Unit Score	6.13

Table A23: Koala Species Stocking Rate Results

Species Stocking Rate Table	
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	10/10 (detected on-site)
Species usage of the site (habitat type and evidenced usage)	15/15 (breeding habitat)
Approximate density (per ha)	10/30 (low density)
Role / importance of species population on site*	5/15 (precautionary approach – key source population for dispersal)
Total Species Stocking Rate Score	**40/70**
***SSR Supplementary Table – Total supplementary score 0 = 0, 5-15 = 5, 20-35 = 10, 40-45 = 15**	
Key source population for breeding	0/10
Key source population for dispersal	5/5
Necessary for maintaining genetic diversity	0/15
Near the limit of the species range	0/15

4.5 Grey-headed Flying-fox

4.5.1 Assessment Methodology

The action proposes to impact of **24.20 ha** of vegetation that is identified as critical habitat for the Grey-headed Flying-fox. The impact and the offset sites have been assessed using a GHFF Foraging Habitat Assessment (GHFF FHA) tool developed by the Saunders Havill Group which adopts characteristics of the Queensland *Guide to determining terrestrial habitat quality: A toolkit for assessing land based offsets under the Queensland Environmental Offsets Policy* version 1.2 April 2017, while also integrating published scientific literature on GHFF foraging habitat.

The traditional terrestrial habitat quality assessment assesses three (3) core indicators—site condition, site context and species habitat index.

The GHFF FHA tool combines the aspects of the three (3) core indicators and published scientific literature into two (site condition and site context) with site condition being weighted with 40 % and site context weighted at 30 % of the final score. The balance of the weighting (30 %) has been attributed to the third indicator which is independent of the traditional habitat quality assessment, being species stocking rate. The species stocking rate assessment incorporated in the GHFF FHA tool is focussed on 'foraging habitat' for GHFF rather than GHFF stocking rates (presence/absence of the species). This assessment of 'foraging habitat' for species stocking rate has been incorporated in the GHFF FHA tool as GHFF roosting camp or species presence was not observed on-site, however, suitable foraging habitat for the species was evident. Therefore, the density of foraging habitat available on-site is considered an appropriate assessment benchmark for species stocking rate.

The following section details the methodology utilised to assess the site condition, site context and species stocking rate under the GHFF FHA.

Site Condition (40 %)

Assessing site condition is an integral step in determining specific quantification of impacts, while also determining whether an offset site is suitable to establish a desired capacity to support the prescribed environmental matters being offset. The on-site condition is a key element of habitat quality and has a direct influence on the biodiversity it supports. Site condition is assessed using a suite of attributes to describe the structure and function of the vegetation community and is benchmarked against the expected range for a relatively undisturbed community.

The site condition assessment under the GHFF FHA is assessed using six condition characteristics being:

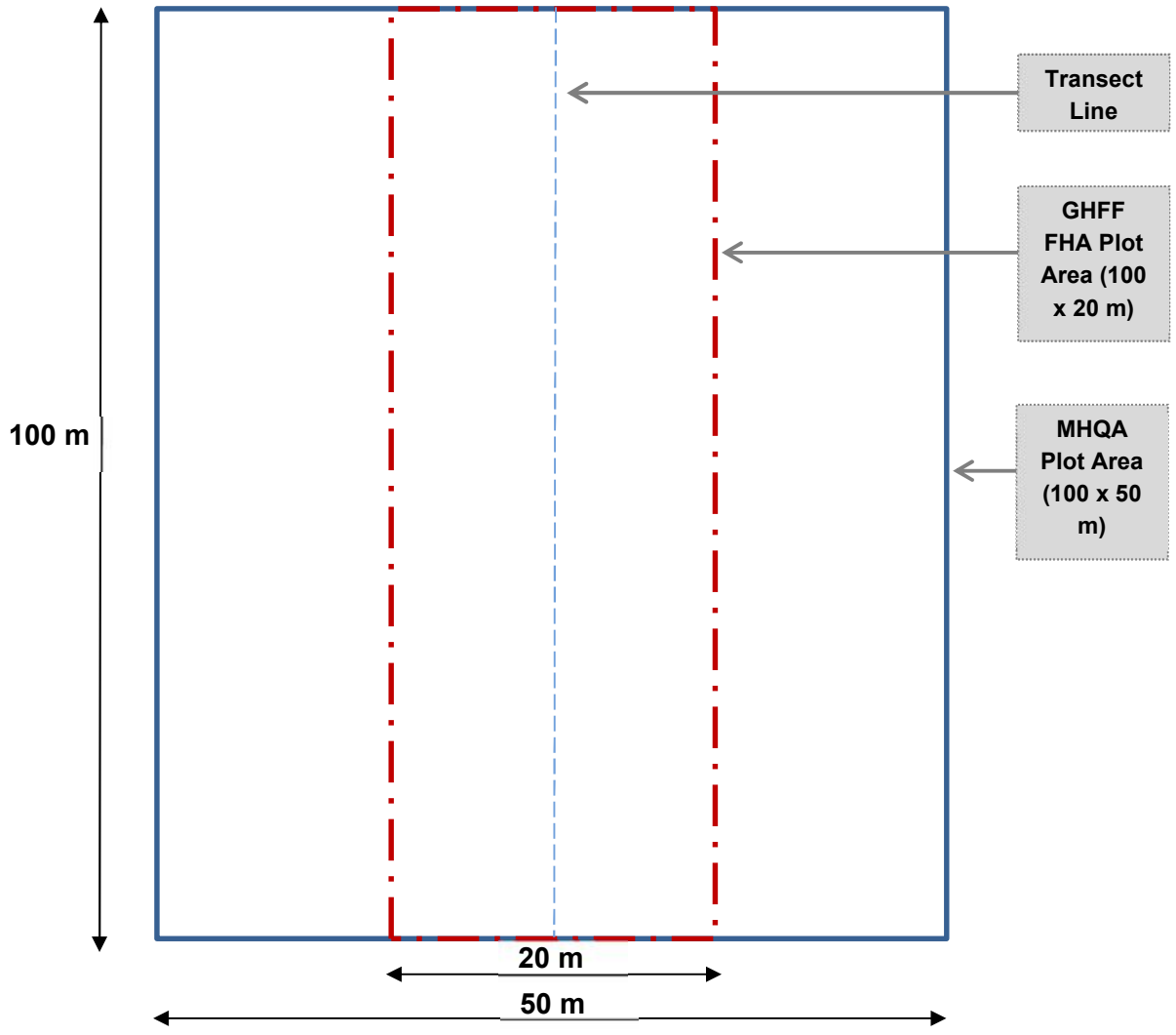
- Vegetation condition;
- Species richness (canopy trees);
- Flower scores (average);
- Timing of biological shortages;
- Quality of foraging habitat (trees >0.65 wt p*r); and
- Non-native plant cover.

Assessment methodology of the above condition characteristics is outlined below:

- *Vegetation condition* – This condition characteristic is assessed using the Queensland *Vegetation Management Act 1999* vegetation community status definition, being Category B (remnant), Category C (high-value regrowth) and Category X (non-remnant). This characteristic is scored from a desktop mapping perspective and verified on-ground during assessment. Refer to **Table A24** for the benchmark scoring values for this condition characteristic.
- *Species richness (canopy trees)* – This condition characteristic is assessed using a 100 m X 20 m plot following the contour of the land when possible. Within the plot, all canopy tree and subcanopy tree specimens are recorded. It should be noted that non-GHFF foraging species are also documented. Refer to **Table A25** for the benchmark scoring values for this condition characteristic.
- *Flower scores (average)* – This condition characteristic is assessed by analysing and cross-referencing the species recorded in the 'species richness (canopy trees)' characteristic with the published literature, specifically the information within *Ranking the feeding habitat of Grey-headed flying foxes for conservation management* (Eby and Law, 2008) and the *Draft Recovery Plan for the Grey-headed Flying-fox* (DoEE, 2017) and determining the flower score of the recorded canopy species. The individual score for each flowering GHFF foraging tree is then divided by the number of species recorded (GHFF foraging and non-GHFF foraging trees) to produce an average. The benchmark values for this condition characteristic have been derived from the findings published by Eby and Law (2008) (*Ranking the feeding habitat of Grey-headed flying foxes for conservation management*). Refer to **Table A26** for the benchmark scoring values for this condition characteristic.
- *Timing of biological shortages* – This condition characteristic is assessed by analysing and cross-referencing the species recorded in the 'species richness (canopy trees)' characteristic with the published literature, specifically the information within *Ranking the feeding habitat of Grey-headed flying foxes for conservation management* (Eby and Law 2008) and the *Draft Recovery Plan for the Grey-headed Flying-fox* (DoEE, 2017) and determining the ability of the canopy species in the vegetation community to produce foraging habitat during biological shortages (food shortages, pregnancy and birthing, lactation, mating and conception, migration paths and fruit industries). It should be noted that this condition characteristic is weighted and 'food shortages' has been weighted heavier than the balance of the characteristics which are equal, as 'food shortages' is recognised as a major issue. Refer to **Table A27** for the benchmark scoring values for this condition characteristic.
- *Quality of foraging habitat* – This condition characteristic is assessed by analysing and cross-referencing the species recorded in the 'species richness (canopy trees)' characteristic with the published literature, specifically the information within *Ranking the feeding habitat of Grey-headed flying foxes for conservation management* (Eby and Law 2008) and the *Draft Recovery Plan for the Grey-headed Flying-fox* (DoEE, 2017) and determining which canopy species recorded contain a flower score greater than 0.65 wt p*r and is recognised as a significant food plant by Eby and Law (2008). It should be noted that species recorded that are not prescribed a value by Eby and Law (2008) but are recognised as GHFF foraging trees, have been given an average weighted value of related species or, in the case of *Eucalyptus crebra* (Narrow-leaved Ironbark) been prescribed a value of 0.65 and classified as a significant food plant given its importance as a winter flowering species as acknowledged in the *Draft Recovery Plan for the Grey-headed Flying-fox* (DoEE, 2017). Refer to **Table A28** for the benchmark scoring values for this condition characteristic.

- *Non-native plant cover* – This condition characteristic is assessed using a 100 m X 20 m plot following the contour of the land when possible. All non-native plant cover was assessed by estimating the cover of exotic species over the 100 m X 20 m plot. Refer to **Table A29** for the benchmark scoring values for this condition characteristic.

It should be noted that for on-ground assessment purposes, the 100 m X 20 m plot utilised for the GHFF FHA overlaps with the on-ground condition characteristics of the Koala MHQA. Refer to the **Insert 1** below for location of GHFF FHA within the MHQA Plot.



Insert 1: MHQA and GHFF FHA Plot Location Diagram

Site Context (30 %)

The site context assessment deals with the site and its adjacent surroundings. Site context is measured using a suite of attributes to describe the location of the habitat within the surrounding landscape and the influence of its associated threats. This assessment also considers the influence of adjacent vegetated areas and ecological corridors. Under the GHFF FHA, site context is measured using the following six characteristics:

- Size of patch;
- Connectedness (active GHFF roost camps in a 20 km radius);
- Context (percentage of GHFF foraging habitat in a 20 km radius);
- Ecological corridors;
- Role of site location to species overall population in the state (active GHFF 'level 3' roost camps in a 20 km radius as shown on the national flying-fox monitoring viewer); and
- Threats to the species.

Assessment methodology of the above context characteristics is outlined below:

- *Size of patch* – This context characteristic is assessed using a modified version of the traditional habitat quality assessment with the directly connected patch of GHFF foraging habitat to site measured. This context characteristic is measured using GIS. Refer to **Table A29** for the benchmark scoring values for this context characteristic.
- *Connectedness* – This context characteristic is assessed by analysing the number of active GHFF roost camps (over the most recent monitoring period (8/23 – 8/24)) within a 20 km radius of the site. For consistency purposes this assessment is to utilise the data provided on the National Flying-fox Monitoring Viewer (Australian Government). Refer to **Table A31** for the benchmark scoring values for this context characteristic.
- *Context* – This context characteristic is assessed using a modified version of the traditional habitat quality assessment with the percentage of GHFF foraging habitat within a 20 km buffer of the site measured. This context characteristic is measured using GIS. Refer to **Table A32** for the benchmark scoring values for this context characteristic.
- *Ecological corridors* – This context characteristic is assessed using the traditional habitat quality assessment methodology which involves determining the proximity of the site to state, bioregional, regional or sub-regional corridors. Refer to **Table A33** for the benchmark scoring values for this context characteristic.
- *Threats to species* – This context characteristic is assessed by analysing the published scientific literature regarding threats to GHFF and determining the number and severity of the threatening processes observed at or adjacent to the site. Refer to **Table A33** for the benchmark scoring values for this context characteristic.
- *Role of site location to species overall population in the state (active GHFF national flying-fox monitoring viewer 'level 3' roost camps in a 20 km radius)* – This context characteristic is assessed by determining the number of active GHFF roost camps level 3 or greater (over the most recent monitoring period (8/23 – 8/24)) within a 20 km radius of the site. For consistency purposes this assessment is to utilise the data provided on the national flying-fox monitoring viewer (Commonwealth Government). Refer to **Table A35** for the benchmark scoring values for this context characteristic.

Species Stocking Rate (30 %)

The GHFF FHA incorporates species stocking rate as an attribute not discussed under the traditional terrestrial habitat assessment methodology. As discussed above, species stocking rate for GHFF associated with this proposed action is related to the density of GHFF foraging habitat at the site at the time of undertaking the survey.

Baseline GHFF foraging tree surveys were undertaken by utilising the stem count methodology provided in the *Methodology for surveying and mapping regional ecosystems and vegetation communities in Queensland (version 5.0)* (Neldner et al. 2019). It is noted that the methodology detailed in Neldner et al. (2019) uses a plot area of 50 X 10 m. For the purposes of this assessment, the area was modified to 100 X 20 m to align with the MHQA plot, however, the actual count assessment method remains the same.

This methodology involves assigning the strata for canopy (T1) and subcanopy (T2) and then counting the number of individual tree specimens within the 100 m X 20 m plot (0.2 ha) that are classed as foraging species for GHFF. A tree that branches into two or more stems above 30 cm above the ground is counted as one individual. The stem density of canopy species recorded within the 0.2 ha plot is multiplied by five (5) to produce a stem density per ha. This number is then compared to the benchmark stem density per ha based on the sum of the T1 and T2 stem density for RE12.9-10.2. Based on the technical description, the average stem density taken as the sum of T1 and T2 is calculated as 240 per ha for RE12.9-10.2. Refer to **Table A36** for benchmark scoring values for species stocking rate.

The species stocking rate scoring was determined by analysing the Technical Descriptions of Regional Ecosystems of Southeast Queensland (Ryan, 2019) and the stem density per hectare associated with the technical description of the regional ecosystem.

Table A24: GHFF FHA Vegetation Condition Scoring

Score	Description
5	Category X / non-remnant
10	Category C / regrowth
20	Category B / remnant

Table A25: GHFF FHA Canopy Species Richness Scoring

Score	Description
0	0 GHFF foraging species
5	1 – 3 GHFF foraging species
10	4 – 6 GHFF foraging species
20	> 6 GHFF foraging species

Table A26: GHFF FHA Flower Score (average) Scoring

Score	Description
2	0.01 – 0.25
5	0.26 – 0.50
8	0.51 – 0.75
10	0.76 – 1.00

Table A27: GHFF FHA Timing of Biological Shortages Scoring

Score	Description
2.5	Food shortages
1.5	Pregnancy and birthing
1.5	Lactation
1.5	Mating and conception
1.5	Migration paths
1.5	Fruit industries
Total (/10)	Combine total of above

Table A28: GHFF FHA Quality of Foraging Habitat (trees >0.65 wt p*r) Scoring

Score	Description
0	0 significant GHFF foraging tree species
5	1 – 3 significant GHFF foraging tree species
10	4 – 6 significant GHFF foraging tree species
20	> 6 significant GHFF foraging tree species

Table A29: GHFF FHA Non-Native Plant Cover Scoring

Score	Description
1	> 50 % non-native plant cover
5	25 – 50 % non-native plant cover
10	5 – 25 % non-native plant cover
20	< 5 % non-native plant cover

Table A30 GHFF FHA Size of Patch Scoring

Score	Description
0	< 5 hectares
2	5 – 25 hectares
5	26 – 100 hectares
7	101 – 200 hectares
10	> 200 hectares

Table A31: GHFF FHA Connectedness Scoring

Score	Description
0	< 1 active Grey-headed Flying-fox camp within a 20 km radius
3	1 – 3 active Grey-headed Flying-fox camp within a 20 km radius
6	4 – 6 active Grey-headed Flying-fox camp within a 20 km radius
10	> 6 active Grey-headed Flying-fox camp within a 20 km radius

Table A32: GHFF FHA Context Scoring

Score	Description
0	< 10 % Grey-headed Flying-fox foraging habitat within a 20 km radius
3	10 – 30 % Grey-headed Flying-fox foraging habitat within a 20 km radius
6	31 – 75 % Grey-headed Flying-fox foraging habitat within a 20 km radius
10	> 75 % Grey-headed Flying-fox foraging habitat within a 20 km radius

Table A33: GHFF FHA Ecological Corridors Scoring

Score	Description
0	Not within an ecological corridor
6	Sharing a common boundary with an ecological corridor
10	Within an ecological corridor

Table A34: Threats to species (GHFF) scoring

Score	Description
1	High level threat to the species
5	Moderate level threat to the species
10	Low level threat to the species

Table A35: Role of site location to GHFF overall population in the State scoring

Score	Description
1	1 – 2 active level 3 Grey-headed Flying-fox camp within a 20 km radius
6	2 – 4 active level 3 Grey-headed Flying-fox camp within a 20 km radius
10	> 4 active level 3 Grey-headed Flying-fox camp within a 20 km radius

Table A36: GHFF Species Stocking Rate Scoring

Score	RE12.9-10.2
2	0-30
4	31-130
6	131-220
8	221-235
10	236-245
8	246-260
6	261-350
4	351-450
2	>450

4.5.3 Discussion

Results of the GHFF FHA using methodology detailed in **Section 4.5.1** are shown in **Table A37**. The impact site attained a score of **7** (7.10) out of **10**. Refer to **Plan A15** for the context assessment. The raw transect data for the impact area is located at **Attachment A7**.

Table A37: Grey-headed Flying-fox – Foraging Habitat Assessment Tool Results

Site Reference		**Maximum Score**	**AU1 – Remnant (RE12.9-10.2)**	
Site Condition (40%)	Vegetation Condition	**20**	20	This AU is mapped as Category B (remnant).
	Species Richness	**20**	20	*Corymbia citriodora* (T1 & T2) *Eucalyptus crebra* (T1 & T2) *Eucalyptus moluccana* (T1 & T2) *Eucalyptus tereticornis* (T1) *Eucalyptus fibrosa* (T1 & T2) *Lophostemon suaveolens* (T1 & T2) *Corymbia intermedia* (T1) *Lophostemon confertus* (T1) *Eucalyptus carnea* (T2) *Eucalyptus acmenoides* (T2) *Angophora leiocarpa* (T1 & T2) Average = 9 GHFF species

Site Reference		Maximum Score	AU1 – Remnant (RE12.9-10.2)	
	Flower Score	**10**	5	*Eucalyptus crebra* - 0.65 *Eucalyptus carnea* - 0.53 *Eucalyptus acmenoides* - 0.65 *Eucalyptus tereticornis* - 0.63 *Eucalyptus moluccana* - 0.5 *Eucalyptus fibrosa* - 0.54 *Lophostemon suaveolens* - 0.4 *Lophostemon confertus* - 0.46 *Angophora leiocarpa* - 0.35 *Corymbia intermedia* - 0.86 *Corymbia citriodora* - 0.65 *Acacia disparrima* - 0.0 *Acacia leiocalyx* - 0.0 *Acacia concurrens* - 0.0 *Allocasuarina littoralis* - 0.0 *Alphitonia excelsa* - 0.0 Average = 0.39
	Timing of Biological Shortages	**10**	10	The species listed above cover all biological shortages
	Quality of Foraging Habitat	**20**	10	*E.crebra, E. tereticornis, E. moluccana, C.citriodora* and *C. intermedia* are considered significant GHFF foraging species (>0.65 wt p*r).
	Non-native Plant Cover	**20**	10	Transect 1 - 5.0% Transect 2 - 25.0% Average = 15.0%
	Site Condition Score	**100**	**75**	
	Site Condition Score - out of 4	**4.00**	**3.0**	
Site Context (30%)	Size of patch	**10**	10	The size of patch of the site is greater than 200 ha.
	Connectedness	**10**	10	There are 10 active GHFF camps within a 20km radius of the site: ▪ Nationally Important Mount Ommaney, Westlake Drive (400)

Site Reference		Maximum Score	AU1 – Remnant (RE12.9-10.2)	
				▪ Camira, Barbara Street (140) ▪ Warana Court, Boronia Heights (848) ▪ Bundamba, Paice Street (574) ▪ Parkinson, Avondale Crescent (419) ▪ Goleby Avenue, Queens Park (595) ▪ Yamanto (479) ▪ Woodend (191) ▪ Beryl Roberts Park, Coopers Plains (745) ▪ Sunnybank, Les Atkinson Park (452)
	Context	**10**	3	There is approximately 34.4% GHFF foraging habitat within a 20 km radius of the site.
	Ecological Corridors	**10**	0	The site is not located within an ecological corridor, nor does it share a boundary with one.
	Role of site location to species overall population in the state	**10**	6	There are three active Level 3 GHFF camps within a 20 km radius of the site
	Threats to the species	**10**	5	There is a moderate level of threats to the species on-site.
	Site Context Score	**60**	**34**	
	Site Context Score - out of 3	**3.00**	**1.70**	
Species Stocking Rate (30%)	GHFF Foraging Tree Density		Transect 1 - 295 stems per ha Transect 2 - 210 stems per ha Average = 252.5 stems per ha	
	Species Stocking Rate Score	**10**	**8**	
	Species Stocking Rate Score - out of 3	**3.00**	**2.40**	
Total			**7.10**	

4.6 White-throated Needletail

There is no adopted Recovery Plan for this species as the Conservation advice provides sufficient direction. In Australia population survival depends on the retention of habitat that provides foraging resources (aerial insects). Habitats include intact grassland, woodland and forest vegetation. The conservation advice prioritises the identification and protection of important habitat to the White-throated Needletail and invertebrate prey as well as minimising threats.

With reference to the information provided in **Section 3.3.3**, specifically the abundance, distribution, ecology and habitat preference, the proposed impact area, and off-site retention areas in the adjacent corridor that will remain into perpetuity and managed by Council, a significant residual impact on the White-throated Needletail resulting from this development is considered unlikely.

4.6.1 Significant Impact Assessment

The following provides a significant impact assessment to understand the proposed actions potential impact on the White-throated Needletail. Refer to Table A38 for assessment against the SIG 1.1.

Table A38: EPBC Act Significant impact criteria for vulnerable species – White-throated Needletail

Significant Impact Criteria	Assessment	Impact
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:		
Lead to a long-term decrease in the size of an important population	Potential foraging habitat for the White-throated Needletail is located on-site in the form of remnant vegetation. White-throated Needletails being highly mobile and being almost exclusively aerial including while foraging, are unlikely to focus solely on one area of habitat. Large areas of potential foraging and roosting habitat are located within the nearby protected areas including White Rock Conservation Area, White Rock-Spring Mountain Conservation Estate and Greenbank Military Training Area. The proposed development is unlikely to have a significant impact on the ability of White-throated Needletails to forage or roost in the landscape and, therefore; is not anticipated to lead to a long-term decrease in the size of an important population.	Significant impact not likely
Reduce the area of occupancy of an important population of the species	White-throated Needletails are predominantly aerial, however, will roost in eucalypt woodland. White-throated needletails are known to occur within the locality with several records within the landscape, however, it is considered that the large areas of available habitat in the locality such as the contiguous, protected areas of vegetation located to the west, south and east of the site would be used preferentially to the vegetation on-site for foraging and roosting. The area of occupancy of the White-throated Needletail is not anticipated to be significantly reduced as a result of the proposal due to the highly mobile nature of the species and location of large areas of contiguous habitat within the locality.	Significant impact not likely
Fragment an existing important population into two or more populations	White-throated Needletails are highly mobile and therefore do not require connected vegetation for dispersal. The proposed development will not fragment an existing population.	Significant impact not likely

Significant Impact Criteria	Assessment	Impact
Adversely affect habitat critical to the survival of a species	The proposed development will remove potential foraging habitat for the White-throated Needletail, however, however, given the highly mobile nature of the species and presence of large areas of suitable habitat in the locality such as within White Rock Conservation Area, White Rock-Spring Mountain Conservation Estate and Greenbank Military Training Area, it is not considered that the proposal will adversely affect habitat that is considered critical to the survival of the species.	Significant impact not likely
Disrupt the breeding cycle of an important population	The White-throated Needletail breeds in East Asia. Therefore, the proposed development will not affect the breeding cycle of the White-throated Needletail.	Significant impact not likely
Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The White-throated Needletail is highly mobile and is able to forage over large expanses, thus reducing the individual importance of selected habitat fragments. The surrounding locality contains substantial habitat areas within protected estates which would adequately fulfil the foraging requirements of the species. As the proposed development proposes impacts to marginal vegetation that the species may forage over, it is unlikely that the species would decline as a result of the proposed development.	Significant impact not likely
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	It is unlikely the proposed development would introduce an invasive species that would harm or displace the White-throated Needletail.	Significant impact not likely
Introduce disease that may cause the species to decline	It is unlikely the proposed development would introduce disease that would harm the White-throated Needletail.	Significant impact not likely

Significant Impact Criteria	Assessment	Impact
	According to the *Hirundapus caudacutus* Conservation Advice (TSSC, 2019), recovery actions within Australia focus on identifying areas of vegetation to protect that may provide important foraging and roosting habitat.	
Interfere substantially with the recovery of the species	The proposed development will remove an area of potential foraging habitat for the White-throated Needletail; however, it is unlikely to form important foraging and roosting habitat given the proximity to development and infrastructure. Due to the highly mobile nature of the species and the presence of large areas of protected and higher quality habitat areas in the locality such, it is not considered that the proposal will interfere substantially with the recovery of the species.	Significant impact not likely

4.7 Swift Parrot

4.7.1 Foraging Habitat Assessment

To quantify habitat value for the Swift Parrot, a feature-based assessment method was utilised. The method involves calculating the number of individual habitat features to be impacted.

A habitat feature for the Swift Parrot is defined as a non-juvenile tree (*i.e.,* ≥100 mm DBH) which is a preferred foraging tree species identified under the *National Recovery Plan for the Swift Parrot* (DCCEEW, 2024). Listed preferred foraging tree species include:

- *Eucalyptus leucoxylon* (yellow gum)
- *Eucalyptus tricarpa* (red ironbark)
- *Eucalyptus sideroxylon* (mugga ironbark)
- *Eucalyptus macrocarpa* (grey box)
- *Eucalyptus albens* (white box)
- *Eucalyptus melliodora* (yellow box)
- *Eucalyptus robusta* (swamp mahogany)
- *Eucalyptus tereticornis* (forest red gum)
- *Eucalyptus pilularis* (blackbutt)
- *Corymbia maculata* (spotted gum). It is noted that in Queensland *Corymbia citriodora* is recognised synonymously with *Corymbia maculata*.

The baseline density of all trees including preferred foraging trees was extrapolated from stem density data collected at two (2) MHQA transects within AU 1 described as Remnant RE12.9-10.2 (refer **Plan A3**).

Stem density data at each MHQA transect was collected in accordance with the stem count methodology provided in the *Methodology for surveying and mapping regional ecosystems and vegetation communities in Queensland (version 5.0)* (Neldner *et al.* 2019). The methodology detailed in Neldner et al. (2019) uses a plot area of 50 X 10 m. For the purposes of this assessment, the area was modified to 100 X 20 m to align with the MHQA plot, however, the actual count assessment method remains the same (refer plot design in **Insert 1**). This methodology involves counting the number of individual non-juvenile tree specimens within each 100 m X 20 m plot (0.2 ha) including those that are listed as preferred foraging species for the Swift Parrot. A tree that branches into two or more stems 30 cm above the ground is counted as one individual.

For each AU, the number of non-juvenile trees and separately, of non-juvenile preferred foraging trees, was averaged across all habitat quality transects within the corresponding AU to produce the mean number of trees and preferred foraging trees within a 100 X 20 m plot area (0.2 ha), the same as that used for the GHFF FHA (refer plot design in **Insert 1**). The average stem density of non-juvenile trees and non-juvenile preferred foraging trees recorded within the 0.2 ha plot was multiplied by five (5) to produce an estimate of the number of trees and preferred foraging trees per ha. This was then multiplied by the area of the AU to determine an estimate of non-juvenile trees and non-juvenile preferred foraging trees within each AU.

4.7.2 Discussion

The referral area contains two (2) preferred foraging species for the Swift Parrot including *Corymbia citriodora* (Spotted Gum) and *Eucalyptus tereticornis* (Forest Red Gum). The total number of habitat features within the Scenic Precinct referral area is **1,755**. Refer to **Table A39** for the results of the assessment. The raw transect data for the impact area is located at **Attachment A7**.

Table A39: Swift parrot feature-based assessment results

			Count of preferred foraging trees (100 X 20 m plot)					
AU	AU Area (ha)	Plot #	*Corymbia citriodora*	*Eucalyptus tereticornis*	Total	Mean number per 100 X 20 m plot	Estimate per hectare	Estimate per AU
1	24.2	1	18	3	21	14.5	72.5	1,755
1		2	8	0	8			
							Total site (24.2 ha)	1,755
							Total impacted (24.2 ha)	1,755

4.7.3 Significant Impact Assessment

An assessment against the Significant Impact Guidelines 1.1 has been completed for the Swift Parrot. Refer to **Table A40** for assessment against the SIG 1.1.

Table A40: EPBC Act Significant impact criteria for critically endangered or endangered species – Swift Parrot

Significant Impact Criteria	Assessment	Impact
An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:		
1. Lead to a long-term decrease in the size of a population	The proposed action will result in the removal of potential foraging habitat for the Swift Parrot including winter flowering eucalypt species, namely *Eucalyptus fibrosa, Corymbia citriodora* and *E. tereticornis,* the latter two (2) of which are identified as preferred foraging species for the species. While habitat clearing for development is identified as a threat to the species (DCCEEW, 2024), it is not known the extent to which this process in Queensland contributes to the decline of the species or its relative abundance within the Queensland range. Queensland does not contain any Key Biodiversity Areas for the species, with critical areas for the species located within New South Wales, Victoria and Tasmania. The site also contains only two (2) of the ten (10) preferred foraging species (DCCEEW, 2024), and large areas of potential foraging resources are highly abundant within the landscape including the Greenbank Military Training Area, Flinders-Karawatha Bioregional Corridor and White Rock Conservation Park (refer **Plan A5**), therefore the removal of vegetation on-site is not considered to impede foraging potential at the local or landscape scale. It is considered unlikely that the proposed development will result in a decline of the species.	Significant impact not likely
2. Reduce the area of occupancy of the species	The proposed development will result in the removal of preferred foraging habitat for the species including *Corymbia citriodora* and *E. tereticornis*. While swift parrots were not recorded on-site despite extensive surveys, the presence of foraging habitat and recent evidence of foraging activity in the locality, it is considered that the removal of potential habitat may reduce the area of potential occupancy for the species.	**Potential for significant impact**
3. Fragment an existing population into two or more populations	The swift parrot is highly mobile and foraging habits of the species are difficult to predict. Due to the highly mobile nature of the species, the dispersal capability is unlikely to be impacted by the removal of potential foraging habitat.	Significant impact not likely

Significant Impact Criteria	Assessment	Impact
4. Adversely affect habitat critical to the survival of a species	Under to the *National Recovery Plan for the Swift Parrot Lathamus discolor* (DCCEEW, 2024), habitat critical to the survival of a species is defined as areas that are necessary: • For activities such as foraging, breeding, roosting, or dispersal; • For the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators); • To maintain genetic diversity and long-term evolutionary development; or • For the reintroduction of populations or recovery of the species or ecological community. The Recovery Plan identifies that within Queensland this includes "all preferred foraging species within known and likely foraging habitat on the mainland including Yellow Gum (*E. leucoxylon*), Red Ironbark (*E. tricarpa*), Mugga Ironbark (*E. sideroxylon*), Grey Box (*E. macrocarpa*), White Box (*E. albens*), Yellow Box (*E. melliodora*), Swamp Mahogany (*E. robusta*), Forest Red Gum (*E. tereticornis*), Blackbutt (*E. pilularis*), and Spotted Gum (*Corymbia maculata*)." The site contains potential winter foraging resources (*i.e.,* with suitable phenological characteristics) which may potential provide foraging resources during the winter foraging season, however, the site contains only two (2) of the ten (10) preferred foraging species including *E. tereticornis* and *Corymbia citriodora* (northern species of spotted gum).	**Potential for significant impact**
5. Disrupt the breeding cycle of a population	The Swift Parrot breeds exclusively in Tasmania during the Australian summer. Therefore, the proposed development will not affect the breeding cycle of the Swift Parrot.	Significant impact not likely
6. Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposed development will remove potential foraging habitat for the swift parrot in the form of winter flowering eucalypt trees, namely *C. citriodora* and *E. tereticornis*. However, the locality contains larger, more contiguous areas of similar vegetation communities within White Rock Conservation Park and the Flinders-Karawatha Bioregional Corridor that are likely to be used preferentially to the vegetation on-site. Due to the abundance of resources within the broader	Significant impact not likely

Significant Impact Criteria	Assessment	Impact
	landscape and SEQ generally, it is unlikely that the removal of vegetation on-site will contribute to the decline of the Swift Parrot.	
7. Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	There are no known invasive species that are directly harmful to the swift parrot. It is unlikely that the proposed action will introduce invasive species that are harmful to the Swift Parrot.	Significant impact not likely
8. Introduce disease that may cause the species to decline	Psittacine beak and feather disease (PBFD) is an existing disease present among Swift Parrots and parrots generally. Transmission of the disease occurs within wild populations of parrots. The risk of spread of disease may only be tempered by a successful implementation of a Threat Abatement Plan including administering of a vaccine among wild and captive parrots to reduce incidence of the disease in wild populations and captive breeding programs (DCCEEW, 2021). There are no other diseases known to affect the species.	Significant impact not likely
9. Interfere substantially with the recovery of the species	Several threats to the Swift Parrot are identified in the National Recovery Plan which includes habitat loss and alteration in both breeding and foraging ranges (DCCEEW, 2024). In particular, the loss of breeding habitat remains a significant threat to the continued persistence of the species (DCCEEW, 2024). The *National Recovery Plan for the Swift Parrot Lathamus discolor* (DCCEEW, 2024) identifies several actions and performance criteria that work toward the recovery of the species. Key actions include the management and protection of known breeding and foraging habitat at the local, regional and landscape scale, reducing sugar glider predation at breeding sites, understanding population dynamics and monitoring threats and other sources of mortality. While habitat clearing for development is identified as a threat to the species (DCCEEW, 2024), it is not known the extent to which this process in Queensland has or is contributing to the decline of the species or its relative abundance within the Queensland range. The impact of clearing is	Significant impact not likely

Significant Impact Criteria	Assessment	Impact
	disproportionately represented by breeding areas which are identified as "scarce and fragmented" in the Recovery Plan. Additionally, key threats to the species occur only in breeding habitat (*i.e.,* predation by sugar gliders) which is acknowledged to affect breeding success for the species and declines for the species. It is considered that the extent to which clearing for urban development in foraging habitat contributes to declines in the species is reduced compared to the same impacts in areas of key breeding habitat. Additionally, Queensland does not contain any Key Biodiversity Areas for the species, with critical areas for the species located within New South Wales, Victoria and Tasmania. The site also contains only two (2) of the ten (10) preferred foraging species (DCCEEW, 2024), and large areas of potential foraging resources are highly abundant within the landscape including the Greenbank Military Training Area, Flinders-Karawatha Bioregional Corridor and White Rock Conservation Park and SEQ region (refer **Plan A5 and Plan A6**), the volume of clearing on-site is not considered to be of a scale that would impede the capacity for foraging within the locality. The removal of vegetation will reduce the extent of potential foraging resources; however, it is not considered that the development will interfere substantially with the recovery of the species.	
Conclusion	**Potential for significant impact**	

4.8 Regent Honeyeater

4.8.1 Critical Habitat Analysis

To quantify habitat value for the Regent Honeyeater, a feature-based assessment method was utilised. The method involves calculating the number of individual habitat features to be impacted.

A habitat feature for the Regent Honeyeater is defined as a non-juvenile tree (*i.e.,* ≥100 mm DBH) which is a preferred foraging tree species identified under the *National Recovery Plan for the Regent Honeyeater* (DoE, 2016). Listed preferred foraging tree species include:

- *Eucalyptus leucoxylon* (Yellow Gum)
- *Eucalyptus sideroxylon* (Mugga Ironbark)
- *Eucalyptus albens* (White Box/Thin-leaved Stringybark)
- *Eucalyptus melliodora* (Yellow Box)
- *Eucalyptus robusta* (swamp mahogany)
- *Corymbia maculata* (Spotted Gum). It is noted that in Queensland *Corymbia citriodora* is recognised synonymously with *Corymbia maculata*.

In addition, the Recovery Plan identifies tree species with potential to provide important nectar flows at different times of year which specifically lists *Eucalyptus fibrosa* (Broad-leaved Ironbark) and *Eucalyptus eugenioides* (Thin-leaved Stringybark). These species were also considered in the analysis, identified as 'supporting species', however, were weighted at 0.75 in the stem counts noting their reduced importance relative to the listed preferred foraging species.

The baseline density of all trees including preferred foraging trees was extrapolated from stem density data collected at two (2) MHQA transects within AU 1 described as Remnant RE12.9-10.2 (refer **Plan A3**).

Stem density data at each MHQA transect was collected in accordance with the stem count methodology provided in the *Methodology for surveying and mapping regional ecosystems and vegetation communities in Queensland (version 5.0)* (Neldner *et al.* 2019). The methodology detailed in Neldner et al. (2019) uses a plot area of 50 X 10 m. For the purposes of this assessment, the area was modified to 100 X 20 m to align with the MHQA plot, however, the actual count assessment method remains the same (refer plot design in **Insert 1**). This methodology involves counting the number of individual non-juvenile tree specimens within each 100 m X 20 m plot (0.2 ha) including those that are recognised as preferred or supporting foraging species for the Regent Honeyeater. A tree that branches into two or more stems 30 cm above the ground is counted as one individual.

For each AU, the number of non-juvenile trees and separately, of non-juvenile preferred and supporting foraging trees, was averaged across all habitat quality transects within the corresponding AU to produce the mean number of trees and preferred foraging trees within a 100 X 20 m plot area (0.2 ha), the same as that used for the GHFF FHA (refer plot design in **Insert 1**). The average stem density of non-juvenile trees and non-juvenile preferred foraging trees recorded within the 0.2 ha plot was multiplied by five (5) to produce an estimate of the number of trees and preferred foraging trees per ha. This was then multiplied

by the area of the AU to determine an estimate of non-juvenile trees and non-juvenile preferred and supporting foraging trees within each AU.

4.8.2 Discussion

The referral area contains one (1) preferred foraging species for the Regent Honeyeater being *Corymbia citriodora* (Spotted Gum) with one (1) supporting foraging species *Eucalyptus fibrosa* (Broad-leaved Ironbark) The total number of habitat features within the Scenic Precinct referral area is **1,891** inclusive of a 0.75 weighting for *Eucalyptus fibrosa*. Refer to **Table A39** for the results of the assessment. The raw transect data for the impact area is located at **Attachment A7**.

Table A41: Regent Honeyeater feature-based assessment results

			Count of preferred foraging trees (100 X 20 m plot)						
AU	AU Area (ha)	Plot #	*Corymbia citriodora*	*Eucalyptus fibrosa*	Eucalyptus fibrosa (0.75 weighting)	Total (0.75 weighting)	Mean number per 100 X 20 m plot	Estimate per hectare	Estimate per AU
1	24.2	1	18	4	3	21	15.63	78	1,891
1		2	8	3	2.25	10.25			
								Total site (24.2 ha)	1,891
								Total impacted (24.2 ha)	1,891

4.8.3 Significant Impact Assessment

An assessment against the Significant Impact Guidelines 1.1 has been completed for the Regent Honeyeater. Refer to **Table A42** for assessment against the SIG 1.1.

Table A42: EPBC Act Significant impact criteria for critically endangered or endangered species – Regent Honeyeater

Significant Impact Criteria	Assessment	Impact
An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:		
1. Lead to a long-term decrease in the size of a population	The proposed development will result in the removal of potential foraging habitat including winter flowering eucalypt species. *National Recovery Plan for the Regent Honeyeater (Anthochaera phrygia)* (DoE 2016) lists key tree species as Mugga Ironbark (*E. sideroxylon*), White Box (*E. albens*), Yellow Box (*E. melliodora*), Yellow Gum (*E. leucoxylon*), Swamp Mahogany (*E. robusta*) and Spotted Gum (*Corymbia maculata*). The site contains one (1) of the six (6) preferred foraging species (Corymbia citriodora/C. maculata). While habitat clearing for development is identified as a threat to the species (DoE 2016), it is not known the extent to which this process in Queensland contributes to the decline of the species or its relative abundance within the Queensland range. Queensland does not contain any key areas for the species with critical areas for the species located within New South Wales and Victoria only. The site also contains only one (1) of the six (6) preferred foraging species (DoE 2016)and large areas of potential foraging resources are highly abundant within the landscape including the Greenbank Military Training Area, Flinders-Karawatha Bioregional Corridor and White Rock Conservation Park (refer **Plan A5**), therefore the removal of vegetation on-site is not considered to impede foraging potential at the local or landscape scale. It is considered unlikely that the proposed development will result in a decline of the species.	Significant impact not likely
2. Reduce the area of occupancy of the species	The proposed development will result in the removal of potential foraging habitat including winter flowering eucalypt species including key species *Corymbia citriodora* and *Eucalyptus fibrosa*. While regent honeyeaters were not recorded on-site despite extensive surveys, the presence of foraging habitat and recent evidence of foraging activity in the locality, it is considered that the removal of potential habitat may reduce the area of potential occupancy for the species.	**Potential for significant impact**

Significant Impact Criteria	Assessment	Impact
3. Fragment an existing population into two or more populations	The regent honeyeater is highly mobile and foraging habits of the species are difficult to predict. Due to the highly mobile nature of the species, the dispersal capability and population dynamics are unlikely to be impacted by the removal of potential foraging habitat.	Significant impact not likely
4. Adversely affect habitat critical to the survival of a species	The *National Recovery Plan for the Regent Honeyeater (Anthochaera phrygia)* (DoE, 2016) defines habitat critical to the survival as: ▪ Any breeding or foraging habitat in areas where the species is likely to occur; and ▪ Any newly discovered breeding or foraging locations. The site is located within the defined range of foraging habitat where the species is 'likely to occur' under the Recovery Plan. The site also contains potential foraging resources and foraging activity was recorded within Springfield Lakes in 2019. The removal of habitat is considered to adversely affect habitat critical to the survival of the Regent Honeyeater.	**Potential for significant impact**
5. Disrupt the breeding cycle of a population	The regent honeyeater has a patchy distribution of known breeding areas which are located in New South Wales and Victoria. The proposed development is not located within the breeding range therefore will not an impact on the breeding cycle of the Regent Honeyeater.	Significant impact not likely
6. Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposed development will remove a portion potential foraging habitat for the regent honeyeater in the form of winter flowering eucalypt trees containing preferred foraging species *C. citriodora*. However, the locality contains larger, more contiguous areas of vegetation commnities within White Rock Conservation Park and the Flinders-Karawatha Bioregional Corridor containing vegetation communities more suitable for the species such as RE12.9-10.2 which contains *C. citriodora* as the dominant species that may be used preferentially to the vegetation on-site. Additionally, aggressive native bird species *Manorina melanocephala* (noisy miner) and *Philemon corniculatus* (noisy friarbird) which are known to use the vegetation and are likely to outcompete vagrant regent honeyeater individuals.	Significant impact not likely

Significant Impact Criteria	Assessment	Impact
	Due to the abundance of resources within the broader landscape and SEQ generally, it is unlikely that the removal of vegetation on-site will contribute to the decline of the Regent Honeyeater.	
7. Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	Regent honeyeaters are known to experience competition from other nectivorous birds and the feral honeybee (*Apis mellifera*). Native nectivorous bird species including *Manorina melanocephala* (noisy miner), *Philemon corniculatus* (noisy friarbird) and *Anthochaera carunculata* (red wattlebird) are documented to compete with the regent honeyeater. The proposed development is located in an area where these species are common on and surrounding the site in the fragmented urban environment therefore is unlikely to significantly increase as a result of the development as they will continue to occupy the edge affected areas of retained habitat areas.	Significant impact not likely
8. Introduce disease that may cause the species to decline	There are no diseases known to affect the Regent Honeyeater. The proposed development is unlikely to introduce disease to the species.	Significant impact not likely
9. Interfere substantially with the recovery of the species	Long-term declines in the regent honeyeater population is attributed to broad-scale removal of preferred habitats (DoE 2016). As such, recovery objectives for the species have focused on identifying and protecting habitat where the species is known or likely to occur. The Recovery Plan highlights the importance of protecting high quality habitat and rehabilitating degraded habitats where the species is likely to occur. While the site is located within the foraging range for the species, it is also noted that only one (1) preferred foraging species (*Corymbia citriodora*) (DoE 2016) and regent honeyeaters prefer the wettest, most fertile sites within box-ironbark associations such as along creek flats, broad river valleys and foothills. Habitat which potentially meets this description is recorded in association with adjoining gully lines and sloping hillsides. Given the superior mobility capacity of the species and abundance of preferential habitat within close proximity of the referral area (Greenbank Military Training Area and White Rock Conservation Park located within the Flinders-Karawatha Corridor, refer **Plan A5 and Plan A8**), the volume of clearing on-site is not considered of a scale that would impede the capacity for foraging within the locality.	Significant impact not likely

Significant Impact Criteria	Assessment	Impact
	The removal of vegetation will reduce the extent of potential foraging resources, however, it is not considered that the development will interfere substantially with the recovery of the species as foraging needs can continue to be supported by the abundant foraging resources available in White Rock Conservation Park and the Flinders-Karawatha Bioregional Corridor.	
Conclusion	**Potential for significant impact**	

4.9 Greater Glider

Potential habitat suitable for the Greater Glider located within the proposed action site considered in terms of the presence of remnant vegetation containing suitable regional ecosystems for the Greater Glider (refer **Plan A21**). However, it is noted that the actual area of potential habitat may be smaller as the structural attributes of the forest overstorey and foraging quality of a given habitat area vary within a given area (Eyre 2002, DCCEEW 2022).

Despite the presence of potentially suitable habitat, the broader vegetation patch where the proposed action site is located is relatively isolated within the landscape considered in terms of functional connectivity to larger, contiguous patches of White Rock Conservation Park, Greenbank Military Training Area and White-Rock Spring Mountain Conservation Estate. Connectivity to these areas is substantially compromised as a result of the conversion of the surrounding suburbs into urban development over the past 20 years and resulting form of the retained vegetation being predominantly narrow and linear with multiple physical barriers. The lack of connection to larger, contiguous patches presents a significant ecological barrier for any form of connectivity or population persistence within and surrounding the patch in which the proposed action site is located. Locally, the vegetation on-site retains a degree of landscape connection as set out in the open space provisions of the Springfield Structure Plan including areas like the Brookwater Golf Course and connecting creek corridors including Opossum Creek and Woogaroo Creek further downstream. The connecting areas are predominantly comprised of lineal strands of retained vegetation, trees in parkland settings, newly rehabilitated vegetation which limit movement and persistence opportunities of the disturbance-sensitive Greater Glider.

Where connected lineal vegetation appears to occur within identified linkages to the proposed action site, area plans in this submission show corridors are a mix of non-remnant, regrowth or remnant vegetation mapped under the *Vegetation Management Act 1999* and vary in width from 15 m at the narrowest points up to 100 m in less disturbed areas (refer **Plan A19**). Corridor linkages are intersected and severed at multiple locations by major infrastructure including the Springfield Line rail corridor and major or minor roads, with the most significant of these being the Centenary Highway (refer **Attachment A5**).

The Conservation Advice for the *Petauroides volans* (greater glider (southern and central) – July 5, 2022, notes that '*Greater gliders disperse poorly across vegetation that is not native forest and so do not readily recolonise isolated sites*.' The land on which the project occurs has been subjected to extensive ecological survey by numerous ecological experts and has not been recorded as supporting the greater glider species. Records of expanding development zones over the past 8 years in Springfield support this finding, with the land providing only marginal aspects of Greater Glider critical habitat definitions based on the premise of one day being considered suitable to support the species. For Greater Gliders to utilise the proposed action site it is considered that recolonisation would need to occur from nearby unconnected Protected Estates and National Parks which would require the species to navigate unconnected fragments of immature vegetation, cross multiple major infrastructure corridors, navigate narrow (15 m) compromised pinch points directly adjacent to housing and roads to ultimately persist in an environment of ever-expanding city infrastructure and housing.

4.9.1 Significant Impact Assessment

The following provides a significant impact assessment to understand the proposed actions potential impact on the Greater Glider. Refer to **Table A43** for assessment against the SIG 1.1.

Table A43: EPBC Act Significant impact criteria for vulnerable species – Greater Glider

Significant Impact Criteria	Assessment	Impact
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:		
Lead to a long-term decrease in the size of an important population	The proposed action site is located on a fragmented patch of remnant eucalypt woodland. An important population is not considered to be present within the proposed action site or broader patch. While historical records are present surrounding the site, these pre-date the significant clearing and subsequent contraction of habitat areas that has occurred surrounding the site within the past 20 years. The nearest verifiable record within the past 20 years is located within the Greenbank Military Training Area vegetation areas 3 km east of the proposed action site (refer **Plan A20**). As a result of these cumulative and sequential impacts, the proposed action site is now located within a well-established residential landscape with compromised landscape-level connectivity to and from the site. This assessment is supported by ecological survey data and historical and contemporary public database records. Targeted ecological surveys completed across and adjoining the proposed action site have not detected the species. These surveys include spotlighting undertaken in accordance with the survey requirements in the *Survey Guidelines for Australia's Threatened Mammals* and *Terrestrial Vertebrate Fauna Survey Guidelines for Queensland* (2018) and UAV drone surveys. Additionally, fauna spotter catcher records collated from 2017 to 2021 within the suburb Spring Mountain and Brookhaven have not detected Greater Glider (refer **Attachment A6**). While potential habitat attributes to support the Greater Glider are located on-site, it is unlikely that a population is located on or in the vicinity of the site presently or in the future. For the justification provided above, the proposed action is not likely to lead to a long-term decrease in the size of an important population.	Significant impact not likely

Significant Impact Criteria	Assessment	Impact
Reduce the area of occupancy of an important population of the species	The proposed action site is located over remnant eucalypt woodland which despite containing both potential foraging and breeding resources shares limited landscape connectivity to contiguous habitat areas where Greater Glider are known to occur. As detailed above, a combination of public database records, ecological field surveys and fauna spotter catcher data collected over the past 10 years have been used to support the conclusion that an important population of Greater Glider has not been present within the proposed action site or adjoining areas for the past 20 years. Additionally, there is considered a low prospect of recolonisation of the proposed action site attributed to the compromised landscape-level connectivity. Residential areas and the location of significant infrastructure routes including the Centenary Highway and adjoining rail corridor which are located between the proposed action site and contiguous vegetation areas present a notable barrier for consistent population-level connectivity where gliding distances regularly exceed 100 m. It is unlikely that the proposed development will reduce the area of occupancy of the species.	Significant impact not likely
Fragment an existing important population into two or more populations	The proposed action site is located over remnant eucalypt woodland which despite containing both potential foraging and breeding resources shares limited landscape connectivity to contiguous habitat areas where Greater Glider are known to occur. As detailed above, a combination of public database records, ecological field surveys and fauna spotter catcher data collected over the past 10 years have been used to support the assessment that an important population of Greater Glider has not been present within the proposed action site or adjoining areas for the past 20 years. Additionally, there is considered a low prospect of recolonisation of the proposed action site attributed to the compromised landscape-level connectivity. Residential areas and the location of significant infrastructure routes including the Centenary Highway and adjoining rail corridor which are located between the proposed action site and contiguous vegetation areas present a notable barrier for consistent population-level connectivity where gliding distances regularly exceed 100 m.	Significant impact not likely

Significant Impact Criteria	Assessment	Impact
	As a population of Greater Glider are confirmed within contiguous vegetation areas of Greenbank Military Training Area and White Rock Conservation Park (refer **Plan A5 and Plan A20**), of which the proposed action site does not function as a habitat connection, the impact to vegetation within the proposed action area is not anticipated to cause any level of fragmentation of a Greater Glider population. It is not considered that the development will fragment an existing important population.	
Adversely affect habitat critical to the survival of a species	The *Petauroides volans (greater glider (southern and central) Conservation Advice* (DCCEEW, 2022) defines habitat critical to the survival of the Greater Glider as: • *large contiguous areas of eucalypt forest, which contain mature hollow-bearing trees and a diverse range of the species' preferred food species in a particular region; and* • *smaller or fragmented habitat patches connected to larger patches of habitat, that can facilitate dispersal of the species and/or that enable recolonisation; and* • *cool microclimate forest/woodland areas (e.g. protected gullies, sheltered high elevation areas, coastal lowland areas, southern slopes); and* • *areas identified as refuges under future climate changes scenarios; and* • *short-term or long-term post-fire refuges (i.e. unburnt habitat within or adjacent to recently burnt landscapes) that allow the species to persist, recover and recolonize burnt areas.* The proposed action site contains remnant eucalypt woodland containing a variety of eucalypt species and a reduced density of hollow-bearing trees (<2 per hectare). However, despite the presence of potential habitat, it is located within a fragmented patch with low recolonisation potential. A combination of public database records, ecological field surveys and fauna spotter catcher data collected over the past 10 years have been used to support the assessment that an important population of Greater Glider has not been present within the proposed action site or adjoining areas for the past 20 years.	Significant impact not likely

Significant Impact Criteria	Assessment	Impact
	Despite the proximity of the proposed action site to known areas supporting Greater Glider (*i.e.,* White Rock Conservation Park and Greenbank Military Training Area), no records or Greater Glider have been recorded on or adjacent to the site within the past 20 years. It is considered that the capacity of the site to support Greater Glider is presently highly compromised due to the lack of suitable connecting vegetation and presence of substantial barriers and as a result, is unlikely to support a greater glider population in the future particularly as urban infrastructure projects continue to progress.	
Disrupt the breeding cycle of an important population	As detailed above, a combination of public database records, ecological field surveys and fauna spotter catcher data collected over the past 10 years have been used to support the assessment that an important population of Greater Glider has not been present within the proposed action site or adjoining areas for the past 20 years. Additionally, there is considered a low prospect of recolonisation of the proposed action site attributed to the compromised landscape-level connectivity. Residential areas and the location of significant infrastructure routes including the Centenary Highway and adjoining rail corridor which are located between the proposed action site and contiguous vegetation areas present a notable barrier for consistent population-level connectivity where gliding distances regularly exceed 100 m. Breeding individuals are expected to occur within the contiguous vegetation areas of Greenbank Military Training Area and White Rock Conservation Park of which will not be impacted by the proposed action. It is not considered that the proposed action will disrupt the breeding cycle of an important population.	Significant impact not likely
Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	As detailed above, a combination of public database records, ecological field surveys and fauna spotter catcher data collected over the past 10 years have been used to support the assessment that an important population of greater glider has not been present within the proposed action site or adjoining areas for the past 20 years. Despite the proximity of the proposed action site to known areas supporting Greater Glider, no records or Greater Glider have been recorded on or adjacent to the site within the past 20 years. It	Significant impact not likely

Significant Impact Criteria	Assessment	Impact
	is considered that the capacity of the site to support Greater Glider is presently highly compromised due to the lack of suitable connecting vegetation and presence of substantial barriers and as a result, recolonisation of the patch of a greater glider population in the future particularly is highly unlikely as urban infrastructure projects continue to progress. The vegetation within the proposed action site is functionally isolated from the contiguous vegetation areas where greater glider are known to occur (*i.e.,* White Rock Conservation Park and Greenbank Military Training Area) and as such, it is unlikely that impacts to habitat areas within the proposed action site will result in a decline of the species.	
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	Invasive species such the feral cat (*Felis catus*) and European red fox (*Vulpes vulpes*) are identified as threats to the species. The European red fox is confirmed to occur within the proposed action site. It is considered unlikely that the proposed action will result in the introduction or increased abundance of threatened species that may harm or displace the greater glider.	Significant impact not likely
Introduce disease that may cause the species to decline	It is unlikely that the proposed development will introduce disease that may harm the species.	Significant impact not likely
Interfere substantially with the recovery of the species	There is currently no recovery strategy available for the greater glider, however, conservation and recovery actions are listed in the *Petauroides volans (greater glider (southern and central) Conservation Advice* (DCCEEW, 2022). Management priorities involve limiting habitat loss and fragmentation, reducing mortality and removal of hollow-bearing trees and implementing measures to limit the occurrence of wildfire in greater glider habitat. The vegetation within the proposed action site is functionally isolated from the contiguous vegetation areas where greater glider are known to occur (*i.e.,* White Rock Conservation Park and Greenbank Military Training Area) and as such, no evidence of presence within the proposed action or surrounding habitat and urban dominated have been recorded within the past 20 years.	Significant impact not likely

Significant Impact Criteria	Assessment	Impact
	It is anticipated that areas where Greater Glider are known to occur and that support a population of Greater Glider including White Rock Conservation Park and Greenbank Military Training Area will provide ongoing support for the greater glider population due to the high level of protection bestowed on these areas and high ecological and cultural value. These broad habitat areas constitute a substantial refuge area to buffer against potential climate change factors that may affect the greater glider population in the future and as a result, a scenario where the habitat on-site becomes critical for the recovery of the species is unlikely. Particularly as access to the site is presently compromised and anticipated to become further reduced as development and infrastructure projects progress within in the surrounding locality. The proposed action is not suitable for the reintroduction of Greater Glider nor will it be able to aid in the recovery of the species.	
Conclusion	**Significant impact not likely** **The removal of vegetation located within the proposed action site is therefore not considered to have a significant residual impact on the Greater Glider, either through direct, indirect, facilitated or cumulative impacts.**	

4.10 Indirect, facilitated and cumulative impacts

Item 4.5 of the PD Request asks to ***"Provide an assessment of the direct, indirect, consequential and cumulative impacts, including:***

a) The nature of impacts (including direct, indirect and facilitated impacts*), including timing and whether the impact is temporary or permanent.

b) Details of any policy guidelines, relevant studies, surveys or consultations with species experts/field specialists, which were not included in the referral or additional information provided in support of the referral.

c) A local and regional scale analysis of likely impacts, with reference to the project's potential contribution to cumulative impacts in the context of development patterns in the locality and region.

d) A risk assessment of potential impacts from the action that are likely to be unpredictable, severe, or irreversible.

****Note: Facilitated impacts may include (but are not limited to) the risk of injury or mortality to MNES as a result of the introduction of domestic dogs in a residential area, vehicle strike as a result of increased residential car use and/or the development of domestic pools."***

The direct, indirect and facilitated impacts have been summarised in **Table A44**. **Section 4** describes the direct impacts in detail.

Table A44: Direct, Indirect and Facilitated Impacts Summary

Construction Phase	Operational Phase (ongoing disturbance)
• Vegetation clearing • Habitat removal • Intensification of effects of fragmentation effects (*i.e.*, edge effect, habitat degradation, barrier effects) • Weed dispersal and establishment • Vehicle movements • Earthworks • Light emissions during construction • Noise and vibration • Waste disposal • Hazardous and dangerous goods • Increased human presence	• Weed incursion • Vehicle strike • Increased predation by domestic animals • Noise and light pollution • Increased human presence

4.10.1 Impacts summary

- Proposed impacts under EPBC 2020/8651 include a maximum of 24.2 ha remnant vegetation recognised as containing critical habitat for the Koala, Grey-headed flying-Fox, Swift Parrot and Regent Honeyeater.
- 11.9 ha of remnant vegetation adjoining the development footprint is proposed to be rehabilitated in accordance with council specifications (refer **Plan A1**).

4.10.2 Indirect impact analysis

A detailed description of potential indirect impacts and an analysis of their potential impacts to threatened species are included in **Table A45**.

Table A45: Indirect Impact Analysis – MNES

Indirect Impact	Koala	Grey-headed flying-fox	Swift Parrot and Regent Honeyeater
a. Disturbance from increased noise, artificial light, dust, sediment generation and other relevant stressors during construction and operation of the residential development.	<u>Noise</u> Noise levels greater than existing ambient noise levels are expected during 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 to 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 including the koala in the event they are to occur within the retained vegetation areas. Additionally, noise levels are anticipated to increase once the development is complete as there will be increased vehicular and pedestrian traffic. Road noise will be the primary source of noise impact. However, retained vegetation areas associated with Opossum Creek will be buffered by soft development uses such as street planting lasting impacts of noise on koalas resulting from the development are considered to be mitigated. <u>Artificial Light</u> 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 increase in artificial lighting can also affect abundance of predators. The presence and intensity of artificial light in the project area may temporarily increase during the construction phase; however, construction is anticipated to be restricted to daytime hours. Where needed, 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 (discussed in **Section 5**), the project is likely to result in a negligible impact to any koalas in the surrounding area due to the use of light pollution during construction. Additionally, light pollution during operation will also be mitigated through design and compliance with general standards in guidelines, particularly for light required within open space areas for safety. Lighting within open space areas is to face towards the urban development and away from conservation areas and vegetation within neighbouring allotments. The implementation of best practice lighting design will ensure that any long-term impacts on impact from development lighting infrastructure will be mitigated. <u>Dust and Sediment Generation</u> 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);	<u>Noise</u> Noise levels greater than existing ambient noise levels are expected during 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 to 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 including the grey-headed flying-fox in the event they were to forage proximal to the project area. Additionally, noise levels are anticipated to increase upon completion of the development due to an increase in vehicular and pedestrian traffic. It is unlikely that the increase will be significant to what the current surrounding developments exude. Further, as the grey-headed flying-fox is a highly mobile species and the closest known active camp is approximately 3.6 km from the project area, the potential for impacts from noise on the species are considered reduced. <u>Artificial Light</u> 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 increase in artificial lighting can also affect abundance of predators. The presence and intensity of artificial light in the project area may temporarily increase during the construction phase; however, construction is anticipated to be restricted to daytime hours. Where needed, 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 (discussed in **Section 5**), the project is likely to result in a negligible impact to any grey-headed flying-fox in the surrounding area due to the use of light pollution during construction. Additionally, light pollution during operation will also be mitigated through design and compliance with general standards in guidelines, particularly for light required within open space areas for safety. Lighting within open space areas is to face towards the urban development and away from conservation areas and vegetation within neighbouring allotments. The implementation of best practice lighting design will ensure that any long-term impacts on impact from development lighting infrastructure will be mitigated. <u>Dust and Sediment Generation</u> 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:	<u>Noise</u> Noise levels greater than existing ambient noise levels are expected during 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 to 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 which may include swift parrot and regent honeyeater in the event they are to occur within the surrounding retained vegetation areas. Additionally, noise levels are anticipated to increase once the development is complete as there will be increased vehicular and pedestrian traffic. Road noise will be the primary source of noise impact. However, as habitat will be consolidated within the vegetation retention areas and will be buffered by soft development uses such as street planting lasting impacts of noise on swift parrot and regent honeyeater resulting from the development are considered to be mitigated. <u>Artificial Light</u> 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 increase in artificial lighting can also affect abundance of predators. The presence and intensity of artificial light in the project area may temporarily increase during the construction phase; however, construction is anticipated to be restricted to daytime hours. Where needed, 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 (discussed in **Section 5** and briefly below), the project is likely to result in a negligible impact on regent honeyeater and swift parrot in the surrounding area due to the use of light pollution during construction. Light pollution during operation will be mitigated through design and compliance with general standards in guidelines, particularly for light required within open space areas for safety. Lighting within open space areas is to face towards the urban development and away from conservation areas and vegetation within neighbouring allotments. The implementation of best practice lighting design will ensure that any long-term impacts on impact from development lighting infrastructure will be mitigated.

Indirect Impact	Koala	Grey-headed flying-fox	Swift Parrot and Regent Honeyeater
	• 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 (discussed in **Section 5**), the project is likely to result in a temporary and minor impact to any koalas utilising the local area due to the generation of dust.	• 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.	<u>Dust and Sediment Generation</u> 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 (discussed in **Section 5**), the project is likely to result in a temporary and minor impact to any swift parrot and regent honeyeaters utilising the local area due to the generation of dust.
b. Increased vehicle strike from increased frequency of vehicle movements throughout construction and operation of the residential development.	Vehicles will be present during the construction phase and will include a mix of heavy and light vehicles. Temporary koala exclusion fencing will be installed post-clearing adjoining areas of vegetation to be retained (both on and off-site) and prior to construction commencing to prevent koalas from entering the construction site, reducing the potential for vehicle strike. Upon completion of the development, vehicle traffic in the area will increase compared to baseline conditions. A range of mitigation measures (discussed in detail in **Section 5**) including koala sensitive design will be implemented to reduce the likelihood of koala and vehicle interaction within the development. This will primarily be achieved through the installation of koala exclusion fencing along the edge of vegetation retention areas.	Grey-headed flying-foxes are not considered to be at increased risk of vehicular strike as they are not a ground-dwelling species.	Vehicle collision is a potential risk for the swift parrot and regent honeyeater. Swift parrot vehicle collisions are documented to be more frequent in the event where foraging resources are scarce, forcing foraging to occur in urban areas. While increased vehicle traffic is unavoidable as a result of the development, the development design avoids, where practical, roads traversing retained vegetation. This is considered to minimise the potential for vehicle collision with the threatened bird species.
c. Introduction to and /or proliferation of weeds and pathogens, in habitat for threatened species.	The creation of edge effects as a result of vegetation clearing and construction may result in an increase in the presence of weed species within and adjoining the project area. The potential for the spread of weeds will be managed through mitigation measures proposed in **Section 5.** Standard construction practices such as vehicle washdown may be implemented to limit the spread of pathogens in the adjoining environment. It is noted that there are no known pathogens that affect koala that are spread via vehicles or construction. Through the implementation of mitigation measures targeting weeds, the development is unlikely to result in an increase in weeds.	The creation of edge effects as a result of vegetation clearing and construction may result in an increase in the presence of weed species within and adjoining the project area. The potential for the spread of weeds will be managed through mitigation measures proposed in **Section 5**. Standard construction practices such as vehicle washdown may be implemented to limit the spread of pathogens in the adjoining environment. It is noted that there are no known pathogens that affect grey-headed flying-fox that are spread via vehicles or construction. Through the implementation of mitigation measures targeting weeds, the development is unlikely to result in an increase in weeds.	The creation of edge effects as a result of vegetation clearing and construction may result in an increase in the presence of weed species within and adjoining the project area. The potential for the spread of weeds will be managed through mitigation measures proposed in **Section 5.** Standard construction practices such as vehicle washdown may be implemented to limit the spread of pathogens in the adjoining environment. It is noted that there are no known pathogens that affect the swift parrot and regent honeyeater that are spread via vehicles or construction. Through the implementation of mitigation measures targeting weeds, the development is unlikely to result in an increase in weeds.

Indirect Impact	Koala	Grey-headed flying-fox	Swift Parrot and Regent Honeyeater
d. The increased risk of entanglement in wire fencing or other infrastructure within, and adjacent to, the site.	Industry standard fauna friendly site design measures will be implemented across the proposed development to reduce any physical risk posed by an increase in infrastructure in this area.	Industry standard fauna friendly site design measures will be implemented across the proposed development to reduce any physical risk posed by an increase in infrastructure in this area. Existing barbed-wire fencing on-site will be removed as part of the development. Electrocution on powerlines where they occur is a risk, however, entanglement in netting and on barbed-wire is considered highly unlikely and can be managed through the implementation of mitigation measures and procedures outlined within future management documents including the Vegetation Clearing and Fauna Management Plan (VCFMP) which will be prepared and subject to approval by Ipswich City Council.	Industry standard fauna friendly site design measures will be implemented across the proposed development to reduce any physical risk posed by an increase in infrastructure in this area.
e. Reduction in habitat connectivity to surrounding habitats, and any potential edge effects or disturbance to surrounding habitats, including any adjacent conservation areas.	<u>Habitat Connectivity</u> Habitat connectivity is present to the north, south and west of the subject site via retained corridors of vegetation associated with Opossum Creek. Connectivity to the east is already highly limited by existing residential development. In the broader landscape habitat values are fragmented by residential development and major roads including the Centenary Highway to the south. The increasing residential development within the locality means habitat suitable to koala has contracted to primarily sit within retained riparian areas. The proposed development while decreasing the available area of habitat will not reduce connectivity potential for koala and fauna generally within retained riparian corridors. <u>Edge Effects and Disturbance</u> The proposed action area and adjoining areas have been subject to modification due to historical land uses and clearing. As a result, existing edge effects and disturbance in the form of weed invasion are present within gully lines, creeks and isolated areas over the balance of the site. These areas, where to be retained, will be rehabilitated post-construction.	<u>Habitat Connectivity</u> The proposed development is not expected to reduce connectivity of suitable habitat for the grey-headed flying-fox due to the highly mobile nature of the species and abundance of suitable habitat in the surrounding landscape. <u>Edge Effects and Disturbance</u> The proposed development is not anticipated to result in edge effects or disturbance to retained grey-headed flying-foxes habitat. Retained vegetation areas will be rehabilitated to remove weeds and plant with native species where required. Edge effects are unlikely to impact the suitability of retained vegetation for foraging purposes given their ability to utilise highly fragmented areas for incidental foraging. Notably, there are no grey-headed flying-fox roosts located within or adjoining the project area.	<u>Habitat Connectivity</u> Habitat connectivity is present to the north, south and west of the subject site via retained corridors of vegetation associated with Opossum Creek. Connectivity to the east is already highly limited by existing residential development. In the broader landscape habitat values are fragmented by residential development and major roads including the Centenary Highway to the south. The increasing residential development within the locality means habitat potentially suitable for the swift parrot and regent honeyeater has contracted to primarily sit within retained riparian areas. While the proposed development will decrease the available area of habitat it will not reduce connectivity potential for swift parrot and regent honeyeater via retained riparian corridors. <u>Edge Effects and Disturbance</u> The proposed action area and adjoining areas have been subject to modification due to historical land uses and clearing. As a result, existing edge effects and disturbance in the form of weed invasion are present within gully lines, creeks and isolated areas over the balance of the site and adjoining areas. These areas, where to be retained, will be rehabilitated post-construction.
f. Changes to hydrology and water quality within, and around, the site, including increased siltation.	Ephemeral drainage lines are present within and adjoining the site. Opossum Creek (stream order 4 watercourse) is situated south-west of the project area. The upstream portion of a tributary of O'Dwyer's Gully is mapped in the northern extent of the project area. Earthworks and construction disturbances are not proposed to occur within these waterways. Where earthworks are to occur proximal to waterways, the implementation of standard mitigation measures (discussed in **Section 5**) will reduce the potential for development to impact these areas. Standard mitigation measures include but are not limited to waterway setbacks and maintenance of creekline vegetation, implementation of site-based erosion and sediment control plan which will be prepared at operational works, and the location of stormwater detention technologies at various locations across the site to minimise the effects of excess rainwater flowing into catchments caused by the creation of hardstand areas. A Stormwater Management Plan (SMP) will be prepared for the project as part of the ADP approval process. The SMP will provides a strategy to manage stormwater runoff within the development areas using a series of bioretention systems. During clearing and construction, all work is to be undertaken in accordance with appropriate management plans including but not limited to, a Construction	Ephemeral drainage lines are present within and adjoining the site. Opossum Creek (stream order 4 watercourse) is situated south-west of the project area. The upstream portion of a tributary of O'Dwyer's Gully is mapped in the northern extent of the project area. Earthworks and construction disturbances are not proposed to occur within these waterways. Where earthworks are to occur proximal to waterways, the implementation of standard mitigation measures (discussed in **Section 5**) will reduce the potential for development to impact these areas. Standard mitigation measures include but are not limited to waterway setbacks and maintenance of creekline vegetation, implementation of site-based erosion and sediment control plan which will be prepared at operational works, and the location of stormwater detention technologies at various locations across the site to minimise the effects of excess rainwater flowing into catchments caused by the creation of hardstand areas. A Stormwater Management Plan (SMP) will be prepared for the project as part of the ADP approval process. The SMP will provides a strategy to manage stormwater runoff within the development areas using a series of bioretention systems. During clearing and construction, all work is to be undertaken in accordance with appropriate management plans including but not limited to, a Construction	Ephemeral drainage lines are present within and adjoining the site. Opossum Creek (stream order 4 watercourse) is situated south-west of the project area. The upstream portion of a tributary of O'Dwyer's Gully is mapped in the northern extent of the project area. Earthworks and construction disturbances are not proposed to occur within these waterways. Where earthworks are to occur proximal to waterways, the implementation of standard mitigation measures (discussed in **Section 5**) will reduce the potential for development to impact these areas. Standard mitigation measures include but are not limited to waterway setbacks and maintenance of creekline vegetation, implementation of site-based erosion and sediment control plan which will be prepared at operational works, and the location of stormwater detention technologies at various locations across the site to minimise the effects of excess rainwater flowing into catchments caused by the creation of hardstand areas. A Stormwater Management Plan (SMP) will be prepared for the project as part of the ADP approval process. The SMP will provides a strategy to manage stormwater runoff within the development areas using a series of bioretention systems.

Indirect Impact	Koala	Grey-headed flying-fox	Swift Parrot and Regent Honeyeater
	Environmental Management Plan (CEMP) and Erosion and Sediment Control Plan (ESCP) to ensure the hydrological changes across the proposed action area do not impact on surrounding vegetation and waterways. The ESCP and CEMP will be prepared in consultation with the site contractor to suit the staging and construction requirements of the site. With the above mitigation measures, potential indirect impacts resulting from modified hydrological regime are unlikely to impact on surrounding koala habitat.	Environmental Management Plan (CEMP) and Erosion and Sediment Control Plan (ESCP) to ensure the hydrological changes across the proposed action area do not impact on surrounding vegetation and waterways. The ESCP and CEMP will be prepared in consultation with the site contractor to suit the staging and construction requirements of the site. With the above mitigation measures, potential indirect impacts resulting from modified hydrological regime are unlikely to impact on surrounding grey-headed flying-fox habitat.	During clearing and construction, all work is to be undertaken in accordance with appropriate management plans including but not limited to, a Construction Environmental Management Plan (CEMP) and Erosion and Sediment Control Plan (ESCP) to ensure the hydrological changes across the proposed action area do not impact on surrounding vegetation and waterways. The ESCP and CEMP will be prepared in consultation with the site contractor to suit the staging and construction requirements of the site. With the above mitigation measures, potential indirect impacts resulting from modified hydrological regime are unlikely to impact on surrounding potential swift parrot and regent honeyeater foraging habitat.

5. Avoidance and Mitigation

This section responds to Item 5 of the PD request which requests the provision of a consolidated description of all proposed measures to avoid and mitigate impacts, including any additional to those described in the referral. The following subsections provide a response to Item 5.

The following comments are made in relation to the avoid and minimise provisions, noting the *Nature Positive Plan* (December 2022) is considered retrospectively to both the project and information formally requested by the Department on two occasions.

5.1 Description of impact avoidance mitigation measures

Item 5.1(a) of the PD Request asks for ***"Discussion of consideration and assessment of alternative strategies, plans and measures to avoid and mitigate impacts (e.g. alternative project plans, retention of habitat/movement corridors/buffers, and fauna-friendly development and road design)."***.

EPBC 2020/8651 seeking approval for the Scenic Precinct, located in the City of Greater Springfield, was originally lodged with the Department in June 2020, prior to being determined a Controlled Action on the 29 of July 2020. The Scenic Precinct seeks approval to undertake development in accordance with the longstanding SSP approved in 1997 and the founding document for which all other EPBC approvals in the local area have been approved against.

Further information has been provided to the Department on multiple occasions, with revised iterations of this Preliminary Documentation provided in December 2022, January 2023 and March 2024 following the submission of Version 1 in October 2021. Fragmented feedback has been received from the Department from 2022 to 2025, and an on-site inspection was held at the Scenic Precinct with 3 Department staff on the 18 May 2023. Like a number or projects spanning this timeframe delays have been primarily caused by the changed view of species impacted based on upgraded 'Conservation Advice.' Significant additional survey has been completed in response to additional Department requests. It is acknowledged the Department has re-structured and now seeks proponent's place and increased emphasis on 'avoiding and minimising' impacts in accordance with the *Nature Positive Plan – December 2022*, however, there requires some level of recognition of the pre-dating decisions and applications for this project.

It is noted that the City of Springfield has a long and established history of approvals and construction. The longstanding SSP approved in 1997 pre-dates the EPBC Act by 2 years and its only as a result of the land partnership model, which has enabled the city area to develop flexible and under multiple fronts that, parts of the project have been belatedly triggered into the EPBC Act process. Refer to **Figure A7** for location of the referral area within the SSP. The specific Town Centre Concept Plan, which includes the Scenic Precinct, was approved in 2002 and through this land use plan the dedication of 392 ha of land earmarked for development within the South East Queensland being delivered as Conservation. Over the broader Springfield land holdings, the committed conservation land was assessed via an Environmental Impact Study, completed in accordance with the legislation of the day, to retain the highest value areas. These conservation areas were committed because of existing values and geographical location which enabled

connection to an inter government bioregional biodiversity corridor (Flinders – Greenbank – Karawatha Bioregional Corridor). To enable this volume of "Urban Footprint" land to be committed instead to conservation outcomes, significant housing density and investment in infrastructure was required around the town centre area of the City of Springfield (refer **Figure A8**). It is noted a portion of the referral area is identified as 'Creek Line Open Space' under the SSP (refer **Figure A7**). The SSP provides an overarching map of land use types. The final extent of this is refined through the LAP and ADP approval process and the shape of the Scenic Precinct reflects the intent of the area to be developed for community residential land uses. The shape and location of Creek Line Open Space area will be delivered adjoining the Scenic Precinct and will be reflected in LAP and ADP approvals.

The cadastral allotment on which the Scenic Precinct is proposed is 36.12 ha, with actual development proposed over the northern 24.2 ha (refer **Plan A1**). 11.92 ha or approximately 30% of the land holding is to be dedicated to the protection of existing ecological values and the expansion of the Opossum Creek Corridor. The detailed design of the Scenic Precinct development zone is still to be resolved, however, the over-all zoning and intent for the land is for a mix of residential densities from low to medium. A childcare centre is also proposed to complement the adjoining Springfield Anglican School and the nearby Hymba Yumba Independent School. The land is accessed via Springfield College Drive and adjoins the recently expanded 4 lane Springfield Parkway. Infrastructure exits through the site as shown by the number of easements over the development portion of the land and the design is based around the existing water reservoir facility.

The Scenic Precinct and proposal are uniquely located within a mixed urban and education area of Greater Springfield, sharing a boundary with 1 school and being within 500 m and connected via bike and pedestrian paths of another. The now well-established City of Greater Springfield provides a sport stadium, trains station, shopping and medical precinct within 1.5 km to 3 km from the site. Through the proposal freehold land will be converted to Council ownership and form part of the Opossum Creek corridor which remains the only strategic local scale ecological corridor in the area.

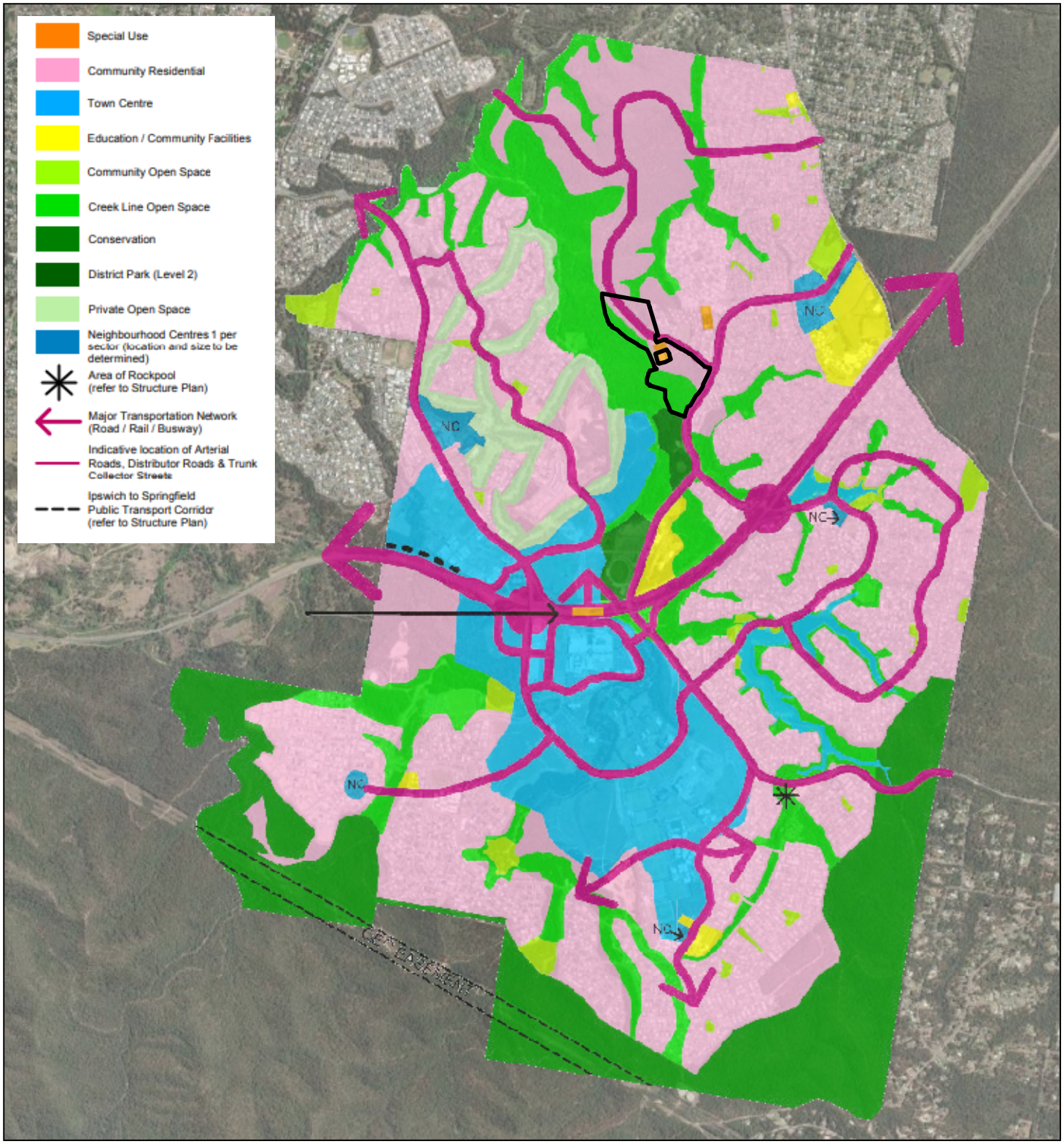
The allotment on which the Scenic Precinct is located is consistently vegetated like much of Greater Springfield. At the time of purchase the broader land holding was actively run as an operational native timber harvesting, which has resulted in a few large old growth trees remaining. The land achieves the definition of remnant vegetation under the Queensland VMA, however this is a deliberately low definition designed to capture and assess vegetation clearing rather than reflect old growth mature bushland. The former timber harvesting use is evident by the patches of *Eucalyptus grandis*, a native tree that is not endemic to the area, planted in timber rows adjacent to Opossum Creek Corridor.

Given the volume of density required for the project to be functional and relatively small and linear land holding site, design provides no meaningful additional avoidance opportunities for MNES habitat. The design is considerate in terms of all vehicular access being provided from the south in connection with existing roads and does not propose roads north, east or west over the creek corridors or the golf course. Therefore, safe fauna movement is provided, and fragmentation avoided to the greatest extent possible. The land holding is centrally located in the town centre and is not strategically linked to any environmental connectivity to south, east or north. The higher density unit living proposed at the site will remove impacts

associated with private property adjoining the creek corridor, bringing lower levels of dog ownership and greater control over domestic animal management.

The project covers a small footprint in the scheme of the dwellings and housing outcomes provided, however, results in very little relevant or meaningful opportunity for further avoiding impacts on MNES habitat beyond those already provided in the broader Springfield Structure Plan. An environmental offset is proposed for impacts incurred and located at a large-scale site with an aggregate of other offset approvals and proposals. Small impacts often result in small, fragmented offsets of limited function and conservation value and Springfield City Group are avoiding this by seeking to aggregate their offset requirement with a provider with a larger land holding and multiple offset outcomes. Refer **Attachment A8** for the Rosevale Offset Management Plan (ROA 3).

A number of specific avoidance and mitigation measures are proposed to reduce identified impacts on the Koala, Grey-headed Flying-fox, Regent Honeyeater and Swift Parrot and their habitat which are outlined in the sub-sections below.



Legend

Referral Area

Figure A7

Springfield Structure Plan

Springfield City Group Pty Ltd

File ref. 7399 E Figure A7 SSP E
Date 27/10/2025
Project Scenic Precinct

0 500 1,000 1,500 *m*

N

Scale (A4): 1:40,000 [GDA 1994 MGA Z56]

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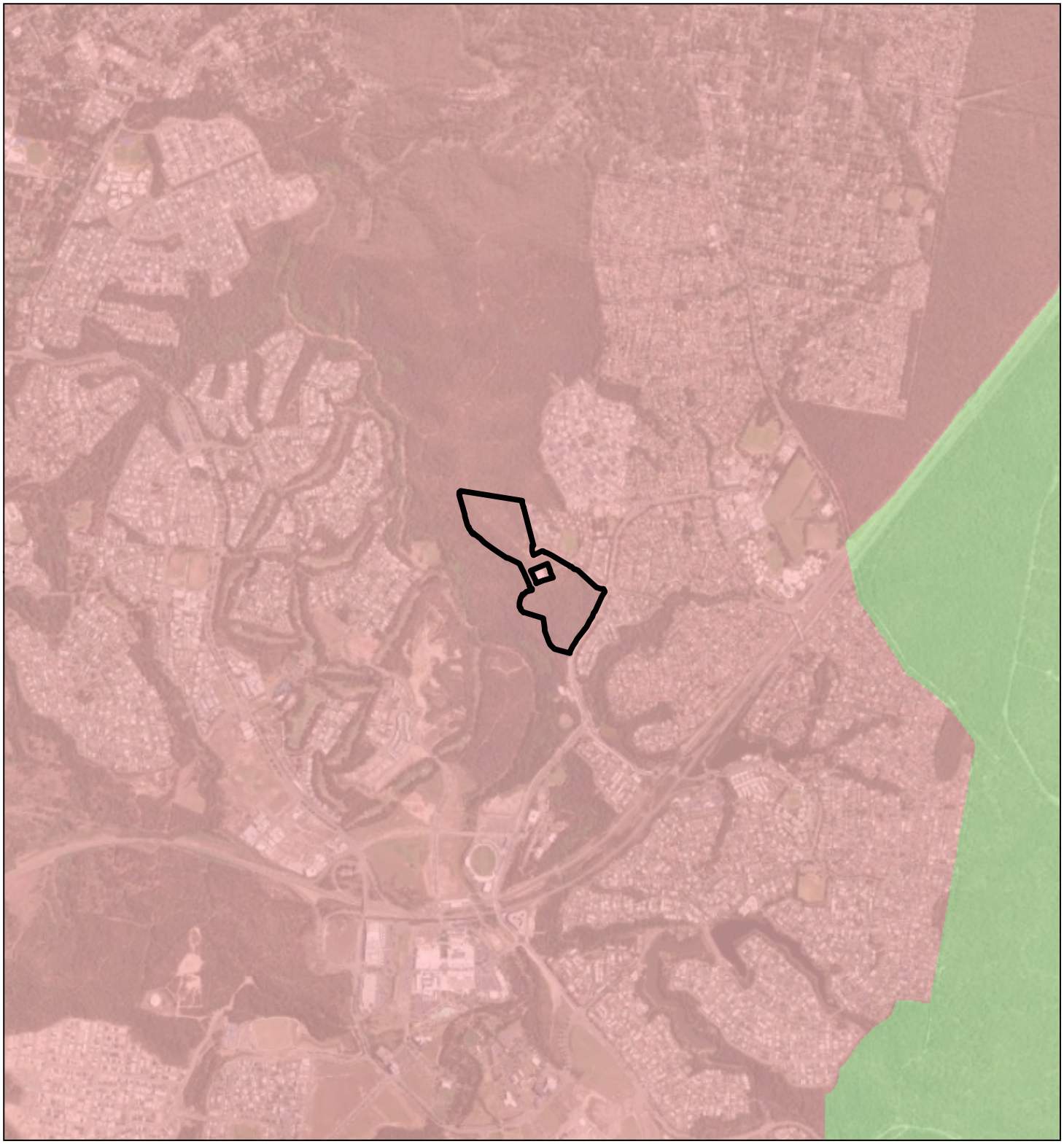

Legend

Referral Area

Regional Land Use Categories

Urban Footprint

Rural Living Area

Regional Landscape and Rural Production Area

Figure A8

South East Queensland Regional Plan

Springfield City Group Pty Ltd

File ref. 7399 E Figure A8 SEQ RP E
Date 27/10/2025
Project Scenic Precinct

0 200 400 600 800 1,000 *m*

N

Scale (A4): 1:30,000 [GDA 1994 MGA Z56]

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5.1.1 Management Plans

The following management plans will be drafted and scheduled as part of mandatory Council and State Government approval items to be developed as part of operational works applications. Refer to the relevant sections for further details.

- Erosion and Sediment Control Plan (to be drafted in consultation with the engaged site contractor – to be advised).
- Construction and Environmental Management Plan (to be drafted in consultation with the engaged site contractor – to be advised).
- Stormwater Management Plan (to be drafted in consultation with the engaged site contractor – to be advised).
- Site-based Management Plan (refer **Section 5.2.1**).
- Vegetation Clearing and Fauna Management Plan (refer **Section 5.2.3**).
- Rehabilitation Management Plan (refer **Section 5.4.1**).
- Nest Box Management Plan (refer **Section 5.4.2**).

5.2 Description of pre-clearance and clearance procedures

Item 5.1(b) of the PD Request asks for ***"Details about pre-clearance and clearance procedures to ensure that species are detected and managed to minimise mortality, stress, injury, or introduction of disease."*** A range of mitigation measures are proposed to reduce identified potential direct and indirect impacts on habitat suitable for the identified MNES during the clearing and construction phases of the project. The mitigation measures are summarised below:

- Implementation of a Site Based Management Plan to form a guide for management measures required to be implemented over the course of the project.
- Preparation of a Vegetation Clearing and Fauna Management Plan (VCFMP) for specific clearing phase.
- Pre-clearance measures including installation of fauna friendly tree protection fencing around vegetation clearing areas.
- Engagement of a Department of Environment, Science, Tourism and Innovation (DETSI) registered fauna spotter catcher and AQF Level 5 Arborist to supervise clearing activities.
- Preparation of Environmental Pre-clearance Prestart Procedure.
    - Preparation of Environmental Pre-clearance Packages.
    - On-site environmental pre-start meeting
- Installation of temporary Koala exclusion fencing around construction areas prior to construction commencing.
- Preparation of a Construction Environmental Management Plan and Erosion and Sediment Control Plan in consultation with the civil contractor.

These management measures are described in further detail in the below sub-sections. The implementation of management measures is proposed to be documented in annual compliance reporting to be conditioned for the project.

5.2.1 Site Based Management Plan (Environment)

In addition to mitigation outcomes incorporated in the design process, a number of management measures are proposed to ensure impacts are avoided and or minimised through the construction and operational phases.

To avoid and mitigate the direct and indirect impact from the project on the Koala, Grey-headed Flying-fox, Swift Parrot and Regent Honeyeater (MNES) a project specific Site Based Management Plan (Environment) (SBMP) will be prepared. The SBMP will act as the overarching Environmental Management Plan for the project.

Key outcomes within the SBMP for Koala, Grey-headed Flying-fox, Swift Parrot and Regent Honeyeater include:

- MNES are protected on-site.
- The abilities for MNES to move into, within and out of the site is maintained.
- Potential risks to MNES (e.g. vehicle strike, entanglement, fragmentation of habitat / becoming stranded, noise/light pollution etc.) are identified and appropriately managed.
- All persons involved in construction and operation of the development are aware of the site values, their potential to impact on MNES and their habitat, and their responsibilities in regard to procedures and strategies with the SBMP.

The SBMP will outline construction measures to manage and mitigate impacts on native flora, and fauna, specifically the Koala, Grey-headed Flying-fox, Swift Parrot and Regent Honeyeater and will include details on:

- Project Description, site design and identification of conservation areas
- Ecological Values of the Project Area, including:
    - Existing flora and fauna values on the subject site and in surrounding areas; and
    - Key results from survey data, including MNES occurrence and the availability and quality of habitat.
- Environmental Management, including:
    - SBMP objectives;
    - Identification of key personnel;
    - Roles and Responsibilities;
    - Environmental awareness and compliance training for all contractors and sub-contractors;

- Adaptive management; and
- Statutory requirements.

- Pre-Clearance Requirements – Fauna Management, including:
  - Vegetation management (clearing and protection), including:
    - Objectives;
    - Management Strategy;
    - Performance Indicators;
    - Environmental Outcomes; and
    - Monitoring and Adaptive Management.
  - Protection of MNES Fauna (Koala and Grey-headed Flying-fox) and Native Wildlife, including:
    - Objectives;
    - Management Strategy;
    - Performance Indicators;
    - Environmental Outcomes;
    - Monitoring and Adaptive Management;
    - Requirements of the DES approved Fauna Spotter/Catcher and adoption of the *Code of Practice for the Welfare of Animals Affected by Land Clearing and Other Habitat Impacts* in pre-clearance surveys, reporting and monitoring
    - Sequential clearing plan and clearing restrictions; and
    - Specifications and requirements for fauna exclusion fencing.
- Maintenance of Safe Wildlife Movement Opportunities (during Construction) including:
    - Objectives;
    - Management Strategy;
    - Performance Indicators;
    - Environmental Outcomes;
    - Details of Temporary fencing;
    - Hours of Operation,
    - Details of Fauna awareness signage; and
    - Details of Vehicle movement controls.
- Fauna Habitat Rehabilitation, including
  - Planting and rehabilitation;
  - Wildlife crossings; and

- Reporting and monitoring.

- Education and Awareness, including distribution of Lifestyle Guidelines

5.2.2 Vegetation Clearing and Fauna Management Plan

An overarching Vegetation Clearing and Fauna Management Plan (VCFMP) will be prepared to manage and mitigate potential impacts of the construction phase covering the loss of vegetated areas, isolated trees and likely barriers and impediments to local dispersal. Further, separate fauna management measures will be implemented post-development to mitigate potential ongoing impacts to fauna, with specific measures to manage MNES. The VCFMP and fauna management protocols will be overseen by ICC and are required under State legislation. These documents will underpin operational works approvals sought by ICC.

The following detailed information will be included in the VCFMP:

- Clearly show all trees to be removed and retained.
- Include details of all civil works likely to impact on existing vegetation.
- Temporary and permanent exclusion and protection fencing tor riparian corridors, significant habitat to retain, and parklands.
- Roles and responsibilities for site contractors, developer and the consultant group.
- Stockpiling and site access locations.
- A clearing sequencing plan showing the commencement of clearing and direction of removal (this should be in conjunction with the fauna management protocols to allow for the appropriate flushing of fauna towards surrounding safe haven areas.
- Links to weed management and revegetation proposals.
- The stock piling and reuse of cleared vegetation.
- Specific details on the removal of previously identified potential fauna habitat trees.
- Where trees are shown to be retained occur within disturbance zones they should be accompanied by necessary arborist specifications incorporated into the VCFMP.
- Designation of trees to be protected for the on-going life of the proposal which may require both immediate remedial works (crown thinning, coppicing) and long-term monitoring for the potential of future works.

Under Queensland's *Nature Conservation Act 1992*, all native fauna are protected and as such the following activities are required to ensure that vegetation removal and construction does not adversely affect native fauna species:

- Immediately prior to the commencement of clearing of native vegetation, a daily visual inspection of the area must be carried out;
- In the event of an animal being located, an area of 5 metres radius should be established around the tree, excluding machinery from this area until the animal has relocated (usually overnight); or

- If an animal requires relocating, this must be undertaken by a suitable qualified fauna expert (e.g. fauna spotter-catcher) recognised by the Queensland Parks and Wildlife Service.
- Any native fauna orphaned or injured by the development process must be reported to the Queensland Parks and Wildlife Service.
- The site supervisor is responsible for the safe management of site fauna and implementation of these specific fauna requirements.

Fauna management information will include:

- Species surveyed as using the site with a focus on those most likely impacted by development works.
- A list of relevant State and Commonwealth legislation constraints and controls for the above listed fauna.
- A plan showing existing habitat opportunities and locations.
- Details of the threats to existing fauna species.
- Clearing sequence plan from the VCFMP.
- Management and mitigation measures *i.e.,* temporary use of fauna exclusion fencing.
- Fauna spotter role, contacts and certification.
- Specific fauna management procedures for potential or known habitat trees.

5.2.3 Environmental Pre-Clearance Package

Each clearing phase will be subject to issue of an Environmental Pre-Clearance Checklist and Environmental Pre-Clearance Package to ensure all approval requirements are met prior to vegetation clearing. Environmental Pre-Clearance Checklists are designed to easily show compliance for approval requirements, including EPBC approval requirements, in a format where they can be 'ticked off' prior to vegetation clearing. The purpose of the checklist is to ensure:

- All required approvals are in place prior to clearing and all relevant documentation including approvals, approved plans and management documents are compiled and distributed to all relevant personnel.
- Threatened flora and fauna pre-clearance checks are undertaken of the clearing extent and appropriately documented so that:
    - Any threatened flora in the cleared area is identified and appropriate measures are in place,
    - Any threatened fauna and / or fauna habitat is identified and appropriately managed, and
- Appropriate induction procedures are in place and environmental requirements are understood and complied with by all contractors and sub-contractors.

The Environmental Pre-Clearance Checklist is to be read in conjunction with the SBMP. Together the Environmental Pre-Clearance Checklist and subsequent attachments, and the SBMP will form the

Environmental Pre-Clearance Package for that scope of works. Environmental Pre-clearance Packages require all approval documentation, including EPBC approval requirements, relevant to that clearing stage to be prepared, compiled and distributed to all relevant parties prior to the commencement of clearing. The Environmental Coordinator will be responsible for preparation of and the Environmental Pre-clearance Package.

All relevant parties (e.g. civil contractor, clearing contractor, fauna spotter, environmental coordinator, superintendent and client) must sign the checklist prior to clearing, acknowledging that they have reviewed all, and will undertake the works in accordance with, approved procedures and reporting.

As way of acknowledgement, the Environmental Pre-Clearance Checklist will be run through at a project pre-start meeting with all personnel and relevant parties required to sign the checklist. No clearing can commence for a specific phase of works until the checklist has been completed and signed off by the Environmental Coordinator.

5.2.4 Fauna Spotter Catcher Roles and Reporting

As required by the SBMP, a DETSI registered Fauna Spotter Catcher must be appointed to ensure fauna management, specifically Koala and Grey-headed Flying-fox management, prior to, during and post clearing. This role is mandated for any clearing of native vegetation in Queensland. The role of the Fauna Spotter Catcher is to complete an assessment of the works area no more than 2 weeks prior to clearing and present a short report to the proponent on the findings and how the proposed clearing is to be managed. The Fauna Spotter Catcher is required at the pre-start meeting and be on-site during all times of construction. Under the *Nature Conservation Act 1992* registered Fauna Spotter Catchers must complete a return of operations report to the Queensland State Government stating all fauna encountered and the specific management measures used to ensure the safety of native animals.

It is the role of the Fauna Spotter Catcher to take all reasonable steps to protect wildlife that may be impacted by vegetation clearing. These steps include:

- Undertaking wildlife load reduction measures through the pre-clearing trapping and relocation of wildlife within 1-2 weeks prior to the approved clearing being conducted. Sequential clearing cannot be used as a primary fauna management measure;
- Clearly mark (flag) vegetation found to contain fauna or fauna habitat (such as tree hollows, arboreal termite mounds, stick nests or possum drays with flagging tape) and visually and verbally communicate this information to the tree feller to ensure flagged trees are not felled until authorised by the fauna manager;
- Manage any Koalas identified on-site in accordance with the Nature Conservation (Koala) Conservation Plan 2006 and Management Program 2006-2016;
- Manage any Grey-headed Flying-foxes identified on-site in accordance with the protocols discussed in the SBMP;
- Manage fauna habitat identified during the site inspection using the protocols discussed within the SBMP;

- Work in conjunction with a professional tree feller in the removal of any vegetation;
- Schedule vegetation clearing to ensure that the impacts on wildlife are minimised and the likelihood of detection and capture of wildlife is maximised and wildlife load reduction measures are productive;
- Ensuring vegetation and rubbish piles are not left to serve as refuge for displaced or roaming wildlife through the implementation of the following measures:
    - Immediately (within 12 hours) remove or destroy such material
    - Erect wildlife proof barriers. Fencing surrounding stockpiles to prevent wildlife use
    - Ensure old (>12 hours) piles of felled vegetation are treated as potential wildlife habitat and inspected by a wildlife spotter/catcher prior to removal or destruction
- Limiting the felling of habitat and hollow bearing trees to the following methods:
    - Segmental removal of tree, with hollow bearing limbs being checked by the Fauna Spotter Catcher and cleared of fauna using a cherry picker or suitable means determined by the Fauna Spotter Catcher
    - Segmental removal of the tree, with hollow bearing limbs plugged and lowered to the ground for inspection by wildlife spotter
    - Use of an excavator with vertical grab to lower the main trunk (only after the removal of lateral limbs) and
    - A combination of the above methods.

5.2.5 Adoption of the RSPCA / ESU of WW Draft Code for Fauna Spotting

The project will adopt the DRAFT Code of Practice for the welfare of animals affected by land-clearing and other habitat impacts (Draft Code) prepared by the Australia Zoo Wildlife Warriors and Voiceless. This Draft Code is not mandatory, however, is advocated by various environmental organisations as the leading practice method for minimising impacts of native wildlife during construction processes.

The Draft Code will be adopted to ensure that fair, reasonable and appropriate measures are undertaken to minimise the adverse impacts on wildlife as a result of vegetation clearing. The code provides standards and guidelines for the humane treatment of wild animals affected by land clearing by detailing the general responsibilities of people involved in land clearing and the specific roles of wildlife spotter/catchers. As emphasised within the Draft Code, it will be the responsibility of all relevant parties to:

- Take all reasonable steps necessary to prevent cruelty or suffering to animals;
- Minimise the loss of wildlife caused directly or indirectly by development or land clearing; and
- Conserve, as much as possible, the ecological values of the development site and their surrounding natural environment (Draft Code, p.5)

The following components of the code are to be adopted as the following actions for any clearing works:

Action 1 – Developer to Engage Fauna Spotter Catcher

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

Action 2 – Fauna Spotter to Prepare a Wildlife Protection and Management Plan (WPMP)
The WPMP should include the following information:

- Description of the project with reference to impacts on wildlife or 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 completion and of the WPMP the Fauna Spotter Catcher should prepare a more specific Wildlife and Habitat Impact Mitigation Plan (WHIMP), which will include 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 – Fauna Spotter Catcher Role 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. At the pre-start meeting, the Fauna Spotter Catcher is to outline the clearing process and the requirements listed in the SBMP.

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 to the Fauna Spotter Catcher to make any necessary adjustments 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 Wildlife Management Report to be issued under licence requirements to the State Government. The Wildlife Management Report should consist of the following 3 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.

5.3 Description of buffers or proposed exclusion zones

Item 5.1(c) of the PD Request asks for ***"a description (including maps and imagery) of the location, boundaries and size of the buffer areas or proposed exclusion zones, and details on how these areas will be enhanced, protected and maintained. Also include here a description of any fences or barriers which may be installed around areas where impacts will be avoided."***

The proposed action will be contained within the referral area which is the development area nominated on **Plan A1**. The off-site open space provides a setback to the adjacent Opossum Creek. No works are proposed beyond the development area. Fencing between the off-site habitat and the development area is not proposed, and the combination of new uses and landscaping design omitting primary or secondary Koala food trees will discourage fauna movement through the development area.

Prior to the commencement of construction, the approved limit of works will be demarcated by surveyors to reduce the possibility of a breach of the approved development area boundary during construction works. Land beyond the boundary of the development area shown on **Plan A1** does not form part of this project and is therefore an exclusion area.

5.3.1 Fauna friendly tree protection fencing

Clearing and construction works associated with the development impacts will be limited to a maximum of 24.2 ha. Prior to clearing, temporary fauna friendly tree protection fencing and in the form of orange bunting and temporary signage will be installed around each staged clearing impact area (refer **Photo set 4** for example). The presence of tree protection fencing will ensure that no authorised clearing impacts occur outside of the clearing footprint and to allow any fauna present within the clearing footprint to disperse retained habitat areas.

Photo set 4: Fauna friendly tree protection fencing and signage to be installed around tree protection zone during clearing.

5.3.2 Temporary fauna exclusion fencing

Following the completion of vegetation clearing for the relevant phase and prior to construction commencing, temporary Koala exclusion fencing will be installed around the perimeter of the works footprint to prevent fauna from entering the construction footprint. Temporary koala exclusion fencing may different design include chainwire floppy-top fencing or construction fencing fitted with a panel of unclimbable material with the top of the sheeting 1.5 m from the ground as per the *Koala Sensitive Design Guideline* (DES, 2022) and *Fauna Sensitive Transport Infrastructure Delivery manual* (DTMR, 2024). Refer to **Table A46** for temporary fauna exclusion fencing options that may be utilised at the completion of clearing and to enable the construction of permanent fencing where proposed.

Table A46: Temporary exclusion fencing options

Type	Specifications	Image
Chain wire and picket fence with floppy top	• Chain wire • Star pickets • install star pickets on construction area side of fence	
Chain wire panel fencing with exclusion elements	• Chain wire panels • Plastic footings • 600 mm sheet metal/Perspex top	Source: DTMR (2024) *Figure 5.3.3(c) – Plant-hire fencing with panel at top to inhibit climbing by koala*

5.4 Details on rehabilitation measures

Item 5.1(d) of the PD Request asks for *"**details of any rehabilitation measures to be implemented for disturbed areas, including rehabilitation objectives, target species, timing of rehabilitation stages, methodology, maintenance measures, schedules and monitoring.**"*

Rehabilitation of open space (*i.e.,* creation of an open space park) within the development area will be carried out with the aim of supporting *in situ* habitat and ecological values and reconstructing values where land will be cleared in support of change to ground level engineering requirements. The off-site natural area will serve as a buffer between the development and the adjoining Opossum Creek Corridor to the west.

5.4.1 Rehabilitation Management Plan

A Rehabilitation Management Plan will form part of the broader management document submitted as part of the operational works drawings to council for the project site. The RMP will be prepared specifically fort the linear park / vegetation retention area adjoining the referral area and will at a minimum include:

- Rehabilitation details of species' specific habitat;
- Details of proposed rehabilitation works including proposed species and planting palette;
- Planting modules to demonstrate planting densities;
- All weeding works required, including a full list of known weeds on-site and how each weed can adequately be managed
- The required ongoing management / maintenance regimes, including:
    - Plans indicating maintenance areas / zones;
    - Schedules of works including frequency and tasks;
    - Allocation of labour and resources to perform tasks;
    - Nomination of key performance indications / criteria for monitoring purposes (e.g. all revegetation areas, minimum 90% weed free etc.);
    - Time allocated to performance various tasks (e.g. top up mulch, pruning, topdressing etc);
    - Defects liability for materials such as replacement of dead plant species of equivalent species and vigour;
    - Coordination of services such as irrigation repair or civil infrastructure maintenance (such as stormwater) that may impact on the landscape establishment and maintenance periods;
    - Management of bushfire hazard (where approved);
    - Management of domestic farm / feral animals (if appropriate);
    - Management of public access and / or restricted access areas;
    - Tree management procedures;
    - Management and maintenance of regimes for sediment and erosion control devices, and irrigation;
    - Proposed future need for infrastructure, including public facilities; and
    - Management and control of declared plants and recognised environmental weeds.

The Rehabilitation Plan will be subject to approval and prepared in accordance with the South East Queensland Ecological Restoration Framework (SEQERF).

This will be subject to on-maintenance and off-maintenance requirements with ICC. Once off-maintenance and ownership of the reconfigured land has been transferred to third parties (e.g. council, private individual, other property owners), this will signal the completion of the action and ongoing mitigation and management measures relating to species management across the project area will reach an end point.

5.4.2 Nest Box Management Plan

A Nest Box Management Plan is proposed to be prepared as part of the overall documentation anticipated to be required for the local approval process to compensate for the removal of hollow-bearing trees within the referral area as required by ICC. Nest boxes are proposed to be installed within the adjoining linear park

/ vegetation retention area of Opossum Creek corridor per ICC specifications. The Nest Box Management Plan will generally include:

- Compile Nest Box Strategy in accordance with the Environmental Areas and Corridors Planning Scheme Policy and Conditions Package, including:
- Exact number of habitat trees and number of hollows to be impacted,
- Assessment of replacement hollows required as per 'No Net Loss of Fauna Habitat' condition requirements,
- Assessment of target species,
- Requirements for the target species,
- Nest box types - design and sizes,
- Installation technique,
- Scaled plan showing the proposed location of installed nest box including GPS location and tree details
- Installation timeframes which provide for installation prior to the commencement of clearing wherever possible, otherwise within seven (7) days of clearing; and
- Monitoring and maintenance regime details, including protocols for replacing fallen or broken nest boxes (Nest boxes must be monitored and maintained for a minimum of 12 months post installation)
- Detail location and particulars of Council triggered 'Habitat Trees'

5.5 Details of the proposed ongoing management activity

Item 5.1(e) of the PD Request asks for ***"details of any ongoing mitigation and management measures during the operation of the facility."***

A range of mitigation measures are proposed to be implemented as part of the operational phase of the project including:

- Implementation of fauna friendly road and lighting design and Koala awareness signage along vegetation interface areas.
- Rehabilitation of vegetation retention areas in accordance with an approved Rehabilitation Management Plan to be approved as part of operational works with on-maintenance and off-maintenance requirements (discussed in **Section 5.4.1**).
- Fauna movement infrastructure installed where roads intersect retained habitat areas (if applicable).
- Landscape species selection to include non-foraging tree species to discourage koalas and other native fauna from entering the development area.

The following sub-sections detail the ongoing mitigation and management measures during the operation of the development.

5.5.1 Fauna Friendly Road Design and Crossings

At the detailed design stage, tweaking of road locations, setbacks and earthworks will occur to ensure the environmental values are protected and enhanced. Should fauna crossings be identified as necessary proximal to the retained open space areas, design specifications for the crossing structures will be refined largely based on localised site ecological assessment identifying potentially impacted environmental matters and target species.

Any infrastructure that crosses the open space area will include fauna friendly crossings designed in accordance with the *Fauna Sensitive Transport Infrastructure Delivery* manual prepared by the Queensland Department of Transport and Main Roads (DTMR, 2024) and the Queensland *Koala Sensitive Design Guidelines* (DES, 2022), or equivalent (refer **Insert 2**). Fauna friendly crossings must include the following:

- Minimum fauna culvert sizes to suit a full suite of species onsite;
- Incorporate the use of fauna furniture;
- Provide crossing opportunities for arboreal animals via the use of retained canopy cover, rope bridges, glider poles, Koala poles etc.;
- Demonstrate that the type and dimension of the fauna crossing ensures that during low flow events, one dry culvert exists to facilitate fauna movement;
- Where necessary, incorporate the installation of slow traffic areas and/ or safe fauna crossing areas, including but not limited to, appropriate fauna signage, maximum 50km/hr, speed humps and fauna fencing; and
- Ensure fauna crossing details are determined in consultation with a hydraulic engineer.

<u>Safe Passage Road Fauna Movement Solutions</u>

Where internal roads within the project are required to cross waterways, specific fauna movement solutions will be incorporated into the design. These structures will be specifically selected, designed and sized to cater for the movement of native fauna anticipated to utilise the waterway corridors. Fauna crossings will be exclusively designed for fauna and separate to hydrology devices. The safe crossing movement solutions will be supported by directional fauna exclusion fencing to ensure animals are funnelled away from vehicle conflicts and into the safe passage areas. Where required, additional large tree planting will be installed either side of a constructed road crossing to reinstate as quickly as possible a closed canopy over the new road infrastructure.

Fauna movement solutions will be implemented in accordance with the DTMR *Fauna Sensitive Road Design Guidelines* specifications and may include:

- Roads slowed to 50 km per hour
- Road thresholds changed to notify vehicles of the fauna linkage
- Erection of signage specific to fauna crossing solutions and Koala crossing points
- Additional plantings in narrowed road reserves to maximise connectivity
- Additional lighting (as required)
- Road design to support and funnel exclusion fencing

Figure 4.3.1. (photo D de Villiers) Winding local roads with slow points helps to reduce vehicle speed and avoid collisions with koalas.

Figure 4.3.12. (photo D de Villiers) A 3.0 m x 3.0 m box culvert provides maximum light penetration and is large enough for fauna furniture to aid movement and predator avoidance.

Figure 4.3.2. (photo D de Villiers) Koala crossing zone has a reduced speed limit to slow vehicles and allow the detection of koalas crossing the road between habitat patches.

Figure 4.3.13.(photo D de Villiers) Koala exclusion fencing constructed along a rail line. Without barrier fencing, koalas will likely walk across the rail line and avoid the dedicated fauna crossing point/culvert. Fencing completed below.

Insert 2: Examples of Koala-safe transport infrastructure from *Koala Sensitive Design Guideline (2022)* including slow points (left) and fauna furniture (right).

5.5.2 Fauna awareness signage

Where the proposed development includes esplanade roads running adjacent vegetation retention areas, the design will adopt traffic calming and reduced speed signage to control vehicles adjoining sensitive areas.

A combination of Koala awareness signage and reduced speed signage will be installed along esplanade roads located adjacent to the vegetation retention areas. The project will adopt the *Fauna Sensitive Transport Infrastructure Delivery* manual (Chapters 7 and 13) and *Draft Technical Note Wildlife Signage Guidelines* developed by DTMR to ensure best practice fauna management is incorporated into the design of wildlife movement solutions (where considered appropriate) or slow down points). The posted vehicle speed limit will be subject to ICC approval; however, it will not exceed 50 km/h and may be reduced at road crossing areas.

5.5.3 Landscaping

A non-Koala tree landscape mix to be used in estate landscaping. Ensure street and park trees while being planted out with non-invasive native trees do not specifically include any primary or secondary Koala food trees. The goal of this approach is to minimise the attraction for Koalas to enter the development area.

The adjacent open space area (outside the project area) will retain Koala habitat trees thus also providing foraging sources for GHFF, Regent Honeyeater and Swift Parrot.

5.5.4 Lighting

Fauna sensitive lighting design will be utilised along esplanade roads adjoining the vegetation retention areas and natural areas associated with Opossum Creek. This includes installing shielded light fittings to minimise light spill into the natural areas and use of appropriate luminaire type identified as suitable for terrestrial mammal habitat under the Commonwealth *National Light Pollution Guidelines for Wildlife* (DCCEEW, 2023). Fauna sensitive lighting will be installed in accordance with recommendations under the Guideline and in accordance with industry standards *i.e., AS/NZS 1158 Set: 2010: Lighting for roads and public spaces* and *AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting*.

5.5.5 Dog control measures

Restrictions will manage pets throughout the development, through fences around dwellings and mandates on leash when in common areas. No off-leash dog areas are included as part of the proposed action. Dog controls will be enforced and maintained by Council under local regulations.

The proposed vegetation retention area adjoining the referral area will be handed over to Council on completion as per standard practice and Council approval. These areas will become part of their ongoing open space and reserve management areas administered by the dedicated parks management team.

5.5.6 Education and Awareness

<u>Lifestyle Guidelines</u>

The distribution of "Lifestyle Guidelines" has the purpose of instilling stewardship of the issue amongst residents, encouraging them to actively protect native wildlife and making them aware of the types of fauna that could disperse onto roads and how to appropriately manage domestic pets. Topics included within the education documents include:

- Appropriate plant selection on allotments
- Inappropriate planting species (known local or declared weed species)
- Management of house hold scale run off
- Protection of native animals and the types of native animals residents could expect to see
- Understanding storm water devices
- Appropriate management of domestic animals
- Key local and state phone numbers to contact if distressed or orphaned fauna is located.

A copy of the lifestyle guidelines will be issued to new residents upon the purchase of an allotment within the development.

5.6 Further details of measures proposed

Item 5.2 of the PD Request asks ***"For each measure proposed, indicate the:***

a) Responsible party

b) Environmental outcomes to be achieved

c) Milestones / performance / completion criteria

d) Proposed monitoring and evaluation program."

Refer to **Sections 5.2 to 5.5** for further details.

Item 5.3 of the PD Request asks for ***"an assessment of the predicted effectiveness of each proposed avoidance or mitigation measure, noting that the effectiveness of a particular measure is a reflection of confidence in the ability of the measure to reduce the risk of a threat. The assessment of effectiveness should be evidence based and include examples of demonstrated success of a particular measure to achieve the desired avoidance/mitigation outcome."***

An assessment of mitigation measures effectiveness is provided in **Table A47** for Clearing and Construction Impacts and **Table A48** for Operational Impacts.

5.6.1 Clearing and construction impacts

Table A47: Clearing and Construction Impacts

Impact	Avoidance and Mitigation Measures	Evaluation of the Effectiveness of Measures	Mitigation measure item	Timeline for delivery	Risk Assessment	Milestone	Responsible Party	Monitoring Program	Environmental Outcome
Loss of a maximum of 24.2 ha of critical habitat for the koala and grey-headed flying -fox, 1755 habitat features for the swift parrot and 1891 habitat features for the regent honeyeater	Habitat to be cleared on site is regrowth and remnant vegetation that has been subjected to historical modification. Regional Ecosystems are proposed to be retained within open space where vegetated buffers between the development and riparian corridor are to be retained, minimising potential impacts to ecosystem function. No more than 24.2 hectares of vegetation will be removed to facilitate the development.	Ecological surveys and habitat assessment conducted across the site led to the precise spatial analysis of vegetation and habitat qualities. The project will result in the unavoidable loss of not more than 24.2 hectares of vegetation containing critical habitat for the koala, grey-headed flying-fox, swift parrot and regent honeyeater.	Avoiding high value areas at development design	Works complete	The field survey applied has accurately mapped the features that are to be avoided and retained within the vegetation retention area.	The ecological retention area is intact at completion of works, with mitigating factors outlined below effectively applied. The development area is cleared and developed.	Civil contractor as appointed by the proponent.	Annual Compliance Report completed by an engaged suitably qualified professional as appointed by the proponent.	Loss of critical habitat for the koala, grey-headed flying-fox, swift parrot and regent honeyeater.
Risk of injury or mortality to koalas, grey-headed flying-fox, swift parrot and regent honeyeater from vegetation clearing and construction	All clearing will be undertaken in accordance with the SBMP. This will include: • Provisions for the proponent to engage a qualified Fauna Spotter Catcher to participate in all stages of vegetation clearing. The Fauna Spotter Catcher will be required to adopt elements of the Draft Code of Practice endorsed by the Australia Zoo Wildlife Warriors and Voiceless (The Draft Code). The role of the Fauna Spotter Catcher is to ensure that no injury or deaths occur to Koalas or other fauna species. • Vegetation will be cleared sequentially. Clearing will be conducted so that fauna are flushed into safe, vegetated areas and it will avoid pushing fauna into fragmented areas. • Temporary fauna friendly fencing will allow fauna to safely disperse into vegetated areas away from construction, • Temporary fauna exclusion fencing will then be erected to prevent fauna dispersing into construction areas.	The use of a Fauna Spotter Catcher throughout clearing is an effective tool to: Identify they types of species on site prior to clearing; and Identify and flag habitat features that require thorough examination before clearing. Fauna Spotter Catchers have a primary role to ensure no fauna are in vegetation before it is cleared. Given the size of koalas and their utilisation of tree branches, they can quite easily be observed from the ground. As such, it is extremely unlikely that a koala will be killed or injured during vegetation clearing, particularly given the onerous and thorough procedures set out The Draft Code. Given grey-headed flying-foxes are nocturnal, there is minimal risk of mortality from vehicle collision. Restricted operation hours (i.e., daylight hours) is considered an effective mitigation measure to minimise this risk. The sequential clearing of vegetation will allow for the gradual loss of vegetation, giving fauna time to naturally disperse away from the disturbance. The use of fauna exclusion fencing around construction areas will ensure fauna do not disperse into unsafe, hostile areas,	Fauna Spotter	Present at all times during clearing works	Fauna Spotter not present and Koala injured or killed	No injury or death to Koalas during clearing	Civil contractor as appointed by the proponent and DETSI certified Fauna spotter catcher as appointed by the civil contractor.	Post-services Wildlife Report completed after each clearing event by the appointed fauna spotter catcher.	The use of a Fauna Spotter is mandated **No residual impact**
			Sequential Clearing	At all times during clearing	Sequential clearing not undertaken and fragmentation induced	Clearing completed as per sequential clearing	Civil contractor as appointed by the proponent and DETSI certified Fauna spotter catcher as appointed by the civil contractor.	Post-services Wildlife Report completed after each clearing event by the appointed fauna spotter catcher.	Sequential clearing is mandated and guided by VCFMP and pre-clearance checklists and pre-starts **No residual impact**
			Temporary fauna friendly tree protection fencing to allow fauna to escape into refuges during clearing	At all times during clearing	Temporary fencing not installed and koala or other fauna are injured or killed	Temporary fencing utilised at all times during the clearing process	Civil contractor as appointed by the proponent.	Pre-start checklist and inspection, sign-off by environmental coordinator prior to clearing and monthly contractor reports prepared by the civil contractor.	Temporary fauna fencing is mandated and guided by the SBMP and pre-clearance checklists and pre-starts **No residual impact**
			Restricted construction hours	At all times during construction	Works outside of hours	Works area completed within mandated hours	Civil contractor as appointed by the proponent.	Monthly contractor reports prepared by the civil contractor.	Works hours are mandated and guided by the SBMP. **No residual impact**
			Dog prohibitions	At all times during construction	No companion and security dogs on-site	Construction completed without dogs on-site	Civil contractor as appointed by the proponent.	Monthly contractor reports prepared by the civil contractor.	Dog controls are mandated and guided by the SBMP.

Impact	Avoidance and Mitigation Measures	Evaluation of the Effectiveness of Measures	Mitigation measure item	Timeline for delivery	Risk Assessment	Milestone	Responsible Party	Monitoring Program	Environmental Outcome
	• Restricted construction hours (i.e. daylight 6am -6pm) • Prohibition of companion /security animals (e.g. dogs). • Restricted vehicle speeds (e.g. max 40 km) within construction areas. In addition to this, all construction personnel shall attend environmental training as part of the site induction process prior to entering the work site. As part of this training all personnel will be instructed on their obligations in regard to vehicle movement and construction speed limits.	again minimising the risk of injury of death. Each of these measures will ensure that the risk of injury or death to koalas or grey-headed flying-foxes as a result of construction are avoided and mitigated. The aim of these procedures is to support zero injuries or death to identified MNES threatened species as a result of construction.	Low vehicle speeds	At all times during construction	Speeds are exceeded resulting in fauna strike	Construction completed without vehicle strike	Civil contractor as appointed by the proponent.	Monthly contractor reports prepared by the civil contractor.	**No residual impact** Speed limits are mandated and guided by the SBMP. **No residual impact**
			Site inductions	At all times during construction	Induction avoided	Construction completed without inductions being breached	Civil contractor as appointed by the proponent.	Monthly contractor reports prepared by the civil contractor.	Inductions are mandated and guided by the SBMP. **No residual impact**
Fragmentation of habitat for koala, grey-headed flying-fox, swift parrot and regent honeyeater during construction	Vegetation clearing has the risk of fragmenting habitat areas during the construction phase. To avoid this impact, vegetation will be undertaken sequentially to allow fauna to disperse from construction areas. Clearing procedures that avoid the fragmentation of vegetation will be adopted within the SBMP and informed by the Fauna Spotter Cather WHIMPs. Clearing will be undertaken in a way that flushes fauna into connected areas of habitat and will avoid flushing fauna into fragmented or hostile areas. Specifically: • Fauna are not required to cross roads or move through developed or disturbed areas, such as residential areas of areas that require movement greater than 100 m over cleared ground to reach suitable habitat; • Fauna are not left occupying an 'island' of habitat between hostile environments, such as road and cleared areas; • Fauna can safely leave the site of clearing and relocate to adjacent habitat; • Demarcation fencing will be fauna friendly to ensure fauna are	Habitat isolation and fragmentation is a primary concern due to its impacts on fauna. Koalas, GHFF, swift parrot and regent honeyeater are able to disperse through a variety of environs, including bushland and cleared areas. The direction of clearing of vegetation in accordance with the SBMP (informed by WHIMPs) will ensure that clearing does not create fragmented habitat islands that could trap fauna. Rather, procedures will be in place to ensure clearing flushes fauna away from construction areas into surrounding habitat areas that are connected to the wider landscape. Adjoining areas are permanently designated as Council open space and thus will not be subject to fragmentation in the future. As such. No residual impacts are anticipated.	Fauna not fragmented from adjoining habitat during clearing	Fauna are not fragmented from habitat during clearing. Sequential clearing is undertaken at all times during clearing.	Fauna are fragmented by clearing	Clearing completed without fauna being fragmented	Civil contractor as appointed by the proponent.	Post-services Wildlife Report completed after each clearing event by the appointed fauna spotter catcher.	Sequential clearing is mandated and guided by the SBMP and pre-clearance checklists and pre-starts **No residual impact**
			Temporary fauna exclusion fencing prevent fauna from moving into construction areas	At all times during construction	Temporary fauna exclusion fences are not installed	Temporary fencing utilised at all times during construction	Civil contractor as appointed by the proponent.	Annual Compliance Report completed by an engaged suitably qualified professional as appointed by the proponent and monthly contractor reports prepared by the civil contractor.	Temporary fauna fencing is mandated and guided by the SBMP and pre-clearance checklists and pre-starts **No residual impact**
			Stockpiling of cleared vegetation ensures safe fauna movement	At all times during clearing	Stockpiling creates a barrier to fauna	Stockpiling is undertaken as per the VCFMPs and SBMP	Civil contractor as appointed by the proponent.	Monthly contractor reports prepared by the civil contractor.	Safe stockpiling is mandated and guided by the SBMP and pre-clearance checklists and pre-starts **No residual impact**
			Safe fauna crossings during construction	At all times during construction	Fauna strike occurs at crossing location	No fauna strikes during construction	Civil contractor as appointed by the proponent.	Annual Compliance Report completed by an engaged suitably qualified professional as appointed by the proponent and	Fauna go-slow and fencing measures are applied at corridor crossings as per the SBMP and pre-

Impact	Avoidance and Mitigation Measures	Evaluation of the Effectiveness of Measures	Mitigation measure item	Timeline for delivery	Risk Assessment	Milestone	Responsible Party	Monitoring Program	Environmental Outcome
	not trapped within the proposed cleared extent; and • Cleared vegetation is to be stockpiled as to not impede fauna movement. Additionally, proposed construction roads will be subject to design treatments to ensure safe fauna crossing opportunities are maintained to vegetated areas and impose low vehicle speeds within construction areas.							monthly contractor reports prepared by the civil contractor. Annual Compliance Report completed by an engaged suitably qualified professional as appointed by the proponent and monthly contractor reports prepared by the civil contractor.	clearance checklists and pre-starts **No residual impact** Speed limits are mandated and guided by the SBMP **No residual impact**
			Low vehicle speeds	At all times during construction	Speed limits are breached resulting in fauna strike	No speed limit breaches during construction	Civil contractor as appointed by the proponent.		
Disturbance to koala, grey-headed flying-fox, swift parrot and regent honeyeater during construction	The SBMP will include controls to avoid, minimise and mitigate risk of disturbance to MNES habitat during construction, specifically: <u>Light and noise disturbance</u> Construction of the project will result in increased noise and light disturbance. These impacts may disturb fauna and disrupt foraging, reproduction or movement behaviours. Restricted construction hours (e.g. 6am-6pm) will limit disruption from light and noise impacts, as well as allow a 12 hour period for fauna to disperse and forage.	Construction management and clearing controls implemented by the SBMP are considered to be able to effectively avoid, minimise and mitigate risk of disturbance to koala and other MNES species activities during construction, and allow for adaptive management where required. Limiting hours of construction and clearing to daylight hours, allows a 12 hour period for safe dispersal. With appropriate monitoring, pre, during and post construction by the Fauna Spotter Catcher, no residual impacts area expected to occur.	Minimise light and noise disturbance	At all times during construction	Light and noise impacts on fauna	Light and noise disturbance is limited to daylight hours	Civil contractor as appointed by the proponent.	Monthly contractor reports prepared by the civil contractor.	Light and noise restrictions mandate works between 6 am and 6 pm in the SBMP. **No residual impact**
			The risk of contamination and exacerbating weeds and pathogens is minimised	At all times during construction	Contamination, weed and pathogen incursion	Contamination and weed and pathogen incursions do not occur	Civil contractor as appointed by the proponent.	Monthly contractor reports prepared by the civil contractor.	The SBMP and VCFMP will mitigate the risk of contamination and weed and pathogen incursion **No residual impact**
	<u>Contamination, weeds and pathogens</u> Construction activities increase the risk of weeds, pathogens and contamination into the site. To manage these impacts, a Weed and Pathogen Management Plan will be prepared to identify potential weed species, and include appropriate controls for weed and pathogen management, disposal and monitoring. Weeds will be actively managed within the construction footprint and disposed of appropriately. No companion animals (e.g. dogs) will be allowed within construction areas. <u>Vehicle disturbance</u> Reduced vehicle speeds will be implemented throughout the construction		Vehicle disturbance minimised- reduce number of access tracks and/or haul roads	At all times during construction	As Fauna disturbance, Injury or mortality from vehicles	Fauna disturbance, Injury or mortality from vehicles does not occur	Civil contractor as appointed by the proponent.	Monthly contractor reports prepared by the civil contractor.	As above **No residual impact**
			Barriers to dispersal are not created	At all times during construction	Vegetation clearing and stockpiling creates a barrier to fauna	Vegetation clearing and stockpiling is undertaken as guided by the VCFMP	Civil contractor as appointed by the proponent and DETSI certified Fauna spotter catcher as appointed by the civil contractor.	Monthly contractor reports prepared by the civil contractor.	As above **No residual impact**
			Inductions and training Adaptive management	At all times during construction	Inductions avoided	All inductions are completed and records maintained	Civil contractor as appointed by the proponent.	Monthly contractor reports prepared by the civil contractor.	Site induction mandatory **No residual impact**

Impact	Avoidance and Mitigation Measures	Evaluation of the Effectiveness of Mitigation measure Measures	Timeline for delivery	Risk Assessment	Milestone	Responsible Party	Monitoring Program	Environmental Outcome
	area to minimise vehicle disturbances. Further, proposed construction roads will be subject to design treatments to ensure safe fauna crossing opportunities are maintained to vegetated areas and impose low vehicle speeds within construction areas. Barriers to dispersal Vegetation will be cleared sequentially. Clearing will be conducted so that fauna are flushed into safe, vegetated areas and it will avoid pushing fauna into fragmented areas. Temporary fauna friendly fencing will allow fauna to safely disperse into vegetated areas while clearing. Temporary fauna exclusion fencing will then be erected to prevent fauna dispersing into construction areas. Contractor management All construction personnel will attend environmental training as part of the site induction process prior to entering the work site. As part of this training, all personnel will be instructed on their obligations in regard to vegetation clearing protocols and to protect native fauna. Additional controls for koala and grey-headed flying-fox will be presented in a toolbox talk.		At all times during construction	Adaptive management not applied	Adaptive management utilised if required	Civil contractor as appointed by the proponent.	Monthly contractor reports prepared by the civil contractor.	The SBMP will include adaptive management strategies to avoid recurrence of adverse incidents should they occur. **No residual impact**
Hydrological changes	Stormwater detention technologies will be utilised to minimise the effects of excess rainwater flowing into catchments caused by the creation of hardstand areas. All work will be undertaken in accordance with appropriate management plans to ensure the hydrological changes across the site do not impact on surrounding vegetation.	The implementation of a project wide Stormwater Management Plan as designed by certified engineers ensures that hydrological change area appropriately accounted for and managed. These management measures will reduce impacts from higher levels of surface water flow caused by hardstand areas and ensures natural drainage lines continue to function as they naturally would have. Stormwater detention basins prevent localised flooding of drainage lines and waterways caused by increased runoff over hardstand areas and also contribute to maintaining water quality levels.	Hydraulic and Stormwater Management Plan — To be approved prior to works	Unforeseen hydrological changes	No worsening of hydrological impacts as a result of the development	Hydraulic engineer as appointed by the proponent.	Monthly contractor reports prepared by the civil contractor.	Stormwater Management Plans to be prepared where required as part of OPW approvals which will be prepared by the engaged hydraulic engineers for operational works phases of the project. **No residual impact**

5.6.2 Operational impacts

Table A48: Operational Impacts

Impact	Avoidance and Mitigation Measures	Evaluation of the Effectiveness of Measures	Mitigation measure item	Timeline for delivery	Risk Assessment	Milestone	Responsible Party	Monitoring Program	Environmental Outcome
Risk of injury of death to MNES from vehicle strike	A number of measures will be imposed to avoid and mitigate the risk of koalas being hit by vehicles. Although the risk to vehicle strike is low, these measures will be concurrent for grey-headed flying-fox, swift parrot and regent honeyeater. These measures include: • MNES food trees will not form part of the primary landscaping of the development footprint so that koalas, grey-headed flying-fox, swift parrot and regent honeyeater are not enticed to enter residential areas. • Imposition of low vehicle speeds to reduce the risk of collisions. Vehicle speed limits are restricted to 50km/h on built up residential roads. • Installation of traffic calming devices, fauna movement infrastructure and wildlife crossing awareness signage (where required). • Installation of koala awareness signage along esplanade roads to raise awareness of the species' presence in the area.	The purpose of these avoidance and mitigation measures is to minimise the risk of injury or death to koalas from vehicle strike. These measures will also mitigate risks for grey-headed flying-fox, swift parrot and regent honeyeater. It will be important to minimise the incentive for these species to enter residential areas by restricting the availability of habitat in these areas. As such, street scaping will not be planted with suitable habitat, which will in turn encourage koalas to stay away from the development area. Importantly, low vehicle speeds will be imposed along residential roads, minimising the risk of high-speed vehicle strikes which were identified in the literature review as accounting for a large proportion of vehicle related deaths. In addition, awareness signage will ensure motorists are aware that koalas have potential to occur in the area, making them more conscious of potentially dispersing koalas and encouraging them to maintain a low vehicle speed. The purpose of these measures is to enable the objective of no injury or death to koalas as a result of vehicle strike. No residual impacts can be identified.	Provision of open space buffer adjoining vegetation retention area	To be delivered with adjoining urban development	Open space buffer not delivered	Open space buffer delivered	Urban designer and landscape contractor as appointed by the proponent.	Annual Compliance Report completed by an engaged suitably qualified professional.	**No residual impact**
			Permanent speed limit signage and reduced speeds	During construction of roads	Vehicles speeding	No koala deaths from vehicle strike	Landscape architect and civil contractor as appointed by the proponent.	Annual Compliance Report completed by an engaged suitably qualified professional.	Low vehicle speeds will be signed and enforced as for public roads **No residual impact**
			Koala awareness signage installed along roads adjoining vegetation retentions areas	At construction of roads and Council on-maintenance phase	Signs not installed	Signs installed progressively with construction of development	Landscape architect and civil contractor as appointed by the proponent.	Annual Compliance Report completed by an engaged suitably qualified professional.	Koala awareness signage will be delivered where appropriate under the SBMP. **No residual impact**
			Fauna crossing infrastructure installed where roads intersect retained vegetation	At construction of roads prior to opening to the public	Crossing not operation prior to public use of the road	Design of crossing completed and crossing installed, on-maintenance certification provided by Ipswich City Council	Engineer as appointed by the proponent responsible for design. Civil contractor responsible for installation.	Annual Compliance Report completed by an engaged suitably qualified professional, on-maintenance certification by Ipswich City Council.	**No residual impact**
			Fauna awareness road markings along esplanade roads and crossings	At construction of Mur Boulevard prior to opening of the road to the public	Markings not installed prior to public use of the road	Design of crossing completed and crossing installed	Engineer as appointed by the proponent responsible for design. Civil contractor responsible for installation.	Annual Compliance Report completed by an engaged suitably qualified professional.	**No residual impact**
			Urban landscaping avoids use of MNES species foraging trees	Landscape design phase and planting during construction	Koala trees inadvertently utilised in urban areas	Urban landscape planting palette designed during operational works phase. Planting delivered with non-Koala native species during construction.	Landscape architect and landscape contractor as appointed by the proponent.	Annual Compliance Report completed by an engaged suitably qualified professional.	**No residual impact**

Impact	Avoidance and Mitigation Measures	Evaluation of the Effectiveness of Measures	Mitigation measure item	Timeline for delivery	Risk Assessment	Milestone	Responsible Party	Monitoring Program	Environmental Outcome
Risk of injury or death from dog attack	Dogs will be restricted from entering the vegetation retention area. Fauna awareness will be promoted through the installation of fauna awareness signage.	While dogs already occur within the local area, and wild dogs are known to occur on the site, the project will result in an increase in dog ownership numbers in the area. As such, the education of residents has been identified as a key management tool in reducing the risk or injury of dog attacks on koalas. Again, while the risk to grey-headed flying-fox is low, these measures will also be effective to reduce risk of dog attack on the species.	Dog restrictions including appropriate signage to promote responsible pet ownership including "dogs on leads at all times" and "dogs prohibited in vegetation areas."	At delivery of open space buffer areas during construction	Dogs are let off their leads by residents and access vegetation retention areas	Dog signage is designed and delivered. Council controls on dog ownership imposed.	Landscape architect and civil contractor as appointed by the proponent.	Annual Compliance Report completed by an engaged suitably qualified professional.	Dogs will be managed to Council specifications and prohibited from entering the vegetation retention areas **No residual impact**
			Installation of outlook fencing and retaining walls along vegetation retention areas.	At delivery of open space buffer areas during construction.	Fencing does not prevent easy access of residents and dogs into vegetation areas.	Fencing is installed progressively with construction phasing of residential areas and adequately prevents access into vegetation retention areas.	Landscape architect and civil contractor as appointed by the proponent.	Annual Compliance Report completed by an engaged suitably qualified professional.	**No residual impact**
Creation of barriers to dispersal / fragmentation of habitat	To mitigate these associated with the development, the 11.92 ha vegetation retention area will retain existing vegetation for koala, grey-headed flying-fox, swift parrot and regent honeyeater. Native fauna will largely be excluded from the proposed development and associated threats. Highly mobile fauna are not considered to be impacted by the creation of physical barriers created through the development of the referral area. Fauna movement infrastructure will be installed where roads intersect retained habitat. Crossings will include appropriate structures to enable movement such as fauna log rails, glider poles and koala exclusion fencing to funnel koalas and other fauna toward the crossing.	The development of residential areas across the estate will create barriers to movement in the form of houses, roads, fences and other infrastructure. However, as mentioned, the surrounding area is subject to ongoing development. While the expanse of areas suited for movement are to be reduced through residential development they are to be substantially improved in functionality through weed removal, replanting, fencing, signage and land tenure changes.	Provision of 11.92 ha of vegetation retention area adjoining Council open space areas to allow continue dispersal within the landscape.	During clearing and construction no impacts are to occur within vegetation retention area. Edge of vegetation area to be delineated by the location of outlook fencing installed during construction.	Construction mitigation measures (*i.e.,* fauna spotter catcher, sequential clearing, tree protection fencing) not implemented. Development timeline and sequence not followed.	No koalas within the impact area at construction completion.	Landscape architect and civil contractor as appointed by the proponent.	Annual Compliance Report completed by an engaged suitably qualified professional.	Fauna usage occurs within the vegetation retention areas and facilitates landscape connectivity. **No residual impact**
			Fauna crossing infrastructure to allow unimpeded movement within vegetation retention areas.	At construction of roads intersecting vegetation and prior to opening of the road to the public.	Crossing not operation prior to public use of the road	Design of crossing completed and crossing installed, on-maintenance certification provided by Ipswich City Council	Engineer as appointed by the proponent responsible for design of the culvert. Civil contractor responsible for installation.	Camera monitoring at fauna culvert completed upon it becoming operational to be completed by suitably qualified ecologist. Findings to be documented in an Annual Compliance Report completed by an engaged suitably qualified professional.	Fauna movement is facilitated by the road crossing infrastructure. **No residual impact**
Indirect impacts on adjoining habitat including edge effects and weed invasion	The retained vegetation areas will be managed for MNES habitat value. Active management will occur in these areas including rehabilitation and weed management to be carried out in accordance with an approved RMP.	Active management will ensure no reduction in habitat quality within retained vegetation areas as a result of the project.	Weed management and infill planting.	Post-construction and during the operational phase.	Weeds increase in cover and infill planting not completed leading to same or reduced habitat quality.	Establishment and on-maintenance achieved with ICC.	Landscape architect and landscape contractor as appointed by the proponent.	Baseline weed cover and photo monitoring.	Management of edge effects and improvement to natural areas. **No residual impact**

Impact	Avoidance and Mitigation Measures	Evaluation of the Effectiveness of Measures	Mitigation measure item	Timeline for delivery	Risk Assessment	Milestone	Responsible Party	Monitoring Program	Environmental Outcome
	Management will aim to ensure these areas of habitat are retained and continue to support the species and habitat quality is not degraded over time.								
Light spill into adjacent habitat	<u>Installation of fauna sensitive light design</u> Fauna sensitive lighting design will be utilised along esplanade roads adjoining the vegetation retention areas and natural areas associated with Opossum Creek. This includes installing shielded light fittings to minimise light spill into the natural areas and use of appropriate luminaire type identified as suitable for terrestrial mammal habitat under the *Commonwealth National Light Pollution Guidelines for Wildlife* (DCCEEW, 2023). Fauna sensitive lighting will be installed in accordance with recommendations under the Guideline and in accordance with industry standards *i.e., AS/NZS 1158 Set: 2010: Lighting for roads and public spaces* and *AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting*.	Shielded light fittings and luminaire types that comply with AS/NZS 1158 and AS/NZS 4282:2019 – Control of the obtrusive effects of outdoor lighting is likely to be effective in limiting disturbance to MNES.	Installation of shielded light fittings and appropriate luminaire type.	During construction of roads / infrastructure.	Obtrusive lighting design is implemented, causing detrimental effects to native wildlife.	N/A	Landscape architect and civil contractor as appointed by the proponent.	Annual Compliance Report completed by an engaged suitably qualified professional.	Effects to MNES and native fauna through light pollution are mitigated through successful implementation of fauna sensitive light design **No residual impact**
Soil and water runoff into retained vegetation	The stormwater management strategy will involve treating stormwater runoff from the development areas via a series of sediment basins and bioretention systems located around the edge of the development.	The stormwater management system has been designed using hydraulic modelling to ensure stormwater treatment and flows are effectively manage during the operation of the development.	Install bioretention system and sediment basins in accordance with an approved SMP.	Progressive – during construction of relevant development phase.	Sedimentation and untreated water flow into adjoining creekline areas.	N/A	Hydraulic engineer and civil contractor as appointed by the proponent.	Annual Compliance Report completed by an engaged suitably qualified professional.	Stormwater management occurs in accordance with the site-specific Stormwater Management Plan **No residual impact**

6. Proposed Offsets

The Department state in the event that there are significant impacts that cannot be avoided or mitigated, an offset to compensate for any predicted or potential residual significant impacts on threatened species and ecological communities must be provided for each protected matter.

This section responds to Item 6 of the PD request which states the preliminary documentation must ***"Demonstrate how the offset proposal:***

- ***a) Meets the principles outlined in the EPBC Offsets Policy.***
- ***b) Address the considerations and requirements outlined in the EPBC Offsets Policy, including but not limited to sections 6 and 7 of the EPBC Offsets Policy.***
- ***c) Directly contributes to the ongoing viability of the EPBC listed species or ecological community or migratory species and will deliver an overall conservation outcome that improves or maintains the viability of the protected matter, as compared to what is likely to have occurred under the status quo, i.e. if neither the action nor the offset had taken place.***
- ***d) Compensates for the impact over the entire duration of the impact (i.e. should impacts be in perpetuity, the offsets must also be delivered in perpetuity).***

Note: while the offsets do not need to be secured before the decision on whether to approve the proposed action, should the proposed action be approved, conditions of an approval are likely to require that offsets are secured, and management measures are in place, before commencement of the proposed action."

A significant impact is an impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment that is to be impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts.

Overall, the proposed residential development will see the direct removal of critical habitat for the Koala, Grey-headed Flying-fox, Regent Honeyeater and Swift Parrot. The residual impacts are summarised below.

6.1 Significant Residual Impact Summary

The assessment of construction and operational impacts in **Section 5** shows that there will be a residual impact from the unavoidable loss of **24.20 hectares** containing critical habitat for the Koala, GHFF, Swift Parrot and Regent Honeyeater. The management measures described throughout this Preliminary Documentation submission detail the proposed mitigation measures to reduce the risk of injury or mortality to the above MNES as a result of the action.

The following significant residual impacts for the above MNES are proposed:

Koala:	**Removal and 'functional loss' of 24.20 hectares of critical habitat at a MHQA score of 6.13 (rounded to 6.00)**
GHFF:	**Removal and 'functional loss' of 24.20 hectares of critical habitat at a score of score of 7.10 (rounded to 7.00)**
Swift Parrot:	**Removal of 1,755 habitat features.**
Regent Honeyeater:	**Removal of 1,891 habitat features.**

6.2 Offset Proposal

A land-based offset is proposed to compensate for the habitat impacts associated with the proposed action.

The proposed offset area is located within the Rosevale Offset Property, located at Tarome Road, Tarome. The Rosevale Offset Property is >800 ha in size and is comprised of several allotments containing a combination of approved (EPBC 2021/9005) and proposed offset projects. The property is located approximately 9.5 km north-west of Aratula and located in the Scenic Rim Regional Council (SRRC) Local Government and is owned and managed by third-party offset provider Montauban Environmental Offsets (MEO).

The specific offset area proposed to compensate for impacts for EPBC 2020/8651 is the Rosevale Offset Area 4 (referred to as the 'ROA 4'). The ROA 4 is 51.8 ha in size and is located approximately 52 km south-west of the Scenic Precinct impact area (refer **Plan A30** for offset property context). The site context and site aerial of the offset site are provided in **Figure A9** and **Figure A10**, respectively.

Rosevale Offset Property is contained on the following allotments:

- Part of Lot 1/CC3571
- Lot 103/CH311061
- Lot 115/SP167206
- Lot 116/SP167206
- Lot 211/CH311636

- Lot 229/CH312601
- Lot 24/CH312265
- Lot 230/CH312495
- Lot 4/RP31137
- Lot 71/CH311061
- Lot 72/CH311061
- Lot 77/CH311086
- Lot 9/CH311910
- Lot 86/RP234513
- Lot 68/CH311061

The proposed offset area (ROA 4) is contained on the following allotments of the offset property:

- Lot 77/CH311086
- Part of Lot 1/CC3571

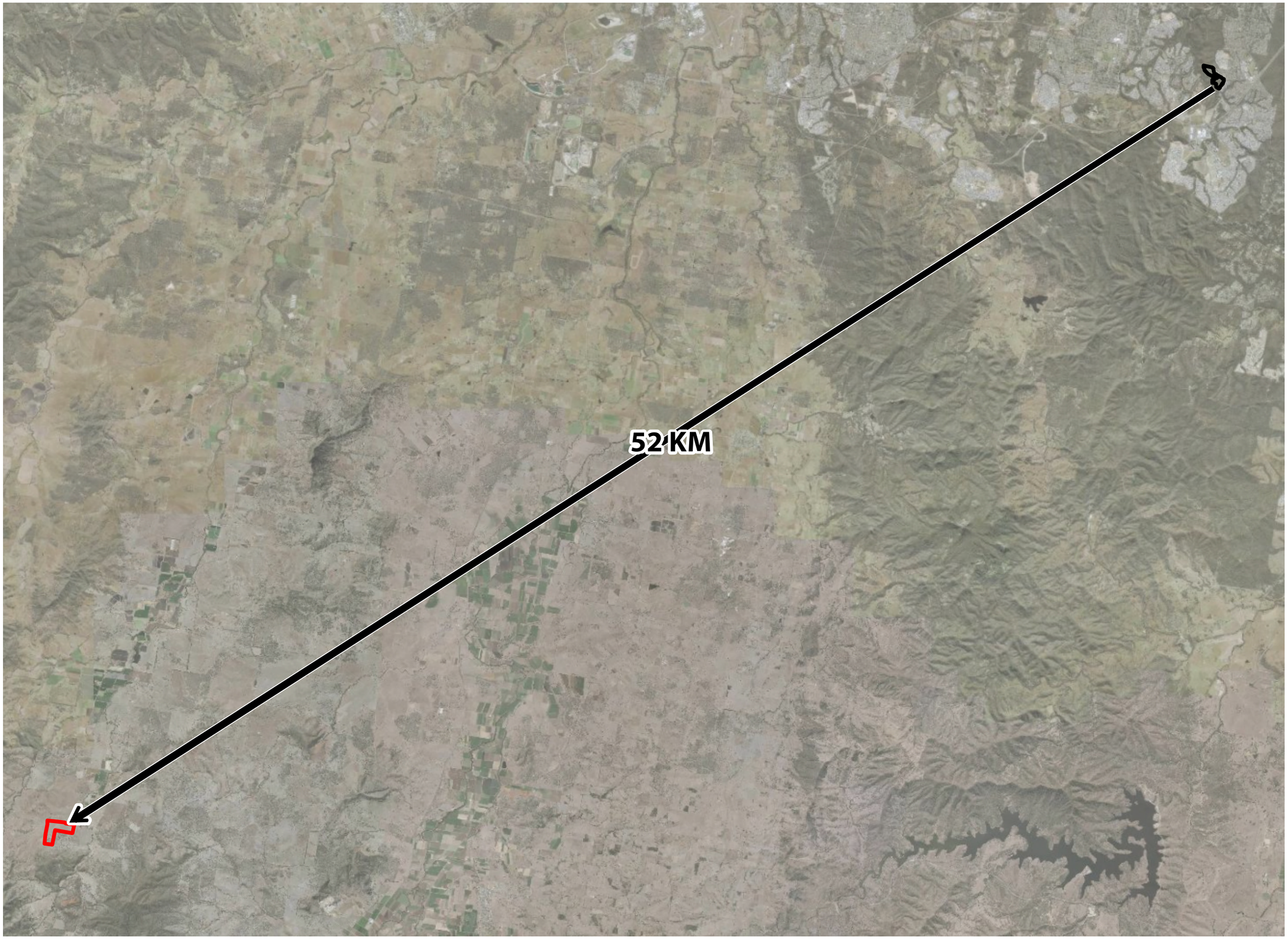
The land tenure of Rosevale is freehold, where it retains a rural land use zoning under the *Scenic Rim Planning Scheme 2020*. The offset property can be accessed via Moorang Lane off Tarome Road – both of which are rural roads. From the northern to the southern boundary the offset site spans 3.5 km and west to west covers 3.6 km. The offset site is currently zoned as Rural and is located adjacent to a core Biodiversity Corridor under the local government planning scheme, discussed in the following sections. Key site details for the offset area are provided in **Table A49**.

Although located within reasonable proximity of a number of MNES impact areas occurring in South East Queensland the broad conservation benefits of the Rosevale offset property are realised through its achievement of multi-jurisdictional biodiversity outcomes. The major offset property is located within the same bioregional and sub-bioregional as three of the largest housing supply areas in South East Queensland, including the City of Greater Springfield and the Greater Ripley, Greater Flagstone and Yarrabilba Priority Development Areas. To implement long planned infrastructure outcomes and housing targets these major development areas will continue to see reductions in MNES habitat through both direct and indirect impacts. The Rosevale Offset Project will protect and improve existing values and significantly reinstate and create new habitat strategically located within the same sub bio-regional ecological context where MNES habitat is being reduced (refer **Figure A11 and Figure A12**).

Table A49: Rosevale Offset Area 4 (ROA 4) Summary

Offset Site Address	**1 Moorang Lane, Moorang, Queensland, 4340**
Lot / Plan	Lot 77 on CH311086 and part of Lot 1 on CC3571
Area	51.8 ha of a 154.59 area
Tenure	Freehold
Current Land Use	Cattle grazing and cropping
Local Government Area	Scenic Rim Regional Council

A30. Offset Property Context



Notes:
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Legend

- Referral Area
- Offset Area

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 1 2 3 4 5 km

Transverse Mercator | GDA 1994 | Zone 56 | 1:145,000 @ A3

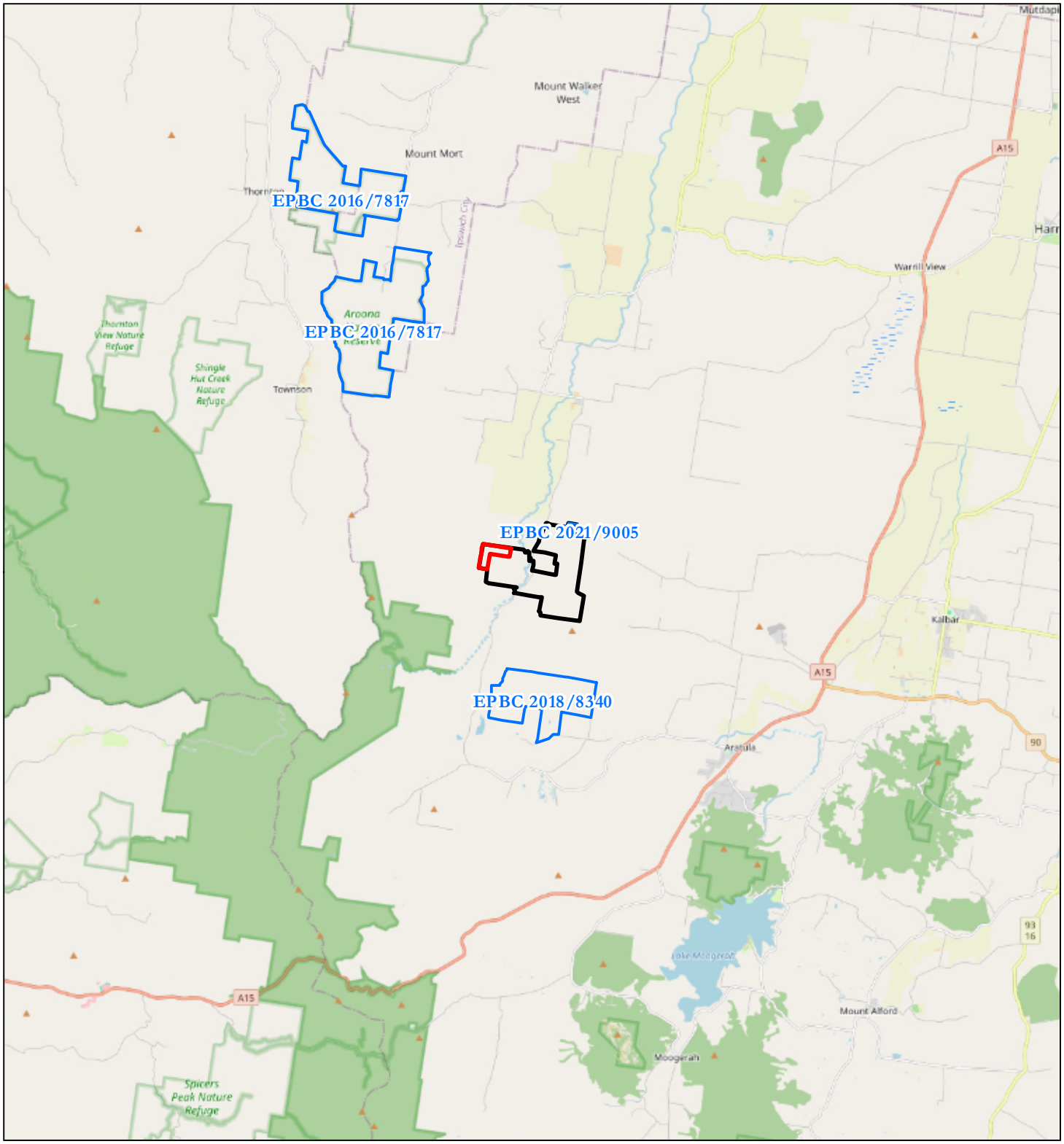
saunders havill group

SPRINGFIELD CITY GROUP

Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A30 Offset Property Context E



Legend

- Offset Properties
- Offset Area
- Existing Approved Offset

Figure A9

Offset Site Context

Springfield City Group Pty Ltd

File ref. 7399 E Figure A9 Offset Context E
Date 27/10/2025
Project Scenic Precinct

0 2 4 6 8 km

N

Scale (A4): 1:200,000 [GDA 1994 MGA Z56]

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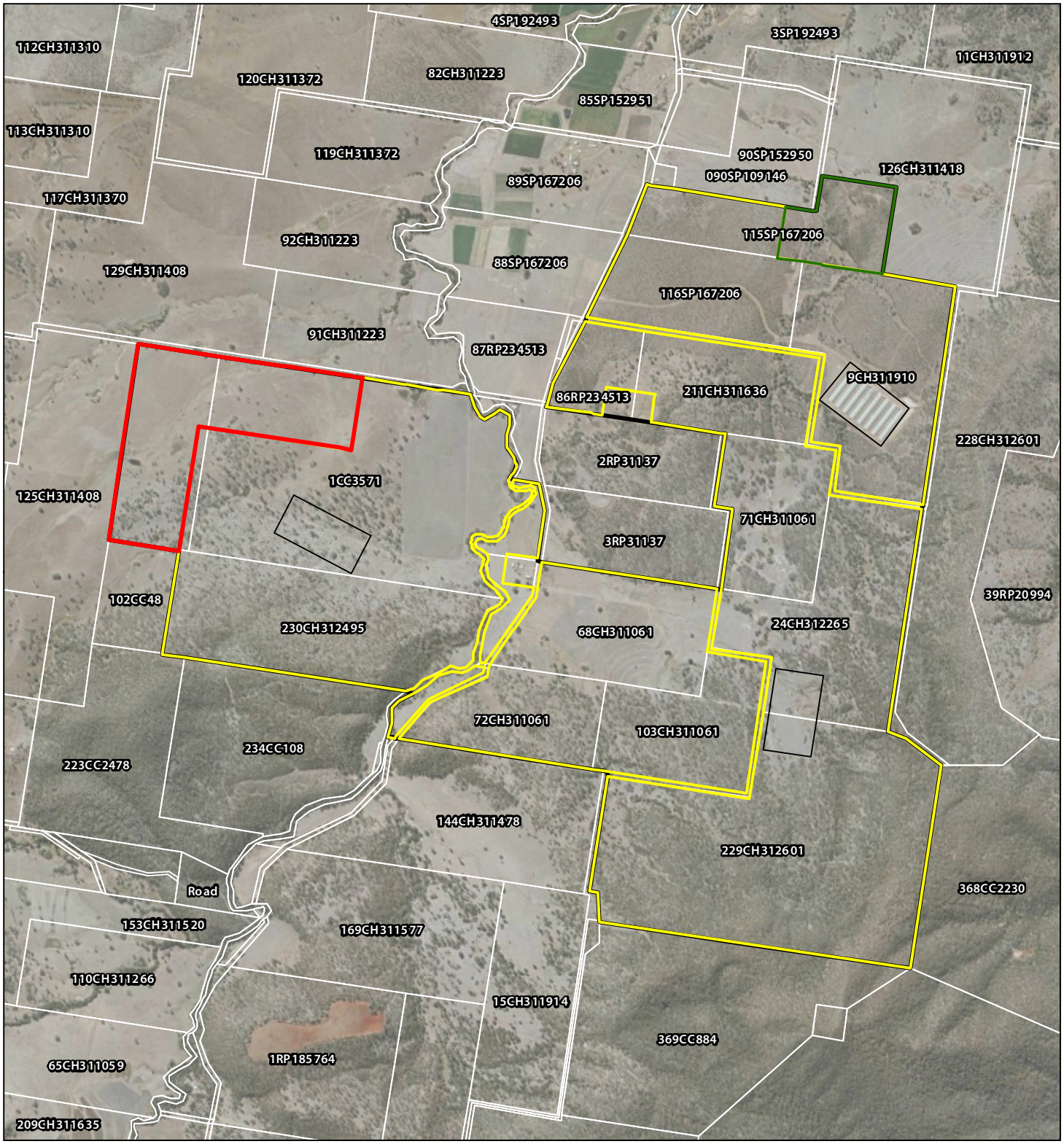

Legend

- Qld DCDB
- Offset Properties
- Approved Offset Boundary
- Offset Area
- Future Offset Boundary
- Propsoed Chicken sheds

Figure A10

Offset Site Aerial

Springfield City Group Pty Ltd

File ref. 7399 E Figure A10 Offset Site Aerial E
Date 27/10/2025
Project Scenic Precinct

0 200 400 600 800 1,000 *m*

N

Scale (A4): 1:25,000 [GDA 1994 MGA Z56]

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Legend

- IBRA - Subregions
- Offset Properties
- Impact site

Figure A11

Interim Biographical Regionalisation of Australia - Moreton Basin Sub-Region

File ref. 7399 E Figure A11 Offset IBRA E
Date 27/10/2025
Project Scenic Precinct

0 2 4 6 8 10 km

N

Scale (A4): 1:350,000 [GDA 1994 MGA Z56]

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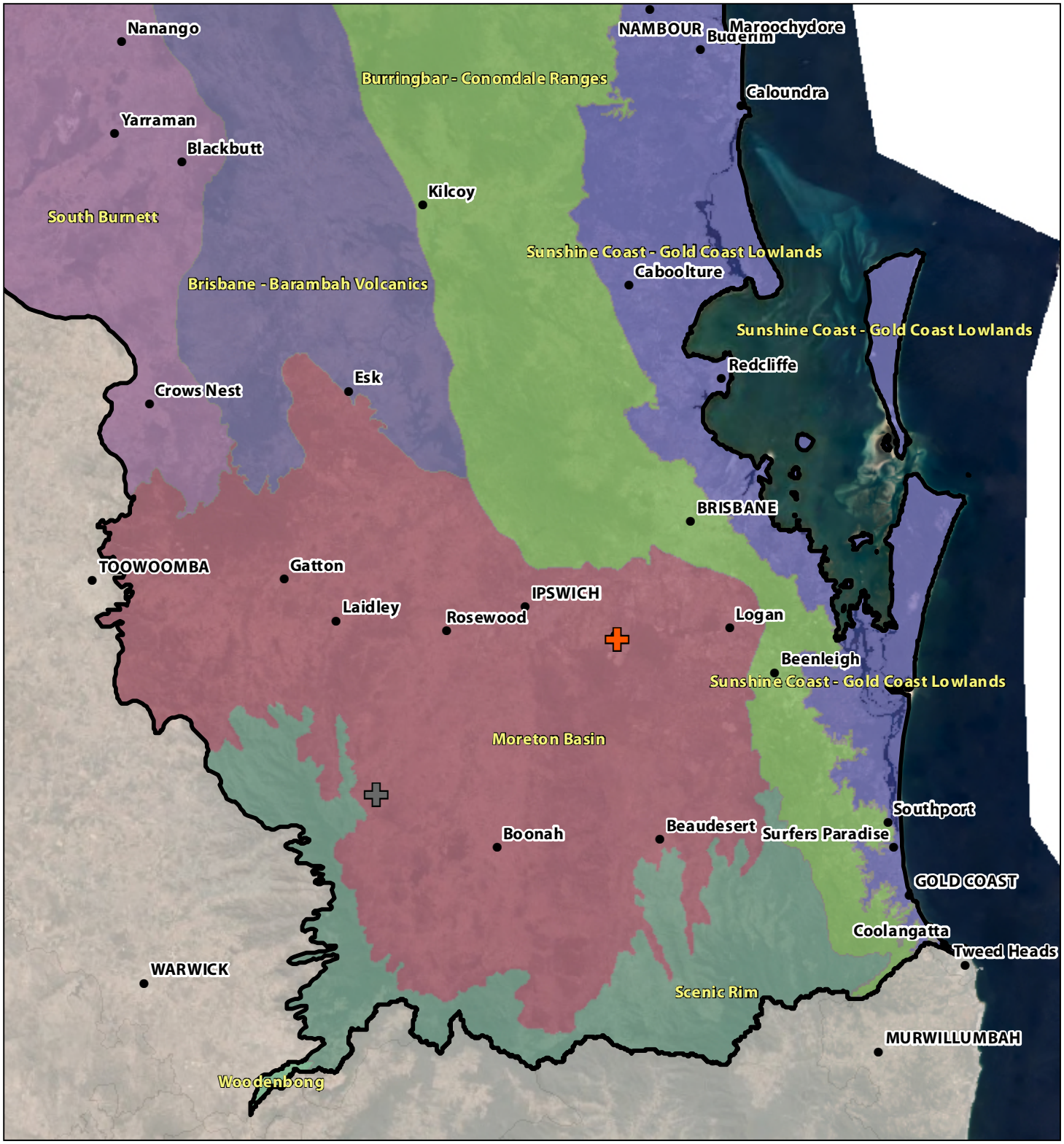

Legend

- South East Queensland Bioregion
- Offset Properties location
- Impact site location

Figure A12

South East Queensland - Bioregion 12 Biographical Subregions

Springfield City Group Pty Ltd

File ref. 7399 E Figure A12 Bioregion 12 E
Date 27/10/2025
Project Scenic Precinct

0 10 20 30 40 km

N

Scale (A4): 1:1,000,000 [GDA 1994 MGA Z56]

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6.2.1 Offset Management Plan

To support the response to Item 6 of the PD Request, an Offset Management Plan has been prepared and is provided at **Attachment A8** of this submission package.

The OMP is proposed to function as a standalone document which includes the following details:

- Offset suitability analysis for each MNES and assessment against the Environmental Offsets Policy (EOP).
- Baseline survey methodologies and results including habitat quality for each MNES and threats being feral animal abundance and weeds (particularly Weeds of National Significance).
- Detailed management actions and justification for each management action designed to achieve the targets stipulated. Includes maps and plans where applicable demonstrate implementation of management actions.
- Completion criteria and interim milestone targets to achieve the impact compensation.
- Rehabilitation Management Plan including monitoring and reporting mechanisms to track against the interim milestone targets and completion criteria.
- Adaptive management framework.

Upon EPBC Act Approval, the offset area will be legally secured by a Voluntary Declaration (VDEC) under the Queensland *Vegetation Management Act 1999*.

The OMP identifies outcomes focused on management actions pursuant the EPBC Act, for the provision of Koala (*Phascolarctos cinereus*), Grey-headed Flying Fox (*Pteropus poliocephalus*), Regent Honeyeater (*Anthochaera phrygia*) and Swift Parrot (*Lathamus discolor*) habitat offset. The management objections for the offset, in alignment with EOP will:

- Deliver an overall conservation outcome that improves the viability of habitat for the Koala, GHFF, Swift Parrot and Regent Honeyeater.
- Provide a direct offset that is in proportion to the level of statutory protection that applies to Koala, GHFF, Swift Parrot and Regent Honeyeater habitat.
- Be of a size and scale proportionate to the residual impacts on critical habitat for Koala, GHFF, Swift Parrot and Regent Honeyeater habitat.
- Effectively account for and manage the risks of the offset not being successful within the required management timeframe.
- Provide a conservation gain additional to what is already required by a duty of care or to any environmental planning laws at any level of Government.
- Be efficient, effective, timely, transparent, scientifically robust, and reasonable with appropriate transparent governance arrangements in place for measuring, monitoring, auditing and enforcing the management of the offset.

6.2.2 Offset approach for Swift Parrot and Regent Honeyeater

The Swift Parrot and Regent Honeyeater offsets utilise a feature-based offset method which measures the offset as the reinstatement of habitat features within the offset area. A certain number are required to be reinstated to achieve the offset outcomes for either species.

Due to the specific habitat requirements and relatively narrow definition of a habitat feature, being a preferred foraging species as defined under the *National Recovery Plan for the Swift Parrot* (DCCEEW, 2024) and *National Recovery Plan for the Regent Honeyeater* (DoE, 2016), the offset delivery has been coordinated over a larger area, extending beyond the ROA 4. This has been done in order to include vegetation types which cover the habitat planting requirements for both species.

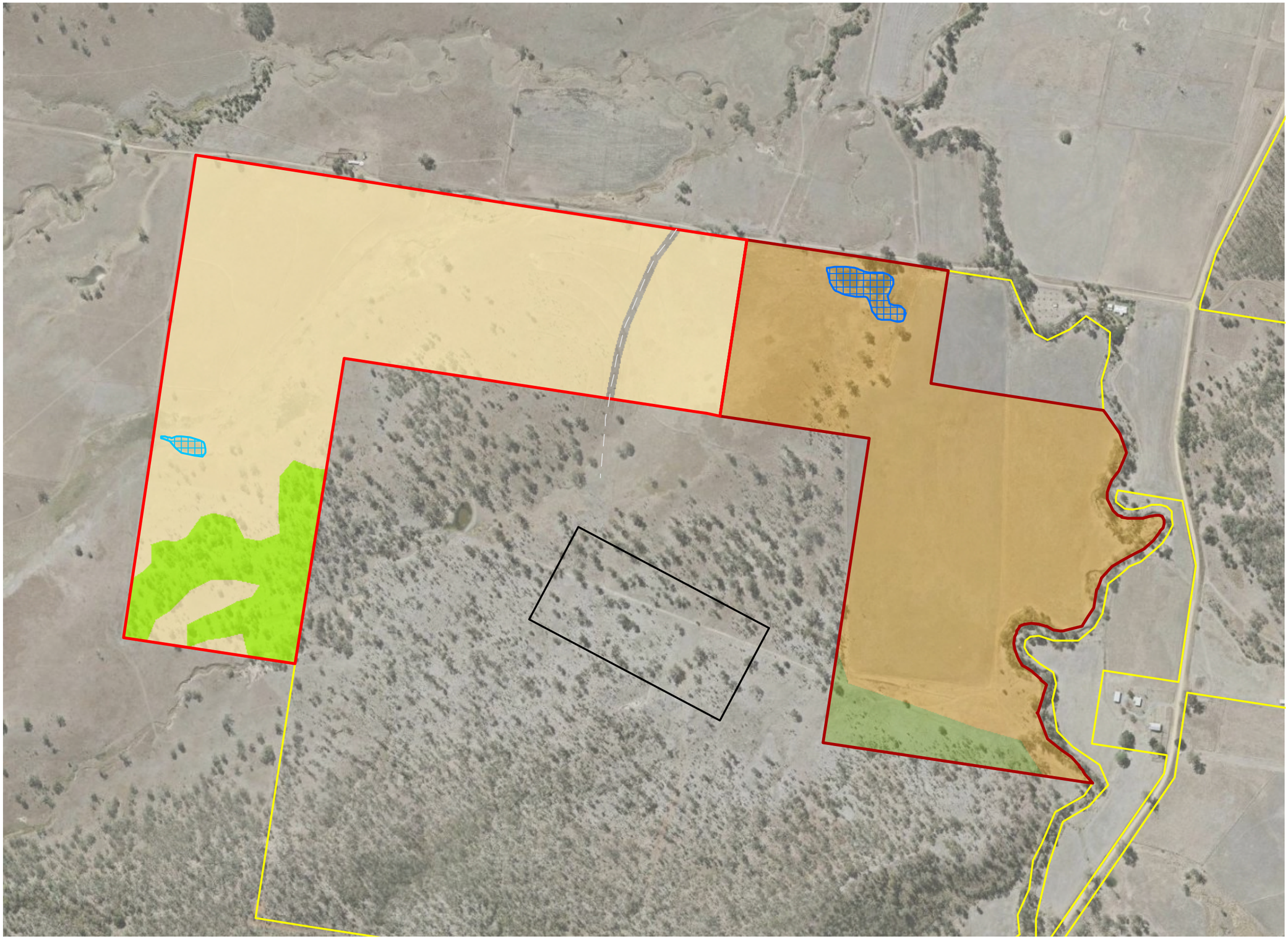
The adjoining offset area included in the offset planting outcomes for the Swift Parrot and Regent Honeyeater is referred to as the Rosevale Offset Area 3 (ROA 3) and is located within the same property as ROA 4. The ROA 4 includes a land-based offset for impacts for the Peninsula Precinct (EPBC 2020/8629) of which the impact area adjoins the Scenic Precinct impact area and is driven by the same proponent (Springfield City Group) and the offsetting impacts for the same matters.

As such a combined impact and offset assessment for EPBC 2020/8651 (Scenic Precinct) and EPBC 2020/8629 (Peninsula Precinct) has been completed for the Swift Parrot and Regent Honeyeater to coordinate planting obligations across the ROA 4 offset area (Scenic Precinct) and adjoining ROA 3 offset area (Peninsula Precinct).

Rehabilitation approaches have been designed with respect to both project areas. Rehabilitation will be implemented concurrently for both projects to ensure offset outcomes for the Swift Parrot and Regent Honeyeater are not subject to timeframes associated with the development implementation.

Refer to **Plan A31** for the location of planting areas for the Swift Parrot and Regent Honeyeater.

A31. Offset Planting Areas



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Legend

- Future Offset Boundary
- Proposed Chicken sheds
- Poultry shed access track
- ROA 4 Offset Area
- ROA 4 Waterbodies [0.2 ha] - No Planting
- ROA 3 Offset Area
- ROA 3 Waterbodies [0.8 ha] - No Planting

Offset Planting Area - ROA 4

- ROA 4 Assessment Unit 1: Non-remnant RE 12.8.17/12.8.14 [44.9 ha]
- ROA 4 Assessment Unit 2: Regrowth RE 12.8.17/12.8.14 [6.7 ha]

Offset Planting Area - ROA 3

- ROA 3 Assessment Unit 1: Non-remnant RE 12.3.3 [37.1 ha]
- ROA 3 Assessment Unit 2: Regrowth RE 12.8.17/12.8.14 [3.4 ha]

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 50 100 150 200 m

Transverse Mercator | GDA 1994 | Zone 56 | 1:7,000 @ A3

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29/10/2025 | 7399 E A31 Offset Planting Areas E

6.2.3 Offset Assessment Guide – Summary of MNES Impact Compensation

6.2.3.1 OAG Parameters

The habitat scores derived for the offset area have been used to assess whether the proposed offset property could be viewed as suitable in respect to meeting the offset obligation for the proposed action, using the Commonwealth's Offset Assessment Guide (OAG) calculator. Values for the other parameters used in the calculator for Koala and Grey-headed Flying-fox are summarised in **Table A50** and in **Table A50** for the Swift Parrot and Regent Honeyeater.

Table A50: Offset Assessment Guide Parameters – Koala and Grey-headed Flying-fox

Parameter	Rationale
Quantum of Impact (Area)	14.52 ha for Koala and 16.94 ha for Grey-headed Flying-Fox.
Quantum of Impact (Quality)	A score of 6 for Koala and 7 for Grey-headed Flying-fox.
Risk Related Time Horizon	The proposed offset area will be legally secured via the VDEC mechanism; hence, the maximum score of 20 years.
Time Until Ecological Benefit	Measures prescribed in this Offset Management Plan are expected to achieve the predicted increase in habitat quality over a period of 20 years.
Start Area	51.8 ha
Start Quality	Refer **Table A52** and **Table A53**.
Risk of Loss without Offset	It is understood risk of loss is to be set at 0% without any comprehensive evidence to the contrary.
Risk of Loss with Offset	It is understood risk of loss is to be set at 0% without any comprehensive evidence to the contrary.
Confidence in Result (Risk of Loss)	As risk of loss is set at 0%, a high score of 90% is used for confidence in result.
Future Quality without Offset	Existing habitat quality is expected to be maintained if the current land use / management regime is continued, Under management for grazing over 20 years and without the offset, current habitat quality for Koala and Grey-headed Flying-fox is unlikely to improve, and some attributes may deteriorate where regrowth is subject to periodic clearing for cattle grazing and/or maintenance/fire regimes that are not compatible with

Parameter	Rationale
	ecosystem improvement are employed. Refer **Table A52** and **Table A53**.
Future Quality with Offset	Refer **Table A52** and **Table A53**.
Confidence in Result (Future Quality)	85% for all Assessment Units. This high level of confidence is supported by a detailed Rehabilitation Management Plan developed for the offset area. This is described in **Attachment A8 OMP – Section 7** and provided at **Attachment A8 OMP – Appendix F**.

Table A51: Offset Assessment Guide Parameters (Feature-based) – Swift Parrot and Regent Honeyeater

Parameter	Rationale
Quantum of Impact	Swift Parrot – 1755 features at Scenic impact site and 3339 features at Peninsula impact site for a combined impact of 5094. Regent Honeyeater – 1891 features at Scenic impact site and 2756 at Peninsula impact site for a combined impact of 4647.
Risk Related Time Horizon	The proposed offset area will be legally secured via the VDEC mechanism; hence, the maximum score of 20 years.
Start Value	Refer **Table A54** and **Table A55**.
Future Value Without Offset	Existing habitat quality is expected to be maintained if the current land use / management regime is continued. Under management for grazing over 20 years and without the offset, current habitat quality for Swift Parrot and Regent Honeyeater is unlikely to improve, and some attributes may deteriorate where regrowth is subject to periodic clearing for cattle grazing and/or maintenance/fire regimes that are not compatible with ecosystem improvement are employed. Refer **Table A54** and **Table A55**.
Future Value With Offset	Refer **Table A54** and **Table A55**.
Confidence in Result (Future Quality)	85% for all Assessment Units. This high level of confidence is supported by a detailed Rehabilitation Management Plan developed for the offset area. This is described in **Attachment A8 OMP – Section 7** and provided at **Attachment A8 OMP – Appendix F**.

6.2.3.2 Impact Compensation and Scoring Uplift

A summary of proposed habitat quality uplift and the EPBC Act offset assessment guide impact compensation are included in **Table A52 to Table A55**, below. The completed EPBC Act offset assessment guide calculator sheets are included at **Attachment A8 OMP – Appendix B**.

Table A52: Koala impact compensation and scoring uplift (ROA 4)

Assessment Unit	Area (ha)	Habitat Quality Score		Offset Acquittal
		Baseline	Future	
AU1	45.1	3	7	101.47%
AU2	6.7	4	7	11.31%
Total	**51.8**			**112.78%**

Table A53: Grey-headed Flying-fox impact compensation and scoring uplift (ROA 4)

Assessment Unit	Area (ha)	Habitat Quality Score		Offset Acquittal
		Baseline (rounded score)	Future	
AU1	45.1	2	8	130.46%
AU2	6.7	4	8	12.92%
Total	**51.8**			**143.38%**

Table A54: Swift Parrot impact compensation (ROA 3 and ROA 4)

Assessment Unit	Start value	Future value without offset	Future value with offset (inclusive of 90% survival rate)	Impact compensation
SCENIC – AU1	0	0	20,205	90.45%
SCENIC – AU2	0	0	603	2.70%
PENINSULA – AU1	1113	1113	14,469	59.79
PENINSULA – AU2	434	434	740	1.36
Total	**1547**	**1547**	**36,017**	**154.30%**

Note:
Start value inputted as the existing number of non-juvenile preferred foraging trees
Future value without offset inputted as the existing number of non-juvenile preferred foraging trees
Future value with offset inputted as net total of preferred foraging trees (*i.e.,* number to be planted inclusive of a 90% survival rate + number of existing)

Table A55: Regent Honeyeater impact compensation (ROA 3 and ROA 4)

Assessment Unit	Start value	Future value without offset	Future value with offset (inclusive of 90% survival rate)	Impact compensation
SCENIC – AU1	0	0	19,801	97.16%
SCENIC – AU2	0	0	591	2.90%
PENINSULA – AU1	0	0	0	0%
PENINSULA – AU2	0	0	300	1.47%
Total	**0**	**0**	**20,692**	**101.54%**

Note:
Start value inputted as the existing number of non-juvenile preferred foraging trees
Future value without offset inputted as the existing number of non-juvenile preferred foraging trees
Future value with offset inputted as net total of preferred foraging trees (*i.e.,* number to be planted inclusive of 0.75 adjusted weighting for the count of supporting species and 90% survival rate + number of existing)

6.3 Offset Area Values

6.3.1 Assessment Units

The ROA 4 contains is predominantly comprised of degraded landscape, previously used for cattle grazing and cropping with scattered large trees and patches of regrowth vegetation in the southern portion of the area. The majority of the site is designated as Category X (non-remnant) vegetation under the Queensland VMA with a small patch of Category C (regrowth) vegetation described as composite RE12.8.17/12.8.14.

The ROA 4 is delineated into two Assessment Units being Assessment Unit 1 (Non-remnant Paddock RE 12.8.17/12.8.14) and Assessment Unit 2 (Sparse Regrowth RE 12.8.17/12.8.14). Refer to **Plan A32** for the ROA 4 Assessment Units.

Assessment Unit 1 – Non-remnant Paddock RE12.8.17/12.8.14

AU 1 consists of historically cleared open paddocks. This AU is characterised by its lack of structural complexity with a generally absent native tree, shrub and forb species presence and is dominated by native grass species such as, *Heteropogon refractus, Imperata cylindrica* and *Themeda triandra* (refer **Photo set 5**). This AU contains sporadic weed infestations with *Lantana camara* infestations observed throughout the area. AU 1 contains limited habitat values for MNES.

Assessment Unit 2 – Sparse Regrowth RE12.8.17/12.8.14

AU 2 consists of sparse regrowth dominated by RE12.8.17. The area contains a characteristic of regrowth vegetation including small-stemmed eucalypt trees with a sparse overstorey (refer **Photo set 6**). The vegetation is dominated by *Eucalyptus crebra* with E. *melanophloia, Corymbia tessellaris, C. intermedia* and *Acacia leiocalyx*.

6.3.2 Water Resources

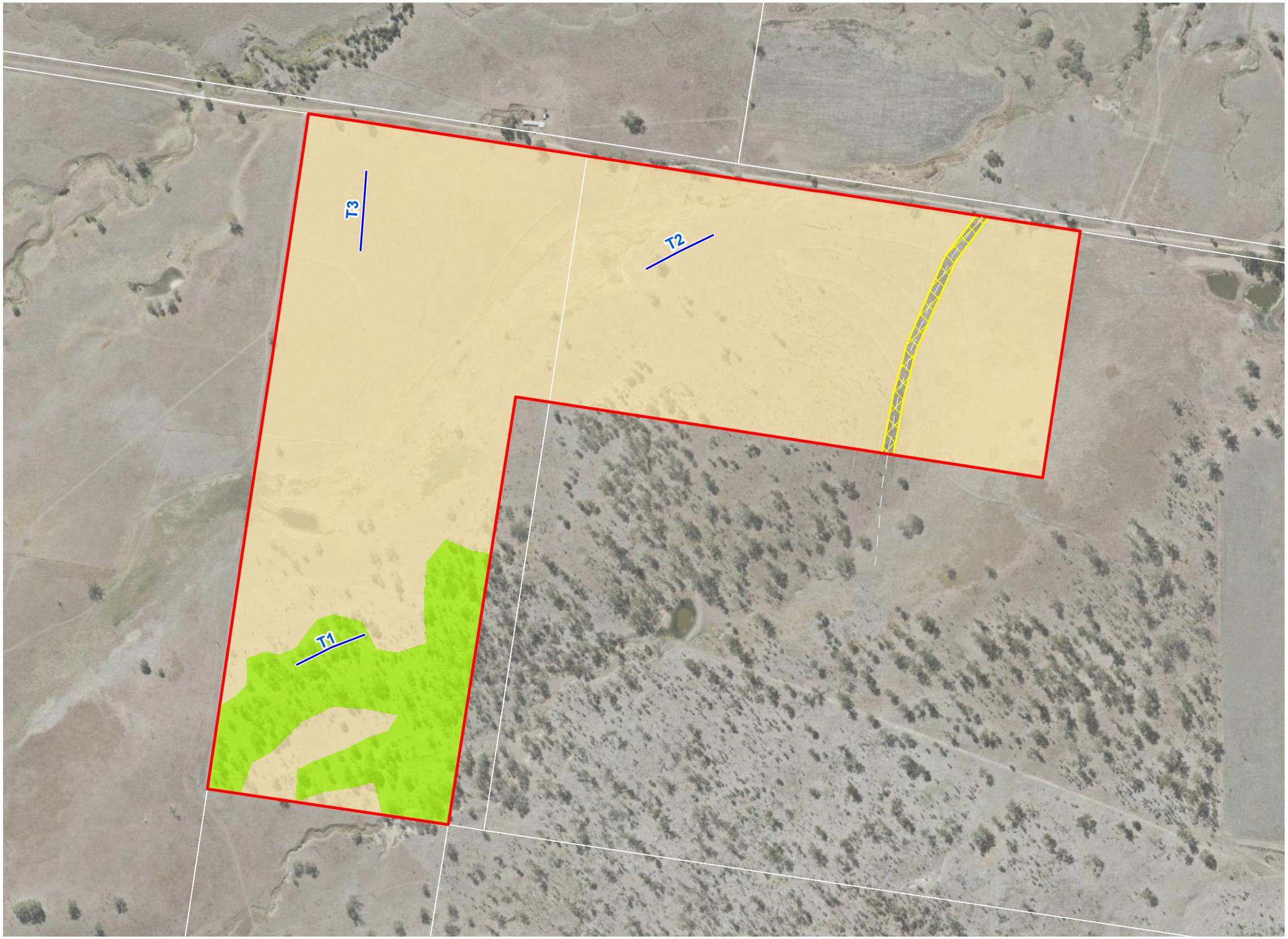
The Rosevale offset property contains numerous man-made farm dams which have been utilised for historic cropping and agricultural purposes. Natural water resources on-site are defined by the Bremer River which straddles the eastern boundary of the western parcels of the Rosevale offset property (Lot 230/CH312495 and Lot 1/CC3571). Additional to this major waterway, a network of mapped watercourses and drainage features as defined under the VMA are observed throughout much of the Rosevale Offset Property. In regards to water resources in the ROA 4 offset, a mapped low risk DPI waterway traverses through the centre of the lot which flows into the Bremer River to the north, a reservoir is present along the western boundary connecting to this drainage feature and two constructed dams are present at the northern extent. Refer to **Plan A33** for the identification of the water resources on the offset property.

The Rosevale offset property encompasses up to the low bank of the Bremer River with the low-bank un-allocated state land which is not within the proposed offset area. In its current state much of the Bremer River's vegetation is in a modified state due to cattle grazing activities. In the broader Rosevale Offset site holdings, offset management actions adjacent to the waterway will include weed management and rehabilitation plantings.

Photo set 5: AU1 – Non-remnant Paddock Vegetation

Photo set 6: AU2 – Sparse Regrowth Vegetation

A32. Offset Area Assessment Units



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Legend

- Qld DCDB
- Offset Area
- MHQA Transects
- Poultry shed access track
- Future Track to be excluded [0.5 ha]

Assessment Units

- Assessment Unit 1: Non-remnant RE 12.8.17/12.8.14 [45.1 ha]
- Assessment Unit 2: Regrowth RE 12.8.17/12.8.14 [6.7 ha]

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 50 100 150 200 m

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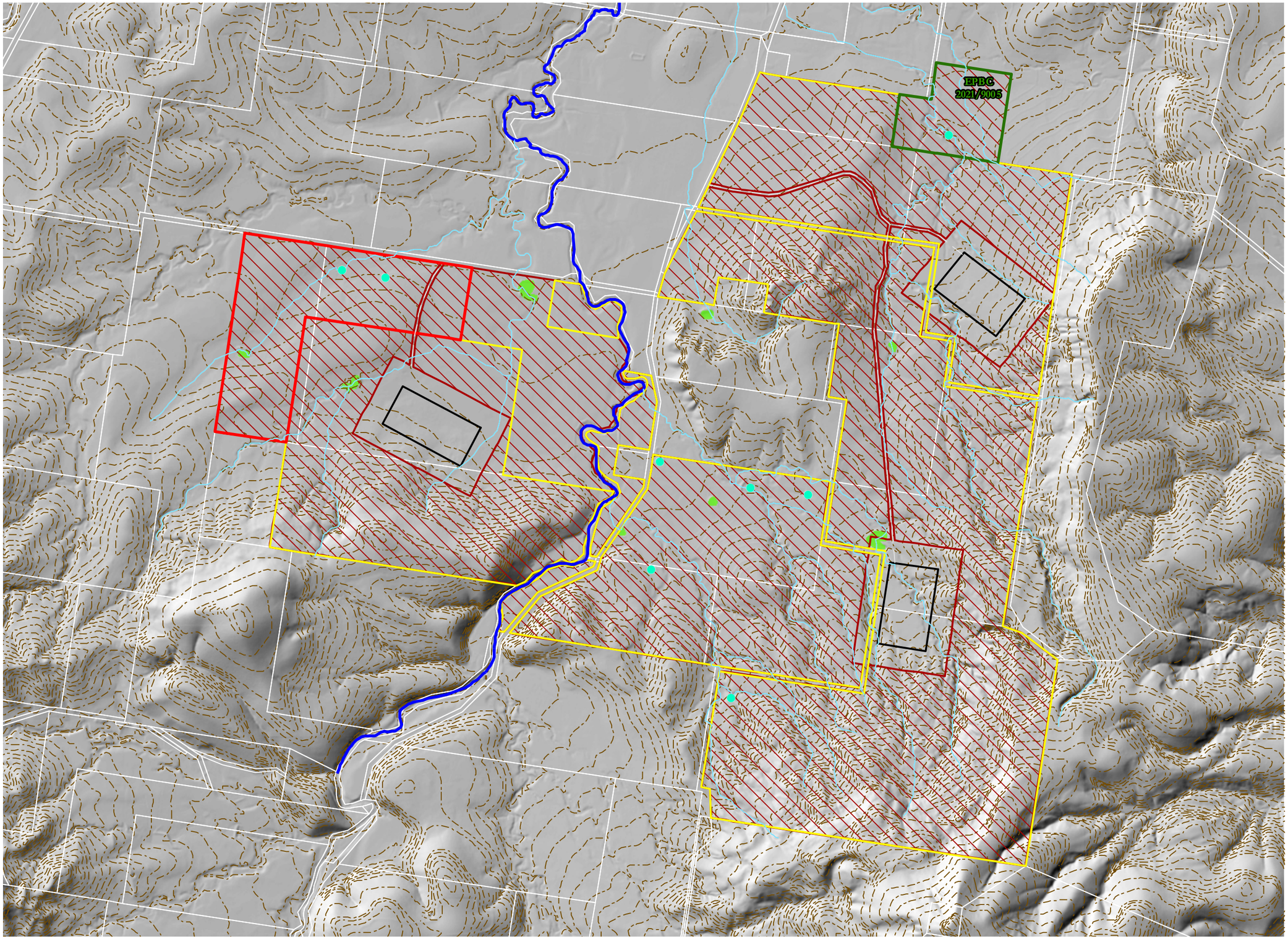
A33. Offset Property Topography and Water Resources



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Legend

- Qld DCDB
- Approved Offset Boundary
- Future Offset Boundary
- Offset Area
- Proposed Chicken sheds
- Poultry shed access track
- Offset Areas
- Contours (5m)

Water Resources

- Major Watercourse
- Creeks and Drainage Features
- Dams
- Reservoirs

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 100 200 300 400 500 m

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29/10/2025 | 7399 E A33 Offset Topography Water E

6.4 MNES Habitat Suitability

Analysis of threatened species records and regional ecosystem mapping across the offset site and surrounding area presents positive data on the potential for the region to provide significant conservation benefit to MNES listed species.

6.4.1 Koala

Within the offset property, vegetated areas contain a dominant mix of locally important koala tree species as listed in Table 35 of the ANU A review of Koala Habitat Assessment Criteria and Methods (8.17 South East QLD, Table 35, Page 58). The ROA 4 is mostly devoid of vegetation with the exception of scattered large trees within the north-eastern extent and a patch of regrowth vegetation within the southern extent. A combination of existing Koala records from the ALA database (refer **Plan A34**), evidence of Koala usage via SAT surveys and recorded presence of the species utilising vegetation within the offset property provide strong confidence in the value of the proposed restoration of ROA 4 for the Koala. Although the offset area itself contains limited vegetation and therefore limited koala habitat, there is State KHA mapped directly south and west of ROA 4 (refer **Figure A13**). Both of these vegetation patches are contained within a proposed offset area for a separate EPBC project. Ultimately, improving vegetation coverage and species diversity, and reducing potential threats within ROA 4 as a part of this project is highly conducive to improving habitat for Koala within the region. Restoring vegetation within this area improve Koala movement opportunities and provide a wider area of foraging and breeding habitat.

Further supporting evidence for the site to contain a high potential to support this species is pre-clear mapping (refer **Figure A14**) and actual on-site vegetation communities surrounding ROA 4. The Rosevale Offset Property contains a broad distribution of the following regional ecosystem types (code plus dominant Species), which are dominated by Koala habitat and foraging trees:

12.3.3 – *Eucalyptus tereticornis, Eucalyptus crebra, Eucalyptus moluccana*
12.8.17 – *Eucalyptus melanophloia, Eucalyptus crebra, Eucalyptus tereticornis, Corymbia intermedia*
12.8.16 – *Eucalyptus melliodora, Eucalyptus crebra, Eucalyptus tereticornis*
12.8.14 – *Eucalyptus eugenioides, Eucalyptus biturbinata, Eucalyptus melliodora*

The majority of ROA 4 contains Category X (non-remnant) vegetation due to the historical and current land use for cropping and grazing activities. However, pre-clear mapping indicates that Endangered RE 12.3.3 and Least Concern RE 12.8.17 were previously mapped across the area (refer **Figure A14**). In addition, a small patch of Category C (regrowth) vegetation described as least concern RE 12.8.17/12.8.14 is located within the south-eastern corner of the ROA 4 site. The rehabilitation and restoration activities proposed with this project will implement vegetation from these regional ecosystems.

6.4.2 Grey-headed Flying-fox

Underlined flora species in the above regional ecosystems are additionally listed as significant food plants for the Grey-headed Flying-fox (Eby & Law 2008). Although ROA 4 contains limited vegetation with exception to some scattered trees in the north-eastern extent and a patch of regrowth in the southern extent, the surrounding landscape contains over 500 ha of foraging vegetation for the species. Therefore, improvement

of ROA 4 via management measures proposed with this project, re-planting, stock management, pest control and removal of internal barbwire fences where stock has been removed, has the potential to increase safe foraging habitat for Grey-headed Flying Fox (GHFF) and protect it in perpetuity. This species is known to the region, with GHFF recorded foraging within vegetation associated with the approved Aroona Offset Site (EPBC 2016/7817), which is 5 km north of ROA 4. Furthermore, the Rosevale offset property is located approximately 14 km from the Mount French GHFF roosting camp [288], 31 km from the Laidley Plainlands Roost [372] and 36km from the Kooralbyn roost [551] (refer **Plan A35**).

Records under the National Flying Fox web viewer vary with the most recent surveys confirmed at the Kooralbyn and Laidley site. All the sites, excluding Laidley, which is under Ipswich City Council jurisdiction, are listed as active under the Scenic Rim Regional Council Flying-Fox Management Strategy 2023-2028 (SRRC, 2023a). The DCCEEW species profile and threats database for GHFF indicates that this species is capable of nightly flights of up to 50 km from their roost to forage in a variety of different feeding areas. Therefore, the surrounding roosts are all within a reasonable distance from the offset area that it is likely GHFF would forage within the current foraging habitat present surrounding ROA 4.

6.4.3 Swift Parrot

Swift Parrots are usually seen in small parties of up to 30 birds, or occasionally in flagger flocks (of several hundred birds) around sources of abundant food. Swift Parrots breed in Tasmania and then move to mainland Australia in Autumn for the non-breeding season. They feed preferentially in the largest trees available (Kennedy and Overs, 2001) and on psyllid lerps, seeds and fruit (Kennedy and Tzaros, 2005). Commonly used lerp infested trees include Inland Grey Box (*E. macrocarpa*), Grey Box (*E. moluccana*), Blackbutt (*E. pilularis*), and Yellow Box (*E. melliodora*). Preferred foraging tree species include winter flowering species such as Swamp Mahogany (Eucalyptus robusta), Spotted Gum (*Corymbia maculata* or *C.* citriodora), Red Bloodwood (*C. gummifera*), Forest Red Gum (*E. tereticornis*), Mugga Ironbark (*E. sideroxylon*), and White Box (*E. albens*) (DCCEEW, 2024).

A review of State vegetation mapping indicates that the pre-clear Regional Ecosystems mapped for the Offset Area include commonly used foraging species for the Swift Parrot, including *Eucalyptus tereticornis* and *E. melliodora*. Due to historical clearing for agriculture activities, mature eucalypts are currently sparse within the Category X (non-remnant) vegetation areas located within the offset area.

No Swift Parrot populations or individuals have been recorded within 10 km of the offset area. A search of ALA database using a 10 km search radius from the offset area returned no records for the species, however, there are several records for the species within 40 km buffer. A regional habitat analysis combining potential habitat and records of this species is shown on **Plan A36**.

Field surveys identified one preferred foraging species, *Eucalyptus tereticornis* (Forest Red Gum) scattered within the current open paddock offset area. Given the proposed reconstruction of Regional Ecosystems that support foraging species, and the highly mobile nature of the winter foraging Swift Parrot with records in the vicinity, the proposed offset is considered suitable to support the matter.

6.4.4 Regent Honeyeater

The Regent Honeyeater is endemic to mainland south-eastern Australia. It has a patchy distribution which extends from south-east Queensland, through New South Wales and the Australian Capital Territory, to central Victoria. Records are widely distributed across its range, however, is only found regularly at a few localities in NSW and Victoria where most of the sightings have been recorded. There are four known key breeding areas, three in New South Wales and one in Victoria.

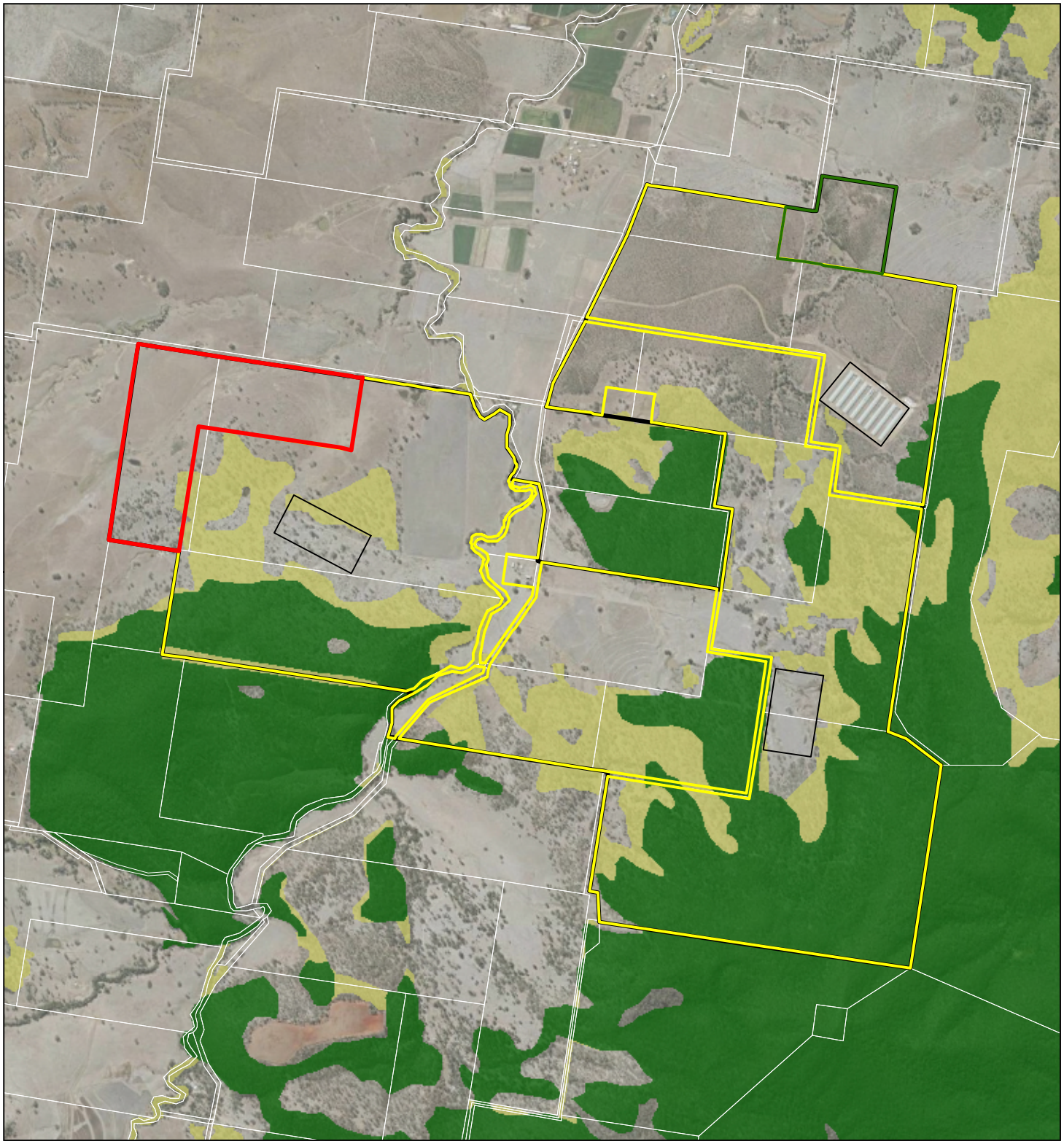
The species mostly inhabits inland slopes of the Great Dividing Range, in areas of low to moderate relief with moist, fertile soils. It is most commonly associated with box-ironbark eucalypt woodland and dry sclerophyll forest, but also inhabits riparian vegetation such as sheoak (*Casuarina* sp.) where it feeds on needle-leaved mistletoe and sometimes breeds. It sometimes utilises lowland coastal forest, which may act as a refuge when its usual habitat is affected by drought. It also uses a range of other habitats including remnant patches in farmland and urban areas, roadside reserves and travelling stock routes.

Like other species of honeyeater, the Regent Honeyeater utilises a variety of food resources. Its diet primarily consists of nectar, but also includes invertebrates (mostly insects) and their exudates (e.g. lerps and honeydew), and occasionally fruit. Its time spent foraging for nectar ranges from 10% to 90% depending on availability. Nectar is obtained chiefly from eucalypts and mistletoe, and Regent Honeyeaters appear reliant on select species which provide reliable nectar flows. Regent Honeyeaters prefer taller and larger diameter trees for foraging, as these typically produce more nectar (Franklin et al., 1989; Webster & Menkhorst 1992; Menkhorst et al., 1999; Oliver 2000). Preferred foraging tree species for the Regent Honeyeater include *Eucalyptus sideroxylon, Eucalyptus melliodora, Eucalyptus albens, Eucalyptus leucoxylon, Corymbia maculata/citriodora, Eucalyptus robusta*. Mistletoe species important for foraging include *Amyema cambagei, A. miquelii* and *Dendropthoe vitellina*.

A review of State vegetation mapping indicates that the pre-clear Regional Ecosystems mapped for the Offset Area include eucalypt foraging species that could be utilised by the Regent Honeyeater. Due to historical clearing for agriculture activities, mature eucalypts are currently sparse within the Category X (non-remnant) vegetation areas located within the offset area.

No Regent Honeyeater populations or individuals have been recorded within 10 km of the offset area. A search of the ALA database using a 10 km search radius from the offset area returned no records for the species, however, there are records for the species within 40 km of the offset area indicating broader foraging patterns. A regional habitat analysis combining potential habitat and records of this species is provided on **Plan A37**.

Given the proposed reconstruction of Regional Ecosystems that support foraging species, and the highly mobile nature of the winter foraging Regent Honeyeater with records in the vicinity, the proposed offset is considered suitable to support the matter.



Legend

- Qld DCDB
- Offset Properties
- Approved Offset Boundary
- Offset Area
- Future Offset Boundary
- Proposed Poultry Sheds

Koala Habitat Areas

- Core Remnant Koala Habitat Areas
- Core Regrowth Koala Habitat Areas

Figure A13

Offset QLD Koala Habitat Areas

File ref. *7399 E Figure A13 Offset KHA E*
Date *27/10/2025*
Project *Scenic Precinct*

0 200 400 600 800 1,000 *m*

Scale (A4): 1:25,000 [GDA 1994 MGA Z56]

N

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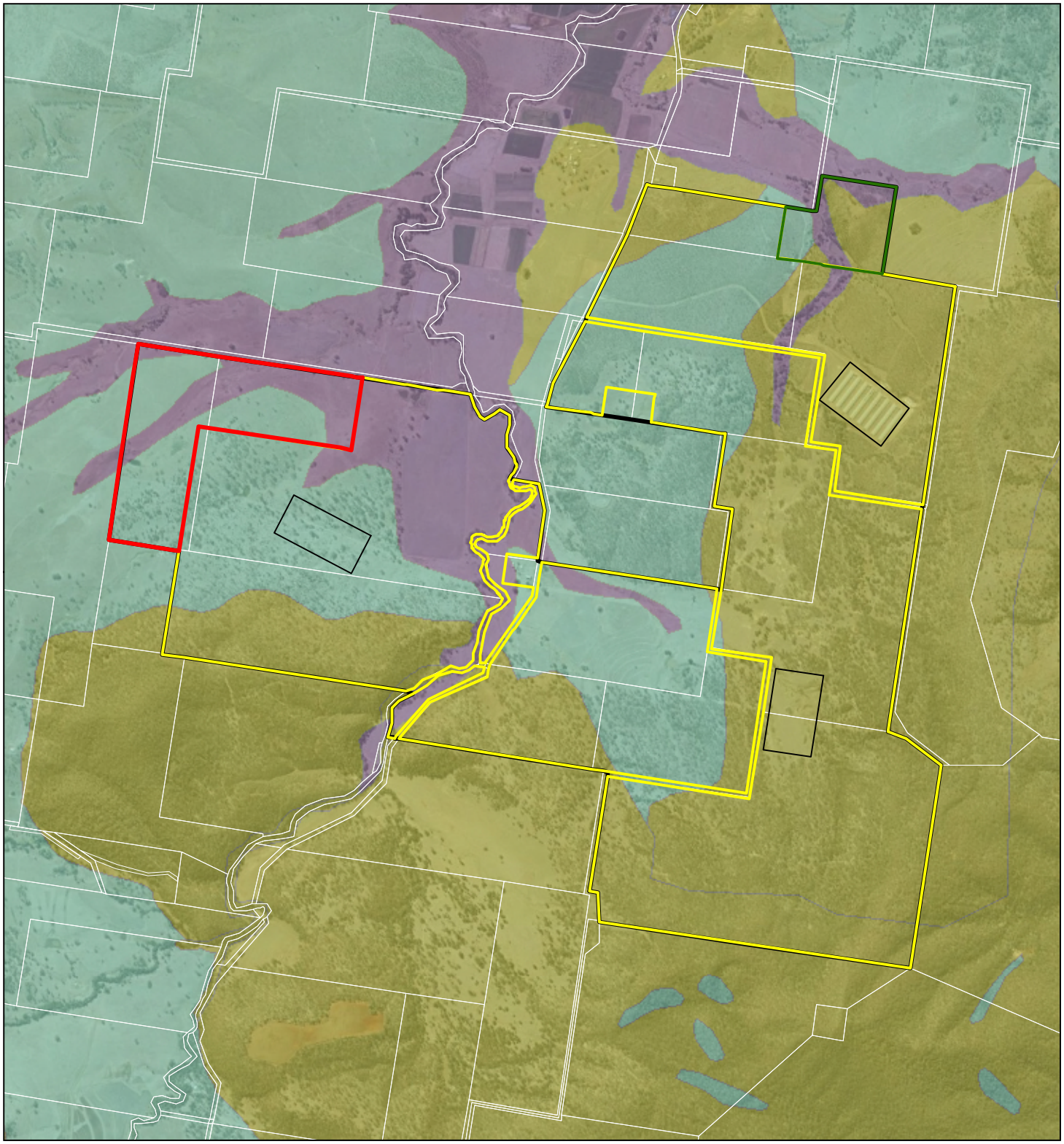

Legend

- Qld DCDB
- Approved Offset Boundary
- Future Offset Boundary
- Offset Area
- Proposed Poultry Sheds
- Offset Properties

Biodiversity Status (Pre-Clear Regional Ecosystems)

- Endangered
- Of Concern
- Not of Concern

Figure A14

Qld Pre-Clear Vegetation and Biodiversity Status Mapping

Springfield City Group Pty Ltd

File ref. 7399 E Figure A14 Offset Preclear E
Date 27/10/2025
Project Scenic Precinct

0 200 400 600 800 1,000 *m*

Scale (A4): 1:25,000 [GDA 1994 MGA Z56]

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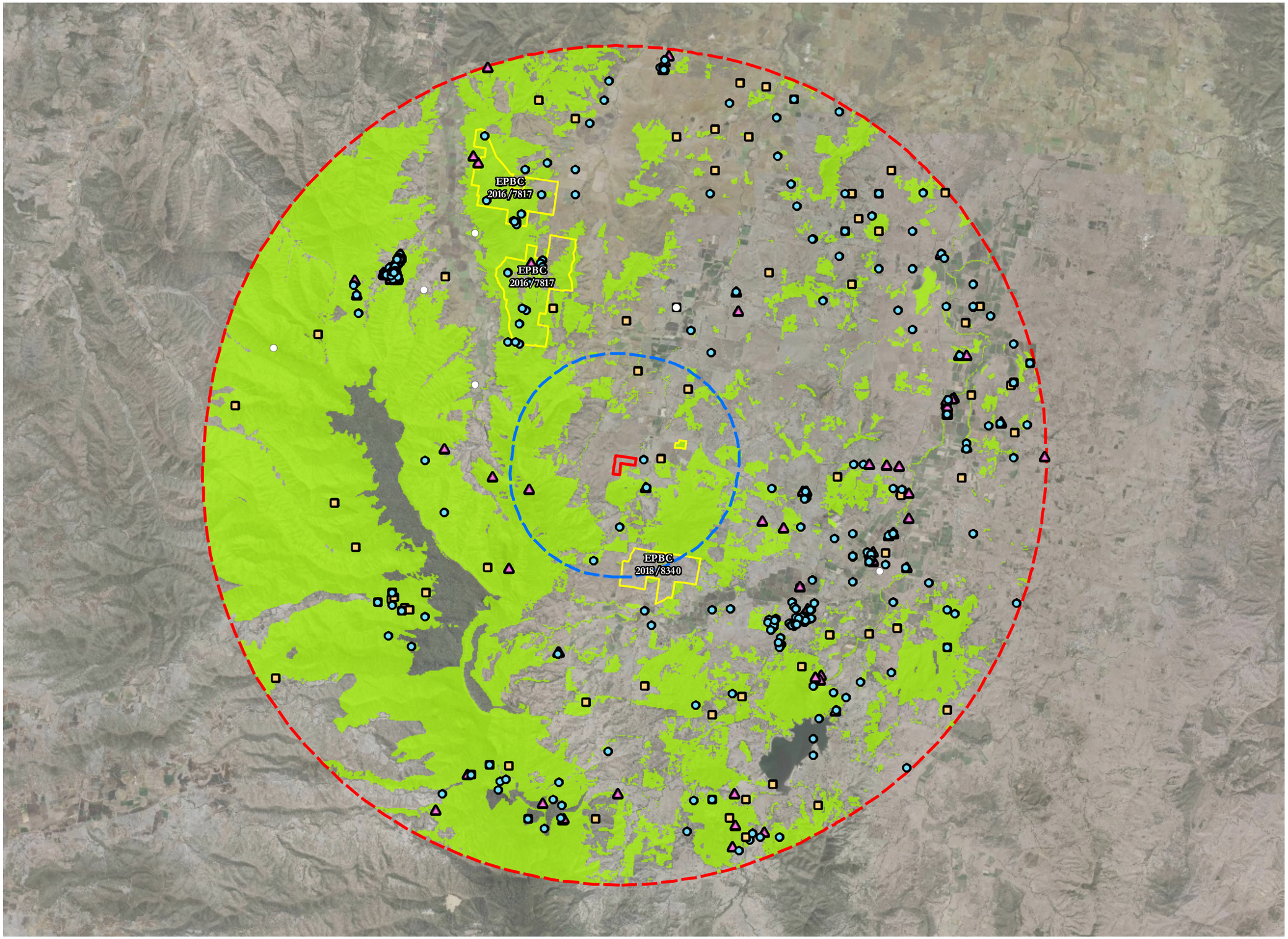
A34. Offset Property Koala Regional Context Assessment



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Legend

- Offset Area
- 5km Offset Area Buffer
- 20km Offset Area Buffer
- Existing Approved Koala Offset
- Potential Koala habitat within 20km of Offset Area [44.2%]

Koala Records within 20km of Site (ALA, 2025)

- Koala (*Phascolarctos cinereus*) Records within 20km of Offset Area recorded within the last 5 years - 185
- Koala (*Phascolarctos cinereus*) Records within 20km of Offset Area recorded between 5 and 20 years ago - 343
- Koala (*Phascolarctos cinereus*) Records within 20km of Offset Area recorded without a sighting date - 33
- Koala (*Phascolarctos cinereus*) Records within 20km of Offset Area recorded over 20 years ago - 87

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 1 2 3 4 5 km

Transverse Mercator | GDA 1994 | Zone 56 | 1:185,000 @ A3

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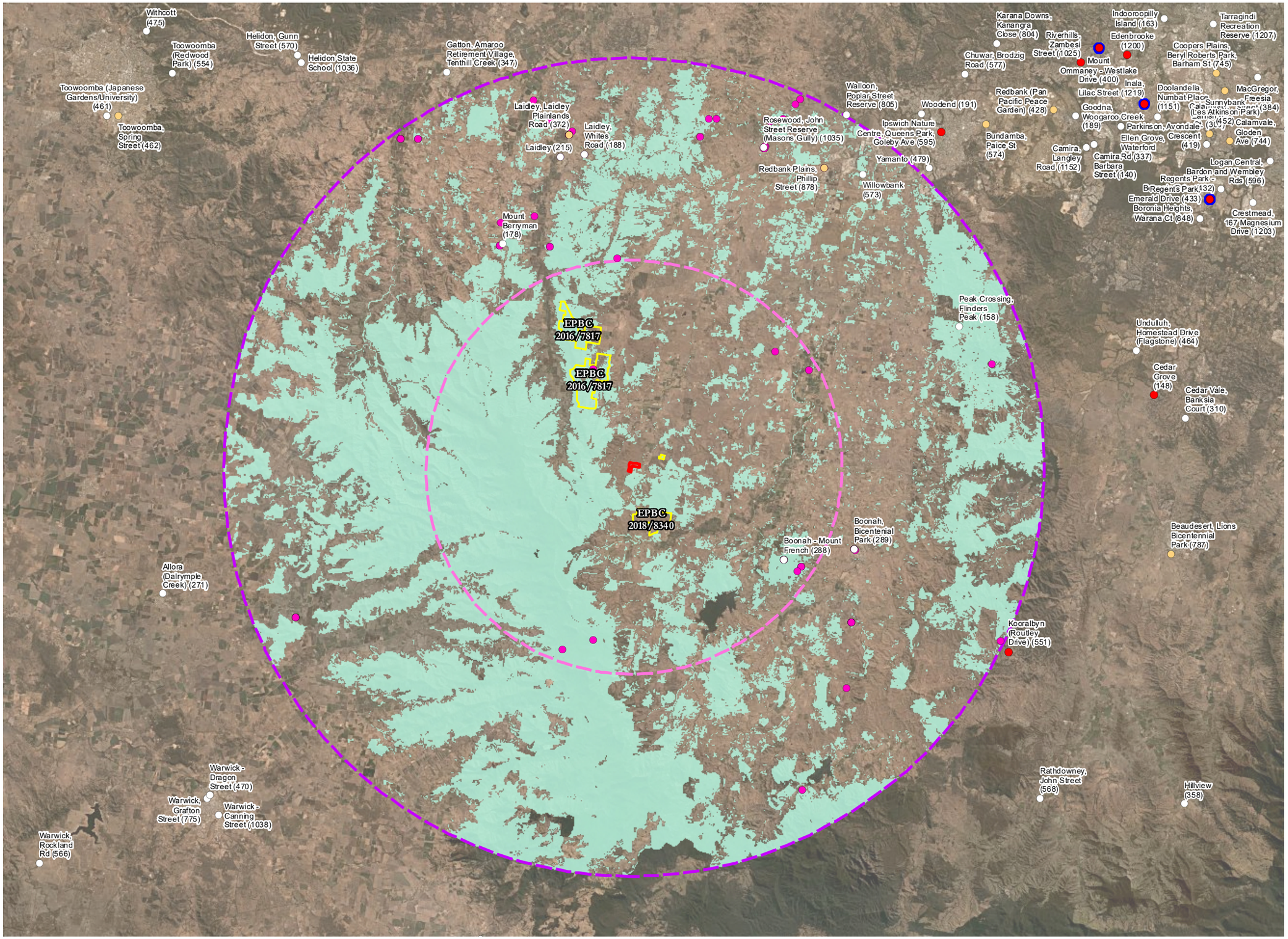
29/10/2025 | 7399 E A34 Offset Koala Regional Context E

A35. Offset Site Grey-headed Flying-fox Regional Context Assessment



Notes:
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Legend

- Offset Area
- Offset Area 20km Buffer
- Offset Area 40km Buffer
- Existing Approved Grey-headed Flying-fox Offset
- Grey-headed Flying-fox records within 40km of offset area - 121
- Offset site 40km buffer area - Potential and Known Grey-headed Flying-fox Foraging Habitat [43%]

National Flying-fox monitoring (Fed Gov. 2024.)

- Grey-headed Flying-fox roost inactive within recent surveys [8 within 40km of offset area]
- Grey-headed Flying-fox roost active within recent surveys [2 within 40km of offset area]
- Grey-headed Flying-fox roost active within recent surveys with a population level of 3 or above [1 within 40km of offset area]
- Nationally significant Grey-headed Flying-fox roost active within recent surveys
- Nationally significant Grey-headed Flying-fox roost active within recent surveys with a population level of 3 or above

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 2 4 6 8 10 km

Transverse Mercator | GDA 1994 | Zone 56 | 1:375,000 @ A3

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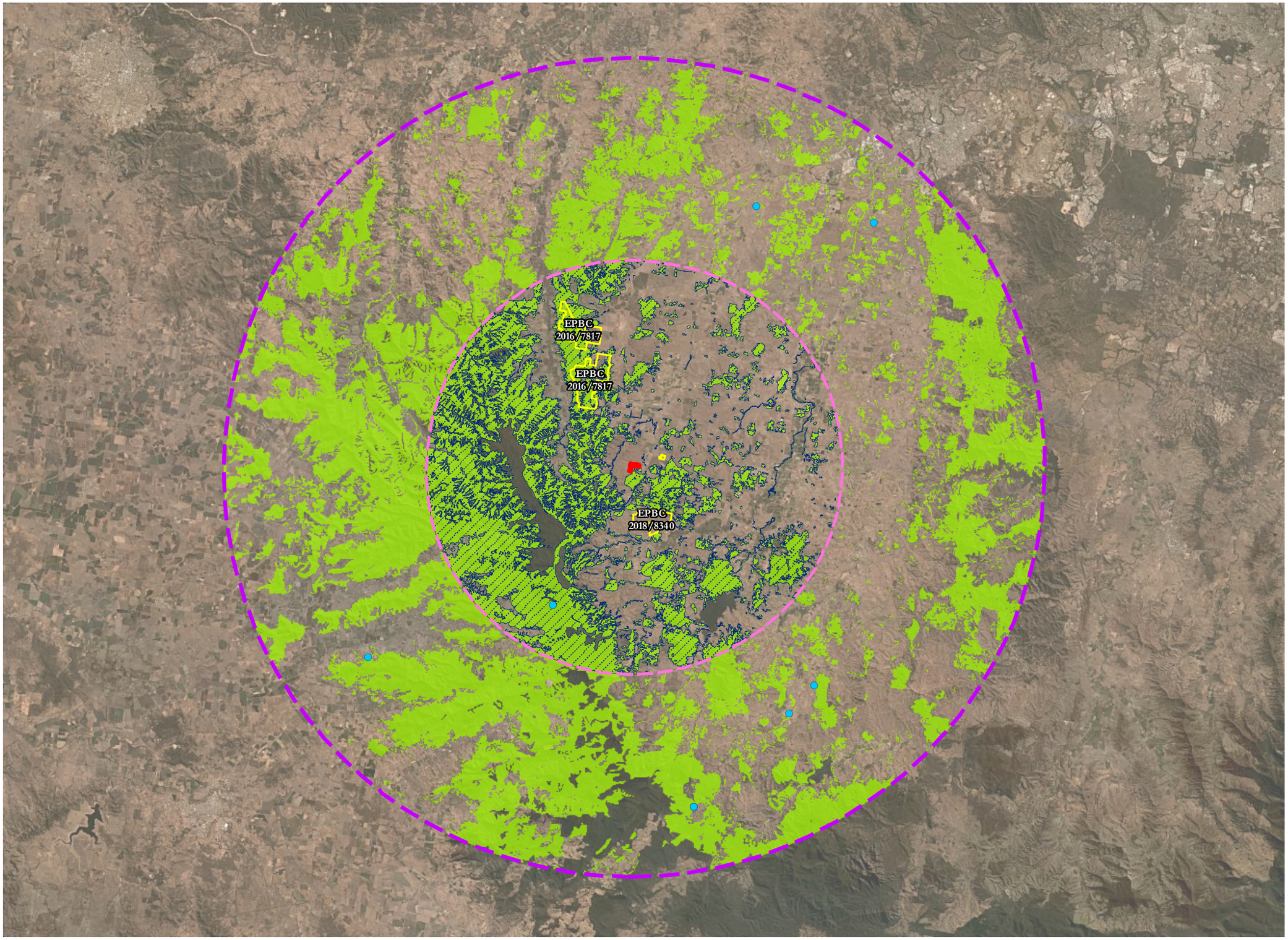
Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A35 Offset GHFF Regional Context E

A36. Offset Property Swift Parrot Regional Context Assessment



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Legend

- Offset Area
- Offset Area 20km Buffer
- Offset Area 40km Buffer
- Existing Approved Swift Parrot Offset
- Swift Parrot records within 40km of offset area [8]
  Note: Records are generalised on a grid system for protection of the species.
- Potential and known Swift Parrot foraging habitat within 20km of Offset Area [41.5%]
- Potential and known Swift Parrot foraging habitat within 40km of Offset Area

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 2 4 6 8 10 km

Transverse Mercator | GDA 1994 | Zone 56 | 1:375,000 @ A3

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A36 Offset SP Regional Context E

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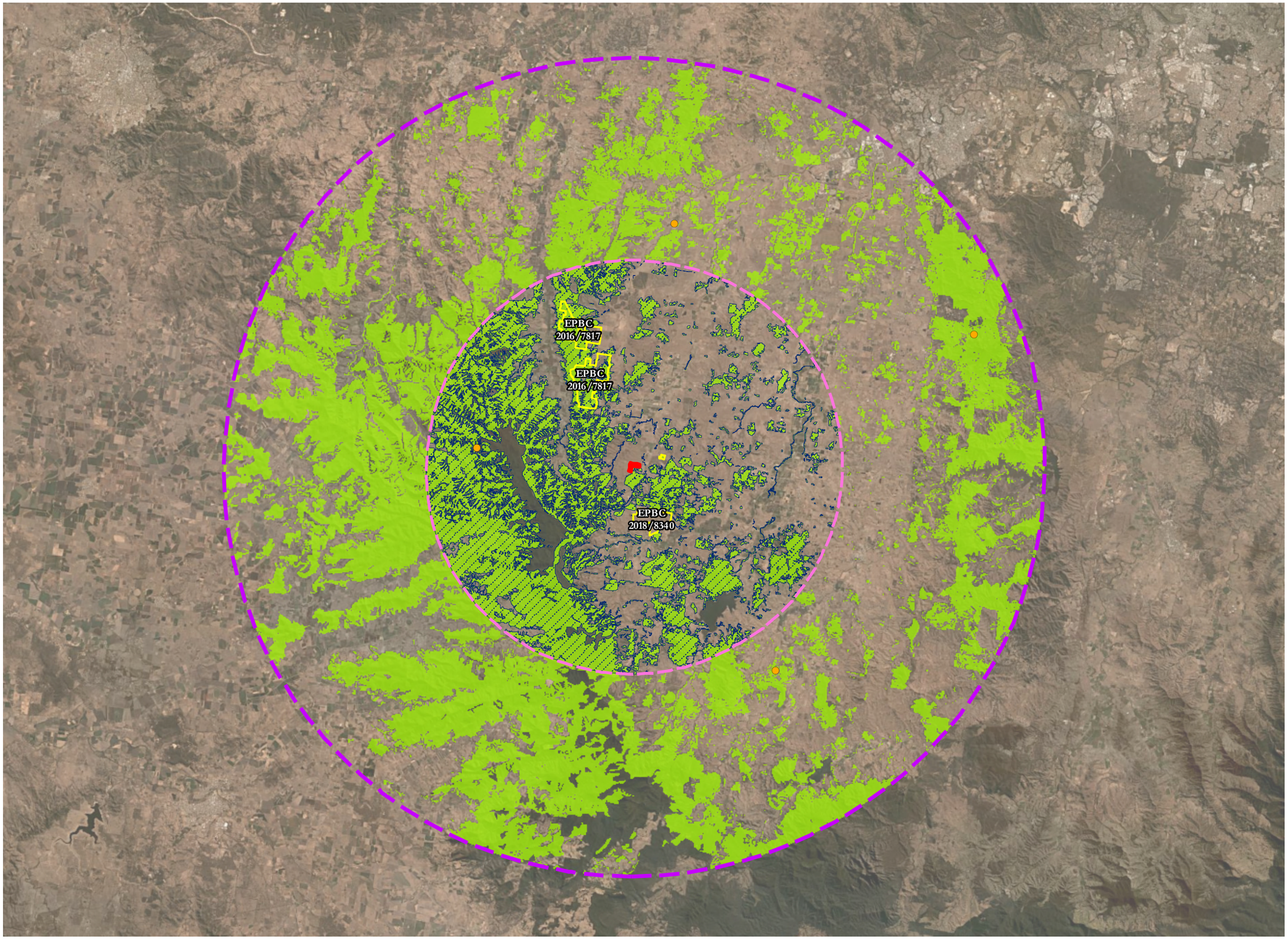
Scenic Precinct

A37. Offset Property Regent Honeyeater Regional Context Assessment



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Legend

- Offset Area
- Offset Area 20km Buffer
- Offset Area 40km Buffer
- Existing Approved Regent Honeyeater Offset
- Regent Honeyeater records within 40km of offset area [5]
  Note: Records are generalised on a grid system for protection of the species.
- Potential and known Regent Honeyeater foraging habitat within 20km of Offset Area [39.5%]
- Potential and known Regent Honeyeater foraging habitat within 40km of Offset Area

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 2 4 6 8 10 km

Transverse Mercator | GDA 1994 | Zone 56 | 1:375,000 @ A3

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Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A37 Offset RH Regional Context E

6.5 General Suitability EPBC Offset Policy Criteria

The objective of this OMP is to outline appropriate management actions which achieve the offset outcomes specified within the EPBC Act and provide an overall improved conservation outcome and net gain in Koala habitat and GHFF foraging habitat and thereby ensuring the long-term viability of the Koala, GHFF, Swift Parrot and Regent Honeyeater populations .

The implementation of the OMP (refer **Attachment A8**) will enhance habitat for Koala, GHFF, Swift Parrot and Regent Honeyeater through improvements to vegetation, reduction and key threats and provision of shelter and safe movement opportunity. **Table A56** lists the principles of the EPBC Act Environmental Offsets Policy and describes how the proposed offset strategy has been developed to adhere to these principles.

Table A56: Compliance with EPBC Act Environmental Offsets Policy Principles

Principle	Offset Strategy Compliance
Deliver an overall conservation outcome that improves or maintains the viability of the aspect of the environment that is protected by national environment law and affected by the proposed action	The offset area delivers a conservation gain for the Koala, GHFF, Swift Parrot and Regent Honeyeater through the creation of 45.1 ha of new habitat and assisted regeneration of 6.7 ha of regrowth vegetation. a) The revegetation zone proposed for the ROA 4 includes 45.1 ha of area located on the alluvial rich soils and MNES assisted rehabilitation within 6.7 ha of existing regrowth vegetation. The land is currently seeded for the growth of hay grass during season and directly grazed outside of harvest. b) Trees adjoining to the south include preferred Koala and GHFF species and contains State mapped Koala Habitat Area. Additionally, trees within the north along the Moorang Lane road reserve are dominated by large *Eucalyptus tereticornis* which are preferred foraging species for the Swift Parrot. c) Koala scat has been consistently found in the trees in the road reserve to the north, in vegetation to the south and along the Bremer River to the north and west showing all surrounding areas are used by the species. Further, where vegetation occurs over the wider Rosevale property Koalas have been observed. d) The area proposed for revegetation is mapped as RE 12.8.17 and RE12.8.14 described as mixed woodland dominated by eucalypt species on Cainozoic igneous rocks. Dominant trees species within these ecosystems contain preferred foraging trees for the Koala, Grey-headed Flying-fox, Swift Parrot and Regent Honeyeater. e) Averting the direct and indirect losses via declaring the land a Voluntary Declaration area for High Value Conservation under the Queensland *Vegetation Management Act 1999* will remove current cropping and grazing practices and prevent incompatible land uses. f) In isolation, the 45.1 ha replanting zone will connect the Moorang Lane road reserve trees to the regrowth Koala habitat to the south within the site. The location of ROA 4 adjacent to several EPBC offset properties will create a major habitat node along the Bremer River which presently only retains a narrow strand of vegetation on either bank.

Principle	Offset Strategy Compliance
	g) As part of the balance offset the land holding contributes nearly 800 ha in conservation land containing large tracts of cleared land which will connect and improve areas of regrowth and remnant vegetation with the Bremer River and major surrounding tracts of bushland which ultimately connect with the Main Range Nation Park.
be built around direct offsets but may include other compensatory measures	The offset area includes legally securing the land area and undertaking necessary management to complete revegetation in a cleared paddock and assisted rehabilitation of regrowth areas to achieve 112.78 % of the offset required for Koala impacts and 143.38 % of the offset for Grey-headed Flying-fox. The combined impact and offset assessment for Springfield City Group's EPBC 2020/8651 (Scenic Precinct) and EPBC 2020/8629 (Peninsula Precinct) for the Swift Parrot and Regent Honeyeater will achieve 101.54% of offset requirements for Regent Honeyeater and 154.30% of offset requirements for the Swift Parrot. Planting obligations will be delivered across both the ROA 4 offset area (Scenic Precinct) and adjoining ROA 3 offset area (Peninsula Precinct) and will be delivered concurrently to achieve the proposed offset outcomes. A minimum of 100% of the offset required is built around direct offsets.
be in proportion to the level of statutory protection that applies to the protected matter	Within this application the Koala and the GHFF are assessed as Vulnerable. Under the International Union for Conservation of Nature (IUCN) data the probability of annual extinction is 0.2 %. The Swift Parrot and Regent Honeyeater are assessed as Critically Endangered with an annual extinction probability of 6.8 %. This factor applies through the meta data of the Offset Guide assessment calculation sheets for which each species has been assessed as achieving greater than 100% offset through the proposed offset area (**Attachment A8 – Appendix B**).
be of a size and scale proportionate to the residual impacts on the protected matter	Direct and indirect impacts for the protected matters have been calculated at the impacts site using the Modified Habitat Quality Assessment (MHQA) for the Koala and the Foraging Habitat Assessment (FHA) methods for Grey-headed Flying-fox, Swift Parrot and Regent Honeyeater. Within the OAG the Quantum Impact for each species is listed as: • Koala (14.52 QI ha) • Grey-headed Flying-fox (16.94 QI ha) • Swift Parrot (3339 habitat features impacted at Peninsula and 1755 features at Scenic for combined offset assessment)

Principle	Offset Strategy Compliance
	• Regent Honeyeater (2756 habitat features impacted at Peninsula and 1891 features at Scenic for combined offset assessment) To achieve the offset required for these impacts, the offset area provides a direct land-based outcome over 51.8 ha entirely through habitat recreation activities on historically cleared land devoid of native vegetation. The percentage of the impacts acquitted through this offset is: • Koala – 112.78% • Grey-headed Flying-fox – 143.38% • Swift Parrot – 154.30% • Regent Honeyeater – 101.54%
effectively account for and manage the risks of the offset not succeeding	The offset area forms part of the balance land of a much larger offset strategy covering nearly 800 ha of land. At this scale resourcing required to deliver, maintain and manage the risks is significantly increased compared to smaller offsets area. This OMP identifies 7 key risks / threats to some, or all, of the offset principles and outcomes not being achieved. These are: • Wildfire • Drought • Shifting habitat range • Plant stock failure • Feral animal control • Weeds of National Environmental Significance (WONS) increasing, and • Livestock control, access and trespass management Each of these risks have influenced the specific management actions proposed in the relevant assessment units where the risk may occur and more importantly the monitoring, measuring of success and adaptive management for the offset succeeding. Further, the offset provider intends to engage third party, suitably qualified professional(s) to ensure that the management outcomes of the offset land are achieved and risk of the offset not succeeding is mitigated. Repetitive monitoring and survey replication is to be a feature of the OMP to ensure adaptive management changes are made as soon as identified and throughout the life of the offset. In addition to completion criteria, interim milestones will be developed for each management measure.
be additional to what is already required, determined by law or planning regulations or agreed to under other schemes or programs	The Scenic Precinct project occurs in the Springfield Structure Plan area declared by the State Government as a priority area for development. There are few environmental controls at the impacts site with the Queensland Government's *Environmental Offset Act 2014* not being applicable.

Principle	Offset Strategy Compliance
	There are no guidelines or controls around offset or rehabilitation for the Grey-headed Flying-fox, Koala, Swift Parrot and Regent Honeyeater. The offset area is currently utilised for various rural activities and is not protected or managed for conservation purposes. The southern allotments of the offset property fall within the mapped extent of *Regional Biodiversity Corridor 101 described as Kangaroo Mountain to Rosewood Corridor: Extends from Kangaroo Mountain* (Main Range National Park) through to Mt Walker and Rosewood. Regional (5 km). All habitat protection and habitat creation is supported by this strategic intent and importantly the land is not located within an area at threat of new development expansion, new road or rail upgrades or extractive resource uses. Similarly, Moorang Wildlife Corridor, south of the offset property, forms a direct connection to the vegetation within the offset site. As of October 2022, *Scenic Rim Regional Council* committed to a 50 percent increase in funding for their Environmental Grants Program. This budget increase benefits community groups and landholders that are working towards enhancing the Scenic Rims natural environment, preserving habitat for rare and threatened species and improving the quality of Scenic Rim waterways. This is inclusive of landholders who are working to reduce/eliminate wild pigs spreading weed seeds and eroding riparian areas in the Moorang area. However, this is not required by law and is instead encouragement to improve land values across the region. Considering the majority of the properties surrounding the offset area are used for cropping and agriculture and how large, time consuming and expensive a task managing revegetated areas can be, it is considered entirely beneficial that 51.8 ha of land be offset under this project. Therefore, without the triggering of the EPBC Act and subsequent requirement to obtain approval, the offset as proposed in the OMP is not required for any of the protected matters under State or Local legislation. Additionally, the offset area would not be protected in perpetuity for conservation purposes.
be efficient, effective, timely, transparent, scientifically	Through conditions of approval the offset area will be legally secured prior to the commencement of any clearing on the impact site. The offset area and its value (as finalised through the EPBC Act Approval) will be legally secured through a Voluntary Declaration (VDEC) declared under the Queensland Government's *Vegetation Management Act 1999*. A VDEC protects land and values and is binding on future owners. The declaration and management plan will be noted on the land title, which informs prospective buyers of current declarations and management plans and where copies are available. This information is important to the property market as future owners will be bound by the plan and declaration. The legally securing of the land will be made through declaring the area as having High Nature Conservation Values. The VDEC will be lodged and legally secured by evidence of encumbrance on

Principle	Offset Strategy Compliance
	Registered Land Title prior to the commencement of any clearing works on the Impact Site. The OMP schedules a list of existing or specifically designed scientific methodologies for the measuring of base line and improved outcomes for the protected matters. Detailed baseline studies have been occurring over the approved offset areas and are used to inform the outcomes of this version of the OMP. The OMP also requires the use of tertiary trained and experienced experts along with appropriately certified and experienced contractors for the implementation of a host of actions.
	The offset property is owned by a large rural enterprise who has a variety of rural activities occurring on-site. The third party offset provider will fund all actions listed as approved in an offset management plan. An executed legal contract (Offset Provider Deed) is in place outlining the legal and committed relationship of the funding and delivery of the offset outcomes.
have transparent governance arrangements including being able to be readily measured, monitored, audited and enforced	Clearly articulated goals are set within this OMP for each proposed action within each Assessment Unit or Environmental Management Zone. Collectively, these goals link directly to the achievement of the overall conservation gain for the protected matters as designed, assessed and calculated through the selection and delivery of the offset. The management actions and implementation schedule to be included in the offset management plan are designed to be measured, monitored, audited and enforced year upon year during the life of the offset.

6.6 Offset Property Current Management Activities

Presently, the Rosevale offset property as a whole is utilised for poultry farming, hardwood plantation, cattle grazing and cropping. A description of the current management arrangements is included below.

Refer to **Plan A38** which identifies the location of the current management arrangements.

Hardwood Plantation

The offset property contains approximately 110 ha of land which has historically been utilised for hardwood plantation. The hardwood plantation consisted of native eucalypt species, which were planted in 2009, and then harvested and sold for commercial uses. The hardwood plantation management arrangement is a popular use in the surrounding area. The most recent hardwood plantation was impacted during a property maintenance burn which damaged the plantation stock, and it was unable to be harvested for commercial purposes. The financial incentive of hardwood plantation surrounding the poultry farming operations deems this a viable land management arrangement.

Cattle Grazing

The rural designation, undulating landscape and historically cleared open paddocks of the offset property provide for suitable cattle grazing practices. The offset property has cattle carrying capacity of approximately 300 head of cattle. The cattle grazing management arrangement compliments the poultry farming and hardwood plantation land uses, with no loss in cattle grazing capacity. The cattle grazing management practices occurs over the entirety of the Rosevale offset property.

Cropping

Part of the western offset property parcel (Lot 1 / CC3571) which is bound by the Bremer River on the eastern property boundary contains suitable land type and topography to facilitate agricultural cropping. Given the accessibility to water (Bremer River) and compatibility for cropping uses, the flat land on Lot 1 / CC 3571 is suitable for an intensive management action, which compliments other compatible land uses on the offset property. The ability to undertake agricultural cropping on the offset property allows the landholder to provide feed for or fatten the cattle on-site. Cropping activities which overlap with the ROA 4 offset will be discontinued once approved and management activities begin.

Poultry Farming

Presently, the Rosevale Offset Property retains existing poultry farming operations which have been occurring on the offset property since 2018. The poultry farming operations consist of 8 commercial broiler sheds with a capacity of approximately 360,00 birds and are 1.6 km north-east of the proposed ROA 4 offset. Furthermore, a Development Application has been approved for an additional 8 sheds (360,00 birds) which will be constructed in the next 2 years, one of which is planned directly east of ROA 4. For the existing poultry farm access roads are currently present and future proposed access is proposed to the approved poultry farms. These are considered a part of current management actions due to the increase of anthropogenic activity and vehicle movement within these areas. This current management arrangement results in an intensive agricultural function on a large portion of land, which is retained and utilised for other compatible uses.

Under the Department of Fisheries *Development of Meat Chicken Farms in Queensland* 2016, "fixed setback distances" are established and maintained between the meat chicken farm and sensitive land uses. However, sensitive land uses referred to in this act are defined as community facilities, accommodation and dwellings, not environmental areas (Queensland Planning Provision version 4.0 July 2014). This DAF document also indicates that these "are included largely to permit a simple, conservative evaluation of required buffer distances" and highlights the need for site-specific evaluation of setbacks in relation to sensitive land uses. Site-specific separation distances are heavily based on the dispersion of odours from their source. Regardless, a 100 m buffer area from the poultry farms to the offset site is provided to minimise the impacts of human activity, odour, dust, noise and light on intended offset areas conservation values.

The current Rosevale Property Offset Site land holdings contain an existing operational poultry farm with 2 additional facilities approved and proposed over the area, none of which are within the boundaries of ROA 4. However, one of the new facilities is proposed approximately 300 m east of the offset area for the Scenic Project. Despite already approving environmental offsets for Matters of National Environmental Significance (MNES – Koala) at the Rosevale Offset Site on the 2 November 2022 (EPBC 2021-9005) and an another offset for Koala, GHFF and Greater Glider in 2022, 2.6 km south of the Rosevale Offset property (EPBC 2018/8340), the Department has subsequently raised concerns around the potential incompatible dual use of the land holding for a poultry operation and environmental offsets.

No detailed commentary has been provided to support the specific incompatibility concerns, however based on the information collected and considered in this OMP no overt conflicts or impacts have been identified which out weight or impair the conservation gain opportunities the property provides. Currently the 52.3 ha of ROA 4 contains very limited canopy coverage and therefore safe fauna movement is largely absent where Koala would likely have to traverse the ground to move between foraging. With the implementation of the management actions in this Offset Management Plan, safe fauna movement would be reinstated across the area which limits the threats from Wild Dogs as Koala could move throughout the trees.

Importantly it is noted that at no stage were offsets proposed over any areas with existing or proposed infrastructure supporting the poultry operation. The Rosevale Offset land holdings covers approximately 800ha of land spread over 16 registered allotments. From the northern boundary to the southern boundary the land covers 3.5km and measures 3.6km east to west. The existing poultry farm infrastructure at the site, including sheds, tanks, office, storage, access tracks, diversion swales and basins covers a maximum area of 8.75ha or a little over 1% of the site. Allowing for the remaining facilities to be completed and including existing farmhouses, pump stations, cattle yards and sheds the total portion of the land utilised by infrastructure would be less than 27ha or approximately 3.7% of the total land area. None of this land has been proposed for use within any approved or lodge offset proposal.

The balance of the land is currently used for cropping on the flat lightly undulating creek plain zones and cattle grazing throughout. Both of these uses will cease with approval and commencement of offset actions where they overlap with the proposed offset area.

Poultry Farm Mitigation of Potential Impacts

During office and onsite discussions concerns raised by the Department around incompatible land uses focused more on potential indirect impacts of poultry farm operations, relating to:

1. Access and Traffic and Machinery Management
2. Noise
3. Light
4. Surface & Stormwater Management
5. Odour

The Poultry Industry and any approved facilities are extensively regulated by the *National Environmental Management System for the Meat Chicken Industry – Version 2*, in relation to legal requirements, natural resources and amenity, operation, design and management and monitoring, recording and reviewing. The Processors Grower's Manual, the RSPCA Meat Chicken Farming Scheme Standard and the RSPCA Operation Manual which these facilities adhere to, outline standard operational procedures that drive the necessary completion of a Site Based Environmental Management Plan (SBEMP), which covers the above potential impacts and management in detail.

Each of these potential indirect threats or incompatible land use activity are discussed in relation to impacts on MNES along with a number of other offset design amendments. Refer to **Table A57**.

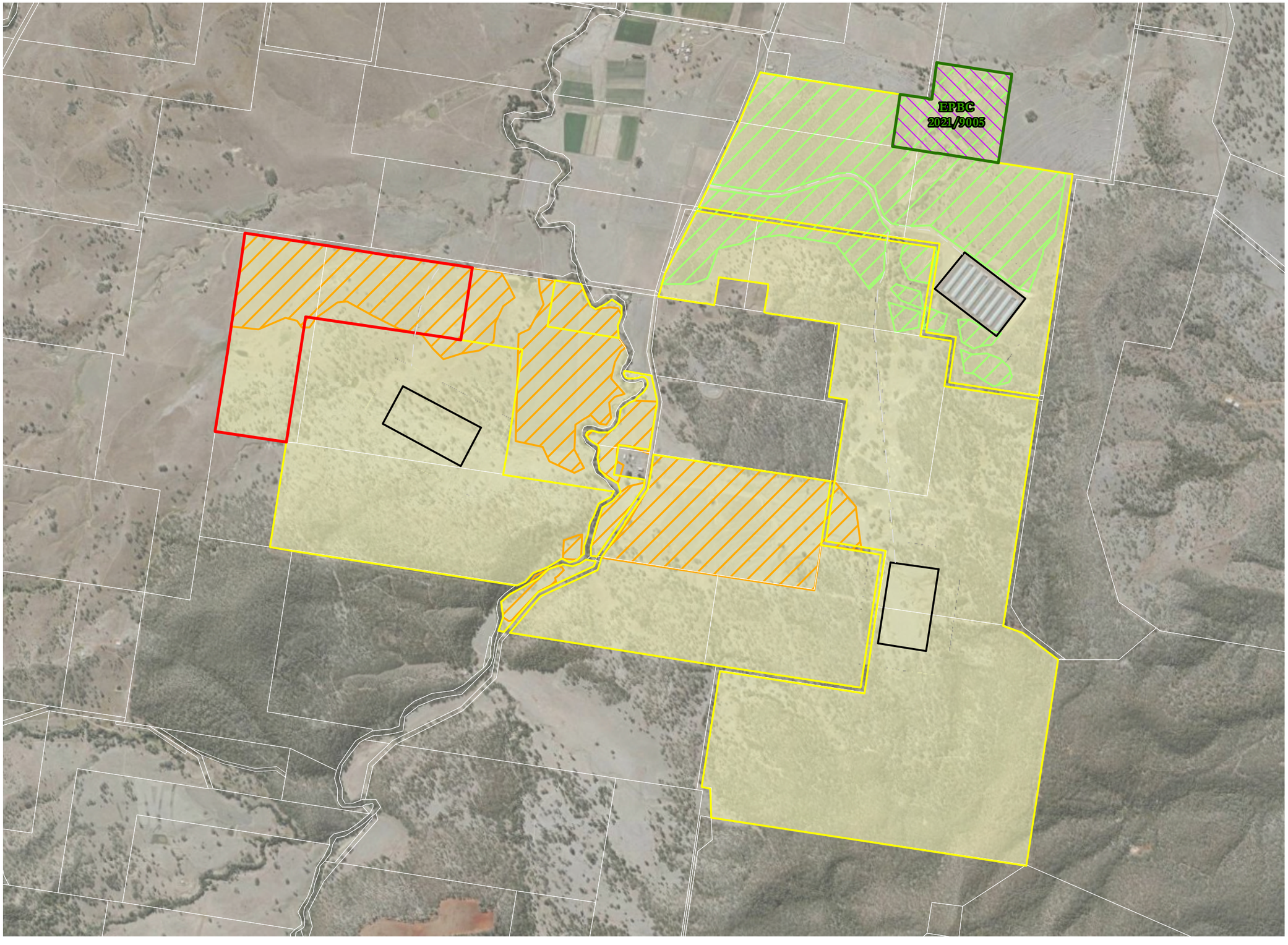
It is noted that in South East Queensland the poultry operations are specifically considered as a preferred land use for the preservation of biodiversity values because of the small footprint of the activity. One of the original Queensland Government koala protection legislation tools – *State Planning Policy 1/97 – Conservation of Koalas in the Koala Coast* states the following under compatible land uses:

> *Compatible development*
>
> *5.7 Development proposals would be compatible with conserving koala habitat values if all the following criteria are met:*
>
> - *little or no clearing of habitat would be required;*
> - *for sites in the Koala Conservation Area, minimal additional night-time traffic movements would be generated on the road network in the Koala Conservation Area;*
> - *any impedance or threats to the movement of koalas through or across the site would be minimised;*
> - *there would be no other significant detrimental environmental impacts on the koala habitat values in the surrounding area; and*
> - *koala habitat values would be substantially maintained or enhanced.*
>
> *5.8 The Koala Coast's proximity to a large urban population and major tourist destinations should provide opportunities for a range of activities that can be designed in ways that are consistent with the above criteria and conserve the environmental qualities of the area. Some examples are small-scale individual manufacturing, distribution or storage enterprises; home-based businesses; and 'nature-based' recreation/tourism facilities and activities (including those enabling people to experience koalas in their natural habitat). Intensive poultry farming is an example of agricultural development which, if properly planned and managed, is able to meet these criteria. Similar agri-businesses might also be appropriate.*

(SPP 1/97 – Page 6 – Underlining added)

The result of State Planning policy 1/97 sees large clusters of poultry operations located amongst core koala habitat in the Redlands and Logan areas. No evidence or research has been documented that these areas have a higher degree of wild dog and fox populations due to these activities, however koala records have been observed to remain high at these locations.

A38. Offset Property Current Management Activities



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Legend

- Qld DCDB
- Approved Offset Boundary
- Future Offset Boundary
- Offset Area
- Cattle Grazing
- Pest and Weed Management Activities
- Historical Hardwood Plantation Area
- Historical Cropping Area

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

0 100 200 300 400 500 m

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29/10/2025 | 7399 E A38 Offset Current Management E

Table A57: Potential Impacts on MNES Associated with Current and Future Poultry Sheds

Potential Impact	Justification and Mitigation Measures	Threat to MNES
Noise	For broiler facilities which utilise fully enclosed and sealed sheds noise is not a known impact as part of the operation as birds cannot be heard external to the facilities they are housed. The performance, behaviour and growth of the birds is highly sensitive to noise and a number of mechanical inclusions and methods are deployed to muffle motors and fans, including the use of acoustic enclosures. Some noise would be expected during the construction of the remaining shed facilities; however, this is a quick and temporary process. Once operational remaining noise generating activities relate to vehicle movements, loading and unloading and maintenance of machinery, which are all very intermittent and not beyond those occurring on adjacent properties with cattle yards and transport. Intermittingly the low hum of the ventilation fans occurs in direct response to temperature conditions and can only be heard at or downwind of the fan locations when they are running. **Matters of National Environmental Significance and evidence of MNES usage has been consistently located on-site, specifically koala scat recorded in vegetation adjacent to the existing shed facilities. Noise is not considered to impair offset use of the land, particularly with the inclusion of the 100 m setback to offset activities.**	Low
Light	The poultry farm, hours of operation are 7am until 6pm and the facility is not staffed overnight. Not permanent external lighting occurs or is proposed. On remote occasions when there is an issue or staff commence early or work late vehicle lights will occur on the track, however this is rare and not considered additional to undertaking nighttime ecological surveys. **No aspects of the operations lighting will influence any outcomes or usage of the offset for MNES.**	Low
Surface and Stormwater	The risks associated with surface and stormwater for poultry operations links to nitrogen and phosphorus contamination directly for the shed pad moving to run off to sensitive environments. Although both of these chemicals occur naturally in vegetated areas and waterways excessive quantities can lead to impacts resulting in native plant dieback and algae populations in waterways. Surface and Stormwater fun off in the poultry industry is governed by the QLD Environmental Protection policy (Water and Wetland Biodiversity) 2019 which stipulates the following minimum parameters: • No worsening of stormwater discharges into downstream properties • No worsening of flood plain extents • No increased risk of contamination of downstream receiving waters	Low

Potential Impact	Justification and Mitigation Measures	Threat to MNES
	Additionally, the Scenic Rim Regional Council Planning Scheme regulates the poultry use through the codes and policies. Both regulations result in a number of internal and external controls. Internal controls include: • Concrete nib walls surrounding the base of the sheds to prevent run off entering the shed areas and to contain water within. • Used bedding or litter is removed from the site • During shed wash downs no water is discharged from the shed area – temperature controls and ventilation fans are used to evaporate the water. Externally the shed areas are located away from waterways and contain permitter diversion drains to prevent run-off into the shed areas. Rainwater felling directly within the shed area is directed through a treatment drain made up of: • Grassed swales in between each shed area, directed to: • Vegetated filters strips at either end of the swale areas, discharging to • Detention basins sized to capture retain and treat on-site run off **An extensive water quality monitoring program is mandated by the regulations to ensure not net increase in pollutants occurs beyond the detention basin system. All of these facilities occur immediately surround the shed infrastructure meaning a further 100m set back is applied to any offset activities**	
Odour	The poultry industry has long been associated as a major producer of odour pollution, primarily in connection with the impact this has on neighbouring homes, users and other sensitive receptors. Historically odour sources within the poultry industry was attributed to: • Decomposition of manure often mixed with bedding and debris (usually occurs when wet) • Poorly stored and spoiled feed supplies • Dead animal removal and storage Significant advancement and controls now apply to major poultry operations which remove or minimise these odour producing activities. Poultry sheds located on the Rosevale site are fully insulated, temperature-controlled facilities. Every aspect of the operation is regulated.	Low

Potential Impact	Justification and Mitigation Measures	Threat to MNES
	Odour caused through the decomposition of manure mixed with bedding is created when water is added resulting in an ammonia smell (known as 'wet litter'). This outcome is neither good for surrounding nuisance odour levels nor healthy for the birds and thus a raft of innovations and management protocols exist to remove and limit this outcome, including: • Sealed, controlled and ventilated sheds preclude impacts of rain or high moisture content increasing the humidity within the shed facility maintaining the optimal conditions to keep bedding areas dry. • Daily inspections occur to ensure the temperature and humidity are maintained the bedding areas are tilled and replaced. Litter is maintained in a dry and friable condition. • Spent litter is disposed off-site via covered trucks. • Feed is stored directly within the sealed ventilation sheds. • Dead birds are collected daily in all sheds. Dead birds must be removed and located in a cold room where they are stored in sealed containers prior to contractor off site removal (minimum twice weekly). Of particular concern during discussions with the Department appeared to be the potential for the odour emanating from the poultry sheds to additionally attract wild dogs and foxes, known threats to the Koala. This risk is noted for free range chickens which are directly exposed to the threat, however there is not easily identifiable research linking evidence of this same threat occurring for insulated and contained broiler sheds.	
Attraction of Pest Species (in particular Wild Dogs)	Wild dogs are known to the site and broader areas, like most rural locations in South-East Queensland. Wild dogs have been recorded at the offset property including over 3km away from the existing shed facilities. They are also known to the Audale Offset site 2km to the south and the Aroona Station Offset site 4.5km to the north-west. Based on preliminary assessment of Wild Dogs and other pest species within the Offset Property via infrared fauna cameras across 3 separate survey periods (April – May, May – August and August – November), only nine (9) Wild Dogs were recorded over 778 camera nights by a total of 14 cameras (refer **Appendix A8 Section 5, pp. 113** for Baseline Pest Surveys). Based on the relative abundance index (RAI) the total abundance of wild dogs within the Rosevale Offset Property is 1.16. The relative number of sightings across the survey time is not considered to suggest there are significantly more Wild Dogs within the area as a result of poultry farming activity. This is particularly true when compared to the pest species results from the Aroona Offset Site (EPBC 2016/7818) annual compliance reporting. This offset site is 5 km north of the Rosevale Offset Property and does not have poultry farming within or adjacent to the approved area. Regardless, prior to management of the area, abundance of dogs across the	Low

Potential Impact	Justification and Mitigation Measures	Threat to MNES
	offset area was recorded at 3 in 2019, 10 in 2020 and 8 in 2021. These numbers are similar to the recordings on-site despite no poultry farming being present. Therefore, it can be inferred that the presence of the poultry farms has not increased wild dog presence. Similarly, only 2 foxes were recorded within the Rosevale Offset Property during baseline surveys. This is again similar to or less than the recorded numbers at the approved Aroona Offset which recorded 2 in 2019, 3 in 2020 and 6 in 2021. Furthermore, poultry farms biosecurity measures and pest control are often based around disease control and controlling rodents with fencing and specialised shed design keeping out unwanted pest species. Much of the literature surrounding Wild Dogs refers to their impacts on sheep, cattle and goats rather than poultry farming as there is a lot more opportunity for predation on these animals than on chickens contained in sheds. Additionally, Wild dogs and European Fox are known throughout the region regardless of the presence of agricultural farming as they also predate on other invasive species; European Hare, Feral Pig as well as native mammals; Kangaroos, Wallabies, Bandicoots, etc. European Fox in particular are opportunistic feeders and therefore are not particular in the areas they choose to live. Both of these species widely known to be a threat to livestock and native fauna, hence their inclusion in the *Biosecurity Act 2014* and *Scenic Rim Regional Council Declared Pest Animals or Weeds*. In 2022 Scenic Rim Regional Council identified a spike in Wild Dog populations around national parks, particularly within the Canungra locality where large areas for breeding are present (Sheehan and Forbes, 2022). These areas are identified as being an epicentre for Wild Dog populations as there tends to be no formal control programs in place as these are often associated with agricultural activities. Cattle farming surrounding the proposed offset property, although not by law required to control Wild Dogs, European Fox, Feral Pigs, etc., outside of General Biosecurity Obligations outlined in the *Biosecurity Act*, likely undertake their own pest control procedures. Additionally in mid-April 2023, SRRC introduced the 1080 baiting programme to assist owners of larger land holdings in managing pest animals and guides landowners through the legislative requirements of baiting (SRRC, 2023). Although again not under law to do so, the programmes roll out will benefit those at the centre of agricultural production as they make easier to gain access to control methods and ultimately have been proposed to work best when neighbouring properties are in co-ordination. Therefore, the encouragement of agricultural landholders in the region to control pests benefits the Rosevale Offset Property and the proposed efforts associated with the ROA 4 offset. **There is no significant evidence following baseline pest surveys that the current poultry sheds have increased the presence of Wild Dogs or European Foxes. This is particularly true when compared to other Offset Site data that do not**	

Potential Impact	Justification and Mitigation Measures	Threat to MNES
	contain poultry sheds. These Offset Sites record similar or in some cases more pest abundance than what was observed within the Rosevale Offset Property. The proposed pest management measures, including a detailed Pest Management Program associated with the OMP is considered to be sufficient in reducing the potential threat of feral animals that may threaten MNES species within ROA 4.	

6.7 Offset Area Current Threats

The offset property contains a variation in agricultural uses and land types from existing remnant vegetation through to open cropping land. Several flora and fauna species observed directly or indirectly (scats, prints, etc) within the Offset Property are listed under the *Biosecurity Act 2014*, Schedule 2 Part 2 as a restricted matter – invasive biosecurity matter as well as Scenic Rim Regional Council declared pest animals or weeds. Several of the identified restricted species form the basis of management requirements due to their direct impact to MNES listed species or indirect impact to the habitat required to support these species.

The Scenic Rim Regional Council also lists Feral Goats (*Capra hircus*) and Fire Ants (*Solenopsis Invicta*) as declared pest animals, with neither of these identified as occurring on-site. Should their presence be detected in future surveys then they will be adopted into the pest management plan, which is designed with adaptive management measures for flexibility. Fire Ants in particular have strict biosecurity measures required to stop their spread, with sightings needing to be immediately reported to Biosecurity Queensland.

Wild dogs (*Canis familiaris dingo, Canis familiaris dingo X Canis familiaris, Canis familiaris*) are considered direct threats to the MNES target species (refer **Table A58**). This conclusion is based on several federal government documents including:

- DAWE Conservation Advice for *Phascolarctos cinereus* (Koala) combined populations of Queensland, New South Wales and the Australian Capital Territory
- National Wild Dog Action Plan 2020 – 2030

Medium priority threats to Koala and Grey-headed Flying Fox include Feral Cat (*Felix catus*) and European Fox (*Vulpes vulpes*). These species are not listed as a key threatening process to either of the MNES species however both are known to be opportunistic predators with significant impacts to native species.

It is also acknowledged that although they aren't listed as a direct threatening process to the target MNES species for the Project, Feral Pig (*Sus scrofa*) are opportunistic omnivores and will consume a wide range of animals including small mammals and birds. Feral Pigs are also widely known to cause significant environmental destruction to soil and vegetation via digging, spreading weeds and consumption, particularly surrounding waterbodies. Therefore, the presence of Feral Pigs within the offset site cause destruction of current habitat value and water resources, and indirectly impacting essential habitat areas for the listed MNES. This is similarly the case for Feral Rusa Deer (*Cervus timorensis*) which are known to damage native vegetation, spread weed seeds and foul water and European Rabbit (*Oryctilagus cuniculus*) which impact native vegetation.

Other identified specific threats within the ROA 4 include:

- Ploughing and re-harvesting the land for hay
- Cattle grazing
- Due to the use of the offset area as largely cropping land, it is not immediately impacted by significant weed infestations. Regardless, many invasive species, in particular *Lantana camara*, a declared restricted matter under the *Biosecurity Act 2014* and SRRC, occur all around the offset area

and more broadly over the Offset Property. Once the cropping use is completed and native vegetation is established across ROA 4, it is anticipated weed sources will be an ongoing challenge with the offset area. Therefore, weed management has been thoroughly addressed.

Table A58: Offset area major threat to MNES

MNES Offset Target Species	Major threats to MNES present within offset property
Koala (*Phascolarctos cinereus*)	• Encounter mortality from dogs (*Canis familiaris dingo, Canis familiaris dingo X Canis familiaris, Canis familiaris*) • *Lantana camara* adversely affects the ability of Koalas to move between trees • Habitat clearing and degradation of habitat
Grey-headed Flying-fox (*Pteropus poliocephalus*)	• Barbed wire fencing (entanglement) • Habitat clearing and degradation of habitat
Swift Parrot (*Lathamus discolor*)	• Predation by feral cats (*Felis catus*) and European Fox (*Vulpes vulpes*) • Habitat clearing and degradation of habitat
Regent Honeyeater (*Anthochaera phrygia*)	• The primary threats to the Regent Honeyeater relate to the species' small population size, habitat loss and fragmentation, competition, and degradation of remnant habitat. However, given that feral cats are opportunistic hunters it is likely they are also a threat to Regent Honeyeater. • Habitat clearing and degradation of habitat

6.8 Rosevale Offset Area 4 Management Actions

There are six (6) management actions identified within the associated Offset Management Plan as relevant and necessary for the ROA 4 to achieve outcomes which will benefit the impacted MNES and/or their potential foraging habitat for Koala, GHFF, Swift Parrot and Regent Honeyeater. The management actions focus on the creation of habitat for the impacted protected matters, while also reducing threats. Although there may be overlap between some of the management actions, all management actions are considered to contribute to the improvement of MNES habitat at the offset area and over the broader site.

Management actions have been proposed with consideration of the National recovery plan for the Koala *Phascolarctos cinereus* (combined populations of Queensland, New South Wales and the Australian Capital Territory) (DAWE, 2022) and National recovery plan for the Grey-headed Flying-fox *Pteropus poliocephalus* (DAWE, 2021), National Recovery Plan for the Regent Honeyeater (*Anthochaera phrygia*) (DoE, 2016) and National Recovery Plan for the Swift Parrot *Lathamus discolor* (2024). Additionally, relevant threat abatement plans (for predation by European red fox and predation by feral cats), site-specific desktop and field assessments and numerous peer-reviewed papers and studies relevant to the relevant threatened species has been utilized to inform the proposed management actions.

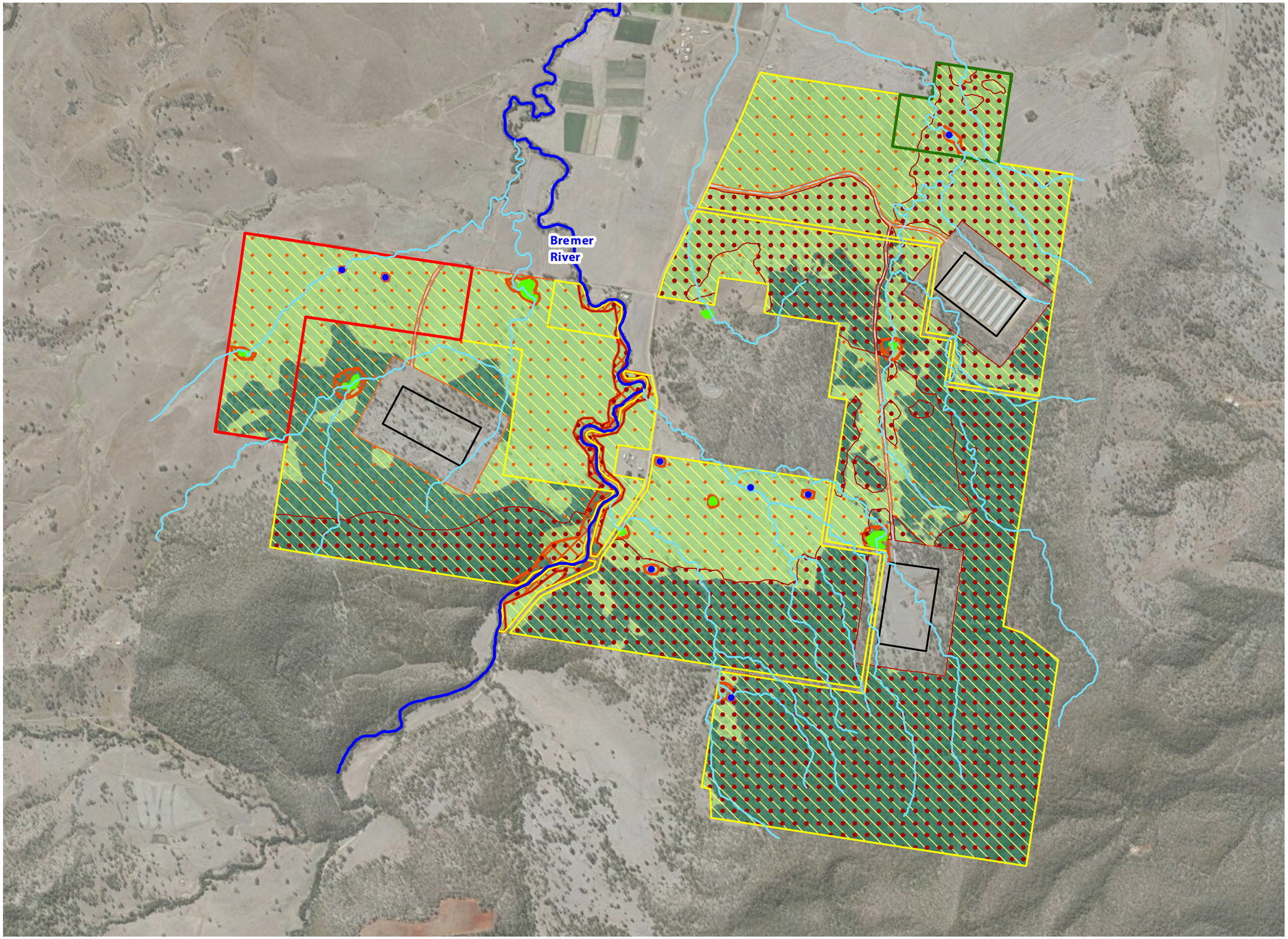
Actions to be completed in accordance with the OMP include:

- **Management Action 1:** Feral Animal Control (primarily targeting Wild Dogs)
- **Management Action 2:** Weeds of National Significance Control (prevention and management)
- **Management Action 3:** Stock Management and Cropping Discontinuation
- **Management Action 4:** Access and Trespass Management
- **Management Action 5:** MNES Habitat Restoration
- **Management Action 6:** Bushfire Management

Refer to **Plan A39** for indicative location of management actions.

The Offset Management Plan (refer **Attachment A8**) adopts a number of 'adaptive management' procedures both as a governing principle and within specific management activities which are described in Section 7 of the OMP. Most management activity table topics incorporate detailed baseline survey and data collection to be periodically repeated through the offset period and utilised for iterative changes to management implementation, particularly for stochastic habitat risks and threats.

A39. Offset Area Preliminary Indicative Map of Proposed Management Actions



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 2025. Updated data available at http://qldspatial.information.qld.gov.au/catalogue//
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Legend

- Qld DCDB
- Approved Offset Boundary
- Future Offset Boundary
- Offset Area
- Proposed Chicken sheds
- Poultry shed access track

Water Resources

- Major Watercourse
- Creeks and Drainage Features
- Dams
- Reservoirs

Proposed Management Areas

- Feral Animal Control - Focal
- Feral Animal Control - General
- General Weed Management
- Significant Weed Management
- MNES Habitat Assisted Rehabilitation
- MNES Habitat Restoration

Issue	Date	Description	Drawn	Checked
A	22/04/2021	Preliminary	LS	AW
E	29/10/2025	Amendments	TF	AW

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saunders havill group

SPRINGFIELD CITY GROUP

Scenic Precinct

Address / RPD: 51/SP242316

29/10/2025 | 7399 E A39 Offset Proposed Management E

7. Economic and Social Matters

This section responds to Item 7 of the PD request which requests further details on economic and social matters, including:

a. ***Provide details on the social and economic costs and / or benefits of undertaking the proposed action, including the basis for any estimates of costs and / or benefits. Where possible, please include the total economic capital investment and economic ongoing value of the project.***

b. ***Identify if economic benefits and employment opportunities are in addition to what would have been expected if the action were not to take place.***

c. ***Provide details of any public stakeholder consultation activities, including the outcomes of those consultations.***

d. ***Provide details of any consultation with indigenous stakeholders.***

Greater Springfield is Australia's newest city and is already the business heart of the high-growth Western Corridor. The Springfield CBD, occupying some 390 ha, will provide an employment base for 30,000 workers within an area of 1.4 million m^2 of office, retail, educational, health and technology facilities.

The $1.2 billion Springfield Rail project officially opened at the end of 2013.

The Scenic Precinct proposal is an essential component of the Greater Springfield development because it houses the part of the essential population needed to make the investment in infrastructure within the corridor viable.

To date there has been substantial investment in Greater Springfield (these figures are overall investment in the corridor):

- Project Investment to date - ~$12 billion
- Estimated cost on completion - $23 billion
- Project completion to date - approximately 20%
- Total land area - 2,860 hectares
- CBD land area (Springfield Central) – 390 hectares (963 acres) or twice the land area of Brisbane CBD
- Approval for over 1.4 million square metres of mixed use space in the CBD
- Access to 86% of Brisbane's metropolitan workforce in a 32 minute drive
- Population of over 560,000 within a 22 minute drive of the CBD
- Commitment by State Government to deliver two train stations (Springfield Central and Springfield Lakes) by 2013
- Planned 2030 equivalent population - 105,000 residents (comparable to Darwin)
- Job creation target for 2030 - 30,000 (one for every three residents)

7.1 Social and Economic Benefits

The Ipswich region has been recognised as a crucial 'growth area' in South East Queensland for both economic development and population growth. The population of Ipswich is expected to double from 170,000 to 435,000 by 2026, creating a demand for a further 120,000 jobs within the Ipswich area. The development and construction industry plays an important role within the local economy by supporting local retailers and employing local skilled and unskilled labour. Long term investment in new housing and facilities, like that offspring Mountain, will provide vital opportunities for local firms and suppliers and help build the City's skill base in building and construction by maximising local employment during the construction of Spring Mountain

On completion, the Scenic Precinct will create long term economic benefits for local retailers as demand for goods and services within the Greater Springfield area increase. In addition, commercial and retail opportunities as well as education opportunities will be available within Scenic Precinct creating more long-term employment opportunities for local residents, including local youth.

7.2 Stakeholder engagement and consultation activities

The overarching Springfield Structure Plan was adopted as part of the *Ipswich Planning Scheme 2006* and was subject to extensive public consultation during its design phase in accordance with the *Integrated Planning Act 1997*. The development intent of Greater Springfield has incorporated public opinions and addressed public concerns.

7.3 Cultural Heritage Considerations

As part of the Greater Springfield development, consultation was undertaken with indigenous stakeholders and cultural heritage experts. On 25 June 1999, a cultural heritage conservation plan for the Springfield Structure Plan was approved by the Environmental Protection Agency. All development within the Springfield Structure Plan operates in accordance with this approved cultural heritage conservation plan. The Concept Cultural Heritage Plan is provided at **Attachment A9**.

8. Ecological Sustainable Development

This section responds to Item 7 of the PD Request which asks the proponent to: "***provide a description of how the proposed action meets the principles of ecologically sustainable development as defined in Section 3A of the EPBC Act.***"

The *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) has a key objective to '*promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resource,'* (EPBC Act section 3). Ecologically Sustainable Development (ESD) is defined within the Commonwealth Government's National Strategy for Ecologically Sustainable Development as *'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased*'.

The goal of the National Strategy for Ecologically Sustainable Development is:

> *Development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.*

The core objectives include:

1. To enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations;
2. To provide for equity within and between generations; and
3. To protect biological diversity and maintain essential ecological processes and life-support systems

These objectives are accompanied by seven guiding principles of ESD

Table A59: ESD Principles

ESD Core Objectives
1. To enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations
The project will benefit individuals and the community as a whole by providing a wide range of housing options, employment opportunities and recreational activities. The construction and operation of the project will enhance the local and regional economy and in turn the Greater Springfield Area. The project has been designed to provide a visual amenity that is appealing and promotes a sense of community, while facilitating active lifestyles by providing cycle paths and footpaths. Ecological values have been taken into account during the design of the project, with areas containing significant ecological values or functions protected within conservation and open space areas. The project will safeguard the needs of future generations.
2. To provide for equity within and between generations

ESD Core Objectives

The project will safeguard the needs of future generations while meeting the demands of current generations. Management measures will be imposed to avoid and mitigate potential impacts, while an offset will compensate for the residual impacts on critical habitat. This will ensure that the habitat which is lost will be recreated to create critical habitat for the Koala, Koala, Grey-headed Flying-fox, Swift Parrot and Regent Honeyeater. The development has taken into account the diverse needs of the community by proposing a range of housing types and densities. This will ensure that appropriate housing is available to current and future generations.

3. To protect biological diversity and maintain essential ecological processes and life-support systems

The site has been subject to environmental surveys and reporting. The ecological values of the site have been identified and recorded. While the project will impact on 24.20 hectares of critical habitat for the Koala, Grey-headed Flying-fox, Swift Parrot and Regent Honeyeater, the rehabilitation of 11.92 ha of vegetation adjoining the referral area, and restoration of 51.8 ha of land at the ROA 3 for environmental offsets will ensure that biological diversity is maintained in the local area and provide long-term benefit to the MNES being impacted.

ESD Guiding Principles

1. Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations

The design of the project has taken both long-term and short-term economic, environmental, social and equitable considerations into account. High level regional planning has been considered for the development of Greater Springfield, including its proximity to existing infrastructure including highways and rail, which provides efficient transport routes for community members. Access to transport will allow commuters to reach Brisbane, Logan and Gold Coast business districts for employment. In addition, the project site is in proximity to existing residential development and the Springfield Town Centre which will provide residential, commercial and educational development.

A variety of housing types and densities will be made available, ensuring that a diverse range of people will have access to appropriate housing that suits their particular needs. Open space areas in the form of recreational parks will be made available throughout the project area, ensuring equitable access of open space areas to all community members.

2. If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation

The implementation of precautionary measures in decision making is used where there is a threat of serious or irreversible harm and where there is scientific uncertainty as to the extent of possible environmental damage. There are a number of factors which help determine whether or not an action might cause serious or irreversible environmental damage, including:

I. The spatial scale;
II. The magnitude of possible impacts;
III. The perceived value of the threatened environment;
IV. The complexity and connectivity of possible impacts;
V. The manageability of possible impacts;
VI. The level of public concern and the rationality or scientific basis for the concern; and
VII. Reversibility of possible impacts.

Impacts to the Koala and associated habitat have been identified as the primary environmental concern on a level of National Environmental Significance. The site's utilisation by M**NES** and its ability to provide critical habitat for the Koala has been discussed in detail throughout this report. The site has been recognised to support low level Koala activity and an area of 24.20 hectares has been identified as containing habitat critical to the survival of the Koala, **Grey-headed Flying-fox, Swift Parrot and Regent Honeyeater.**

A number of possible impacts have been identified as a result of the project, however these are all considered to be localised impacts. The magnitude of impact is small and restricted to the referral site and immediately adjoining areas. Impacts can be

ESD Core Objectives

summarised as those arising from the loss of habitat, barriers to movement, injury or death from vehicle strike or dog attack and dispersal into residential areas. A number of management measures will be imposed to avoid and mitigate these impacts as detailed within site-specific VCFMP. The identified impacts are considered mostly to be manageable through imposition of low vehicle speeds and education of new residents about local wildlife management. The impacts from the project have been identified and management measures have been subsequently developed.

The proposed action is not considered to pose a threat of serious or irreversible damage to the local Koala population or the broader environment. Potential impacts have been considered and management plans will be in place to ensure that any impacts are minimised and offset.

3. The global dimension of environmental impacts of actions and policies should be recognised and considered.

The project is not considered to have a global impact, however, it is recognised that the principles of ESD are enshrined within many international treaties and national policies. This development proposal demonstrates ESD by taking into account environmental, social and economic considerations in the decision making process. The purpose of relevant international agreements on ESD is to promote the consideration of ESD principles for a variety of actions at all levels across the globe. By taking ESD into account, this project has satisfied global objectives. The overall global environmental impact however will be extremely minimal.

4. The need to develop a strong, growing and diversified economy which can enhance the capacity for environmental protection should be recognised.

The relationship between economic development and environmental protection has been continuously identified within international agreements and national policies. In particular, the Kuznets Curve shows a link between economic development and environmental protection, whereby once a society reaches a particular level of development, it starts to recognise and invest in environmental conservation.

Economic development and prosperity allows for a greater financial resource base to be dedicated to conservation outcomes. This can be demonstrated at global, national and localised scales. Individual landholders are not generally in a position to be undertaking significant rehabilitation projects on their land. This project presents an important opportunity to rehabilitate and protect 51.8 hectares through the proposed offset and results in an important conservation function by increasing the availability of large, connected areas of habitat free of threats caused by weeds, fences, dogs and vehicles through the dedication of ecological corridors.

5. The need to maintain and enhance international competitiveness in an environmentally sound manner should be recognised.

The project will not cause significant residual adverse impacts to the environment. This project will increase housing availability and affordability within South East Queensland, which will contribute to Australia's overall property market. Further, the site is located within the Greater Springfield which has been strategically planned for urban growth.

6. Cost effective and flexible policy instrument should be adopted, such as improved valuation, pricing and incentive mechanisms.

This project has taken into account the EPBC Act Offsets Policy, which provides for the cost effective analysis of proposed offsets.

7. Decisions and actions should provide for broad community involvement on issues which affect them.

The overarching Springfield Structure Plan was adopted as part of the *Ipswich Planning Scheme 2006* and was subject to extensive public consultation during its design phase in accordance with the *Integrated Planning Act 1997*. The development intent of Greater Springfield has incorporated public opinions and addressed public concerns.

As part of the Greater Springfield development, consultation was undertaken with indigenous stakeholders and cultural heritage experts. On 25 June 1999, a cultural heritage conservation plan for the Springfield Structure Plan was approved by the Environmental Protection Agency. All development within the Springfield Structure Plan operates in accordance with this approved cultural heritage conservation plan.

ESD Core Objectives
Additionally, this preliminary documentation will be made available for public comment during the notifications stage the of EPBC Act assessment process. Submissions by the community will be reviewed by the Proponent as part of finalising the detailed design.

9. Conclusion

The *Environmental Management Division* of **Saunders Havill Group** were commissioned to prepare this Preliminary Documentation Report to support assessment of the Scenic Precinct project as required under the EPBC Act. The project is a residential development and mixed-use precinct at Springfield College Drive, Springfield, Queensland. A Controlled Action decision with assessment through Preliminary Documentation was determined on 27 August 2020 (EPBC 2020/8651) in response to the submitted Referral on behalf of the proponent, **Springfield City Group Pty Ltd**. The decision was based on:

- Listed threatened species and communities (sections 18 & 18A)
- Listed migratory species (sections 20 & 20A)

This Preliminary Documentation Report provides information requested by DCCEEW to assist the assessment manager in assessing the potential impacts of the proposed action. The proposal will result in clearing of 24.20 ha of remnant habitat critical to the survival of the Koala, Grey-Headed Flying-fox, Regent Honeyeater and Swift Parrot.

A significant residual impact is anticipated for impacts to critical habitat for the Koala, Grey-Headed Flying-fox, Regent Honeyeater and Swift Parrot and therefore an offset is required. The Proponent will provide an offset in accordance with the EPBC Act Environmental Offsets Policy.

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