



Conservation Area Management Plan

EPBC -2018/8347

Providence East Conservation Area

Prepared for AW Bidco No. 6 Pty Ltd (Stockland)

17 December 2024

Job No. 9896

Document Control

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Prepared by

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Abbreviations and Acronyms

DAM	Declared Area Map
DAWE	Department of Agriculture, Water and the Environment
DES	Department of Environment and Science (Qld)
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DoR	Department of Resources (Qld) (formerly DNRME, Department of Natural Resources, Mines and Energy)
EDQ	Economic Development Queensland (Qld)
EPBC	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
GHFF	Grey-headed Flying-fox (<i>Pteropus poliocephalus</i>)
ICC	Ipswich City Council
NCA	<i>Nature Conservation Act 1992 (Qld)</i>
NCPR	Nature Conservation (Plants) Regulation 2020
OMU	Operational Management Unit
PDA	Priority Development Area (herein referencing the Ripley Valley Priority Development Area)
PMAV	Property Map of Assessable Vegetation
RAI	Relative Abundance Index
RE	Regional Ecosystem
SEQ	South-east Queensland
SHG	Saunders Havill Group
VMA	<i>Vegetation Management Act 1992 (Qld)</i>
WONS	Weeds of National Significance

Terminology

Providence East means the development site located across Lot 7053 on SP313706, Lot 110 on SP317774, Lot 112 on M3174, and Lot 190 on S31349 at Ripley, Queensland

Conservation Area means the southern extent of Lot 190 on S31349 to be retained as conservation.

The approval holder/proponent means AW Bidco No. 6 Pty Ltd

1. Introduction

The Environmental Management Division of Saunders Havill Group (SHG) was engaged by AW Bidco No. 6 Pty Ltd (Stockland) to prepare a Conservation Area Management Plan (CAMP) for the approved Ripley Valley PDA Providence East development, located 5 km southeast of Ipswich Queensland (EPBC 2018/8347).

The Ripley Valley PDA Providence East project was referred under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and subsequently declared a “Controlled Action” requiring assessment by “Preliminary Documentation” pursuant to section 18 and 18A (listed threatened species and communities) on the 1 April 2019. The trigger for the controlling provision was due to potential impacts on the vulnerable Koala (*Phascolarctos cinereus*), the vulnerable Grey-headed Flying-fox (GHFF) (*Pteropus poliocephalus*) and the vulnerable Greater Glider (*Petauroides volans*). The Koala and Greater Glider status’s have since changed to endangered following the determination for this project.

The approval pertains to the construction of an urban development comprising mixed use and residential development covering a total land area of 215 ha incorporating a 50 ha area for environmental management and conservation (refer to **Figure 1** for Site Context, **Figure 2** for Site Aerial and **Figure 3** for Development Layout).

This CAMP outlines the requirement of the Conservation Area specifically to address Condition 9 and 10 of the EPBC approval. Refer **Appendix A** for a full copy of the approval for EPBC 2018/8347). As per the EPBC act approval conditions, the approval holder is required to develop and implement a CAMP for the 50 ha Conservation Area. While a high level of detail is provided in the following sections, the CAMP is intended to serve as a strategic document, with adaptive management principals guiding subsequent reporting requirements.

1.1. Declaration of accuracy

In making this declaration, I am aware that section 491 of the EPBC Act makes it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth). The offence is punishable on conviction by imprisonment or a fine, or both. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed 

Full name David Franklin

Position Project Director

Organisation AW Bidco No.6 Pty Ltd

Date 18/12/24

1.2. Conditions under approval

The action was approved under the EPBC Act subject to conditions on 15 December 2022 with effect until 30 November 2050. Conditions relevant to the Conservation Area are extracted and provided below (refer **Appendix A** for full approval conditions):

8. For the protection of **Koalas, Grey-headed Flying-foxes and Greater Gliders** in the conservation area, the approval holder must implement measures, including signage, fencing, monitoring and enforcement, to effectively prevent any unauthorised persons from entering, and to prevent any persons leaving rubbish or bringing animals or vehicles into the **conservation area**.
9. For the protection of the **Koala, Greater Glider and Grey-headed Flying-fox** within the **development area**, within 6 months of this approval decision the approval holder must:
 - a) complete baseline **extent of weed cover** and **feral animal** abundance surveys throughout the **conservation area** in accordance with a scientifically valid, robust, and repeatable methodology.
 - b) submit the results of the baseline **extent of weed cover** and **feral animal** surveys required by 9(a) for the **department's** acceptance, and must make this information available on the **website** within 2 months of the report of the **extent of weed cover** and **feral animal** abundance surveys being accepted by the **department**
 - c) prepare and submit a Conservation Area Management Plan for the approval by the **Minister**, with demonstration that it has been developed in consultation with the Council and relevant stakeholders, which specifies the methods, dates and results of the surveys required under condition 9(a), and the methods and intervals for monitoring to achieve the requirements of condition 10
10. For the remaining period of approval, the approval holder must ensure that the **extent of weed cover** and **feral animal** abundance does not increase with respect to the baseline documented by the **extent of weed cover** and **feral animal** surveys required by condition 9(a).
11. Within 1 year of the date of this approval decision, the approval holder must **legally secure** the **conservation area**. Within 20 **business days** of **legally securing** this area, the approval holder must provide the **department** with written evidence demonstrating that the **conservation area** has been **legally secured**.
12. For the ongoing protection of **Koala, Grey-headed Flying-fox and Greater Glider habitat** within the **conservation area**, the approval holder must manage the **conservation area** for the life of the approval, until and unless the approval holder provides written confirmation from the **Council** that the **Council** will implement the Conservation Area Management Plan (required under condition 9(c)) and manage the **conservation area** for **conservation purposes**.

Table 1 details where in CAMP the relevant approval conditions have been addressed

Table 1: Approval conditions reference table

Condition	Condition Requirement	Demonstration of compliance/reference
8	<i>For the protection of Koalas, Grey-headed Flying-foxes and Greater Gliders in the conservation area, the approval holder must implement measures, including signage, fencing, monitoring and enforcement, to effectively prevent any unauthorised persons from entering, and to prevent any persons leaving rubbish or bringing animals or vehicles into the conservation area.</i>	Refer Section 3.5 of this CAMP for details of fencing to comply with Condition 8. Notably, fencing of the Conservation Area will occur once construction of 'Area B,' marked on the approval plans, has commenced.
9(a)	<i>Complete baseline extent of weed cover and feral animal abundance surveys throughout the conservation area in accordance with a scientifically valid, robust, and repeatable methodology.</i>	Refer Appendix C of this CAMP for full baseline survey report
9(b)	<i>Submit the results of the baseline extent of weed cover and feral animal surveys required by 9(a) for the department's acceptance, and must make this information available on the website within 2 months of the report of the extent of weed cover and feral animal abundance surveys being accepted by the department</i>	The baseline survey results (Appendix C) have been submitted to the department for final approval. Once approved, these results will be published on the proponent's website.
9(c)	<i>Prepare and submit a Conservation Area Management Plan for the approval by the Minister, with demonstration that it has been developed in consultation with the Council and relevant stakeholders, which specifies the methods, dates and results of the surveys required under condition 9(a), and the methods and intervals for monitoring to achieve the requirements of condition 10</i>	Consultation with Ipswich City Council (ICC) regards the Conservation Area is not yet complete. A signed agreement between ICC and AW Bidco No. 6 Pty Ltd is to be include as Appendix B once finalised.

Condition	Condition Requirement	Demonstration of compliance/reference
10	<p><i>For the remaining period of approval, the approval holder must ensure that the extent of weed cover and feral animal abundance does not increase with respect to the baseline documented by the extent of weed cover and feral animal surveys required by condition 9(a).</i></p>	<p>Proposed management strategies are detailed in Section 3 of this CAMP. It is anticipated that management of the Conservation Area is the responsibility of the approval holder (AW Bidco No.6 Pty Ltd) for the first 5 years, assuming the completion criteria has been met (refer Section 5) to which point the Conservation Area will continue to be managed by council for the life of the approval.</p>
11	<p><i>Within 1 year of the date of this approval decision, the approval holder must legally secure the conservation area. Within 20 business days of legally securing this area, the approval holder must provide the department with written evidence demonstrating that the conservation area has been legally secured.</i></p>	<p>A Voluntary Declaration (VDec) has been lodged with the Department of Resources (DoR). Approval of this CAMP is required before the VDec can be finalised.</p>
12	<p><i>For the ongoing protection of Koala, Grey-headed Flying-fox and Greater Glider habitat within the conservation area, the approval holder must manage the conservation area for the life of the approval, until and unless the approval holder provides written confirmation from the Council that the Council will implement the Conservation Area Management Plan (required under condition 9(c)) and manage the conservation area for conservation purposes.</i></p>	<p>It is anticipated that the approval holder (AW Bidco No.6 Pty Ltd) will manage the Conservation Area for 5 years until which point, assuming proposed completion criteria have been met, is then dedicated to council to be continually managed as a Conservation Area for the life of the approval. An agreement between ICC and the AW Bidco No.6 Pty Ltd will be included as Attachment B once finalised.</p>



Legend

- Providence East Referral Area
- Conservation Area

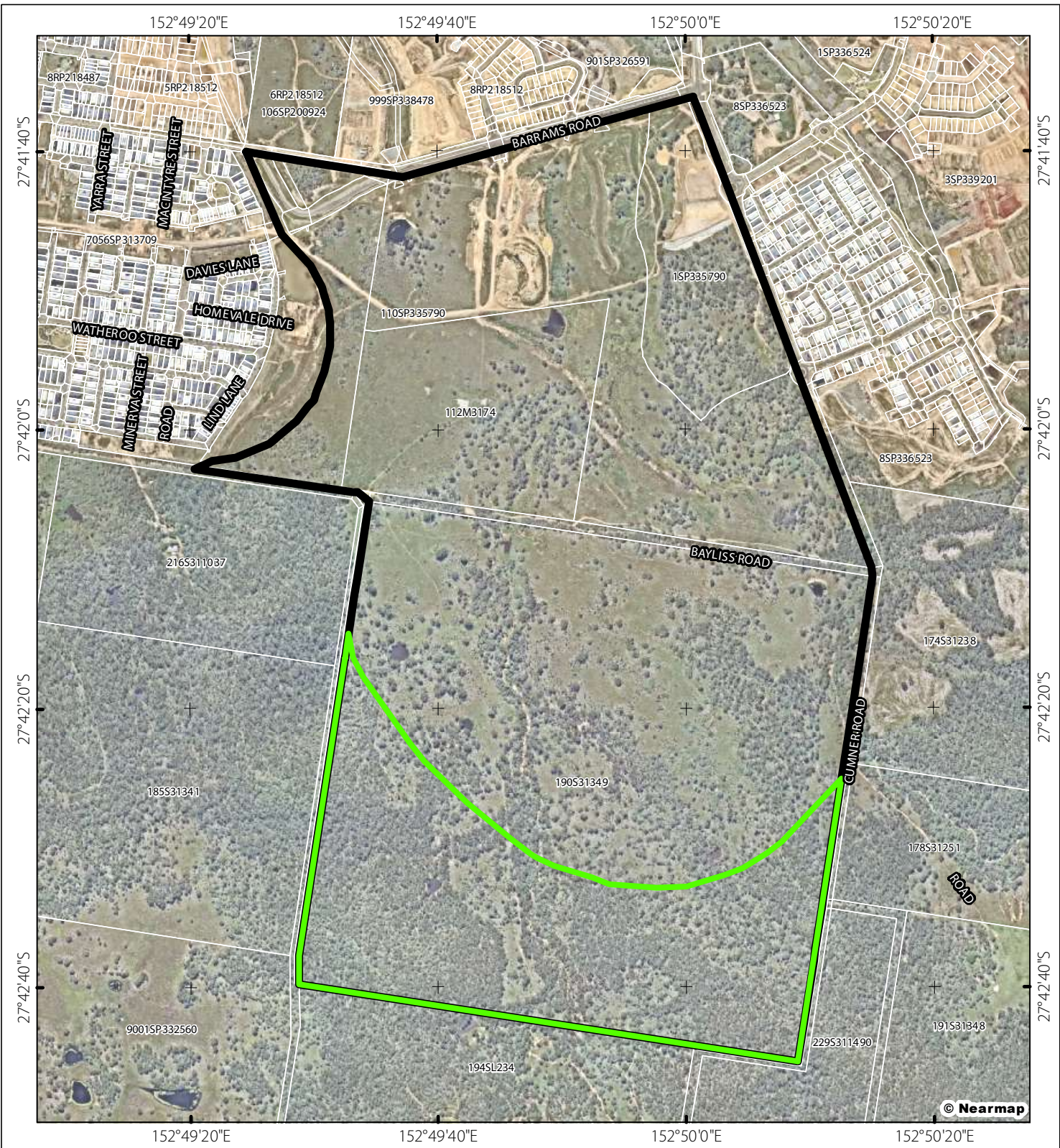
Figure 1
Site Context

File ref. 9896 E Figure 1 Site Context B
Date 13/08/2024
Project Providence East

0 1 2 3 4 5 km

Scale (A4): 1:150,000 [GDA 1994 MGA Z56]

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Legend




-  Qld DCDB
-  Providence East Referral Area
-  Conservation Area


Figure 2
Site Aerial


File ref. 9896 E Figure 2 Site Aerial B
Date 13/08/2024
Project Providence East

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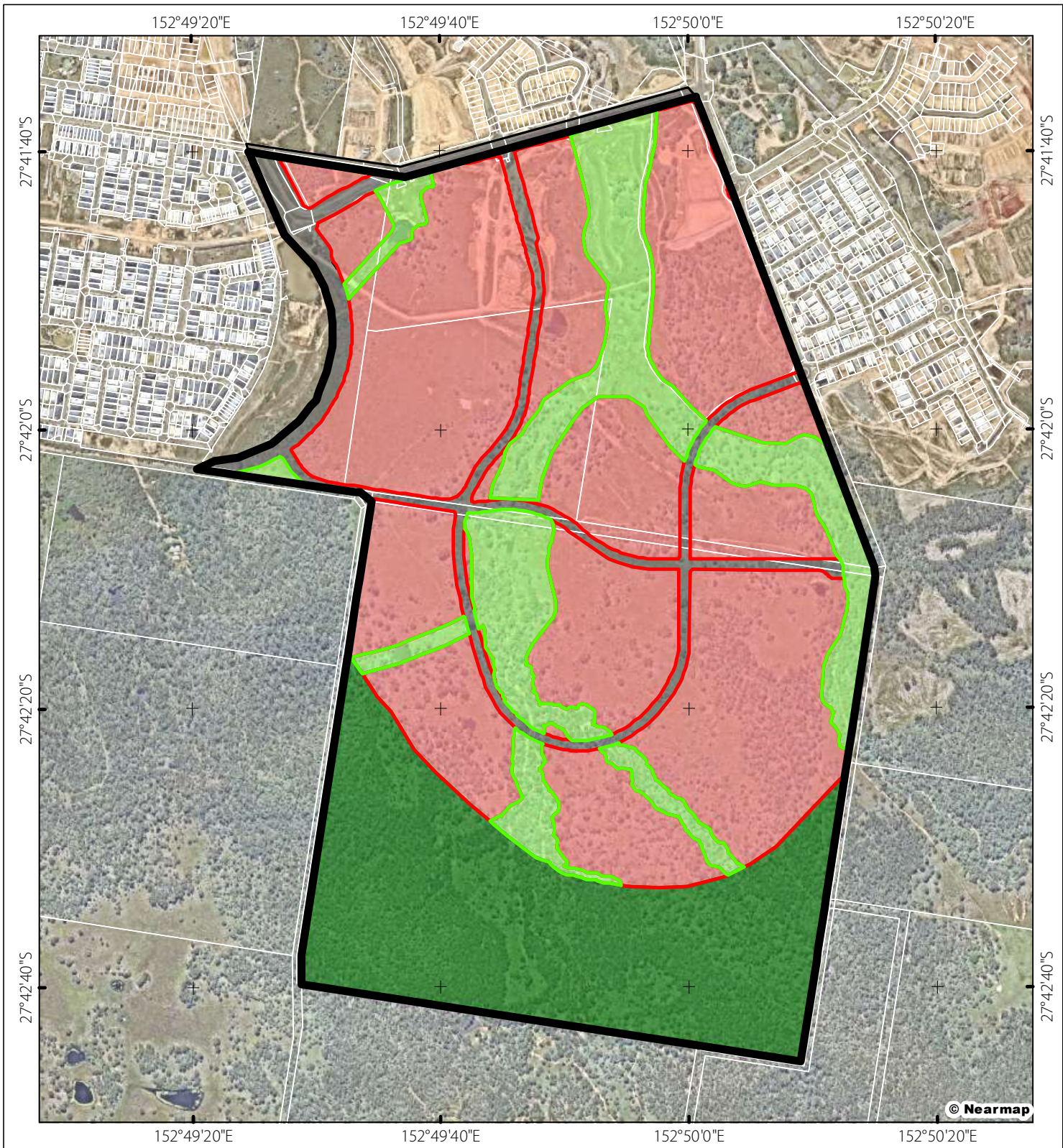
Scale (A4): 1:12,000 [GDA 1994 MGA Z56]

Layer Source: © State of Queensland 2024





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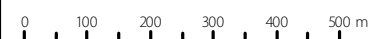


Legend

- Qld DCDB
- Providence East Referral Area
- Proposed Development*
- Conservation
- Development Footprint
- Passive Open Space
- Road

Figure 3
Development Layout

File ref. 9896 E Figure 3 Development Layout B
Date 13/08/2024
Project Providence East



Scale (A4): 1:12,000 [GDA 1994 MGA Z56]



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1.3. Site Summary

The impact site is located within the north-eastern portion of the Ripley Valley PDA, approximately 5km southeast of Ipswich Town Centre. The development site has been historically cleared for agricultural and rural land uses and is located in a landscape that supported similar land uses. However, the surrounding landscape has evolved since the Ripley Valley PDA designation to include several large-scale residential developments. The northern development area boundary is bound by Barrams Road and proposed residential development, while the eastern and western boundaries are bound by residential developments under construction. Refer **Table 2** for site details

Table 2: Site summary

Address	Providence East, Ripley, Queensland, 4306
Lot / Plan	110SP317774
	112M3174
	190SP31349
	Part of 7053SP313706
Property Area	215 ha
Conservation Area	50 ha - Part of Lot 190 on S31349

1.4. Conservation Area

The Providence East Conservation Area is a future 50 ha Conservation Area allotment to the south of the development area adjoining bushland which forms a contiguous movement corridor to the south east through to White Rock Conservation Area and the Flinders – Karawatha Corridor. Broadly the land area aligns with the area designated as ‘Environmental Protection’ In the *Ripley Valley Priority Development Area – Development Scheme*. Historical land uses include timber harvesting and forested grazed pasture across the site. The level of disturbance is proportionate with the grade and slope of the land with the flatter foothills and drainage lines more disturbed than the ridges. The vegetated areas within the Conservation Area are presently connected to over thousands of hectares of bushland to the south, west and east associated with the White Rock National Park (refer **Figure 4** – Conservation Land).

Although yet to obtain the final Council approval for the development area abutting the Providence East Conservation Area the designation of the land for this purpose is driven by the Environmental Protection Zoning within the Queensland Government’s *Greater Ripley Development Scheme*. The land being excluded from development and retained for conservation outcomes would be required regardless of the EPBC approval seeking the same.

The underlining emphasis is placed on the requirements of the approval conditions to ‘maintain the current extent’ of weed and feral animal abundance, not reduce. Although yet to be approved its reasonable to assume conditions on weed control and unlawful access will be reiterated within the Economic Development Queensland Approval issued by ICC. There is also likely to be additional conditions around rectification of

erosion and sediment issues currently naturally occurring with the Conservation Area. Details of rehabilitation, management strategies and monitoring frequency are likely to be included in a Rehabilitation Management Plan accompanying a development approval.

1.4.1 Connectivity

Several EPBC determinations for developments exist over a number of allotments within the Ripley Valley PDA, however the Providence East Conservation Area is supported through the Environmental Protection Zoning of the Greater Ripley Development Scheme (Refer **Figure 5** – Greater Ripley PDA zonings surrounding the Conservation Area)

1.4.2 Vegetation communities

The Conservation Area contains a mix of regrowth and remnant vegetation communities, with small areas of cleared and disturbed land. This includes vegetation mapped under the QLD Vegetation Management Act (1999) as composite 'Of Concern' RE12.9-10.2/12.9-10.7/12.9-10.19 (65/20/15) and portions of vegetation described as 'Of Concern' RE12.9-10.7 (refer **Figure 6** and **Figure 7**). The description for these communities as confirmed on-site include:

- **RE12.9-10.2** *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).
- **RE12.9-10.7** *Eucalyptus crebra* +/- *E. tereticornis*, *Corymbia tessellaris*, *Angophora leiocarpa*, *E. melanophloia* woodland. Occurs on Cainozoic and Mesozoic sediments. Not a Wetland. (BVG1M: 13c). Vegetation communities in this regional ecosystem include: 12.9-10.7a: *Eucalyptus siderophloia*, *Corymbia intermedia* +/- *E. tereticornis* and *Lophostemon confertus* open forest. Occurs on Cainozoic and Mesozoic sediments in near coastal areas. Not a Wetland. (BVG1M: 12a).
- **RE12.9-10.19** *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). Vegetation communities in this regional ecosystem include: 12.9-10.19a: *Corymbia henryi* and/or *Eucalyptus fibrosa* subsp. *fibrosa* open forest. Other commonly associated species include, *Corymbia citriodora* subsp. *variegata*, *E. carnea*, *E. siderophloia*, *E. crebra* and *E. major*. Occurs in coastal areas on Cainozoic and Mesozoic sediments. Not a Wetland. (BVG1M: 10b).



Legend





-  Qld DCDB
-  Providence East Referral Area
-  Conservation Area
-  White Rock Conservation Park

Figure 4
Conservation Land

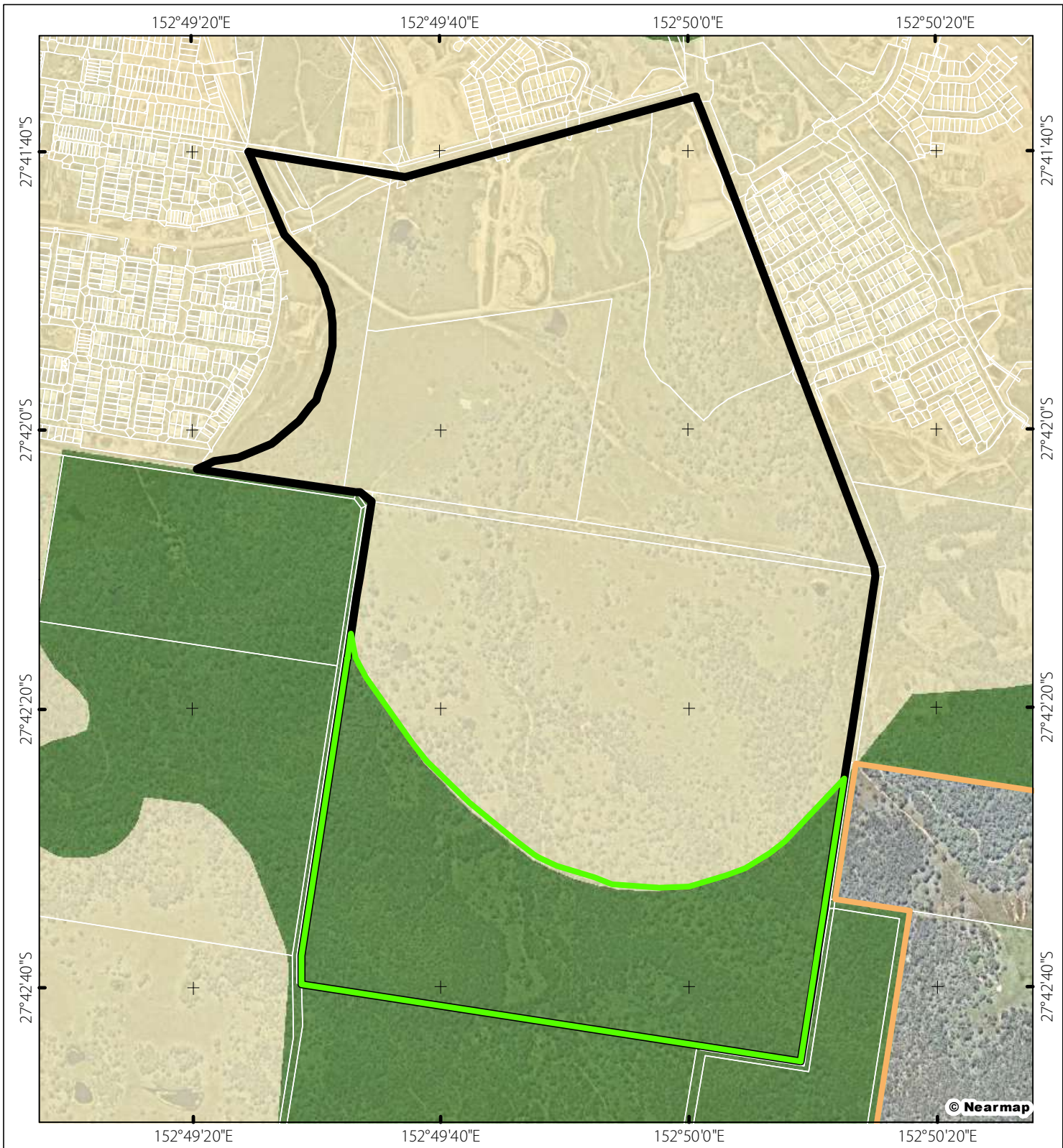
File ref. 9896 E Figure 4 Conservation Land B
Date 13/08/2024
Project Providence East

0 200 400 600 800 1,000 m

Scale (A4): 1:24,238 [GDA 1994 MGA Z56]




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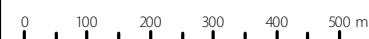
Legend

- Qld DCDB
- Providence East Referral Area
- Conservation Area
- Ripley Valley PDA Scheme*
- Ripley Valley PDA Boundary
- Ripley Valley - Urban Living
- Ripley Valley - Environmental Protection

Figure 5
PDA Development Scheme



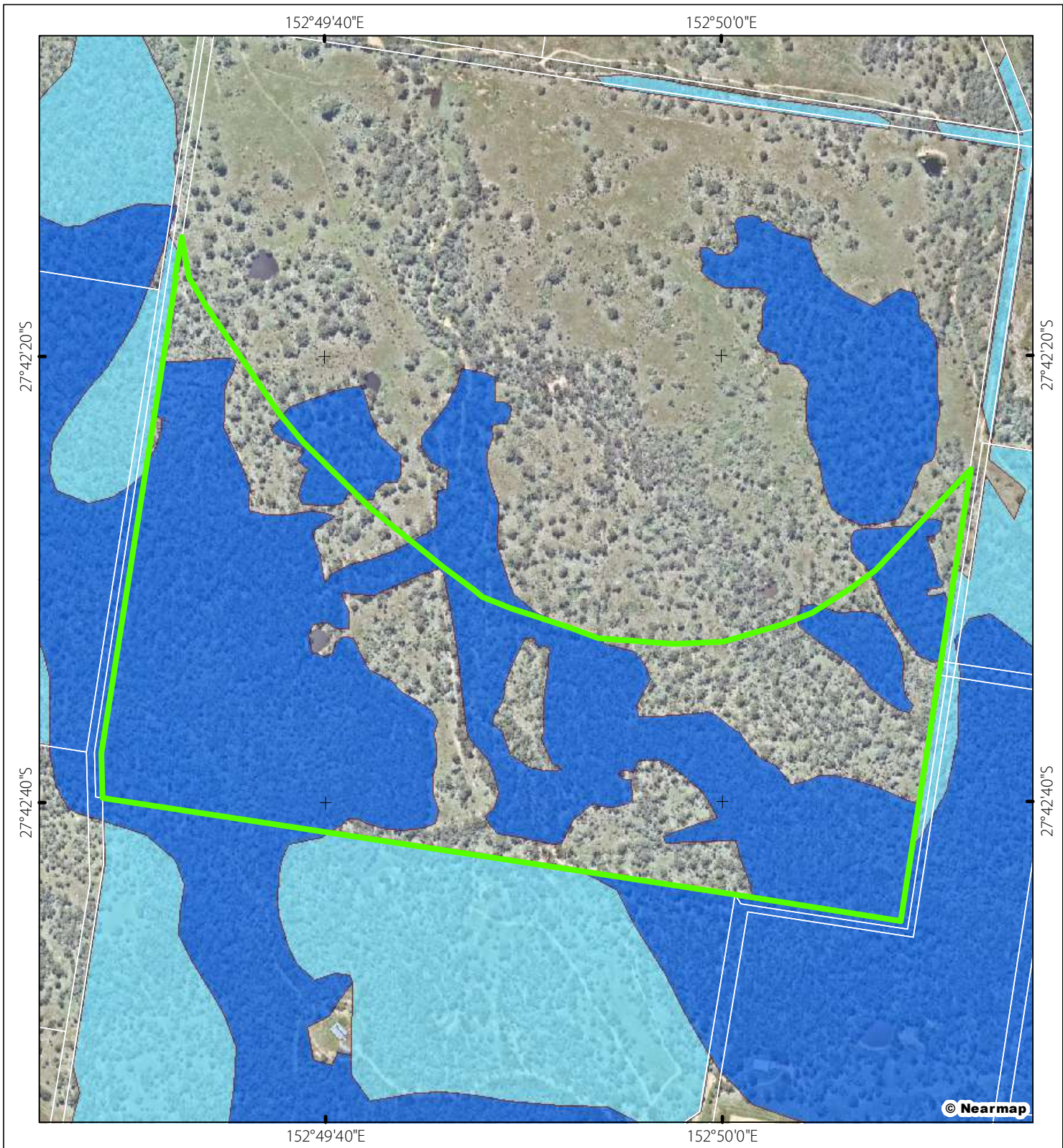
File ref. 9896 E Figure 5 PDA Scheme B
Date 13/08/2024
Project Providence East



Scale (A4): 1:12,000 [GDA 1994 MGA Z56]



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Legend

- Qld DCDB
- Conservation 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

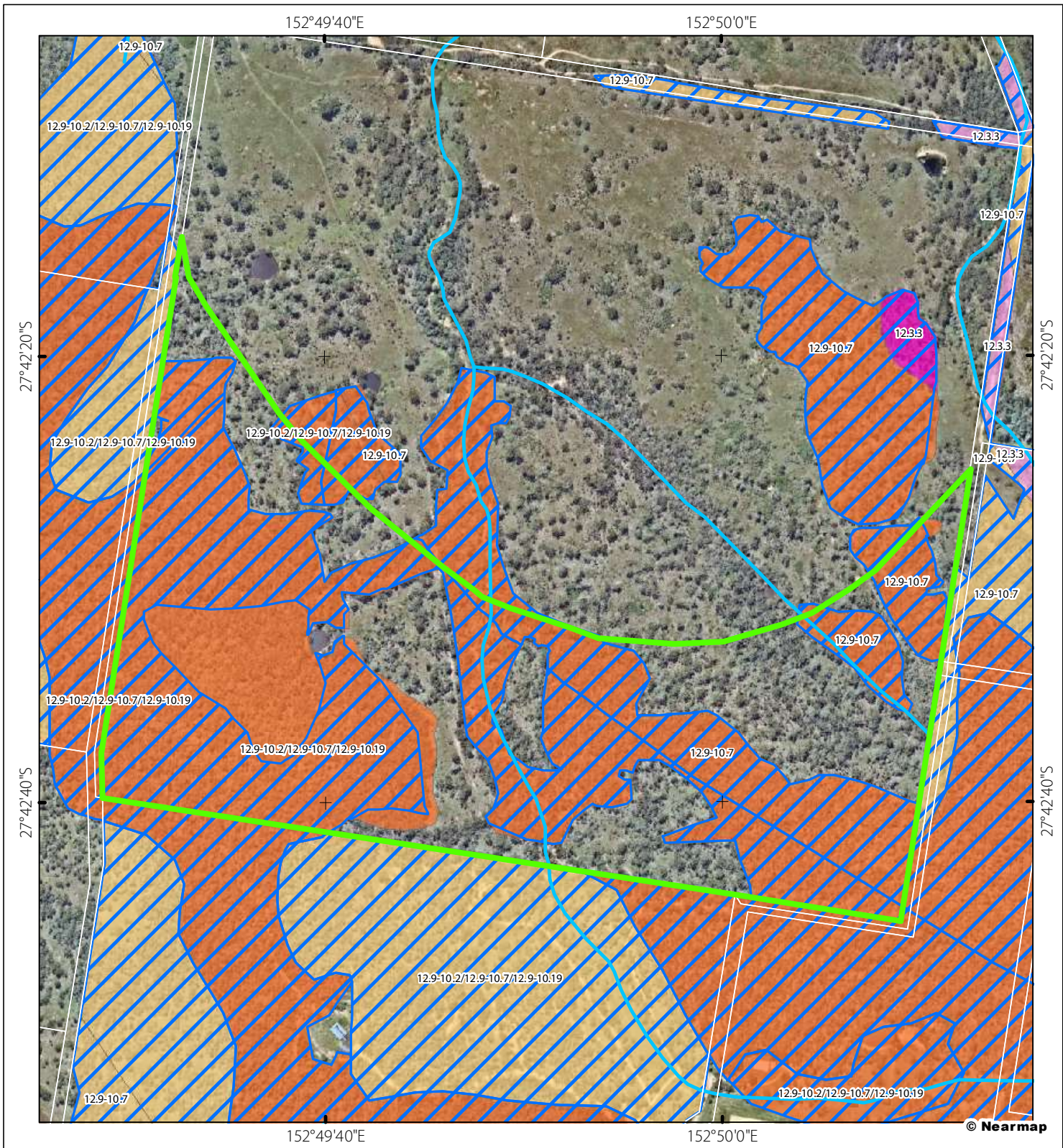
Figure 6
Regulated Vegetation Management Map

File ref. 9896 E Figure 6 RVM B
Date 13/08/2024
Project Providence East

0 50 100 150 200 250 300 m
Scale (A4): 1:7,500 [GDA 1994 MGA Z56]



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Legend












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

Figure 7
Vegetation Management Regional Ecosystem Map

File ref. 9896 E Figure 7 VMRE B
Date 13/08/2024
Project Providence East

0 50 100 150 200 m
Scale (A4): 1:7,500 [GDA 1994 MGA Z56]



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2. Baseline survey results summary

Condition 9 (a) of the approval conditions state that the proponent must ‘complete baseline extent of weed cover and feral animal abundance surveys throughout the conservation area in accordance with a scientifically valid, robust, and repeatable methodology.’ The baseline survey was completed on 3 May 2023, the results are summarised in **Section 2.1** and **Section 2.2**. Refer **Appendix C** for full baseline survey report.

2.1. Weed cover results

The area of weed cover, calculated as relative abundance, was **6.19 ha** of *Lantana camara* (Lantana) and **4.01 ha** of *Lantana montevidensis* (Creeping Lantana), **totalling 10.20 ha** overall. Notably, isolated patches of *Lantana camara* (Lantana), *Lantana montevidensis* (Creeping Lantana) and other weeds (not defined under the DCCEEW definition) were observed across the Conservation Area.

2.2. Feral animal abundance results

The Conservation Area Baseline Relative Abundance (RAI) Index for *Canis lupus familiaris* (Dog) and *Vulpes vulpes* (Red Fox) were both **5.88**. All other feral species were assigned a RAI of **0** as they were not recorded within the survey area.

3. Management Strategies

3.1. Objectives of Management measures

The Conservation Area Management Plan provides the methods and intervals for monitoring to achieve the requirements of Condition 10.

Condition 10 states ‘For the remaining period of approval, the approval holder must ensure that the extent of weed cover and feral animal abundance does not increase with respect to the baseline documented by the extent of weed cover and feral animal surveys required by condition 9(a).’

Given the extended management timeline and lack of specific reduction targets, it is not intended that this Conservation Area Management Plan will provide a detailed prescription of management actions. Rather, this plan will provide potential management strategies and control measures that may be implemented and monitoring plan to ensure compliance with Condition 10. Furthermore, it is anticipated that a Rehabilitation Management Plan (RMP) will form part of the broader management document submitted as part of the operation works drawings for the project site.

3.2. Conservation Area – Objectives and Actions

Table 3 provides the objectives and actions proposed for the Conservation Area. Specific reduction targets have been proposed that are beyond what is required under Condition 10 of the approval that simply call for maintenance weed cover and feral animal abundance. Active reduction targets provide more certainty that compliance with Condition 10m is achieved.

Table 3: Providence East Conservation Area proposed actions

Management Action	Details	Target
1. Weed Management & Reduction	Weed management to reduce the extent of weed cover Targeting WONS, particularly <i>Lantana camara</i> (Lantana)	<ul style="list-style-type: none"> • 50% reduction in weed cover from the baseline result. Priority on WONS • Reduce <i>Lantana camara</i> (Lantana) infestations which suppress and inhibit natural regeneration of regrowth vegetation on-site to support the growth rates and regeneration of habitat

Management Action	Details	Target
2. Pest Management & Reduction	Implement non-native predator control measures to reduce the extent of predators. Targeting Red fox and Wild dog.	<ul style="list-style-type: none"> • 50% reduction in feral animal abundance from the baseline result. Priority on Red Fox and Wild Dog • Minimise direct mortality from predation by Red Fox and Wild dog.
3. Rehabilitation & Revegetation	Revegetation and regrowth management using species consistent with the RE mapping.	<ul style="list-style-type: none"> • Improve habitat quality by supporting natural regeneration. • Increasing the extent of habitat by planting species vegetation in areas currently cleared
4. Bushfire Management Plan	Develop appropriate fire management strategies	<ul style="list-style-type: none"> • Periodic Fuel reduction • Control of <i>Lantana camara</i> (Lantana) • Signage/prevent illegal access

3.3. Weed Management

3.3.1 *Lantana Camara* (Lantana) - WONS

The control of weeds is fundamental to improving biodiversity and the ecological condition of the habitat within a Conservation Area. The historical land uses across the Conservation Area have resulted in the introduction, spread and persistence of a variety of environmental weeds. Whilst several weed species were recorded across the area, the key species for control in terms of on-site dominance and priority with regards to habitat values is *Lantana camara* (Lantana), a Weed of National Significance (WONS) and *Lantana montevidensis* (Creeping Lantana), a Restricted Invasive Species under the *Queensland Biosecurity Act 2015*. Both of these species are defined weeds under the DCCEEW definition. The listing and prioritisation of WONS is a joint initiative of the States, Territories and Australian Government and their long-term control is of National interest. *Lantana camara* (Lantana) is considered a key threatening process to Koalas, while also inhibiting the value of habitat for Grey-headed Flying-fox and Greater Glider. It is anticipated that weed control would need to be implemented to ensure compliance with Condition 10 (no increase in weed cover). **Table 4** and **Table 5** outline various control methods that may be utilised depending on infestation extent.

Table 4: Control methods to be utilised with the Conservation Area

Infestation extent	Control Option		
	Physical	Mechanical	Chemical
Low density	Hand removal	Not suitable	Spot spray or cut and paste small infestations
Moderate density	Not Suitable	Slasher, brush cutter, hedger, stick-rake, etc. Increased disturbance from this method will likely result in significant germination of target weed species. Follow-up treatment would be required. Not suitable for areas susceptible to erosion such as waterways or steep slopes	More significant infestations may need to utilise high volume spraying devices to ensure suitable coverage and chemical uptake
High density	Not Suitable	Slasher, brush cutter, hedger, stick-rake, etc. Increased disturbance from this method will likely result in significant germination of target weed species. Follow-up treatment would be required. Not suitable for areas susceptible to erosion such as waterways or steep slopes	More significant infestations may need to utilise high volume spraying devices to ensure suitable coverage and chemical uptake

Table 5: Control methods and weed management techniques

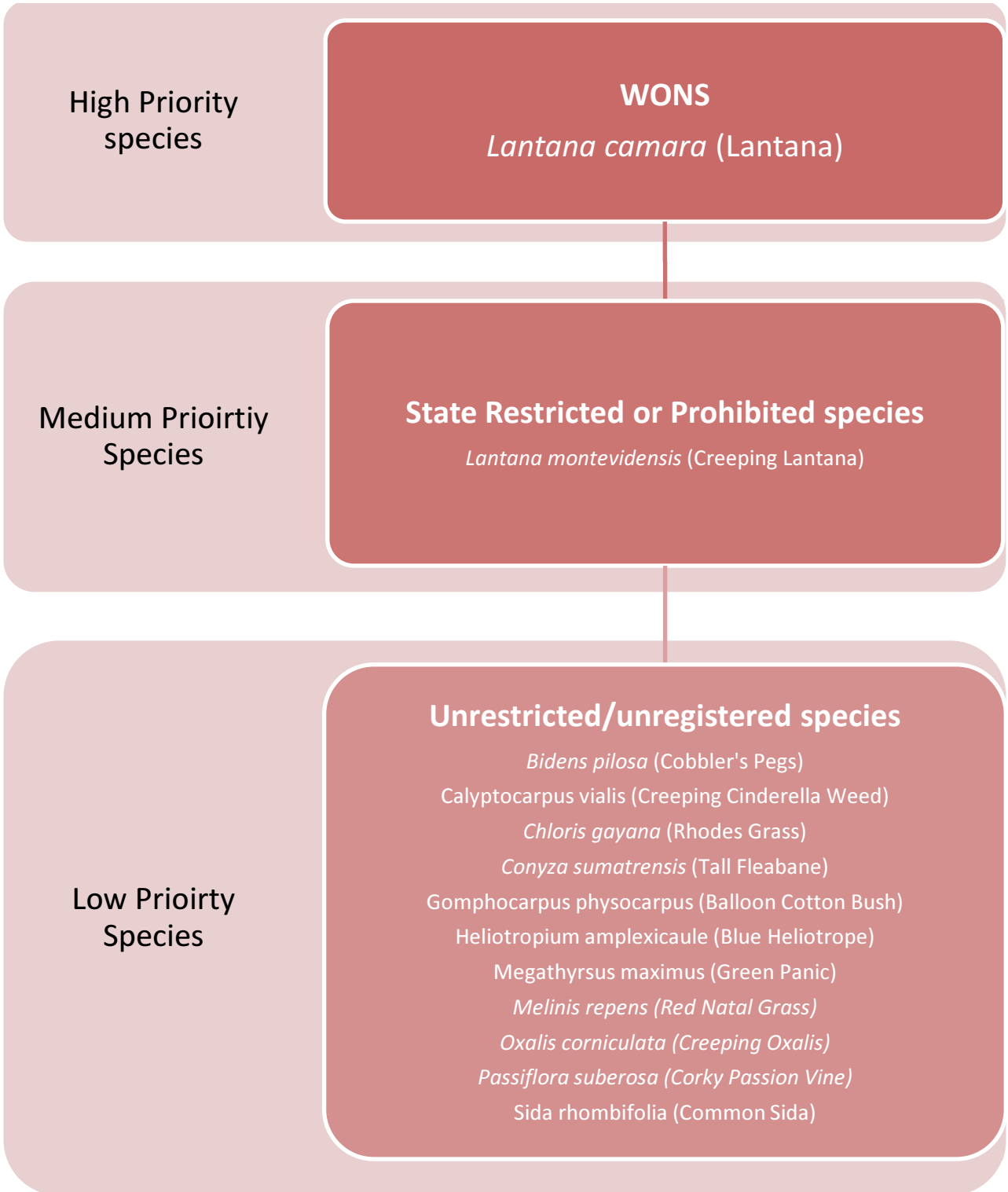
Control method	Process	Use	Advantages	Disadvantages
Cut and paste	Technique involves cutting the stem at ground level and then paint the open cut with suitable herbicide. Herbicide needs to be applied within 15 seconds of the cut or risk the plant not absorbing the chemical.	Woody weeds (Lantana, Ochna, etc) and vines that are actively growing and not stressed.	Accurate application of herbicide to target species reducing the likelihood of impacting native species in proximity	Time consuming/labour intensive
Foliar spray (High volume and spot spray)	Herbicide is diluted and sprayed over the target species which is absorbed through the leaves	Used for grasses, herbs and shrubs (up to shoulder height) that are actively growing and not stressed	Utilises a high-volume spray (such as a quick spray) for use on large infestations or using handheld applicators for more targeted spraying (spot spray). Can be quickly applied to multiple weed species, grasses, shrubs, herbs, etc. allowing for larger areas to be treated	Off target damage can be high particularly if weather conditions are not optimal. Good coverage of herbicide on the target species can be difficult if the infestation is particularly dense or foliage is not at optimal growth stage

<p>Cut and spray regrowth</p>	<p>Involves large infestations of lantana being slashed, either by machinery or hand help power tools (brush cutter, hedger, etc) and then left to regrow. Regrowth and new shoots are then foliar sprayed</p>	<p>Large infestations of woody weeds (e.g. lantana)</p>	<p>Minimises the area requiring spray treatment (allowing for more direct application) while simultaneously improving the rate of uptake by the plant and leading to more successful treatment</p>	<p>Timing of follow-up spray - If sprayed prematurely then uptake of herbicide will be insufficient to kill target weeds. If time between initial treatment and follow up is too long, then the infestation will return to its original form</p>
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3.3.2 Other weed species

As stated previously, the priority weed species for control is *Lantana camara* (Lantana), as a WONS and relative dominance across the site and potential to negatively impact habitat for Koala, Grey-headed Flying-fox and Greater Glider. Several other weed species were observed on-site varying in abundance. It is anticipated that weed control be carried out in order of prioritisation as per **Insert 1**.

Insert 1: Weed management prioritisation



3.4. Feral Animal Management

Feral or unwanted domestic dogs have been identified as a key threatening process under the EPBC Act, and are confirmed as a direct predation risk to Koalas. Several feral or unwanted animals have the capacity to degrade habitat for species such as Koala, Grey-headed Flying-fox and Greater Glider. While specified reductions in the abundance of feral animals has not been provided, it is likely that some form of active management would be required to ensure compliance with Condition 10 (no increase in feral animal abundance).

Table 6 and **Table 7** outline various control methods that may be utilised depending on target species.

Table 6: Recommended control methods for feral animal species

Scientific Name	Common Name	Baiting	Fencing	Shooting	Trapping
<i>Canis familiaris</i>	Feral Dog	Y	Y	Y	Y
<i>Cervus elaphus</i>	Red Deer	N	Y	Y	Y
<i>Felis catus</i>	Feral Cat	Y	Y	Y	Y
<i>Sus scrofa</i>	Feral Pig	Y	Y	Y	Y
<i>Vulpes vulpes</i>	Red Fox	Y	Y	Y	Y

* Y indicates appropriate management action; N indicates inappropriate management action*

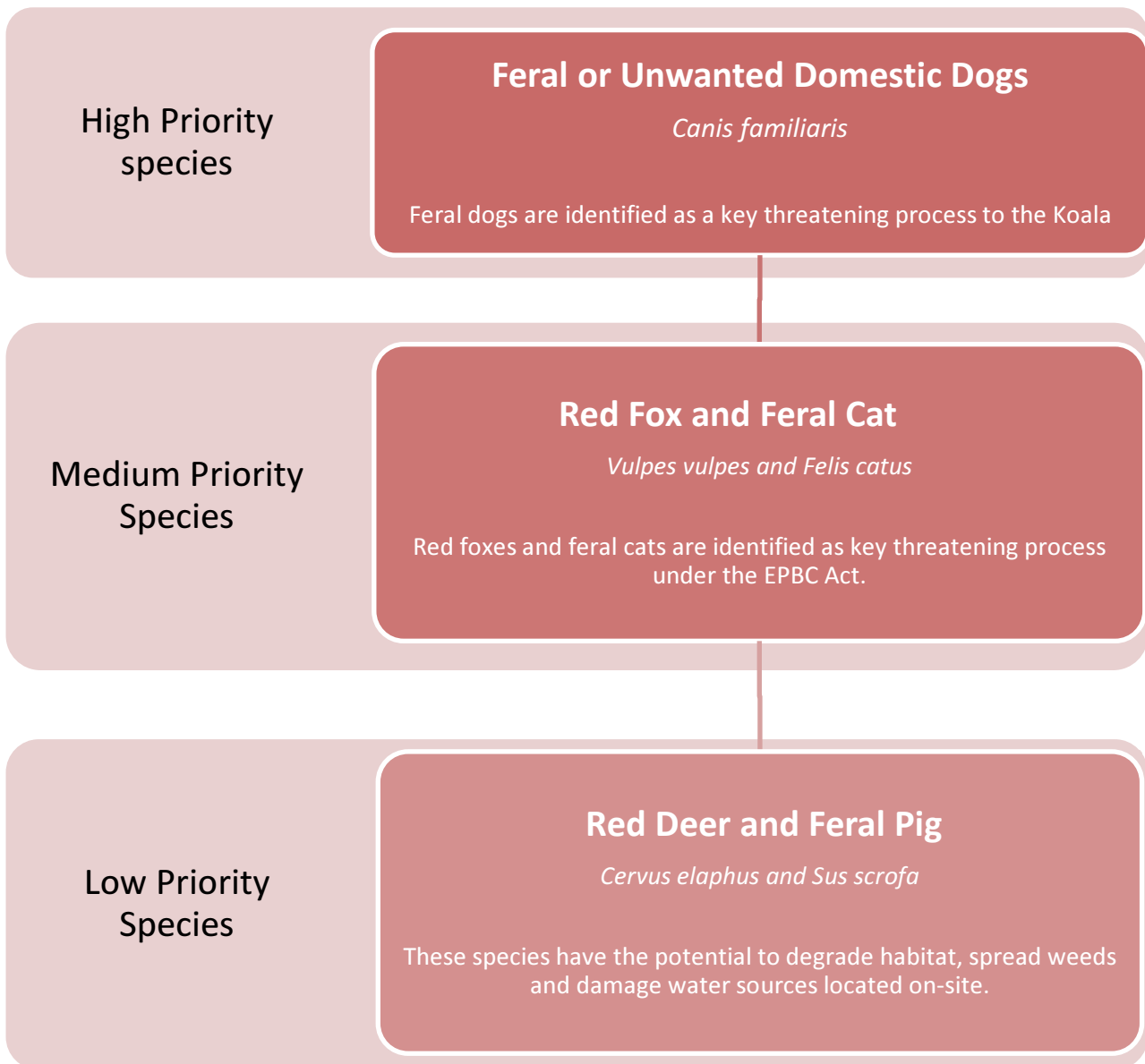
Table 7: Feral animal Management Methods and Techniques

Control method	Process	Advantages	Disadvantages
Baiting	It is important that when the baits are placed on-site that they reduce the likelihood of non-target species ingesting the bait. There are distance requirements and exclusions zones when using 1080 poison. Baits are not to be laid: - Within 5m of fenced boundary; - Within 20m of permanent or flowing water bodies; - Within 50m of the centreline of a declared road; - Within 150m of a dwelling.	Cost effective, effective in reducing dog numbers.	Can affect non-target species, requires qualified, trained officer to deploy and manage program onsite, primary threat to spot-tailed quoll.
Fencing	Fencing of areas of habitat where target feral animal species can be excluded effectively from an area.	Highly effective where fully fenced areas can be installed and maintained.	Labour-intensive and costly.

Control method	Process	Advantages	Disadvantages
Trapping	Specialised traps are set in the evening and checked after dawn the following morning, with any target feral animal species trapped, subsequently destroyed.	Species specific, with traps specialised to target different species and animal sizes. Non-target animals can be subsequently released unharmed.	Labour-intensive and costly.
Shooting	Feral animal species are typically trapped and shot onsite, or in large or remote locations, aerial shooting techniques may be utilised.	Can be effective when used in conjunction with other trapping methods.	Health and safety concerns, highly trained and licensed officer required to conduct shooting program.

It is anticipated that feral animal control be carried out in order of prioritisation as per **Insert 2**.

Insert 2: Feral animal management prioritisation



3.5. Conservation Area Fencing

Fencing to the Conservation Area is anticipated to mirror that of the approved EPBC2014/7388 offset Conservation Area located to the immediate east of the site. The intent to mirror the approved EPBC offset area is to ensure a consistent conservation outcome at a landscape scale, while also dedicating the area in ICC ownership.

The proposed Conservation Area fencing is to span the entirety of the Conservation Area as shown in **Figure 2**.

In summary, fencing is to comprise of the following:

- Koala exclusion fencing is required on properties adjacent to the Conservation Area, comprising:
 - 1.8 m high side and rear yard fencing;
 - Sheet metal (eg. Colorbond) only;
 - No gaps at the base;
 - Side fences must return to the side of the house, with the return fences setback a minimum of 1 m from the front face of the house.
- Fencing around other portions of the Conservation Area must be sufficient to prevent unauthorised vehicles from entering the site (eg. Styles / low rail or chain / bollards).

The exclusion fencing is to be monitored and maintained by the proponent until the area is dedicated to ICC for ownership. The purpose of the conservation exclusion fencing is to exclude unauthorised vehicles from entering the Conservation Area or, exclude koalas from entering residential properties. The Conservation Area is to be rehabilitated as part of future works. Following the acceptance of the rehabilitation meeting 'on-maintenance' status, the Conservation Area is dedicated to ICC. The effectiveness of the Conservation Area exclusion fencing will be monitored via the documentation of illegal access within the Conservation Area by unauthorised vehicles. Unauthorised vehicles will cause detrimental impacts to restoration works, therefore, it is important that this access is prohibited.

The provisions of fencing installation and monitoring is to comply with Condition 8 of the approval.

4. Monitoring Actions

Monitoring and reporting will be required to ensure compliance with Condition 10 of the EPBC approval conditions. It is anticipated that the Conservation Area is periodically inspected on an annual basis as part of the Annual Compliance Report (refer **Section 4.1**). Furthermore, a repeat of the detailed surveys for monitoring of weeds and pests will be a repeat of the methodology undertaken for the baseline weed and pest surveys as per this CAMP. Repeat monitoring will be carried out annually for the first 3 years and then again in year 5 prior to handover to ICC (refer **Section 4.2**) to ensure compliance with Condition 10.

4.1. Annual Compliance reporting

As per Part B, Condition 45 *'The approval holder must prepare a compliance report for each 12-month period following the date of this approval, or as otherwise agreed to in writing by the Minister.'*

The annual compliance report is to include the following information:

- Current status of the project
 - Offsets
 - Commencement of the action
 - Development actions
 - Management of impacts
 - Conservation Area
- EPBC Conditions and Compliance
- Correcting non-compliances

4.2. Additional monitoring

To ensure compliance with Condition 10, continued monitoring of the Conservation Area is required. It is advised that the Conservation Area be surveyed in detail annually for the first 3 years and then again in year 5. At this point it is expected that the Conservation Area is dedicated to council for continued management as a Conservation Estate. Annual monitoring for the first 3 years is considered appropriate given the commencement of 'Area B' (refer **Appendix A** - Approval plans) construction and potential risk of weed increase as a result of edge effects. A final detailed assessment at year 5 provides assurances that the proposed completion criteria (50% reduction in weeds and feral animal abundance) has been met and the area is suitable for council handover. Post-handover to ICC the Conservation Area will form part of their larger conservation land holdings. Council will continue to undertake long term management and maintenance of the land in perpetuity (as per Condition 12).

A report will follow these site surveys including an overview of works undertaken, with a description of any problems encountered and how they were overcome and recommendations for future works;

■ Conservation Area Management Plan

- GPS locate the presence of weeds either via a GPS waypoint or where a large weed infestation is present, create a GPS polyline and walk the extent of the infestation.
- Ground cover transects;
- All monitoring data;
- A review of hollow bearing trees
- Assessments of works against relevant performance criteria;
- Photo logs, showing before and after photos for worked areas;
- Vegetation monitoring results, showing changes in vegetation through time;
- Records of significant vandalism;
- Track conditions;
- Erosion and erosion control works;
- Pest control / abundance data; and
- Any observations such as the occurrence of new weed species, rates of regeneration etc

4.3. Corrective Actions

The following section provides details of corrective actions that are triggered if the proposed performance outcomes are not being met. These corrective actions ensure that compliance with Condition 10 of the approval is achieved

4.3.1 Weed Cover

Corrective Action Trigger

1. Weed cover has increased relative to the baseline results (compliance with Condition 10 of the approval)
2. Weed cover reduction of 50%, relative to the baseline survey, has not been achieved (proposed performance criteria)

Corrective Action

- Weed control program to be expanded/adapted to improve outcomes within 6-12 months following a monitoring event where the weed extent has increased from baseline (refer **Section 2** for baseline results).
- If performance criteria are not achieved by Year 5 the corrective actions will continue until achieved, extending the management period.

4.3.2 Feral Animal Abundance

Corrective Action Trigger

■ Conservation Area Management Plan

1. Monitoring actions detect increase in non-native predator detection relative to the baseline results.
2. Feral animal abundance reduction of 50%, relative to the baseline survey, has not been achieved (proposed performance criteria)

Corrective Action

- Implement supplementary control measures, increase frequency of control events or other management actions must be implemented as recommended by pest control expert where non-native predator detection has increased from baseline (refer **Section 2** and **Appendix B** for baseline survey results)
- Where there is evidence of non-native predator activity, trapping or baiting program by a suitably qualified contractor will be conducted within 6-12 months of detection.
- If performance criteria are not achieved by Year 5 the corrective actions will continue until achieved, extending the management period.

5. Implementation roles and responsibilities

Management of the Conservation Area is required over the life of the approval. This will encompass two distinct timeframes, being pre and post ICC handover. It is anticipated that management of the Conservation Area is the responsibility of the approval holder until administration and management is handed over to ICC. Management/monitoring of the Conservation Area will start once construction of 'Area B' has commenced. The purpose of this is to allow suitable access to the Conservation Area to carry out works, erect fencing, etc as well as monitor potential impacts associated with edge effects.

The following sections specify the details of each timeframe and roles related to implementation.

5.1. Pre-ICC handover (on-maintenance)

Pre-handover the Conservation Area will be managed by AW Bidco No.6 Pty Ltd who will implement management strategies that ensure compliance with Condition 10 of the approval and to meet proposed objectives stated in **Section 3.2**. Works required will need to be completed by suitably qualified personnel such as specialist bushland regeneration contractors. Monitoring of works to ensure compliance with the relevant condition will be completed by an Environmental Manager (EM). Both the EM and bush regeneration contractor will be required to prepare a risk assessment prior to any works.

Required qualifications and experience for the EM and bush regeneration contractors is provided in **Table 8**.

Table 8: Key personnel and required qualifications

Role	Responsibilities	Minimum Qualifications/experience
Management		
Environmental Manager/Ecologist	<ul style="list-style-type: none"> Monitoring and reporting Compliance assessment 	<ul style="list-style-type: none"> University qualification in Environmental Management/Science/Ecology or similar Suitability qualified in restoration/rehabilitation monitoring SEQ Flora and Fauna identification experience Experience in carrying out compliance assessments
Bushland Regeneration Contractor		

Role	Responsibilities	Minimum Qualifications/experience
Supervisor	<ul style="list-style-type: none"> • Leading bush regeneration team • Develop plan of works 	<ul style="list-style-type: none"> • Certificate III in Conservation & Land Management and / or demonstrated experience within the industry and supervising similar sites. • Valid AQF 3 Chemical users certificate (Chemcert) and all herbicides are to be used as per the Australian Pesticides and Veterinary Medicines Authority (APVMA) approved chemical label and at the associated dilution and application rates
Team Member	<ul style="list-style-type: none"> • As required by supervisor 	<ul style="list-style-type: none"> • Certificate III in Conservation & Land Management and / or demonstrated experience within the industry on similar sites, • Valid AQF 3 Chemical users certificate (Chemcert) and all herbicides are to be used as per the Australian Pesticides and Veterinary Medicines Authority (APVMA) approved chemical label and at the associated dilution and application rates

5.2. Post ICC handover (off-maintenance)

After 5 years it is expected that the Conservation Area will be handed over to council assuming the completion of the proposed management objective (50% reduction in weeds and feral animal abundance from baseline, refer **Section 3**).

Post ICC-handover the Conservation Area will be managed and administered by ICC in accordance with objectives set out within this CAMP and as per any EPBC Act approval requirements including the following activities:

- Weed management/monitoring and reporting completed by ICC natural areas management staff
- Community engagement implemented by ICC Bushcare officers and community Bushcare groups
- Feral animal control completed by ICC Pest Animal Management officers
- Bushfire management completed by Queensland Fire and rescue Service (QFRS) in conjunction with Ipswich City Council officers.

6. Completion Criteria

6.1. Extent of Weed Cover

In accordance with Condition 10 of the EPBC Act approval, the approval holder must ensure that the extent of weed cover does not increase throughout the duration of the approval. However, more specific reduction targets have been proposed to help guide management as well as defining a completion criteria enabling the land to be dedicated to council. A 50% reduction in weed cover from the baseline results has been defined as the target objective. A 50% reduction in weed cover relative to the baseline would result in <10% weed cover (both WONS and Biosecurity restricted invasive species) over the entire 50ha Conservation Area

Table 9 outlines the proposed completion criteria based on a 50% weed reduction target.

Table 9: Baseline weed cover and 50% reduction target

Weed cover category	Area (ha)	Percentage weed cover (based on transect results)	Relative area (ha) of weed cover – baseline	50% reduction target from baseline (ha)
Low density Lantana	1.0	16%	0.16	0.08
Moderate Density Lantana	11.8	40.5%	4.78	2.39
Moderate Density Creeping Lantana	9.8	41%	4.01	2.01
High Density Lantana	1.9	66%	1.25	0.63
Predominantly native	25.8	4%	1.03	0.52
		Lantana	6.19	3.1
		Creeping Lantana	4.01	2.0
		Total	10.20	5.10

6.2. Feral Animal Abundance

In accordance with Condition 10 of the EPBC Act approval, the approval holder must ensure that the RAI for each feral animal species does not increase throughout the duration of the project. A 50% reduction target in RAI for each feral animal species from the baseline results is proposed (refer **Table 10**).

Table 10: Baseline feral animal abundance and 50% reduction target

Feral animal	Baseline RAI	50% reduction target RAI from baseline
<i>Canis lupus familiaris</i> (Dog)	5.88	2.94
<i>Vulpes vulpes</i> (Red Fox)	5.88	2.94

6.3. Conservation Area Management - Term

- **For the first 5 years:** The approval holder will be responsible for managing and monitoring the Conservation Area inline the EPBC approval conditions and proposed management objectives.
- **Close of Year 5:** providing key completion criteria have been met, ownership and management of the Conservation Area is transferred to ICC. ICC then manage the area for conservation purposes
- **Form year 5 Onwards:** the Conservation Area is managed in accordance with an EPBC Act requirements
- An agreement detailing ownership of the Conservation Area will be provided between ICC and AW Bidco No. 6 Pty Ltd will be provided as **Appendix B** once finalised

7. Appendices

Appendix A

Approved Conditions (EPBC 2018/8347)

Appendix B

ICC / AW Bidco 6 PTY Ltd

Appendix C

Baseline Extent of weed cover and feral animal surveys (SHG)

Appendix A

Approved Conditions (EPBC 2018/8347)

Appendix B

ICC / AW Bidco No. 6 PTY Ltd Agreement

Appendix C

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■ Conservation Area Management Plan

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6.2. Feral Animal Abundance

In accordance with Condition 10 of the EPBC Act approval, the approval holder must ensure that the RAI for each feral animal species does not increase throughout the duration of the project. A 50% reduction target in RAI for each feral animal species from the baseline results is proposed (refer **Table 10**).

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7. Appendices

Appendix A

Approved Conditions (EPBC 2018/8347)

Appendix B

ICC / AW Bidco 6 PTY Ltd

Appendix C

Baseline Extent of weed cover and feral animal surveys (SHG)

Appendix A

Approved Conditions (EPBC 2018/8347)



Australian Government

Department of Climate Change, Energy,
the Environment and Water

Notification of approval

Ripley Valley PDA Providence East and South, QLD (EPBC 2018/8347)

This decision is made under section 133(1) of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Note that section 134(1A) of the EPBC Act applies to this approval. That provision provides, in general terms, that if the approval holder authorises another person to undertake any part of the Action, the approval holder must take all reasonable steps to ensure that the other person is informed of any conditions attached to this approval, and that the other person complies with any such conditions.

Proposed action

person to whom the approval is granted (approval holder)	Daleswan Pty Ltd
ABN of approval holder	94 105 650 075
Action	Development of the Ripley Valley PDA Providence East and South, located 5 km south east of Ipswich, Queensland [See EPBC Act referral 2018/8347]

Approval decision

approval decision	My decision on whether or not to approve the taking of the Action for the purposes of the controlling provision for the Action is as follows.	
	Controlling Provision	Decision
	Listed threatened species and communities (section 18 and section 18A)	Approved
period for which the approval has effect	This approval has effect until 31 November 2050.	
conditions of approval	The approval is subject to conditions under the EPBC Act as set out in Annexure A.	

DCCEEW.gov.au

John Gorton Building - King Edward Terrace, Parkes ACT 2600 Australia

GPO Box 3090 Canberra ACT 2601 ABN: 63 573 932 849

Person authorised to make decision

name and position	Mark Say Acting Branch Head Environment Assessments Queensland and Sea Dumping Branch
signature	
date of decision	15 December 2022

Annexure A

Note: Words appearing in **bold** have the meaning assigned to them at PART C – DEFINITIONS.

Part A – Conditions specific to the Action

Development Area

1. The approval holder must not **clear** or **construct** outside of the **development area** as part of this Action.
2. The approval holder must not **clear** within the **development area** more than:
 - a. 131.72 ha of **Koala habitat**
 - b. 67.85 ha of **Greater Glider habitat**
 - c. 67.85 ha of **Grey-headed Flying-fox foraging habitat**.
3. The approval holder must not **clear** or **construct** in or within 1 metre of the **conservation area** except as specified in the Conservation Area Management Plan, required under condition 11, approved by the **Minister**.
4. The approval holder must ensure that all **clearing** is undertaken with the supervision of an **independent suitably qualified field ecologist**, who is given sufficient authority to cease any **clearing** that the **independent suitably qualified field ecologist** considers may not be compliant with the requirements of conditions 1, 2 and 3.

Note: The **independent suitably qualified field ecologist** can be the same person as the **fauna spotter catcher** provided that they can demonstrate they have the relevant qualifications and meet the criteria in the definition of '**independent**'.

5. If the **independent suitably qualified field ecologist** requires the cessation of **clearing**, then the approval holder must not re-commence **clearing** unless the **Minister** has provided approval in writing.

Impact mitigation

6. To minimise risk of injury or death to the **Koala**, **Greater Glider** and **Grey-headed Flying-fox** within the **development area**, the approval holder must:
 - a. ensure that a suitably qualified **fauna spotter catcher**, who is given sufficient authority to delay and/or cease any **clearing** and/or **construction**, is present during all **clearing** and **construction** to identify **protected matters** (including in hollow bearing trees), to ensure

- Koalas, Greater Gliders and Grey-headed Flying-foxes** have safely vacated any area prior to **clearing and construction** occurring where it could injure animals in that area
- b. if a **Koala, Greater Glider or Grey-headed Flying-fox** is spotted within 100 m of any area of **clearing and construction** within the **development area**, cease all **clearing and construction** within 100 m of the **Koala, Greater Glider or Grey-headed Flying-fox** until the **Koala, Greater Glider or Grey-headed Flying-fox** has moved on its own further than 100 m from the area of **clearing and construction**, or is translocated by the **fauna spotter catcher**
 - c. **clear** only in accordance with the **Nature Conservation (Koala) Conservation Plan 2017**, so as to allow **Koalas** to safely move out of the **clearing area** and into surrounding areas of **Koala habitat**, and implement all provisions for **sequential clearing**
 - d. install temporary **Koala exclusion fencing** around any area of proposed **construction work**, immediately after **clearing** and prior to the commencement of **construction** in that area, so as to prevent **Koalas** entering any area where **construction** is taking place
 - e. prohibit workers from bringing dogs into the **development area** and adjacent **Koala habitat, Greater Glider habitat and Grey-headed Flying-fox foraging habitat** during **clearing and construction**.
7. To minimise the risk of injury or death to the **Koala, Greater Glider and Grey-headed Flying-fox** within the **development area** from vehicle traffic, the approval holder must:
- a. only **construct** roads in accordance with **Queensland's Fauna Sensitive Road Design guidelines** to minimise the risks to **Koalas, Greater Glider and Grey-headed Flying-fox foraging habitat** of vehicle strike
 - b. implement **safe movement solutions** and **local traffic management measures** to ensure that the speed of all vehicles on roads in the **development area** where **koalas** are likely to be present is no greater than 40 km/h at any time (except an emergency and until a government entity controls these roads), so as to minimise the risk to **Koala** from vehicle strike
 - c. install prominent **Koala awareness signage** consistent with **Queensland's wildlife signing guidelines**, prior to opening to public motorists, any road where the presence of **protected matters** is likely.

Conservation Area

8. For the protection of **Koalas, Grey-headed Flying-foxes and Greater Gliders** in the **conservation area**, the approval holder must implement measures, including signage, fencing, monitoring and enforcement, to effectively prevent any **unauthorised persons** from entering, and to prevent any persons leaving rubbish or bringing animals or vehicles into the **conservation area**.
9. For the protection of the **Koala, Greater Glider and Grey-headed Flying-fox** within the **development area**, within 6 months of this approval decision the approval holder must:
 - a. complete baseline **extent of weed cover** and **feral animal** abundance surveys throughout the **conservation area** in accordance with a scientifically valid, robust, and repeatable methodology
 - b. submit the results of the baseline **extent of weed cover** and **feral animal** surveys required by 9(a) for the **department's** acceptance, and must make this information available on the **website** within 2 months of the report of the **extent of weed cover** and **feral animal** abundance surveys being accepted by the **department**

- c. prepare and submit a Conservation Area Management Plan for the approval by the **Minister**, with demonstration that it has been developed in consultation with the Council and relevant stakeholders, which specifies the methods, dates and results of the surveys required under condition 9(a), and the methods and intervals for monitoring to achieve the requirements of condition 10.
10. For the remaining period of approval, the approval holder must ensure that the **extent of weed cover** and **feral animal** abundance does not increase with respect to the baseline documented by the **extent of weed cover** and **feral animal** surveys required by condition 9(a).
 11. Within 1 year of the date of this approval decision, the approval holder must **legally secure** the **conservation area**. Within 20 **business days** of **legally securing** this area, the approval holder must provide the **department** with written evidence demonstrating that the **conservation area** has been **legally secured**.
 12. For the ongoing protection of **Koala, Grey-headed Flying-fox** and **Greater Glider habitat** within the **conservation area**, the approval holder must manage the **conservation area** for the life of the approval, until and unless the approval holder provides written confirmation from the **Council** that the **Council** will implement the Conservation Area Management Plan (required under condition 9(c)) and manage the **conservation area** for **conservation purposes**.

Environmental Offset Requirements

13. To compensate for impacts of up to 131.72 ha of **Koala habitat** and up to 67.85 ha of **Grey-headed Flying-fox foraging habitat**, the approval holder must:
 - a. **Legally secure** a minimum of 183 ha of land within the **Avonvale and Cherry Gully Offset Area** prior to **commencement of the action**.
 - b. Within 20 **business days** of **legally securing** the **Avonvale and Cherry Gully Offset Area**, provide the **department** with:
 - i. Written evidence demonstrating that the **Avonvale and Cherry Gully Offset Area** has been **legally secured**
 - ii. **Shapefiles** and **offset attributes** of the **Avonvale and Cherry Gully Offset Area**.
 - c. Achieve the **habitat quality uplift**.
14. For the protection of **Koala Habitat**, the approval holder must, by the end of **Year 1**, provide written confirmation to the **department** that all livestock has been permanently excluded from the **Avonvale and Cherry Gully Offset Area**.

Offset management plan for Koalas and Grey-headed Flying-foxes

15. Within 3 months from the date of this approval, the approval holder must have a **suitably qualified field ecologist** and **suitably qualified mammal ecologist** complete baseline surveys in accordance with a scientifically valid, robust, and repeatable methodology of the entire **Avonvale and Cherry Gully Offset Area** to determine the:
 - a. **vegetation condition attributes** for each **regional ecosystem**
 - b. location of weeds and **extent of weed cover**
 - c. **seasonal feral animal** abundance
 - d. rate of **Koala** mortality attributable to **feral animals**.

Note: The **independent suitably qualified field ecologist** can be the same person as the **suitably qualified mammal ecologist** provided that they can demonstrate they have the relevant qualifications and meet the criteria in the definition of '**independent**'.

16. Within 2 months of completion of the baseline surveys required under condition 15, the approval holder must submit to the **department** for approval by the **Minister** an Offset Management Plan for the **Avonvale and Cherry Gully Offset Area**.
17. The Offset Management Plan must, to the satisfaction of the **Minister**, meet the requirements of the **Environmental Offsets Policy** and the **Environmental Management Plan Guidelines** and meet the requirements specified in Attachment H.
18. If the Offset Management Plan for the **Avonvale and Cherry Gully Offset Area** has not been approved by the **Minister** in writing within 12 months of the date on which it was submitted to the **department**, the approval holder must cease all **clearing** and **construction** within the **development area** immediately. The approval holder must not recommence any **clearing** or **construction** unless the **Minister** has approved the Offset Management Plan for the **Avonvale and Cherry Gully Offset Area** in writing.
19. The approval holder must not **clear** or **construct** within **Area B** until the Offset Management Plan for the **Avonvale and Cherry Gully Offset Area** has been approved by the **Minister** in writing. The approval holder must implement the Offset Management Plan approved by the **Minister** for the remainder of the approval.

Offsets for Greater Glider

Offset Strategy

20. Prior to **commencement of the action**, the approval holder must have a **suitably qualified Greater Glider ecologist** complete surveys to map the distribution, quantify the area, and measure the quality of all **Greater Glider habitat** within the **development area**, in accordance with a scientifically valid, robust, and repeatable survey methodology peer reviewed by an **independent suitably qualified Greater Glider ecologist**.
21. To compensate for all impacts to the **Greater Glider** and for 82 ha of **Greater Glider habitat**, the approval holder must submit to the **department**, within 3 months of this approval decision, a Greater Glider Offsets Strategy (GGOS) for the approval of the **Minister**. The GGOS must meet the requirements of the **Environmental Offsets Policy** to the satisfaction of the **Minister** and:
 - a. Specify the methods, effort, timing and results of the surveys required by condition 20.
 - b. Contain all peer review comments and recommendations made by the **independent suitably qualified Greater Glider ecologist** and a statement from the **independent suitably qualified Greater Glider ecologist** that they are **independent** and carried out the peer review to evaluate the adequacy of the survey methodology required by condition 20.
 - c. Identify a suitable environmental offset(s) for the residual significant impacts on the **Greater Glider**.
 - d. Include summary information on the impacted areas and detailed baseline information on the proposed offset(s) and commit to achievable ecological benefits, and timeframes for their achievement, for the proposed offset(s).
 - e. Describe the monitoring program(s) to be implemented that will determine progress towards, attainment of and maintenance of the ecological benefits for **Greater Glider habitat** at the proposed offset(s).

- f. Specify how and at what frequency offset(s) management outcomes, monitoring program findings and assessments of ecological benefits will be reported to the **department** and the public.
 - g. Detail how the offset(s) will be protected and **legally secured**, and ecological benefits maintained, in perpetuity.
22. If the GGOS is approved by the **Minister**, the approval holder must:
- a. implement the GGOS approved by the **Minister** for the remainder of the period of this approval,
 - b. provide written evidence to the **department** demonstrating that the offset(s) specified in the GGOS has been **legally secured** within 20 **business days** of the offset(s) being **legally secured**, and
 - c. provide the **department** with **shapefiles** and **offset attributes** of the offset(s) specified in the GGOS within 20 **business days** of the offset(s) being **legally secured**.

Note: Legal security requirements for the GGOS do not apply if the approved offset for **Greater Glider**, as required under condition 21, is the same as that required for **Koala** and **Grey-headed Flying-fox** as per condition 13.

23. If the GGOS has not been approved by the **Minister** in writing within 6 months of the date that the GGOS was submitted to the **department**, the approval holder must cease all **clearing** and **construction** within the **development area** immediately. The approval holder must not recommence any **clearing** or **construction** unless the **Minister** has approved the GGOS in writing.

Offset Area Management Plan(s)

24. The approval holder must, within 3 months of the date of the **Minister's** approval of the GGOS, submit to the **department** a Greater Glider Offset Management Plan (GGOMP) for any offset(s) specified in the approved GGOS for approval by the **Minister**. The GGOMP must meet the requirements of the **Environmental Offsets Policy, Environmental Management Plan Guidelines** and the requirements of Attachment H to the satisfaction of the **Minister**.
25. The approval holder must implement the GGOMP approved by the **Minister** for the remainder of the period of this approval. The approval holder must achieve all ecological benefits and improvements in **habitat quality** specified in the approved GGOMP in the timeframes specified in the approved GGOMP.
26. If the GGOMP has not been approved by the **Minister** in writing within 12 months of the date on which it was submitted to the **department**, the approval holder must cease all **clearing** and **construction** within the **development area** immediately. The approval holder must not recommence any **clearing** or **construction** unless the **Minister** has approved the GGOMP in writing.
27. The approval holder must not **clear** or **construct** within **Area B** until and unless the GGOMP has been approved by the **Minister** in writing.

Monitoring

28. Within three months prior to the end of each of **Year 5, Year 10** and **Year 15**, the approval holder must have an **independent expert** undertake an assessment as to whether the outcomes required by condition 13 and the habitat quality improvements specified in the approved GGOMP for the particular period for which the assessment is undertaken have been, or are likely to be, achieved. The findings of each assessment must be published on the **website** within six months of the end of the particular period for which the assessment is undertaken, remain published on the **website** for

the remainder of the duration of this approval, and each be provided to the **department** within 5 **business days** of first being published.

29. If, at any time during the period of effect of the approval, the **Minister** is not satisfied that any of the requirements or outcomes required under condition 13 and the habitat quality improvements specified in the approved GGOMP have been or are likely to be achieved or maintained, the **Minister** may require the approval holder to submit a revised Offset Management Plan or GGOMP to the **department** for approval by the **Minister**, specifying new requirements to implement corrective actions and/or to monitor, manage, avoid, mitigate, offset, record and/or report on, impacts to the **Koala, Grey-headed Flying-fox and Greater Glider**.
30. The **Minister** may specify a timeframe in which the approval holder must submit the revised Offset Management Plan or GGOMP to the **department** and may specify that the revised Offset Management Plan or GGOMP must be prepared or reviewed by an **independent expert**.
31. If the **Minister** writes to the approval holder stating that he/she considers that the revised Offset Management Plan or GGOMP is not likely to achieve the outcomes required under condition 13 and the habitat quality improvements specified in the approved GGOMP, then the approval holder must not register any title for any property in the **development area** until such time as a revised Offset Management Plan or GGOMP has been approved by the **Minister** in writing.
32. The approval holder may, at any time, apply to the **Minister** for a variation to an action management plan approved by the **Minister** or as subsequently revised in accordance with these conditions, by submitting an application in accordance with the requirements of section 143A of the **EPBC Act**.
33. If the **Minister** approves a revised **plan** then, from the date specified, the approval holder must implement the approved revised **plan** in place of the previous version of that **plan**.

SUBMISSION AND PUBLICATION OF PLANS

34. The approval holder must submit all **plans** required by these conditions electronically to the **department** and notify the local authority.
35. Unless otherwise agreed to in writing by the **Minister**, the approval holder must publish each **plan** on the **website** within 15 **business days** of the date:
 - a. of this approval, if the version of the **plan** to be implemented is specified in these conditions; or
 - b. the **plan** is approved by the **Minister** in writing, if the **plan** requires the approval of the **Minister**.
36. The approval holder must keep all published **plans** required by these conditions on the **website** until the expiry date of this approval.
37. The approval holder is required to exclude or redact **sensitive ecological data** from **plans** published on the **website** or otherwise provided to a member of the public.
38. If **sensitive ecological data** is excluded or redacted from a **plan** in accordance with condition 37, the approval holder must notify the **department** in writing what exclusions and redactions have been made in the version published on the **website**.

Part B – Administrative conditions

NOTIFICATION OF DATE OF COMMENCEMENT OF THE ACTION

39. The approval holder must notify the **department** electronically of the date of **commencement of the Action**, within 5 **business days of commencement of the Action**.
40. If the **commencement of the Action** does not occur within 5 years from the date of this approval, then the approval holder must not **commence the Action** without the prior written agreement of the **Minister**.

COMPLIANCE RECORDS

41. The approval holder must maintain accurate and complete **compliance records**.
42. If the **department** makes a request in writing, the approval holder must provide electronic copies of **compliance records** to the **department** within the timeframe specified in the request.

Note: **Compliance records** may be subject to audit by the **department**, or by an independent auditor in accordance with section 458 of the **EPBC Act**, and/or be used to verify compliance with the conditions. Summaries of the results of an audit may be published on the **department's** website or through the general media.

43. The approval holder must ensure that any **monitoring data** (including **sensitive ecological data**), surveys, maps, and other spatial and metadata required under the conditions of this approval are prepared in accordance with the *Guidelines for biological survey and mapped data*, Commonwealth of Australia 2018, or as otherwise specified by the **Minister** in writing.
44. The approval holder must ensure that any **monitoring data** (including **sensitive ecological data**), surveys, maps, and other spatial and metadata required under the conditions of this approval are prepared in accordance with the *Guide to providing maps and boundary data for EPBC Act projects*, Commonwealth of Australia 2021, or as otherwise specified by the **Minister** in writing.

ANNUAL COMPLIANCE REPORTING

45. The approval holder must prepare a **compliance report** for each 12-month period following the date of this approval, or as otherwise agreed to in writing by the **Minister**.
46. Each **compliance report** must be consistent with the *Annual Compliance Report Guidelines*, Commonwealth of Australia 2014.
47. Each **compliance report** must include:
 - a. Accurate and complete details of any **monitoring data** required by this approval.
 - b. Accurate and complete details of compliance and any non-compliance with the conditions and the plans, and any incidents.
 - c. One or more **shapefile** showing all **clearing** of any **protected matters**, and/or their habitat, undertaken within the 12-month period at the end of which that **compliance report** is prepared.
 - d. A schedule of all **plans** in existence in relation to these conditions and accurate and complete details of how each **plan** is being implemented.
48. The approval holder must:
 - a. Publish each **compliance report** on the **website** within 60 **business days** following the end of the 12-month period for which that **compliance report** is required.

- b. Notify the **department** electronically, within 5 **business days** of the date of publication that a **compliance report** has been published on the **website**.
- c. Provide the weblink for the **compliance report** in the notification to the **department**.
- d. Keep all published **compliance reports** required by these conditions on the **website** until the expiry date of this approval.
- e. Exclude or redact **sensitive ecological data** from **compliance reports** published on the **website** or otherwise provided to a member of the public.
- f. If **sensitive ecological data** is excluded or redacted from the published version, submit the full **compliance report** to the **department** within 5 **business days** of its publication on the **website** and notify the **department** in writing what exclusions and redactions have been made in the version published on the **website**.

Note: Compliance reports may be published on the **department's** website.

REPORTING NON-COMPLIANCE

49. The approval holder must notify the **department** electronically, within 2 **business days** of becoming aware of any **incident** and/or potential non-compliance and/or actual non-compliance with the conditions or commitments made in a **plan**.
50. The approval holder must specify in the notification:
- a. Any condition or commitment made in a **plan** which has been or may have been breached.
 - b. A description of the **incident** and/or potential non-compliance and/or actual non-compliance.
 - c. The location (including co-ordinates), date, and time of the **incident** and/or potential non-compliance and/or actual non-compliance.

Note: If the exact information cannot be provided, the approval holder must provide the best information available.

51. The approval holder must provide to the **department** in writing, within 12 **business days** of becoming aware of any **incident** and/or potential non-compliance and/or actual non-compliance, the details of that **incident** and/or potential non-compliance and/or actual non-compliance with the conditions or commitments made in a **plan**. The approval holder must specify:
- a. Any corrective action or investigation which the approval holder has already taken
 - b. The potential impacts of the **incident** and/or non-compliance and/or non-compliance
 - c. The method and timing of any corrective action that will be undertaken by the approval holder.

INDEPENDENT AUDIT

52. The approval holder must ensure that an **independent audit** of compliance with the conditions is conducted for every three-year period following the **commencement of the Action** until this approval expires, unless otherwise specified in writing by the **Minister**.
53. For each **independent audit**, the approval holder must:
- a. Provide the name and qualifications of the nominated **independent** auditor, the draft audit criteria, and proposed timeframe for submitting the **audit report** to the **department** prior to commencing the **independent audit**.

- b. Only commence the **independent audit** once the nominated **independent** auditor, audit criteria and timeframe for submitting the **audit report** have been approved in writing by the **department**.
 - c. Submit the **audit report** to the **department** for approval within the timeframe specified and approved in writing by the **department**.
 - d. Publish each **audit report** on the **website** within 15 **business days** of the date of the **department's** approval of the **audit report**.
 - e. Keep every **audit report** published on the **website** until this approval expires.
54. Each **audit report** must report for the three-year period preceding that audit report.
55. Each **audit report** must be completed to the satisfaction of the **Minister** and be consistent with the *Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines*, Commonwealth of Australia 2019.

COMPLETION OF THE ACTION

56. The approval holder must notify the **department** electronically 60 **business days** prior to the expiry date of this approval, that the approval is due to expire.
57. Within 20 **business days** after the **completion of the Action**, and, in any event, before this approval expires, the approval holder must notify the **department** electronically of the date of **completion of the Action** and provide **completion data**.

Part C - Definitions

Area B means the whole of the area represented in Attachment B by the areas with blue hatching and enclosed by the blue dashed lines designated 'Area B'.

Audit report means a written report of compliance and fulfilment of the conditions attached to this approval, objectively evaluated against the audit criteria approved by the **department**.

Avonvale and Cherry Gully Offset Area means the whole of the area represented in Attachment C by the zones enclosed by the red lines designated 'EPBC 2018/8347 OFFSET AREA'. The **Avonvale and Cherry Gully Offset Area** is located on Littles Road, Toogoolawah, Queensland.

Business day means a day that is not a Saturday, a Sunday or a public holiday in the state of Queensland.

Clear, Clearing, Clearance or Cleared means the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of native trees and shrubs.

Commence the action or Commencement of the action means the first instance of any specified activity associated with the action including **clearing** and **construction**. **Commencement of the action** does not include minor physical disturbance necessary to:

- a. undertake pre-clearance surveys or monitoring programs
- b. install signage and /or temporary fencing to prevent unapproved use of the **development area**
- c. protect environmental and property assets from fire, **weeds** and pests, including installation of temporary fencing, and use of existing surface access tracks
- d. install temporary site facilities for persons undertaking pre-commencement activities so long as these are located where they have no impact on the **protected matters**.

Completion data means an environmental report and spatial data clearly detailing how the conditions of this approval have been met. The **department's** preferred spatial data format is **shapefile**.

Completion of the action means the date on which all specified activities associated with the action have permanently ceased.

Compliance records means all documentation or other material in whatever form required to demonstrate compliance with the conditions of approval in the approval holder's possession or that are within the approval holder's power to obtain lawfully.

Compliance reports means written reports:

- a. providing accurate and complete details of compliance, **incidents**, and non-compliance with the conditions and the **plans**
- b. consistent with the *Annual Compliance Report Guidelines, Commonwealth of Australia 2014*
- c. include a **shapefile** of any **clearance** of any **protected matters**, or their habitat, undertaken within the relevant 12 month period
- d. annexing a schedule of all **plans** prepared and in existence in relation to the conditions during the relevant 12 month period.

Conservation Area means the retained area of at least 50 ha containing mixed remnant and regrowth vegetation within the **development area**, represented by the zone shaded dark green labelled 'Conservation' in Attachment A.

Conservation benefit means measures which maintain or improve the quality of the habitat for **protected matters**. **Conservation benefit** measures may include rehabilitation works, low intensity mosaic burning, installation of educational signage as outlined in the Conservation Area Management Plan, **weed** removal and associated management/maintenance access tracks.

Construct or **Construction** means the erection of any building or structure that is or is to be fixed to the ground and wholly or partially fabricated on-site; the alteration, maintenance, repair or demolition of any building or structure; preliminary site preparation work which involves breaking of the ground (including pile driving); the laying of pipes and other prefabricated materials in the ground, and any associated excavation work but excluding construction on sold lots or roads managed by **Council**, and the installation and maintenance of temporary fences and signage, and works necessary for **conservation benefit** in the **Conservation Area**.

Council means the local government authority responsible for the local government area encompassing Ripley Valley Priority Development Area, currently Ipswich City Council, Queensland.

Department means the Australian Government agency responsible for administering the **EPBC Act**.

Development area means the location of the Action, the 210 ha area represented on Attachment A by the zone enclosed by the bold black line labelled 'Referral Area' which passes through the numbered waypoints representing the coordinates of the **development area** as specified in the table titled 'Coordinates (GDA94 MHA Zone 56)' in Attachment A.

Environmental Management Plan Guidelines means the *Environmental Management Plan Guidelines*, Commonwealth of Australia 2014.

Environmental Offsets Policy means the *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy*, Commonwealth of Australia 2012.

EPBC Act means the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

Expert means one or more professional having the qualifications and experience specified in the following defined terms that are specifically relevant to the requirements of the condition that requires the engagement of an **expert**:

- a. **Suitably qualified field ecologist**
- b. **Suitably qualified Greater Glider ecologist**
- c. **Suitably qualified mammal ecologist.**

Extent of weed cover means the proportion (expressed as a percentage) of the total land area in which any square metre contains a non-native plant species known to restrict the movement of **Koala** and/or degrade the quality of **Koala habitat**, **Greater Glider habitat** and **Grey-headed Flying-fox foraging habitat** or reduce their ability to regenerate.

Fauna spotter catcher means a person licenced under the *Nature Conservation Act 1992* (Qld) to detect, capture, care for, assess, and release wildlife disturbed by vegetation **clearance** activities who have at least three years' experience undertaking this work with **Koalas** and **Greater Gliders**.

Feral animals means non-native predators and non-native herbivores, including those known to predate on the **Koala** and/or **Greater Glider**, or with the potential to impact on vegetation habitat regeneration for **protected matters**.

Greater Glider means the **EPBC Act** listed threatened species *Petauroides volans* (southern and central).

Greater Glider habitat means:

- a. habitat critical to the survival of **Greater Glider**, as described in page 8 of *Conservation Advice for Petauroides volans (greater glider (southern and central))*, Commonwealth of Australia 2022
- b. areas represented in Attachment B and D identified as follows:



Grey-headed Flying-fox means the **EPBC Act** listed threatened species *Pteropus poliocephalus*.

Grey-headed Flying-fox foraging habitat means the following:

- a. habitat critical to the survival of **Grey-headed Flying-fox**, as described in pages 14 and 15 of *National Recovery Plan for the Grey-headed Flying-fox Pteropus poliocephalus*, Commonwealth of Australia 2021
- b. areas represented in Attachment B and E, identified as follows:



Habitat quality is the measure of the overall capacity and ongoing viability of a site to support the relevant **protected matter(s)**, determined with respect to site condition, site context and species stocking rate and/or composition.

Habitat quality uplift means, at **Avonvale and Cherry Gully Offset Area**, to:

- a. exceed the 'baseline score' for 'site condition', 'site context' and 'species stocking rate' scores for the **Koala** as specified in Attachment E, and achieve or exceed all scores specified in Attachment F in the 'Year 5' column by the end of **year 5**, in the 'Year 10' column by the end of **year 10**, in the 'Year 15' column by the end of **year 15** and in the 'Year 20' column by the end of **year 20** and
- b. exceed the 'AU Score' for 'site condition', 'site context' and 'species stocking rate' for the **Grey-headed Flying-fox** as specified in Attachment G, and achieve or exceed all scores specified in Attachment G in the 'Year 5 Score' column by the end of **year 5**, in the 'Year 10' column by the end of **year 10**, in the 'Year 15' column by the end of **year 15** and in the 'Year 20' column by the end of **year 20**.

Incident means any event which has the potential to, or does, impact on one or more **protected matter**. Any death or injury of a **Koala**, **Grey-headed Flying-fox** or **Greater Glider** as a result of the Action is an **incident**.

Independent means a person(s) or firm that does not have an individual, or by employment or family affiliation, any conflicting or competing interests with the approval holder, the approval holder’s staff, the approval holder’s consultants involved in the referral of this Action, representatives or associated persons; or the project, including any personal, financial, business or employment relationship, other than receiving payment for undertaking the role for which the condition requires an independent person.

Independent audit means an audit conducted by an independent and **suitably qualified person** as detailed in the *Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines*, Commonwealth of Australia 2019.

Koala means the **EPBC Act** listed threatened species *Phascolarctos cinereus* (combined populations of Queensland, New South Wales and the Australian Capital Territory).

Koala exclusion fencing means fencing which safely prevents the movement of **Koalas** from one area to another. Suitable examples are found in the *Koala Sensitive Design Guideline: A guide to koala sensitive designed measures for planning and development activities*, Version 2.0, The State of Queensland 2020.

Koala habitat means the following:

- a. any area that provides or is likely to provide the essential life cycle requirements of the **Koala**, including dispersal, foraging and or breeding habitat as described in:
 - i. *Conservation Advice for Phascolarctos cinereus (Koala) combined populations of Queensland, New South Wales and the Australian Capital Territory*, Commonwealth of Australia 2022
 - ii. *National Recovery Plan for the Koala Phascolarctos cinereus (combined populations of Queensland, New South Wales and the Australian Capital Territory)*, Commonwealth of Australia 2022
 - iii. *A review of koala habitat assessment criteria and methods*, Youngentob, K.N, Marsh, K.F., Skewes, J. 2021
- b. areas represented in Attachment B and D identified as follows:



Legally secure/secured/securing means to provide ongoing conservation protection, on the title of the land, under an enduring protection mechanism, such as a voluntary declaration under the *Vegetation Management Act 1999* (Qld) or as a nature refuge under the *Nature Conservation Act 1992* (Qld), or another enduring protection mechanism agreed to in writing by the **Minister**.

Local traffic management measures means devices that reduce the speed and/or volume of traffic, for example, road closures, chicanes, crosswalks, lighting, signage and rumble strips, as described in **Queensland’s fauna sensitive road design guidelines**.

Minister means the Australian Government Minister administering the **EPBC Act** including any delegate thereof.

Monitoring data means the data required to be recorded under the conditions of this approval.

Nature Conservation (Koala) Conservation Plan 2017 means the *Nature Conservation (Koala) Conservation Plan 2017*, The State of Queensland, 2022.

Offset attributes means an '.xls' file capturing relevant attributes of the offset area, including:

- a. **EPBC Act** reference number
- b. Physical address of the offset area
- c. Coordinates of the boundary points in decimal degrees
- d. **Protected matters** that the offset compensates for
- e. Any additional **protected matters** that are benefiting from the offset
- f. Size of the offset in hectares.

Queensland's fauna sensitive road design guidelines means *Fauna Sensitive Road Design - Volume 2: Preferred Practices*, The State of Queensland 2010.

Queensland's wildlife signing guidelines means *Traffic and Road Use Management, Transport and Main Roads Volume 3 – Signing and Pavement Marking, Part 8: Wildlife Signing Guidelines*, The State of Queensland.

Plan means any action management plan or strategy that the approval holder is required by these conditions to implement.

Protected matter means a matter protected under a controlling provision in Part 3 of the **EPBC Act** for which this approval has effect.

Regional ecosystem means any of the following vegetation communities in a bioregion that is consistently associated with a particular combination of geology, landform and soil as classified by the Queensland Government under the *Vegetation Management Act, 1999*: RE 12.3.3, 12.9-10.7, and 12.9-10.2.

Safe movement solutions means measures to minimise the risk of injury or deaths of **Koalas** from vehicle strike, specifically including **Koala exclusion fencing**, fauna underpasses or overpasses, and/or bridges as described in **Queensland's fauna sensitive road design guidelines**.

Seasonal means measured separately for each season (summer, autumn, winter and spring).

Sensitive ecological data means data as defined in the Australian Government Department of the Environment (2016) *Sensitive Ecological Data – Access and Management Policy V1.0*.

Sequential clearing means implementing the provisions specified in *Sequential clearing in Koala district A or B* under the **Nature Conservation (Koala) Conservation Plan 2017** under the *Nature Conservation Act 1992* (Qld). These include provisions for the area which may be **cleared** in any one stage, periods of non-**clearing** between stages, maintaining habitat links and restrictions on **clearing** trees containing **Koalas**.

Shapefile means location and attribute information of the action provided in an Esri shapefile format. Shapefiles must contain '.shp', '.shx', '.dbf' files and a '.prj' file that specifies the projection/geographic coordinate system used. Shapefiles must also include an '.xml' metadata file that describes the shapefile for discovery and identification purposes.

Suitably qualified field ecologist means a person who has professional qualifications and at least three (3) years of work experience designing and implementing surveys for **regional ecosystems**, and can give an authoritative assessment and advice on the type and quality of **regional ecosystems**

present, including management and restoration of the **regional ecosystems** using relevant protocols, standards, methods and/or literature.

Suitably qualified Greater Glider ecologist means a person who has professional qualifications and at least three (3) years of work experience designing and implementing surveys for the **Greater Glider**, and can give an authoritative assessment and advice on **Greater Glider** presence, habitat type and quality, and habitat management and restoration measures for the **Greater Glider** (and its habitat) using relevant protocols, standards, methods and/or literature.

Suitably qualified mammal ecologist means a person who has professional qualifications and at least three (3) years of work experience designing and implementing surveys for **Grey-headed Flying-foxes** and **Koalas** and can give an authoritative assessment and advice on **Grey-headed Flying-fox** and **Koala** presence, habitat type and quality, and habitat management and restoration measures for the **Grey-headed Flying-fox** and **Koala** (and their habitat) using relevant protocols, standards, methods and/or literature.

Suitably qualified person means a person who has professional qualifications, training, skills and/or experience related to the nominated subject matter and can give authoritative independent assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods and/or literature.

Unauthorised person means a person who has not been approved by the approval holder to access and enter the **conservation area** for the purposes of undertaking conservation management, inspecting the condition of the **conservation area** or undertaking scientific study for conservation purposes. **Unauthorised person** does not include any person authorised by the Australian Government, the Queensland Government or the City of Ipswich, who enters the **conservation area** in the necessary course of administering or enforcing legislation in respect of which they are authorised to act. **Unauthorised person** does not include any representative of the Australian Government, Queensland Government or the City of Ipswich who is required to enter the **conservation area** in the normal discharge of their lawful responsibilities.

Vegetation condition attributes means the quantitative values within BioCondition benchmarks that define a **regional ecosystem**.

Website means a set of related web pages located under a single domain name attributed to the approval holder and available to the public.

Weed means any weed species identified within the Weeds of National Significance and weed species listed under the *Biosecurity Act 2014* (Qld).

Year 1 means the period within 12 months from the date of this approval.

Year 5 means the period within five years from the date of this approval.

Year 10 means the period within ten years from the date of this approval.

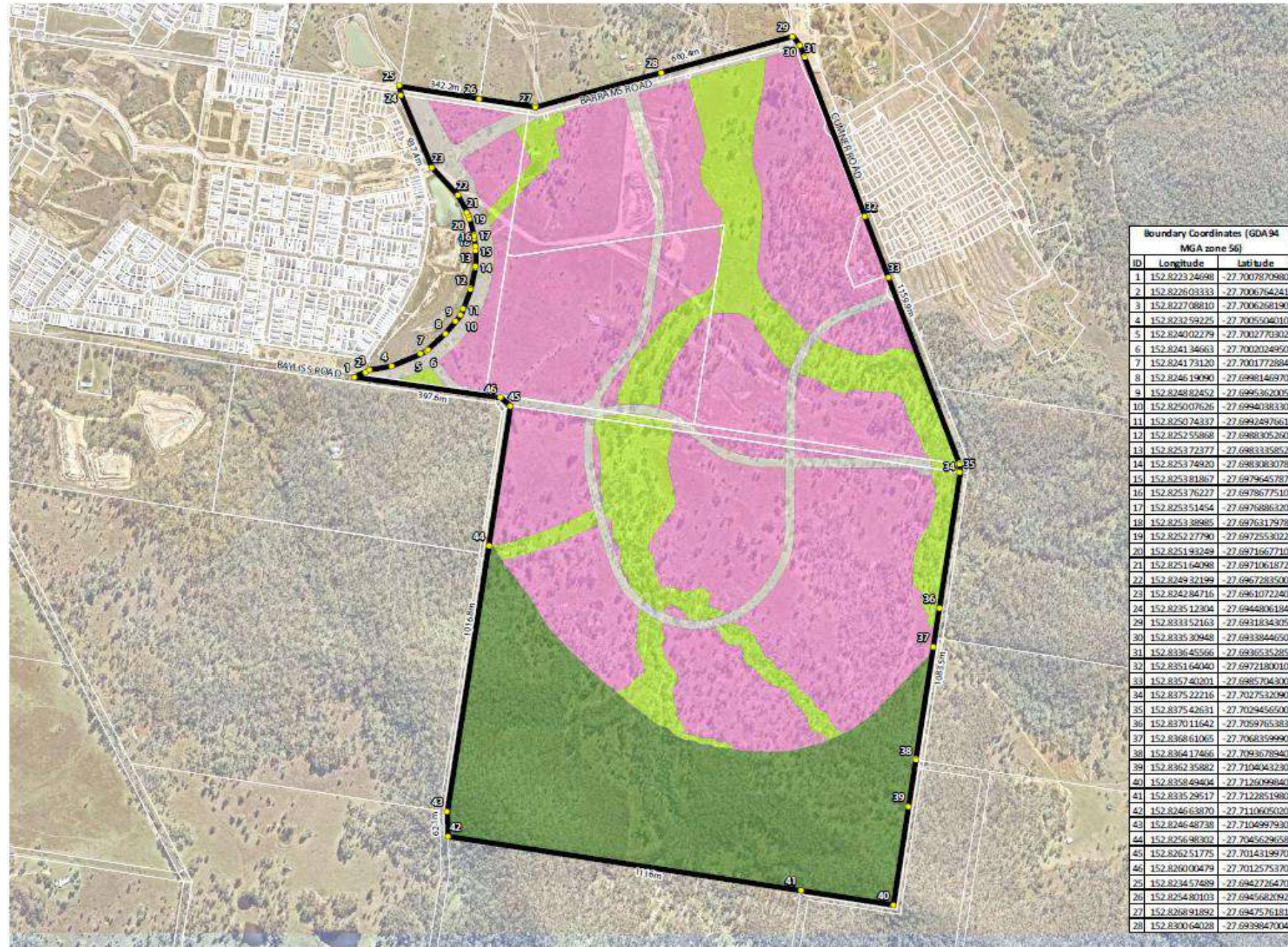
Year 15 means the period within fifteen years from the date of this approval.

Year 20 means the period within twenty years from the date of this approval.

ATTACHMENTS

Attachment A: Development Area

02b. Impact Area



Boundary Coordinates (GDA 94 MGA zone 56)		
ID	Longitude	Latitude
1	152.822324698	-27.7007870980
2	152.822603333	-27.7006764241
3	152.822708810	-27.7006268190
4	152.823259225	-27.7005504010
5	152.824002279	-27.7002770302
6	152.824134663	-27.7002024950
7	152.824173120	-27.7001772884
8	152.824619090	-27.6998146970
9	152.824882452	-27.6995362005
10	152.825007625	-27.6994038330
11	152.825074337	-27.6992497661
12	152.825255868	-27.6988305260
13	152.825372377	-27.6983335852
14	152.825374920	-27.6983083078
15	152.825381867	-27.6979645787
16	152.825376227	-27.6978677510
17	152.825351454	-27.6976886320
18	152.825338985	-27.6976317978
19	152.825277790	-27.6972533022
20	152.825193249	-27.6971667710
21	152.825164098	-27.6971061872
22	152.824932199	-27.6967283500
23	152.824284716	-27.6961072240
24	152.823512304	-27.6944806184
25	152.833352163	-27.6931834305
30	152.833530948	-27.6933844650
31	152.833645566	-27.6936535285
32	152.835164040	-27.6972180010
33	152.835740201	-27.6985704300
34	152.837522216	-27.7027532090
35	152.837542631	-27.7029456500
36	152.837011642	-27.7059765383
37	152.836861065	-27.7068359990
38	152.836417466	-27.7093678940
39	152.836235882	-27.7104043230
40	152.835849404	-27.7126099840
41	152.833529517	-27.7122851980
42	152.824663870	-27.7110605020
43	152.824648738	-27.7104997930
44	152.825698302	-27.7045629658
45	152.826251775	-27.7014319970
46	152.826000479	-27.7012575370
25	152.823457489	-27.6942726470
26	152.825480103	-27.6945682092
27	152.826891892	-27.6947576181
28	152.830064028	-27.6939847004

Notes:
 This plan was prepared as a desktop assessment tool. The information on this plan is not suitable for any other purpose. Property dimensions, area, 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. There 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 approval plan.
 Layer Source:
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Legend

- Qld DCID6
- Referral Area
- Impact Area - 163.99 ha**
 - Development Footprint
 - Passive Open Space
 - Road
- Retention Area - 50.00 ha**
 - Conservation
- Boundary Coordinates

Date	Drawn	Description	Drawn	Checked
11/11/2022		Update referral area boundary	TL	MS

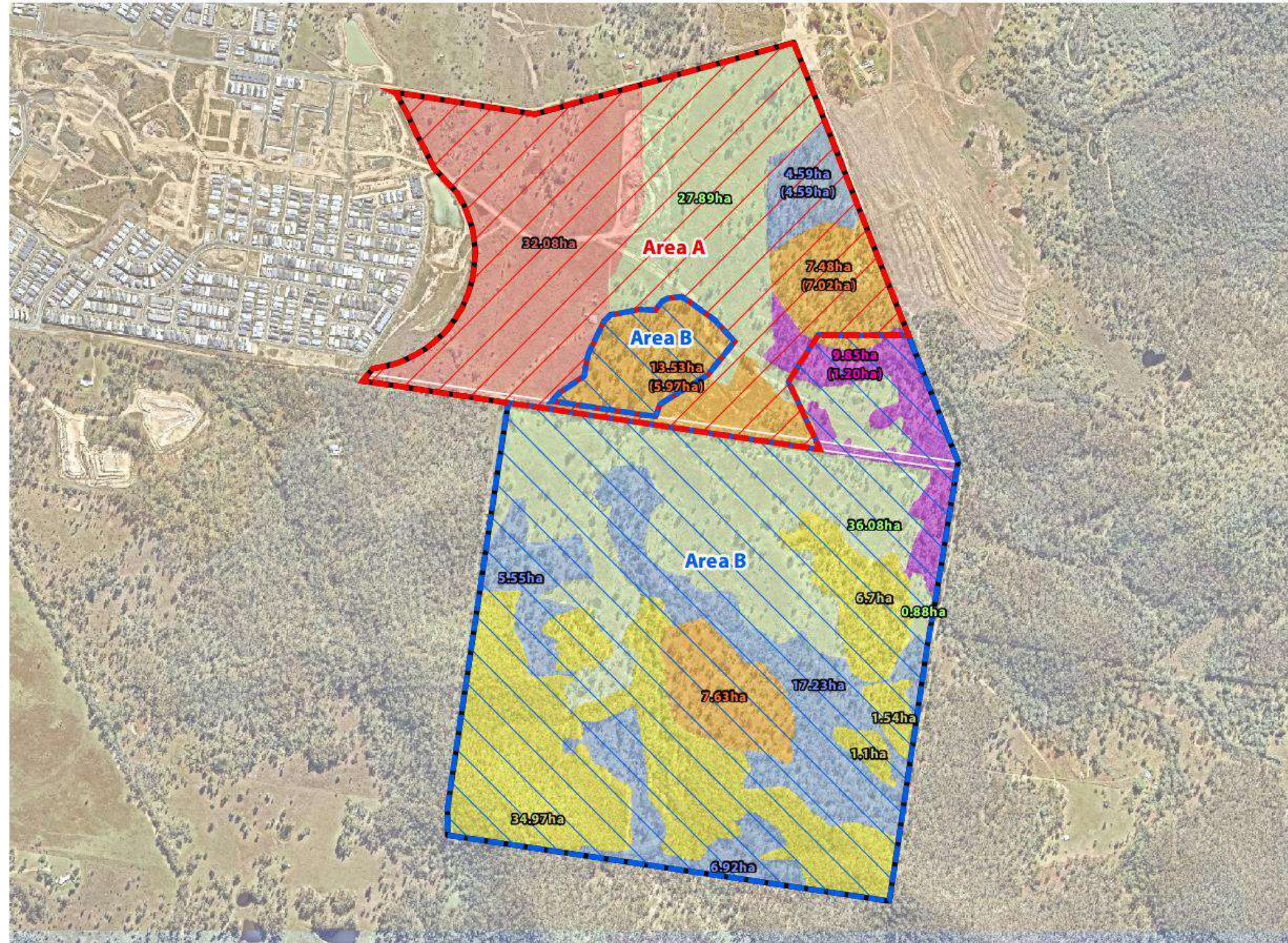
0 100 200 300 m

Townsville Mercator (GDA 1994) (Zone 56) 1:8000 @ A3

Address / RFD: /04/517030/629; 112/M31/A; 110/S1660001; 117/S166000; 8; 190/571349

Attachment B: Staged clearing

Plan 2B



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 Local Sources:
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- Project boundary
- Road reserve
- Development Areas
 - Area A
 - Area B
- Vegetation communities
 - Open Paddock [64.84ha]
 - Regrowth RE12.3.3 [9.85ha]
 - Regrowth RE12.9-10.7 [28.63ha]
 - Regrowth RE12.9-10.2 [34.28ha]
 - Remnant RE12.9-10.2 [44.31ha]
 - Non Habitat [32.08ha]

Issue	Date	Description	Drawn	Checked
1	19/10/2022	MP	LS	AS

0 100 200 300 m

14/148 @ A3

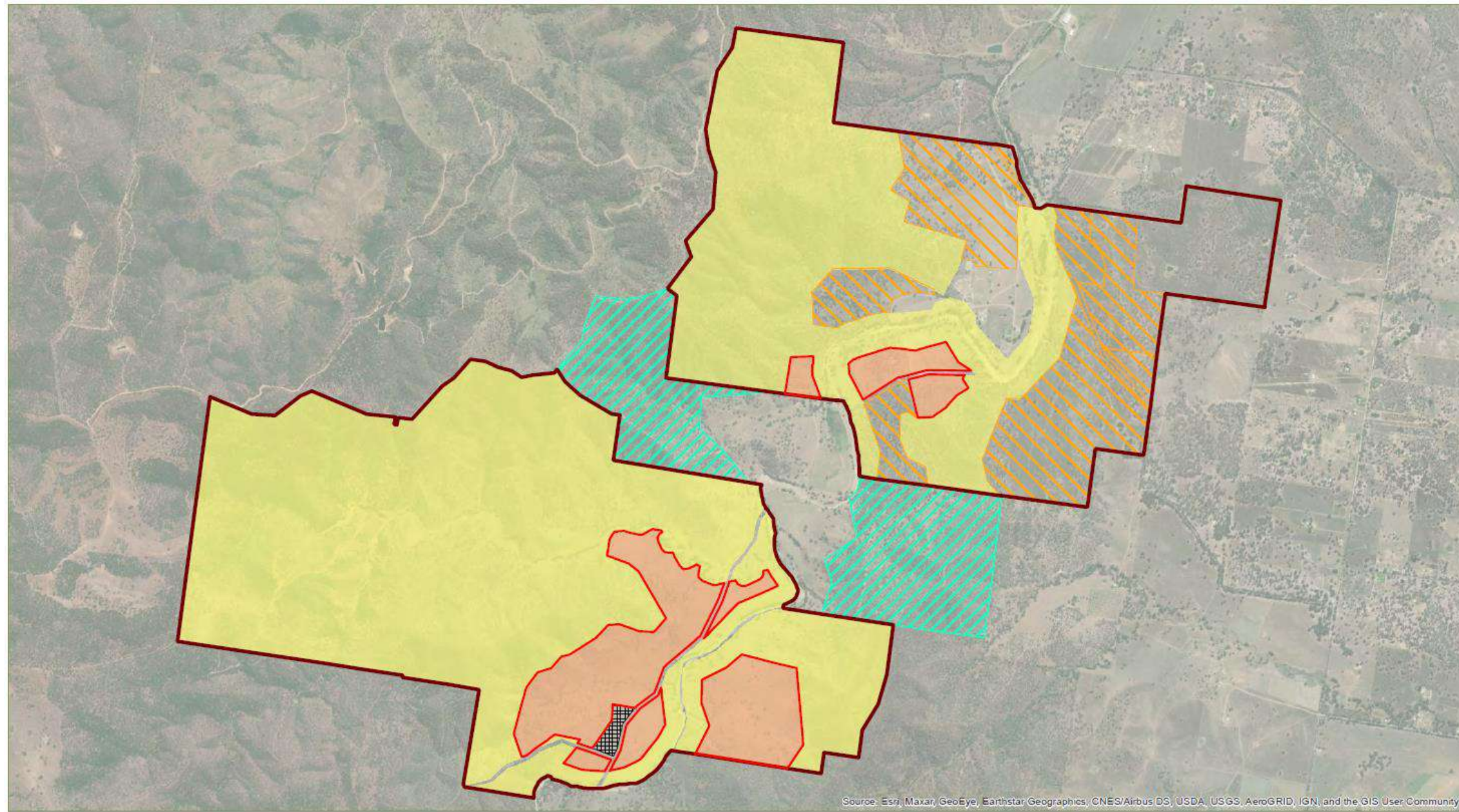


Daleswan Pty Ltd

Ripley Road, Ripley

Address / RPD | 70475/SP07679, 112/MS174, 110/SP169001, 111/SP169001, & 190/31349
 19/10/2022 | 9896 E 2B Proposed Development B

Attachment C: Avonvale and Cherry Gully Offset Area



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

FILE NAME: OEL3 PLAN 5 Offset Area Design V4
30/06/2022

Cherry Gully & Avonvale Stations
Offset Management Plan (OM3)

0 100 200 400 600 800 1,000
60494 MSA zone 56 1:26,000



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References: © State of Queensland, 2022

LEGEND

- CHERRY GULLY & AVONVALE STATIONS
- EPBC 2018/8347 OFFSET AREA
- EXISTING CHERRY GULLY & AVONVALE STATION OFFSET AREAS

- FUTURE OFFSET AREA [NOT PART OF THIS APPLICATION]
- OFFSET CARETAKER & MAINTENANCE COMPOUND

OFFSET DESIGN

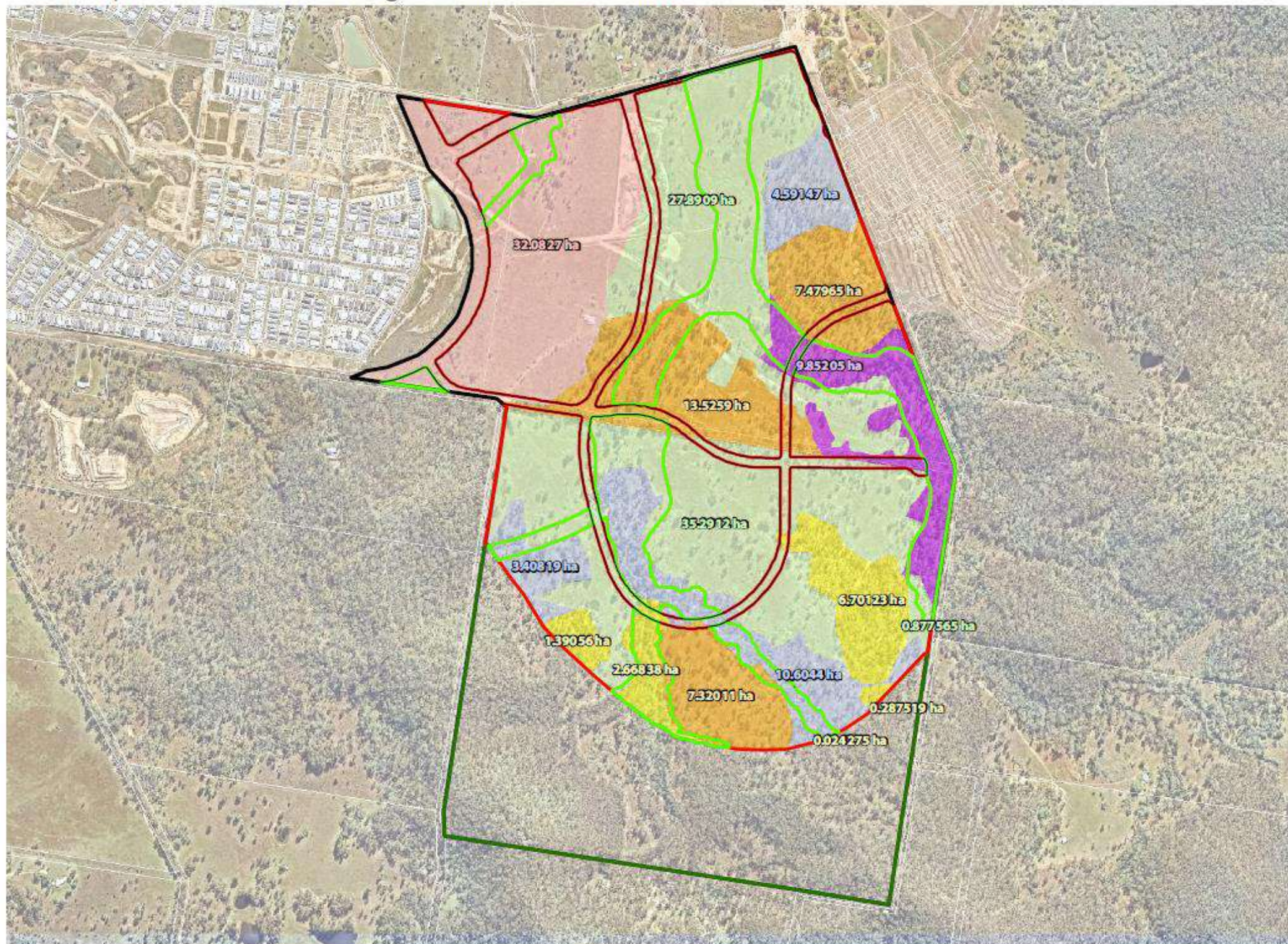
- ENVIRONMENTAL MANAGEMENT ZONE OPEN GRAZING COUNTRY - CATEGORY X VEGETATION [183.0 HA]
- FUTURE OFFSET AREA SUBJECT TO EXTERNAL LAND-HOLDER NEGOTIATIONS (NOT PART OF THIS APPLICATION)



Attachment D: Koala Impact Plan

DCCEW.gov.au
John Gorton Building - King Edward Terrace, Parkes ACT 2600 Australia
GPO Box 3090 Canberra ACT 2601 ABN: 63 573 932 849

A4. Impacted Koala Vegetation Communities



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Legend

- Qld OGD
- Referral Area

Impacted Vegetation Communities

Koala Habitat - 131.91 ha

- Open Paddock - 64.06 ha
- Regrowth RE12.3.3 - 9.85 ha
- Regrowth RE12.9-10.7 - 28.33 ha
- Regrowth RE12.9-10.2 - 18.60 ha
- Remnant RE12.9-10.2 - 11.07 ha

Non-Koala Habitat - 32.08

- Non-habitat - 32.08 ha

Proposed Development

- Conservation
- Development Footprint
- Reserve Open Space
- Road

Issue	Date	Description	Drawn/Checked
A	15/09/2022	Preliminary	L.S. J.C.

0 50 100 150 200 250 m

North Arrow

Technical drawing (CAD) 1:84 (Drawn @ 1:100 @ A3)
Address / RPZ: 7047/SP307626, 112/80174, 1105/169301, 1115/169301, & 1905/31399

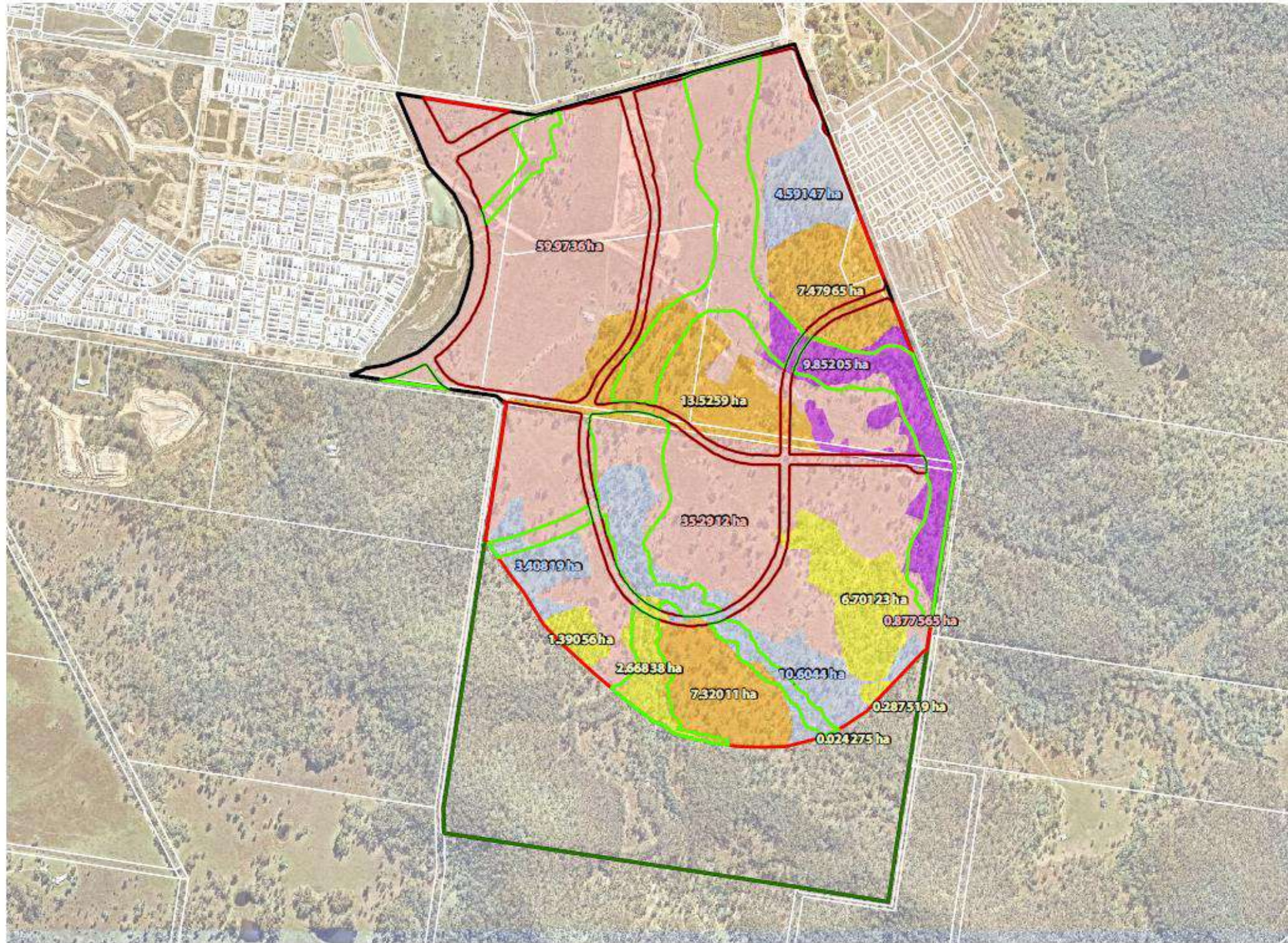


Daleswan Pty Ltd

Ripley Road, Ripley

5/09/2022 | 9895 / 04 Impacted Vegetation Communities A4

A5. Impacted Grey-headed Flying-fox Vegetation Communities



Notes:
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Legend

- Qld DCDB
- Referral Area
- Impacted Vegetation Communities**
- Grey-headed Flying-fox Habitat - 67.85 ha**
- Regrowth RE1 23.3 - 985 ha
- Regrowth RE1 29-10.7 - 28.32 ha
- Regrowth RE1 29-10.2 - 18.60 ha
- Remnant RE1 29-10.2 - 11.07 ha
- Non-Grey-headed Flying-fox Habitat - 96.14 ha**
- Non-Habitat - 96.14 ha
- Proposed Development**
- Conservation
- Development Footprint
- Passive Open Space
- Road

Rev	Date	Description	Drawn	Checked
A	5/6/2022	Preliminary	L.S.	G.

0 50 100 150 200 250 m

North Arrow

Terrestrial Vector (GDA 1984 Zone 56) 1:6300 @ A3

Address / PID: 20475/20160, 1128/1174, 1106/169201, 1117/169201, & 190/5199

Attachment F: EMZ 1 interim and final uplift, Koala

Table 12: MHQA Completion Criteria		EMZ 1 - Open Grazing Country													
Assessment Unit - Regional Ecosystem		RE12.11.14	Transect 1	Transect 2	Transect 3	Transect 4	Transect 5	Average of Transect(s)	% Benchmark	Baseline Score	Year 5	Year 10	Year 15	Year 20	
SITE CONDITION															
Recruitment of woody perennial species		100	0	0	33	0	50	16.60	16.60	0	0	3	3	5	
Native plant species richness - trees		6	1	1	3	0	2	1.40	23.33	0	5	5	5	5	
Native plant species richness - shrubs		7	0	0	0	0	1	0.20	2.86	0	0	2.5	2.5	2.5	
Native plant species richness - grasses		8	5	5	4	4	6	4.80	60.00	2.5	2.5	2.5	2.5	2.5	
Native plant species richness - forbs		23	2	3	3	4	4	3.20	13.91	0	0	2.5	2.5	2.5	
Tree canopy height (Canopy)*		25	0	12	0	0	12	4.80	19.20	0	0	3	3	5	
Tree canopy height (Sub-canopy)*		13	6	0	8	0	6	4.00	30.77	3	3	3	3	5	
*Average tree canopy height										0	1.5	3	3	5	
Tree canopy cover (Canopy)**		40	0	0	0	0	0	0	0.00	0	0	2	5	5	
Tree canopy cover (Sub-canopy)**		21	0	0	0	0	0	0.00	0.00	0	0	2	5	5	
**Average tree canopy cover										0	0	2	5	5	
Shrub canopy cover		4	0	0	0	0.7	0	0.14	3.50	0	5	5	5	5	
Native grass cover*		45	84.8	45	93.4	100	89	82.44	183.20	5	5	5	5	5	
Organic litter*		30	0	0.5	0	0	2	0.50	1.67	0	3	3	3	5	
Large trees (euc plus non-euc) (per ha)		33	0	0	0	0	0	0.00	0.00	0	0	0	0	0	
Coarse woody debris (per ha)		260	10.5	1.8	12.4	23.4	32	16.02	6.16	0	5	5	5	5	
Non-native plant cover		0	40	25	35	30	28	31.60	6.33	5	5	10	10	10	
Quality and availability of food and forag		NA	1	1	1	1	1	1.00	-	1	1	5	10	10	
Quality and availability of shelter		NA	1	1	1	1	1	1.00	-	1	1	5	10	10	
Site Condition Score (/100)										14	34	58.5	71.5	77.5	
Overall Site Condition Score - out of 3										0.42	1.02	1.76	2.15	2.33	
SITE CONTEXT										Baseline Score	Year 5	Year 10	Year 15	Year 20	
Size of patch		10	10	10	10	10	10	10	10	10	10	10	10	10	
Connectedness		5	4	4	4	4	4	4	4	4	4	4	4	4	
Context		5	4	4	4	4	4	4	4	4	4	4	4	4	
Ecological Corridors		6	6	6	6	6	6	6	6	6	6	6	6	6	
Role of site location to species overall p		5	5	5	5	5	5	5	5	5	5	5	5	5	
Threats to the species		15	1	1	1	1	1	1	1	1	15	15	15	15	
Species mobility capacity		10	4	4	4	4	4	4	4	4	4	4	4	7	
Site Context Score (/56)										34	48	48	48	51	
Overall Site Context Score - out of 3										1.82	2.57	2.57	2.57	2.73	
SPECIES STOCKING RATE															
Koala Stocking Rate (utilising SSR & SSR Supplementary Table(s))		70	5	5	5		5	5		5	5	30	30	30	
Species Stocking Rate Score (/70)										5.00	5	30	30	30	
Overall Species Stocking Rate Score - out of 4										0.29	0.29	1.71	1.71	1.71	
Overall Assessment Unit Score											2.53	3.88	6.04	6.43	6.77
Species Stocking Rate (SSR)										Baseline	Year 5	Year 10	Year 15	Year 20	
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5	10											
		No	Yes - adjacent	Yes - on site						5	5	5	5	10	
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15										
		Not habitat	Dispersal	Foraging	Breeding					0	0	0	0	10	
Approximate density (per ha)	Score	0	10	20	30										
		0%	low	med	high					0	0	0	0	10	
Role/importance of species population on site*	Score (Total from	0	5	10	15										
		0	5 - 15	20 - 35	40 - 45					0	0	0	0	0	
Total SSR score (out of 70)		5													
SSR Score (out of 4)		0.285714286													

Attachment G: EMZ 1 interim and final uplift, Grey-headed Flying-fox

Table 13: GHFF FHA Completion Criteria												
Assessment Unit – Regional Ec	AU 1 – non-remnant RE12.9-10.2											
Site Reference	Transect 1	Transect 2	Transect 3	Transect 4	Transect 5	Average	AU	Year 5	Year 10	Year 15	Year 20	OUT OF
	Raw Data	Raw Data	Raw Data	Raw Data	Raw Data	Score	Score	Score	10	15	20	(X/X)
Vegetation Condition	cat X	cat X	cat X	cat X	cat X	5	5	5	5	10	10	20
Species Richness	1	1	3	0	2	1.40	5	10	10	20	20	20
Flower Score	0	0	0	0	0	0.71	8	8	8	8	8	10
Timing of Biological Shortages	All transects: Due to the juvenile and sparse nature of the vegetation, none of the biological shortages are covered.					10	10	10	10	10	10	10
Quality of Foraging Habitat	0	0	0	0	0	1	5	10	10	20	20	20
Non-native Plant Cover	40%	25%	35%	30%	28%	37.58%	5	10	20	20	20	20
Site Condition Score							38	53	63	88	88	X
MAX Site Condition Score							100	100	100	100	100	X
Site Condition Score – out of 4							1.52	2.12	2.52	3.52	3.52	X
Size of patch	Patch size	Patch size >200ha	Patch size >200ha	Patch size >200ha	Patch size >200ha	10	10	10	10	10	10	10
Connectedness	All transects have 4-6 active camps within 20km					0	0	0	0	0	6	10
Context	31-75%	31-75%	31-75%	31-75%	31-75%	6	6	6	6	6	6	10
Ecological Corridors	Within	Within	Within	Within	Within	6	6	6	6	6	10	10
Role of site location to species overall population in the state	All transects have 1-3 active level 3 GHFF camps within 20km					0	0	0	0	0	5	10
Threats to the species	10	10	10	10	10	10	10	10	10	10	10	10
Site Context Score							32	32	32	32	47	X
MAX Site Context Score							60	60	60	60	60	X
Site Context Score – out of 3							1.60	1.60	1.60	1.60	2.35	X
GHFF Foraging Tree Density	0	0	0	0	0	0	1	1	2	5	5	10
Species Stocking Rate Score							1	1	2	5	5	X
X Species Stocking Rate Score							10	10	10	10	10	X
Stocking Rate Score – out of 3							0.30	0.30	0.60	1.50	1.50	X
Total							3.42	4.02	4.72	6.62	7.37	

RE12.11.14	
Score	Stem Density Results (T1 and
1	0 – 200 stems per hectare
2	201 – 250 stems per hectare
5	251 – 300 stems per hectare
7	301 – 325 stems per hectare
10	326 – 350 stems per hectare
7	351 – 375 stems per hectare
5	376 – 400 stems per hectare
4	401 – 450 stems per hectare
2	450 + stems per hectare



Attachment H: Offset Management Plan Requirements

In addition to any requirements of the conditions of approval, an offset management plan submitted for approval by the **Minister** must:

- a. Include a reference to the **EPBC Act** approval conditions (and state or local government approval conditions) to which the Offset Management Plan refers
- b. Specify referenced plans, including revegetation and rehabilitation plans, and how these can be accessed.
- c. Include detailed information on the residual impacts to **protected matters** that will be offset. This must include the area(s) of habitat for **protected matters** and its condition and quality at all impact sites which the offset is to address
- d. Identify a suitable environmental offset(s) for the impacts on **protected matters**, and provide detailed baseline information on the proposed offset(s) and commit to achievable and measurable ecological benefits, and timeframes for their achievement, for the proposed offset(s)
- e. Detail how the offset(s) will be protected, and ecological benefits maintained, in perpetuity
- f. Include a table of commitments to achieve the ecological benefits for relevant **protected matters**, and a reference to where the commitments are detailed in the Offset Management Plan
- g. Include timebound management actions that will be implemented to achieve the measurable ecological benefits for relevant **protected matters**
- h. Include an assessment of risks to achieving the ecological benefit(s) and what risk management strategies will be applied to address these
- i. Include reporting and review mechanisms, and documentation standards to inform others annually regarding compliance with management and environmental commitments, and attainment and maintenance of ecological benefits, as specified in the Offset Management Plan
- j. Propose corrective actions to ensure ecological benefits for the **protected matters** are attained or maintained, if trigger values are reached or performance indicators not attained
- k. Include a monitoring program for the full duration of the proposed offset management period, which must include:
 - i. measurable performance indicators to monitor progress towards, attainment of the ecological benefits for the **protected matters**
 - ii. a randomisation of monitoring within the offset area to ensure ecological benefits reflect the whole offset site(s)
 - iii. trigger values and timing of corrective actions
 - iv. the timing and frequency of monitoring to detect trigger values and changes in the performance indicators.

Appendix B

ICC / AW Bidco No. 6 PTY Ltd Agreement

Agreement inserted once complete

Appendix C

Baseline Extent of weed cover and feral animal surveys (SHG)

Baseline extent of weed cover and feral animal surveys

Providence East - EPBC 2018/8347

Prepared for AW Bidco No. 6 Pty Ltd (Stockland)
13 December 2024

Job 9896

Background

The Environmental Management Division of **Saunders Havill Group** (SHG) was engaged by **AW Bidco No. 6 Pty Ltd** (Stockland) to complete baseline extent of weed cover and feral animal abundance surveys throughout the Conservation Area of the approved Ripley Valley Priority Development Area (RVPDA) Providence East development, located 5 km southeast of Ipswich Queensland.

The Ripley Valley PDA Providence East precinct (EPBC 2018/8347) was referred under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and subsequently declared a "Controlled Action" requiring assessment by "Preliminary Documentation" pursuant to section 18 and 18A (listed threatened species and communities) on the 1 April 2019. The trigger for the controlling provision was due to potential impacts on the vulnerable Koala (*Phascolarctos cinereus*), the vulnerable Grey-headed Flying-fox (GHFF) (*Pteropus poliocephalus*) and the vulnerable Greater Glider (*Petauroides volans*).

Following correspondence and meetings with the Department of Climate Change, Energy, the Environment and Water (DCCEEW) the following technical memorandum outlines the requirement of the Conservation Area, specifically to address Condition 9(a) and 9(b) of the EPBC approval (refer to **Figure 1** for Site Context and **Figure 2** for Site Aerial, refer **Attachment 1** for a full copy of the approval for EPBC 2018/8347).

Document Control

Document: Baseline extent of weed cover and feral animal surveys for Part of Lot 190 on S31349 (Conservation Area), Providence East under EPBC 2018/8347 prepared by Saunders Havill Group for AW Bidco No. 6 Pty Ltd (Stockland)

Document Issue

Issue	Date	Prepared By	Checked By
Issue A	13.06.2023	LB	MS
Issue B	19.08.2024	LB	AR
Issue C	13.12.2024	TC	LB

Prepared by

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1. Conditions under approval

The action was approved under the EPBC Act subject to conditions on 15 December 2022 with effect until 31 November 2050. Condition 9 of the approval requires that the approval holder must complete and provide the Department with the results and dates of the following surveys relating to the Conservation Area:

- 9.** *For the protection of the **Koala, Greater Glider and Grey-headed Flying-fox** within the **development area**, within 6 months of this approval decision the approval holder must:*
- a. complete baseline **extent of weed cover** and **feral animal** abundance surveys throughout the **conservation area** in accordance with a scientifically valid, robust, and repeatable methodology.*
 - b. submit the results of the baseline **extent of weed cover** and **feral animal** surveys required by 9(a) for the **department's** acceptance, and must make this information available on the website within 2 months of the report of the **extent of weed cover** and **feral animal** abundance surveys being accepted by the **department**.*

The surveys must be conducted by a suitably qualified person, consistent with the Department's approved survey guidelines and designed to provide results that are representative of the entire areas of the conservation area.

This report has been prepared to satisfy the requirements of the conditions of approval.



Legend

- Providence East Referral Area
- Conservation Area

Figure 1
Site Context

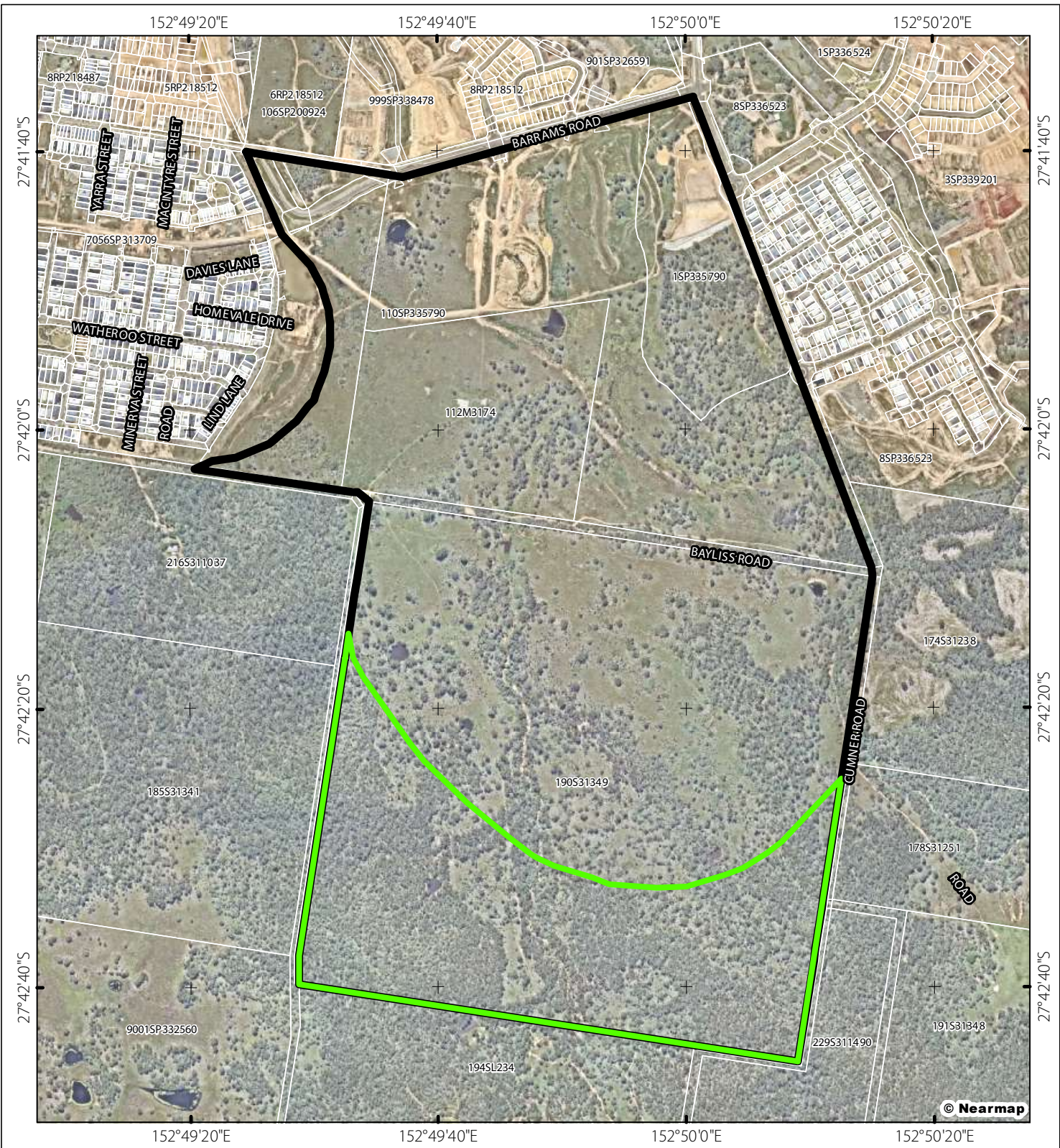


File ref. 9896 E Figure 1 Site Context B
Date 13/08/2024
Project Providence East

0 1 2 3 4 5 km

Scale (A4): 1:150,000 [GDA 1994 MGA Z56]





Legend

- Qld DCDB
- Providence East Referral Area
- Conservation Area

Layer Source: © State of Queensland 2024

Figure 2
Site Aerial

File ref. 9896 E Figure 2 Site Aerial B
Date 13/08/2024
Project Providence East

0 100 200 300 400 500 m

Scale (A4): 1:12,000 [GDA 1994 MGA Z56]

 **Stockland**

 **saunders havill group**

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2. Baseline survey methodology

The following surveys have been carried out by suitable qualified experts within the Environmental Management Division of SHG. SHG are experienced environmental consultants with a specific expertise across South-East Queensland and RVPDA, with several active and complete projects in the area, refer **Attachment 2** for project team Curriculum Vitae.

Condition 9 states that within 6 months of the date of the approval (15 December 2022), the approval holder must complete baseline surveys of the **Conservation Area** in accordance with a scientifically valid, robust and repeatable methodology, to determine the:

- a. **extent of weed cover, and**
- b. **abundance of feral animals.**

The methodology of each survey detailed within the following sections incorporates the required baseline surveys outlined above. A summary of the surveys conducted is provided within **Table 1**.

Table 1: Survey Methodology Summary

Condition	Methodology	Date
9 (a)	Diurnal observations	17 April 2023
'Baseline extent of weed cover and feral animal abundance'	Motion camera traps (17 April – 3 May)	19 April 2023
	Weed cover extent survey	20 April 2023
		24 April 2023
		3 May 2023

2.1. Diurnal observations

Diurnal observations of flora and fauna or signs of fauna activity were conducted simultaneously with all other surveys conducted throughout the surveying period and across the Conservation Area (detailed in following sections). Diurnal observations included the recording of weed species and feral animals observed across the Conservation Area.

2.2. Weed Cover Survey

A weed species as defined within the approval conditions (EPBC 2018/8347) is *'any weed species identified within the Weeds of National Significance and weed species listed under the Biosecurity Act 2014 (Qld).'* As per the DCCEEW definition, a review of current listed Weeds of National Significance (WONS) and weeds listed under the *Queensland Biosecurity Act 2014* were reviewed prior to the site assessment. Furthermore, a review of the City of Ipswich Biosecurity Plan 2018-2023 was reviewed for additional relevance.

2.2.1 Weeds of National Significance (WONS)

Under the National Weeds Strategy, thirty-two (32) introduced plants were identified as WONS. This list of 32 WONS was developed based on the following key criteria:

- invasive tendencies
- impacts
- potential for spread
- socioeconomic and environmental values.

National management strategies and manuals have been published for all of these species.

The strategies aim to:

- prevent spread and new infestations,
- reduce adverse impacts of existing infestations,
- establish and maintain national commitment,
- coordinate management at a national level
- increase community awareness.

2.2.2 Queensland - Biosecurity Act 2014

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

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

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

- Category 7: must be euthanised (animals).

2.2.3 City of Ipswich Biosecurity Plan 2018-2023

The City of Ipswich Biosecurity Plan 2018-2023 details Prevention, Eradication and Containments strategies for restricted matters (i.e species listed under the Biosecurity Act 2014).

2.2.4 Weed Survey Methodology

Baseline survey justification

The Providence East precinct (inclusive of the impact area and Conservation Area) was surveyed several times as part of the EPBC approval process. Surveys were required to quantify vegetation value as it pertains to suitable habitat for Matters of National Environmental Significance (MNES) species. This assessment utilised the 'Modified Habitat Quality Transects' (MHQA) as described under the Biocondition methodology (2015). A component of this assessment estimates the total non-native plant cover within transect areas which contributes to the overall habitat score.

For the purposes of this assessment, the MHQA methodology is not considered the most appropriate assessment to measure cover of specific weeds. The MHQA methodology is used to estimate total weed cover but does not provide the opportunity to calculate the percentage cover of separate weed species. Therefore, a more robust and targeted assessment was proposed for this assessment to capture more detail on weed cover.

Given these surveys are to obtain baseline results, it is important that any method utilised needs to be robust and easily repeatable. The method for determining weed cover is a two-stage approach. Firstly, the site is walked several times to identify weeds present and to delineate areas of infestation using a hand-held GPS by suitable qualified ecologists. Secondly, within each area of interest, the density of weeds needs to be calculated to determine abundance. *The Guidelines for Monitoring Weed Control and recovery of native vegetation* (Auld 2009) was utilised to develop the survey methodology. This guideline states that estimating the abundance of plants is often most conveniently done by measuring their ground cover which is the perpendicular projection of aerial parts of plants to the ground (refer **Insert 1**). Two methods are outlined in the guidelines to acquire this information, either by using a series of quadrats to estimate cover or by laying a transect tape and measuring cover along the tape. For the purpose of this assessment, measuring the aerial projection of plant along the tape was considered most appropriate. This method minimises user variability as cover calculations are not reliant on estimations, cover is instead accurately measured against the tape (typically 100 m long). This two-staged approach to weed mapping presents a percentage cover of the specific weed species as well as an area of infestation, therefore the total area of weed cover for each weed species can be calculated.

Future survey

The approval conditions (EPBC 2018/8347) states that '*for the remaining period of approval, the approval holder must ensure that the extent of weed cover does not increase with respect to the baseline.*' It is expected that active weed management will be carried out to reduce the overall area of weed cover. *The Guidelines for Monitoring Weed Control and recovery of native vegetation* (Auld 2009) recommends that transect locations selected as part of the baseline survey remain consistent and revisited. Auld 2009 states '*While there are statistical reasons for choosing new random points, revisiting fixed points provides greater confidence that changes have occurred*

over time rather than natural variation at the site.’ The frequency of re-assessment will be detailed in the overarching Conservation Area Management Plan (CAMP) that will be completed following the approval of the baseline survey results. Future surveys for weed cover will repeat the two-staged mapping approach as detailed above. Re-mapping the extent of weed infestations using a GPS allows for comparisons against baseline readings to be determined. Should the extent of weed cover increase, into non-mapped areas, this will be evident during the re-mapping exercise. Fixed transects enable a percentage weed cover to be calculated which will be revisited during each mapping exercise to determine changes in weed cover. The benefit of this approach is that both the extent (in ha) and density (as a percentage) of weeds are assessed, and increases/decreases are easily recognised. Furthermore, while existing transect locations will be re-visited there is no reason why additional transects cannot be utilised in the future should the extent of weeds change. It is considered that this survey methodology is a valid, robust and repeatable method.

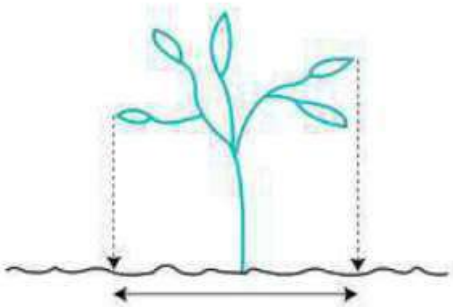


Figure 5. Ground cover of a plant indicated by the horizontal arrowed line.



Insert 1: Measuring ground cover (extract – Figure 5 and Figure 8: Auld 2009)

2.3. Feral Animal Abundance Survey

A feral animal is defined within the approval conditions (2018/8347) as ‘non-native predators and non-native herbivores, including those known to predate on the Koala and/or Greater Glider, or with the potential to impact on vegetation habitat regeneration for protected matters.’

2.3.1 Desktop Search

An initial desktop search was conducted for the Conservation Area and broader locality to determine feral species likely to be present. This result aided in designing and implementing the baseline survey methodology. A search of the Wildnet database under the Nature Conservation Act 1992, as well as other publicly available databases (ALA/Biomaps), for a 5km radius of the Conservation Area returned several feral/invasive fauna species. Feral mammal species within this search are shown in **Table 2** and **Attachment 2** for full search results. Several additional feral species of amphibian, birds and reptiles have been recorded in the area.

Table 2: Desktop Search of Feral species within a 5km radius of the Conservation Area

Species Name	Common Name	Status	Associated Impacts
<i>Canis lupus familiaris</i>	Wild Dog	Feral	Predation on native species including Koala
<i>Vulpes vulpes</i>	Red Fox	Feral	Predation on native species including Koala
<i>Sus scrofa</i>	Feral Pig	Feral	Dig/disturb ground modifying habitat
<i>Felis catus</i>	Feral Cat	Feral	Predation on native species including Koala
<i>Dama dama/Cervus elaphus</i>	Feral Deer	Feral	Graze on young native trees reducing new habitat
<i>Lepus europaeus</i>	European Brown Hare	Feral	Graze on young native trees reducing new habitat

2.3.2 Feral animal survey methodology

For successful monitoring of feral animal abundance, camera trapping is frequently utilised and remains the industry standard. Camera traps have the advantage of obtaining a wide range of significant information based on the set up. Automatic camera systems are triggered by an animal passing in front of a sensor that detects movement, changes in ambient light, or a thermal differential (Moen & Lindquist 2004). Cameras allow for the detection of species that are difficult to study due to their elusive or nocturnal habits (Mace *et al.* 2004). Camera deployment is less time consuming, less costly, and less invasive than long-term direct observation of animals. They are also beneficial in studying animals in inaccessible or difficult to access locations such as dens and nest cavities, or in rugged terrain (Mace *et al.* 1994). In addition, they enable the collection of valuable information about multiple species within any given community (Rosellini *et al.* 2008) and provide data that

is more permanent and less disputable than data gathered by direct observation. Furthermore, camera trapping allows consistent and repeatable surveys to be completed by placing the same cameras in the same locations using the same settings for the same length of time and set with the same bait. The repeatability of motion sensor camera trapping means it is an appropriate method to monitor changes of the abundance of feral animals over time.

The use of camera trapping and den count is considered to be an effective method in capturing, assessing and monitoring pest management. Camera trapping involves setting up a fixed motion-triggered infrared camera to capture images or video of animals which pass in front of camera or are lured by bait. This set-up identifies fauna activity beyond the scope of direct observational studies and in the absence of potential observer impacts. Infrared sensing cameras with an infrared flash were deployed, which use motion to trigger. Cameras were attached 50cm - 1m from the ground on a tree or post, and directed towards the bait station which is placed about 1.5 - 2m from the mounted camera.

The number of camera traps required for a specific survey area are dependent on the individual characteristics of the survey site (overall size and variety of vegetation communities) as well as the behaviours of the specific species being targeted (mobility/home range). The Conservation Area is 50 ha in size with a consistent, single, vegetation community across the entire area (being *Corymbia citriodora/Eucalyptus crebra* dominated woodland), refer **Section 3.1** for details. While multiple drainage lines are present within the Conservation Area, these are the upper extents of the waterways catchment and therefore do not demonstrate significant changes in vegetation and contain minimal riparian vegetation.

At present, DCCEEW does not have a published guideline for detecting feral animals. *The Survey Guidelines for Australia's Threatened Mammals* (2011) was reviewed as a published methodology for detecting mammals. However, this guideline recommends 10 remote cameras per ha as the focus is on threatened species which are highly cryptic and often have small home ranges. In contrast, feral animals are far less cryptic and significantly more mobile with larger home ranges than most native species.

The purpose of this assessment is to survey for feral animal abundance; therefore, *The Survey Guidelines for Australia's Threatened Mammals* is considered excessive and not practical for an area of this size. **Table 3** below outlines key feral animal present within the region and their associated home ranges. Several published papers outline the density of cameras required to monitor abundance of specific feral mammals. This is most conveniently done utilising a grid-based system which can be applied over the survey area. The grid-based system is a standard method of unbiased assessment with the purpose being that each camera is equidistant from the other. The literature recommends a grid based on at least 500 m x 500 m and frequently up to 1 km x 1 km. To ensure, the survey method provide suitable coverage, a 400 m x 400 m grid was applied to the survey area, well below the minimum recommended grid-based methods for all feral animals. Furthermore, the 50 ha Conservation Area is well within the home ranges of all feral animals targeted. Once the camera location had been determined within each 400 m grid, cameras were directed towards animal tracks to increase the chances of detection and identification, but the primary focus is to ensure an even spread of cameras across the site.

Table 3: Camera grid size justification

Target animal	Approx. Home Range	References	Grid recommendations
Dog	>250ha	<ul style="list-style-type: none"> Department of Primary Industries, NSW Government (2018), Guidelines for camera trapping wild dogs, foxes and feral cats 	<ul style="list-style-type: none"> 1 km
		<ul style="list-style-type: none"> Northern Territory Government (2015), A guide for the use of remote cameras for wildlife survey in northern territory 	<ul style="list-style-type: none"> 500 m
		<ul style="list-style-type: none"> Contardo, J. E. (2017). Occupancy of free-ranging dogs in relation to infrastructure and habitat on Navarino Island, Cape Horn Reserve, Chile 	<ul style="list-style-type: none"> 700 m
		<ul style="list-style-type: none"> Department of Industry, (2017). NSW Wild Dog Management Strategy 2022-2027 	<ul style="list-style-type: none"> 700 m
		<ul style="list-style-type: none"> McNeill et al (2016), Dingoes at the Doorstep: Home Range Sizes and Activity Patterns of Dingoes and Other Wild Dogs around Urban Areas of North-Eastern Australia 	<ul style="list-style-type: none"> 700 m
Fox	500ha	<ul style="list-style-type: none"> Department of Primary Industries, NSW Government (2018), Guidelines for camera trapping wild dogs, foxes and feral cats 	<ul style="list-style-type: none"> 1 km
		<ul style="list-style-type: none"> Northern Territory Government (2015), A guide for the use of remote cameras for wildlife survey in northern territory 	<ul style="list-style-type: none"> 500 m
Pig	>200ha	<ul style="list-style-type: none"> Department of Primary Industries, NSW Government (2018), Guidelines for camera trapping wild dogs, foxes and feral cats 	<ul style="list-style-type: none"> 1 km
		<ul style="list-style-type: none"> Northern Territory Government (2015), A guide for the use of remote cameras for wildlife survey in northern territory 	<ul style="list-style-type: none"> 500m
Cat	Up to 800ha	<ul style="list-style-type: none"> Department of Primary Industries, NSW Government (2018), Guidelines for camera trapping wild dogs, foxes and feral cats 	<ul style="list-style-type: none"> 1 km
		<ul style="list-style-type: none"> Northern Territory Government (2015), A guide for the use of remote cameras for wildlife survey in northern territory 	<ul style="list-style-type: none"> 500 m
		<ul style="list-style-type: none"> Johnson (2020), Caught out: Using camera traps to assess the effectiveness of feral cat baiting in north-western Australia 	<ul style="list-style-type: none"> 3 km

Target animal	Approx. Home Range	References	Grid recommendations
Deer	>200ha	<ul style="list-style-type: none"> Victoria Government (2021), Guide to Monitoring Methods Northern Territory Government (2015), A guide for the use of remote cameras for wildlife survey in northern territory 	<ul style="list-style-type: none"> 500 m 500 m

In summary, several factors were considered when developing the methodology for monitoring feral animal abundance. A regularised grid-based system utilising 400m x 400m grids, coupled with a consistent vegetation community and relatively small overall area (50ha) resulted in the deployment of five (5) cameras. This method is considered appropriate for monitoring feral animals in lieu of specific survey guidelines published by DCCEEW. Future surveys for feral animals should repeat this technique ensuring the number of cameras, duration of deployment and bait used remain the same.

2.3.3 Motion-triggered infrared camera trap

Five (5) cameras were deployed across the Conservation Area, located throughout the site for 16 survey nights between 17 April and 3 May 2023.

The cameras were baited with peanut butter, oats and honey as this is considered the universal bait type. As the purpose of this assessment was to capture all feral animals, this bait selection was deemed most appropriate. The bait station utilised does not allow the target animal to consume the bait. Additionally, weather conditions were dry throughout the survey period, and therefore it was not necessary to replenish the bait (refer **Table 4** for details). The location, including coordinates, of each camera area shown in **Plan 1**.

Table 4: Camera Deployment details

Camera	Bait used	Bait replaced	Date deployed	Date collected	Total days
Camera 1 'Beetle'	Panut butter, oats and honey	Not required	17 April 2023	3 May 2023	16
Camera 2 'Bug'	Panut butter, oats and honey	Not required	17 April 2023	3 May 2023	16
Camera 3 'Crab'	Panut butter, oats and honey	Not required	17 April 2023	3 May 2023	16
Camera 4 'Iris'	Panut butter, oats and honey	Not required	17 April 2023	3 May 2023	16
Camera 5 'Tick'	Panut butter, oats and honey	Not required	17 April 2023	3 May 2023	16

2.3.4 Relative Abundance Index

Camera data recording number of occurrences over days of camera deployment was utilised to provide relative abundance over the Conservation Area, reducing bias and increasing repeatability.

A relative abundance index (RAI) is then calculated for feral animal abundance, using the formula **RAI= D/TN x 100**, where D is numbers of detection and TN is the total number of camera-trap nights (all cameras combined). This is a frequently utilised surveying methodology for a range of ecological applications. This methodology ensures that the surveys are representative of the entire area and are repeatable for future monitoring requirements (O'Brien 2011).








Photo set 1: 1 of 5 camera set ups within the Conservation Area

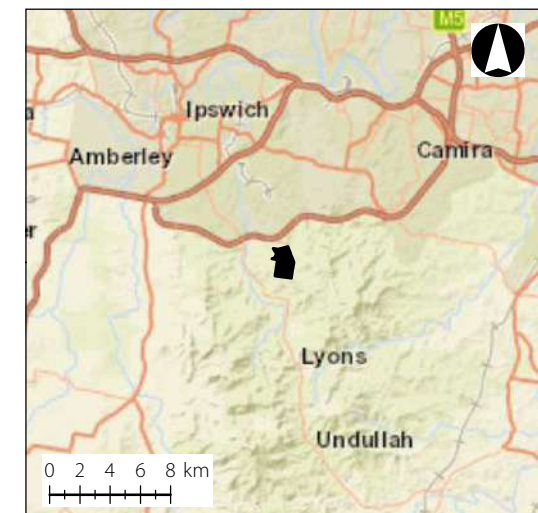
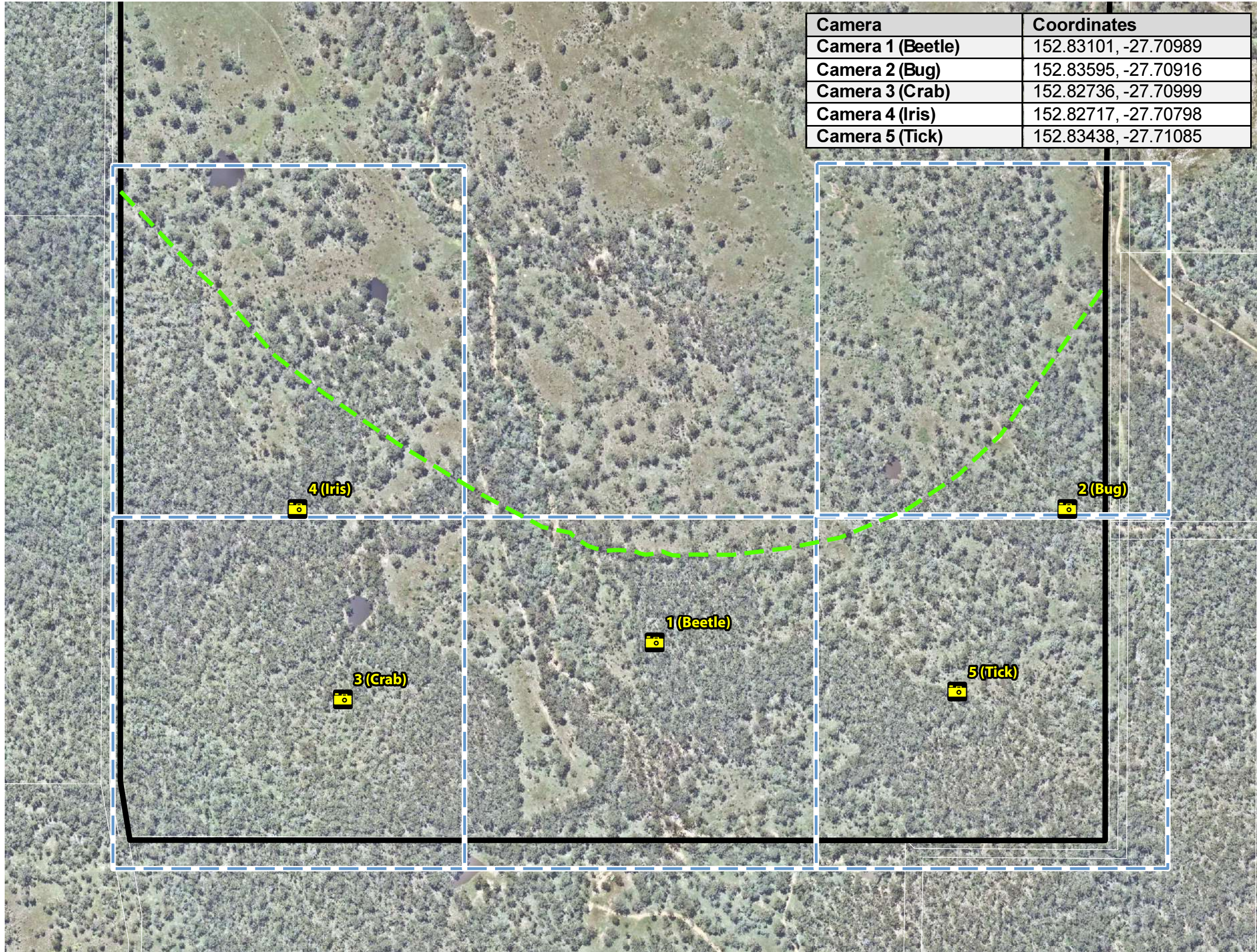
1. Conservation Area 400x400m Grid

Camera	Coordinates
Camera 1 (Beetle)	152.83101, -27.70989
Camera 2 (Bug)	152.83595, -27.70916
Camera 3 (Crab)	152.82736, -27.70999
Camera 4 (Iris)	152.82717, -27.70798
Camera 5 (Tick)	152.83438, -27.71085

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: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
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 Updated data available at <http://qldspatial.information.qld.gov.au/catalogue/>
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Legend

-  Qld DCDB
-  Referral area
-  Conservation area boundary
-  400x400m grid
-  Camera trap location



Address: Ripley Road, Ripley
 3/12/2024 | 9896 E 01 Conserv 400m G C

3. Baseline Survey Results

3.1. Current vegetation state

The entire Conservation Area was traversed multiple times by SHG ecologists to provide data on the current state of vegetation. The Conservation Area consists of steep terrain which exhibits varying levels of disturbance. Dominant canopy species was *Corymbia citriodora* (Spotted Gum) with *Eucalyptus tereticornis* (Forest Red Gum) present on the lower slopes and *Eucalyptus crebra* (Narrow-leaved Ironbark) on the upper slopes. Canopy species are generally reflective of the dominant mapped RE's of 12.9-10.7 and 12.9-10.2. The shrub layer consists of largely recruiting canopy species and acacia species with weeds varying in density across the site. *Lantana camara* (Lantana) is the dominant weed species across the site with varying levels of *Lantana montevidensis* (Creeping Lantana), exotic grasses and vines, including *Passiflora suberosa* (Corky Passion) and *Melinis repens* (Red Natal Grass) where breaks in the canopy are present (refer **Photo set 2**).

Several drainage lines are present across the Conservation Area which were often weed infested. These drainage lines did not reflect true riparian features. Field surveys identified that majority of the canopy trees were of relatively small DBH and therefore often not containing hollows. At the time of assessment, it was evident that cattle are still grazing across the broader property due to grass cropping and scats observed.



Photo set 2: General condition of Conservation Area during site surveys

3.2. Extent of weed cover

Ecologists from SHG walked the Conservation Area several times and recorded all weed species (refer **Table 5**). Of the 13 weeds recorded, two species, *Lantana camara* (Lantana) and *Lantana montevidensis* (Creeping Lantana), are recognised as weeds under the DCCEEW definition. *Lantana camara* (Lantana) is a listed WONS and *Lantana montevidensis* (Creeping Lantana) is a listed restricted invasive plant under the Queensland Biosecurity Act 2015.

Table 5: Weed species recorded within the Conservation Area

Species Name	Common Name	Listing
<i>Bidens pilosa</i>	Cobbler's Pegs	-
<i>Calyptocarpus vialis</i>	Creeping Cinderella Weed	-
<i>Chloris gayana</i>	Rhodes Grass	-
<i>Conyza sumatrensis</i>	Tall Fleabane	-
<i>Gomphocarpus physocarpus</i>	Balloon Cotton Bush	-
<i>Heliotropium amplexicaule</i>	Blue Heliotrope	-
<i>Lantana camara</i>	Lantana	Weed of National Significance (WONS)
<i>Lantana montevidensis</i>	Creeping Lantana	Restricted invasive species – Biosecurity Act 2015
<i>Megathyrsus maximus</i>	Green Panic	-
<i>Melinis repens</i>	Red Natal Grass	-
<i>Oxalis corniculata</i>	Creeping Oxalis	-
<i>Passiflora suberosa</i>	Corky Passion Vine	-
<i>Sida rhombifolia</i>	Common Sida	-

On-ground surveys identified *Lantana camara* (Lantana) as being the dominant weed species across the Conservation Area. Areas of *Lantana camara* (Lantana) growth were traced using a hand-held GPS based on relative density (i.e low, moderate, high). Ground cover transects (100m) were then utilised, as per Auld 2008 methodology described in **Section 3.2.4**, to provide quantifiable data on density. The raw data captured within each 100m transect has been provided in **Section 4.2.1 - 4.2.5**. The locations and coordinates of each transect area shown on **Plan 2**.

The extent of weeds is illustrated on **Plan 2** and described in **Table 6**. The relative area of weed cover has been provided in **Table 7** based on percentage cover and area.

Table 6: Weed cover categories.

Weed cover category	Description
Low density Lantana	Areas where <i>Lantana camara</i> (Lantana) is the dominant weed species at a cover of 5% - 20%.
Moderate Density Lantana	Areas where <i>Lantana camara</i> (Lantana) is the dominant weed species at a cover of 20% - 50%.
Moderate Density Creeping Lantana	Areas where <i>Lantana montevidensis</i> (Creeping Lantana) is the dominant weed species at a cover of 20% - 50%
High Density Lantana	Areas where <i>Lantana camara</i> (Lantana) is the dominant weed species at a cover of >50%.
Predominantly native	Areas where native ground cover species are dominant and exotic/weed species total <5%

Table 7: Relative area of weed cover for each density category.

Weed cover category	Area (ha)	Percentage weed cover (based on transect results)	Relative area of weed cover (ha)
Low density Lantana	1.0	16%	0.16
Moderate Density Lantana	11.8	40.5%	4.78
Moderate Density Creeping Lantana	9.8	41%	4.01
High Density Lantana	1.9	66%	1.25
Predominantly native	25.8	0%	1.03
		Lantana	6.19
		Creeping Lantana	4.01
		Total	10.20

3.2.1 Low density Lantana

Areas defined as low density Lantana were categorised based on *Lantana camara* (Lantana) being the dominant weed species at a cover of 5% - 20%. These polygons were associated with relatively flat terrain in the northern extent of the Conservation Area. These thresholds were developed utilising ground cover transects across the Conservation Area, refer **Table 8** for raw data and **Photo set 3**.

Table 8: Transect data for low density Lantana areas

Transect 6				
Start	End	Distance (m)	Ground Cover	Species
0	1.5	1.5	Native Grass	<i>Themeda triandra</i> (Kangaroo Grass), <i>Heteropogon contortus</i> (Black Speargrass)
1.5	2.6	1.1	Creeping lantana	<i>Lantana montevidensis</i> (Creeping lantana)
2.6	7.8	5.2	Native Grass	<i>Cymbopogon refractus</i> (Barbed wire grass), <i>Eragrostis brownii</i> (Brown's Lovegrass), <i>Aristida purpurea</i> (Threeawn Aristida), <i>Imperata cylindrica</i> (Blady Grass)
7.8	10.8	3	Lantana	<i>Lantana camara</i> (Lantana)
10.8	12.4	1.6	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Heteropogon contortus</i> (Black Speargrass), <i>Eragrostis brownii</i> (Brown's Lovegrass)
12.4	18.4	6	Lantana	<i>Lantana camara</i> (Lantana)
18.4	19.6	1.2	Native Grass	<i>Cynodon dactylon</i> (Common Couch)
19.6	25.5	5.9	Creeping lantana	<i>Lantana montevidensis</i> (Creeping lantana)
25.5	32.7	7.2	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Heteropogon contortus</i> (Black Speargrass), <i>Cymbopogon refractus</i> (Barbed wire grass)
32.7	36	3.3	Lantana	<i>Lantana camara</i> (Lantana)
36	40.6	4.6	Native Grass	<i>Heteropogon contortus</i> (Black Speargrass), <i>Cymbopogon refractus</i> (Barbed wire grass), <i>Aristida purpurea</i> (Threeawn Aristida)
40.6	50	9.4	Litter	N/A
50	52.6	2.6	Creeping lantana	<i>Lantana montevidensis</i> (Creeping lantana)

Transect 6				
Start	End	Distance (m)	Ground Cover	Species
52.6	55.9	3.3	Litter	N/A
55.9	62	6.1	Native Grass	<i>Heteropogon contortus</i> (Black Speargrass), <i>Cymbopogon refractus</i> (Barbed wire grass), <i>Eragrostis brownii</i> (Brown's Lovegrass)
62	63.1	1.1	Litter	N/A
63.1	65	1.9	Native Grass	<i>Eragrostis brownii</i> (Brown's Lovegrass)
65	69.5	4.5	Litter	N/A
69.5	73	3.5	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Cymbopogon refractus</i> (Barbed wire grass)
73	76	3	Lantana	<i>Lantana camara</i> (Lantana)
76	79.6	3.6	Rock	N/A
79.6	81.4	1.8	Native Grass	<i>Eragrostis brownii</i> (Brown's Lovegrass)
81.4	82	0.6	Lantana	<i>Lantana camara</i> (Lantana)
82	100	18	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Heteropogon contortus</i> (Black Speargrass), <i>Cymbopogon refractus</i> (Barbed wire grass), <i>Eragrostis brownii</i> (Brown's Lovegrass)
Total Cover				
Native Grass	53%			
Litter	18%			
Rock	4%			
Total weed cover: 26%				
Lantana	16%			
Creeping Lantana	10%			



Photo set 3: Low density Lantana areas

3.2.2 Moderate density Lantana

Areas defined as moderate density Lantana were categorised based on *Lantana camara* (Lantana) being dominant weed species at a cover of 20% - 50%. Polygons of moderate density Lantana were the dominant category across the Conservation Area. These thresholds were developed utilising ground cover transects across the Conservation Area, refer **Table 9** for raw data and **Photo set 4**.

Table 9: Transect data for moderate density Lantana areas

Transect 5				
Start	End	Distance (m)	Ground Cover	Species
0	6.6	6.6	Corky passion / Creeping lantana	<i>Passiflora suberosa</i> (Corky Passion Vine), <i>Lantana montevidensis</i> (Creeping lantana)
6.6	11	4.4	Lantana	<i>Lantana camara</i> (Lantana)
11	12	1	Corky passion / Creeping lantana	<i>Passiflora suberosa</i> (Corky Passion Vine), <i>Lantana montevidensis</i> (Creeping lantana)
12	15.7	3.7	Lantana	<i>Lantana camara</i> (Lantana)
15.7	18.4	2.7	Litter	N/A
18.4	22	3.6	Creeping lantana	<i>Lantana camara</i> (Lantana)
22	25	3	Native Grass	<i>Heteropogon contortus</i> (Black Speargrass), <i>Eragrostis brownii</i> (Brown's Lovegrass), <i>Aristida purpurea</i> (Threeawn Aristida)
25	26.2	1.2	Litter	N/A
26.2	29	2.8	Lantana	<i>Lantana camara</i> (Lantana)
29	34	5	Litter	N/A
34	37.7	3.7	Creeping lantana	<i>Lantana montevidensis</i> (Creeping lantana)
37.7	41.3	3.6	Lantana	<i>Lantana camara</i> (Lantana)
41.3	46	4.7	Native Grass	<i>Cymbopogon refractus</i> (Barbed wire grass), <i>Heteropogon contortus</i> (Black Speargrass), <i>Eragrostis brownii</i> (Brown's Lovegrass)
46	49.4	3.4	Lantana	<i>Lantana camara</i> (Lantana)
49.4	51.4	2	Litter	N/A
51.4	56	4.6	Lantana	<i>Lantana camara</i> (Lantana)
56	58.8	2.8	Corky passion / Creeping lantana	<i>Passiflora suberosa</i> (Corky Passion Vine), <i>Lantana montevidensis</i> (Creeping lantana)

Transect 5				
Start	End	Distance (m)	Ground Cover	Species
58.8	66.5	7.7	Lantana	<i>Lantana camara</i> (Lantana)
66.5	70.7	4.2	Native Grass	<i>Heteropogon contortus</i> (Black Speargrass)
70.7	74.7	4	Lantana	<i>Lantana camara</i> (Lantana)
74.7	80	5.3	Native Grass	<i>Heteropogon contortus</i> (Black Speargrass)
80	82	2	Litter	N/A
82	87	5	Lantana	<i>Lantana camara</i> (Lantana)
87	88.9	1.9	Litter	N/A
88.9	96	7.1	Lantana	<i>Lantana camara</i> (Lantana)
96	100	4	Native Grass	<i>Cymbopogon refractus</i> (Barbed wire grass), <i>Heteropogon contortus</i> (Black Speargrass), <i>Eragrostis brownii</i> (Brown's Lovegrass)
Total Cover				
Native Grass	21%			
Litter	15%			
Total weed cover: 64%				
Lantana	46%			
Creeping Lantana	18%			
Transect 1				
Start	End	Distance (m)	Ground Cover	Species
0	4.5	4.5	Lantana	<i>Lantana camara</i> (Lantana)
4.5	7	2.5	Native Grass	<i>Imperata cylindrica</i> (Blady Grass)
7	10.9	3.9	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Heteropogon contortus</i> (Black Speargrass)
10.9	18.5	7.6	Native Grass	<i>Imperata cylindrica</i> (Blady Grass)
18.5	31	12.5	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Heteropogon contortus</i> (Black Speargrass)
31	40.8	9.8	Lantana	<i>Lantana camara</i> (Lantana)

Transect 5				
Start	End	Distance (m)	Ground Cover	Species
40.8	46.9	6.1	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Heteropogon contortus</i> (Black Speargrass)
46.9	50	3.1	Lantana	<i>Lantana camara</i> (Lantana)
50	53	3	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Heteropogon contortus</i> (Black Speargrass)
53	55.3	2.3	Lantana	<i>Lantana camara</i> (Lantana)
55.3	62.4	7.1	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Heteropogon contortus</i> (Black Speargrass)
62.4	65.1	2.7	Lantana	<i>Lantana camara</i> (Lantana)
65.1	68.1	3	Litter	N/A
68.1	69.6	1.5	Lantana	<i>Lantana camara</i> (Lantana)
69.6	72.4	2.8	Bare Ground	N/A
72.4	73	0.6	Native Grass	<i>Heteropogon contortus</i> (Black Speargrass)
73	74.4	1.4	Litter	N/A
74.4	75.4	1	Lantana	<i>Lantana camara</i> (Lantana)
75.4	77	1.6	Bare Ground	N/A
77	78.2	1.2	Lantana / Creeping lantana	<i>Lantana camara</i> (Lantana), <i>Lantana montevidensis</i> (Creeping lantana)
78.2	85.6	7.4	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Heteropogon contortus</i> (Black Speargrass), <i>Cymbopogon refractus</i> (Barbed wire grass)
85.6	89.3	3.7	Litter	N/A
89.3	98	8.7	Lantana	<i>Lantana camara</i> (Lantana)
98	100	2	Litter	N/A
Total Cover				
Native Grass	51%			
Litter	10%			
Bare Ground	4%			
Total weed cover: 35%				
Lantana	35%			



Photo set 4: Moderate density Lantana areas

3.2.3 Moderate density Creeping Lantana

Areas defined as moderate density Creeping Lantana were categorised based on *Lantana montevidensis* (Creeping Lantana) being dominant weed species at a cover of 20% - 50%. These areas were exclusively located in the south-west of the Conservation Area where steep rocky terrain is present, and the canopy is intact. These thresholds were developed utilising ground cover transects across the Conservation Area, refer **Table 10** for raw data and **Photo set 5**.

Table 10: Transect data for moderate density Creeping Lantana areas

Transect 2					
Start	End	Distance (m)	Ground Cover	Species	
0	3	3	Creeping Lantana	<i>Lantana montevidensis</i>	(Creeping lantana)
3	8.7	5.7	Native Grass	<i>Heteropogon contortus</i> (Black Speargrass), <i>Cymbopogon refractus</i>	(Barbed wire grass)
8.7	12.3	3.6	Creeping Lantana	<i>Lantana montevidensis</i>	(Creeping lantana)
12.3	14.4	2.1	Native Grass	<i>Heteropogon contortus</i> (Black Speargrass), <i>Cymbopogon refractus</i>	(Barbed wire grass)
14.4	18.9	4.5	Creeping Lantana	<i>Lantana montevidensis</i>	(Creeping lantana)
18.9	31.6	12.7	Native Grass	<i>Heteropogon contortus</i> (Black Speargrass), <i>Cymbopogon refractus</i>	(Barbed wire grass)
31.6	39.2	7.6	Lantana / Creeping lantana	<i>Lantana camara</i> (Lantana), <i>Lantana montevidensis</i>	(Creeping lantana)
39.2	41.7	2.5	Litter	N/A	
41.7	45.5	3.8	Native Grass	<i>Heteropogon contortus</i> (Black Speargrass), <i>Cymbopogon refractus</i>	(Barbed wire grass)
45.5	47.4	1.9	Creeping Lantana	<i>Lantana montevidensis</i>	(Creeping lantana)
47.4	51.2	3.8	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Heteropogon contortus</i>	(Black Speargrass)
51.2	55.4	4.2	Litter	N/A	
55.4	60.6	5.2	Creeping Lantana	<i>Lantana montevidensis</i>	(Creeping lantana)

Transect 2				
Start	End	Distance (m)	Ground Cover	Species
60.6	62.5	1.9	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Heteropogon contortus</i> (Black Speargrass)
62.5	64.4	1.9	Lantana	<i>Lantana camara</i> (Lantana)
64.4	69.7	5.3	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Heteropogon contortus</i> (Black Speargrass)
69.7	78	8.3	Creeping Lantana	<i>Lantana montevidensis</i> (Creeping <i>lantana</i>)
78	84.7	6.7	Litter	N/A
84.7	89.5	4.8	Creeping Lantana	<i>Lantana montevidensis</i> (Creeping <i>lantana</i>)
89.5	100	10.5	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Heteropogon contortus</i> (Black Speargrass)
Total Cover				
Native Grass	46%			
Litter	13%			
Total weed cover: 41%				
Creeping Lantana	39%			



Photo set 5: Moderate density Creeping Lantana areas

3.2.4 High density Lantana

Areas defined as high density Lantana were categorised based on *Lantana camara* (Lantana) being dominant weed species at a cover of >50%. These polygons were generally associated with the property boundaries where high levels of disturbance had taken place. These thresholds were developed utilising ground cover transects across the Conservation Area, refer **Table 11** for raw data and **Photo set 6**.

Table 11: Transect data for high density Lantana areas

Transect 4				
Start	End	Distance (m)	Ground Cover	Species
0	1.8	1.8	Native Grass	<i>Eragrostis brownii</i> (Brown's Lovegrass), <i>Cynodon dactylon</i> (Common Couch)
1.8	4.5	2.7	Lantana	<i>Lantana camara</i> (Lantana)
4.5	14.9	10.4	Native Grass	<i>Imperata cylindrica</i> (Blady Grass), <i>Heteropogon contortus</i> (Black Speargrass), <i>Eragrostis brownii</i> (Brown's Lovegrass)
14.9	22.6	7.7	Lantana	<i>Lantana camara</i> (Lantana)
22.6	25	2.4	Litter	N/A
25	45.2	20.2	Lantana	<i>Lantana camara</i> (Lantana)
45.2	50	4.8	Native Grass	<i>Imperata cylindrica</i> (Blady Grass)
50	65	15	Lantana	<i>Lantana camara</i> (Lantana)
65	69	4	Native Grass	<i>Imperata cylindrica</i> (Blady Grass)
69	72	3	Lantana	<i>Lantana camara</i> (Lantana)
72	75	3	Native Grass	<i>Imperata cylindrica</i> (Blady Grass)
75	78.2	3.2	Lantana	<i>Lantana camara</i> (Lantana)
78.2	80.5	2.3	Native Grass	<i>Imperata cylindrica</i> (Blady Grass)
80.5	82.5	2	Lantana	<i>Lantana camara</i> (Lantana)
82.5	88	5.5	Native Grass	<i>Imperata cylindrica</i> (Blady Grass), <i>Cynodon dactylon</i> (Common Couch)
88	100	12	Lantana	<i>Lantana camara</i> (Lantana)
Total Cover				

Transect 4

Start	End	Distance (m)	Ground Cover	Species
Native Grass	32%			
Litter	2%			
Total weed cover:	66%			
Lantana	66%			



Photo set 6: High density Lantana areas

3.2.5 Predominantly Native

Areas defined as predominantly native were categorised based on the cover of weeds species being <5%. The balance of the Conservation Area consistent of a predominantly native understory with scattered isolated patches of weeds generally associated with disturbances. These thresholds were developed utilising ground cover transects across the Conservation Area, refer **Table 12** for raw data and **Photo set 7**.

Table 12: Transect data for predominantly native areas

Transect 3				
Start	End	Distance (m)	Ground Cover	Species
0	0.5	0.5	Native Grass	<i>Eragrostis brownii</i> (Brown's Lovegrass)
0.5	1.4	0.9	Litter	N/A
1.4	4	2.6	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Cymbopogon refractus</i> (Barbed wire grass)
4	4.4	0.4	Litter	N/A
4.4	4.7	0.3	Native Grass	<i>Heteropogon contortus</i> (Black Speargrass)
4.7	5.4	0.7	Litter	N/A
5.4	5.6	0.2	Rock	N/A
5.6	6.3	0.7	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Cymbopogon refractus</i> (Barbed wire grass)
6.3	7.2	0.9	Litter	N/A
7.2	16.4	9.2	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Heteropogon contortus</i> (Black Speargrass), <i>Cymbopogon refractus</i> (Barbed wire grass), <i>Eragrostis brownii</i> (Brown's Lovegrass), <i>Aristida purpurea</i> (Threeawn Aristida)
16.4	16.6	0.2	Litter	N/A
16.6	28	11.4	Native Grass	<i>Heteropogon contortus</i> (Black Speargrass), <i>Aristida purpurea</i> (Threeawn Aristida)
28	30	2	Corky Passion / Litter	<i>Passiflora suberosa</i> (Corky Passion Vine)

Transect 3				
Start	End	Distance (m)	Ground Cover	Species
30	33.4	3.4	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Heteropogon contortus</i> (Black Speargrass), <i>Cymbopogon refractus</i> (Barbed wire grass), <i>Eragrostis brownii</i> (Brown's Lovegrass), <i>Aristida purpurea</i> (Threeawn Aristida)
33.4	35.8	2.4	Litter	N/A
35.8	42.2	6.4	Native Grass	<i>Heteropogon contortus</i> (Black Speargrass), <i>Eragrostis brownii</i> (Brown's Lovegrass)
42.2	42.8	0.6	Corky Passion / Litter	<i>Passiflora suberosa</i> (Corky Passion Vine)
42.8	54.6	11.8	Native Grass	<i>Heteropogon contortus</i> (Black Speargrass), <i>Aristida purpurea</i> (Threeawn Aristida), <i>Eragrostis brownii</i> (Brown's Lovegrass)
54.6	55.5	0.9	Litter	N/A
55.5	69.5	14	Native Grass	<i>Cynodon dactylon</i> (Common Couch), <i>Cymbopogon refractus</i> (Barbed wire grass), <i>Aristida purpurea</i> (Threeawn Aristida), <i>Heteropogon contortus</i> (Black Speargrass)
69.5	77.5	8	Litter	N/A
77.5	80.4	2.9	Native Grass	<i>Heteropogon contortus</i> (Black Speargrass)
80.4	82.9	2.5	Litter	N/A
82.9	96.9	14	Native Grass	<i>Cymbopogon refractus</i> (Barbed wire grass), <i>Eragrostis brownii</i> (Brown's Lovegrass)
96.9	99	2.1	Litter	N/A
99	100	1	Corky Passion / Litter	<i>Passiflora suberosa</i> (Corky Passion Vine)
Total Cover				
Native Grass	77%			
Bare Ground	0%			
Litter	19%			
Total weed cover: 4%				

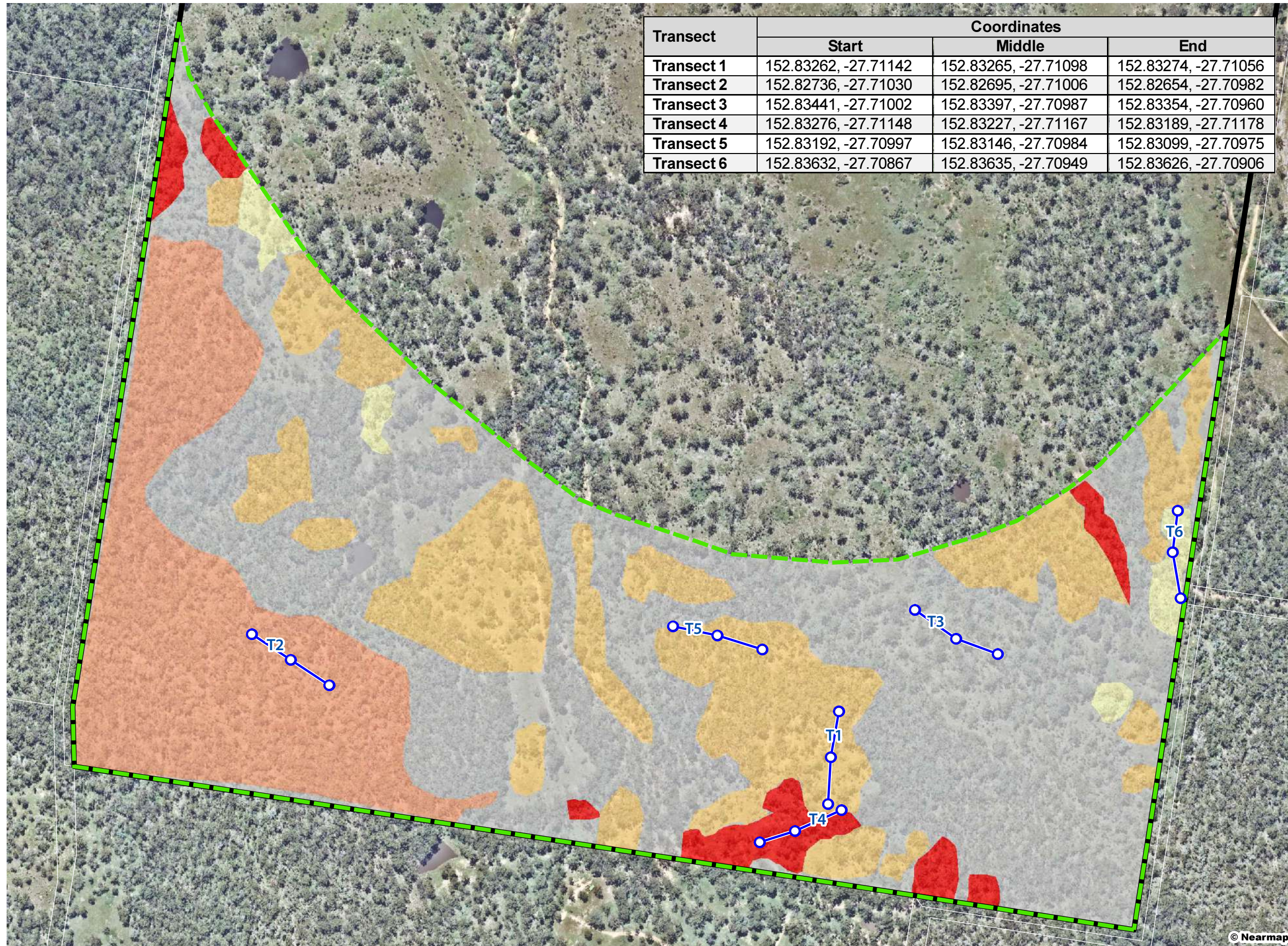
Transect 3

Start	End	Distance (m)	Ground Cover	Species
Lantana	0%			
Creeping Lantana	0%			



Photo set 7: Predominantly native vegetation

02. Baseline Weed Mapping



Transect	Coordinates		
	Start	Middle	End
Transect 1	152.83262, -27.71142	152.83265, -27.71098	152.83274, -27.71056
Transect 2	152.82736, -27.71030	152.82695, -27.71006	152.82654, -27.70982
Transect 3	152.83441, -27.71002	152.83397, -27.70987	152.83354, -27.70960
Transect 4	152.83276, -27.71148	152.83227, -27.71167	152.83189, -27.71178
Transect 5	152.83192, -27.70997	152.83146, -27.70984	152.83099, -27.70975
Transect 6	152.83632, -27.70867	152.83635, -27.70949	152.83626, -27.70906

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

Layer Sources
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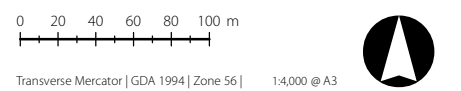
Legend

- Qld DCDB
- Referral Area
- Conservation Area
- Weed Cover Transects

Baseline Weed Mapping

- Predominantly native (< 5%) - Scattered, isolated patches of *Lantana camara* (Lantana) + other weed species such as *Passiflora suberosa* (Corky Passion), *Melinis repens* (Red Natal Grass), and *Lantana montevidensis* (Creeping Lantana) - 25.8 ha
- Low density (5-20% Lantana) - 1.0 ha
- Moderate density (Lantana 20-50%) - 11.8 ha
- Moderate density (Creeping Lantana 20-50%) - 9.8 ha
- High density (>50% Lantana) - 1.9 ha

Issue	Date	Description	Drawn	Checked
B	3/12/2024	Coordinates added	TC	LB



3.3. Feral Animal Abundance Survey

Field surveys did not identify any evidence of Koala, Greater Glider or Grey-headed Flying-fox mortalities on-site during assessment.

Five (5) motion activated cameras were deployed across the Conservation Area, from 17 April to 3 May 2023. Surveys across the entire Conservation Area are relevant for the baseline surveys and future monitoring and management actions to be implemented following the approval of the Conservation Area Management Plan.

The Conservation Area cameras detected 11 species of fauna (9 native and 3 considered feral), (refer **Table 13** and **Photo set 8**). A total of thirty-one (31) individual sightings of feral animals over a total of eighty-five (85) survey nights (refer to **Table 14** and **Table 15**). For the purposes of this assessment, *Bos taurus* (Domestic Cow) was not considered a feral animal. Therefore, only feral animals *Canis lupus familiaris* (Dog) and *Vulpes vulpes* (Red Fox) were recorded. For the purposes of this study, any feral animal was recorded as a new individual if >1 hour had elapsed between sightings.

Table 13: All fauna species detected on camera traps during the survey period

Camera (number/name)	Species Name	Common Name	Feral/Native
Camera 1 (Beetle)	<i>Gymnorhina tibicen</i>	Australian Magpie	Native
	<i>Trichosurus vulpecula</i>	Common Brushtail Possum	Native
	<i>Isoodon macrourus</i>	Northern Brown Bandicoot	Native
	<i>Bos taurus</i>	Domestic Cow	N/A
	<i>Macropus rufogriseus</i>	Red-necked Wallaby	Native
	<i>Macropus giganteus</i>	Eastern Grey Kangaroo	Native
	<i>Phascogale tapoatafa</i>	Brush-tailed Phascogale	Native
Camera 2 (Bug)	<i>Gymnorhina tibicen</i>	Australian Magpie	Native
	<i>Phascogale tapoatafa</i>	Brush-tailed Phascogale	Native
	<i>Trichosurus vulpecula</i>	Common Brushtail Possum	Native
	<i>Bos taurus</i>	Domestic Cow	N/A
	<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Native
	<i>Rattus sp</i>	Rat	Native
	<i>Macropus giganteus</i>	Eastern Grey Kangaroo	Native
Camera 3 (Crab)	<i>Macropus giganteus</i>	Eastern Grey Kangaroo	Native
	<i>Trichosurus vulpecula</i>	Common Brushtail Possum	Native
	<i>Bos taurus</i>	Domestic Cow	N/A

Camera (number/name)	Species Name	Common Name	Feral/Native
Camera 4 (Iris)	<i>Macropus giganteus</i>	Eastern Grey Kangaroo	Native
	<i>Bos taurus</i>	Domestic Cow	N/A
	<i>Isodon macrourus</i>	Northern Brown Bandicoot	Native
	<i>Phascogale tapoatafa</i>	Brush-tailed Phascogale	Native
	<i>Vulpes vulpes</i>	Red Fox	Feral
	<i>Macropus rufogriseus</i>	Red-necked Wallaby	Native
	<i>Podargus strigoides</i>	Tawny Frogmouth	Native
Camera 5 (Tick)	<i>Canis lupus familiaris</i>	Wild dog	Feral
	<i>Vulpes vulpes</i>	Red Fox	Feral
	<i>Macropus rufogriseus</i>	Red-necked Wallaby	Native
	<i>Phascogale tapoatafa</i>	Brush-tailed Phascogale	Native
	<i>Macropus giganteus</i>	Eastern Grey Kangaroo	Native
	<i>Bos taurus</i>	Domestic Cow	N/A
	<i>Trichosurus vulpecula</i>	Common Brushtail Possum	Native

Using the methodology described in **Section 2.3.3** the formula **RAI = D/TN x 100** was used, where D is numbers of detection and TN is the total number of camera-trap nights (all cameras combined). This methodology ensures that the surveys are representative of the entire offset area and are repeatable for future monitoring requirements.

The Conservation Area Baseline RAI for, *Canis lupus familiaris* (Dog) and *Vulpes vulpes* (Red Fox) were both **5.88** (refer **Table 12** and **Table 13**). All other feral species were assigned a RAI of **0** as they were not recorded within the survey area.

Table 14: Survey Results Summary - *Canis lupus familiaris* (Dog)

Camera	Camera Name	Survey Duration (nights)	Species	Detection	RAI
1	'Beetle'	17	Nil	-	
2	'Bug'	17	Nil	-	
3	'Crab'	17	Nil	-	
4	'Iris'	17	Nil	-	
5	'Tick'	17	<i>Canis lupus familiaris</i> (Dog)	5	
Total		85		5	5.88

Table 15: Survey Results Summary - *Vulpes vulpes* (Red Fox)

Camera	Camera Name	Survey (nights)	Duration	Species	Detection	RAI
1	'Beetle'	17		Nil	-	
2	'Bug'	17		Nil	-	
3	'Crab'	17		Nil	-	
4	'Iris'	17		<i>Vulpes vulpes</i> (Red Fox)	1	
5	'Tick'	17		<i>Vulpes vulpes</i> (Red Fox)	4	
Total		85			5	5.88



Photo set 8: Feral animals recorded across the conservation area, *Vulpes vulpes* (Red Fox) and *Canis lupus familiaris* (Wild Dog)

4. Conclusion of results

4.1. Weed cover

The area of weed cover, calculated as relative abundance, was **6.19 ha** of *Lantana camara* (Lantana) and **4.01 ha** of *Lantana montevidensis* (Creeping Lantana), **totalling 10.20 ha** overall. Notably, isolated patches of *Lantana camara* (Lantana), *Lantana montevidensis* (Creeping Lantana) and other weeds (not defined under the DCCEEW definition) were observed across the Conservation Area.

4.2. Feral animal abundance

The Conservation Area Baseline RAI for *Canis lupus familiaris* (Dog) and *Vulpes vulpes* (Red Fox) were both **5.88**. All other feral species were assigned a RAI of **0** as they were not recorded within the survey area.

Condition 10 of the (2018/8347) approval conditions states '*For the remaining period of approval, the approval holder must ensure that the extent of weed cover and feral animal abundance does not increase with respect to the baseline documented by the extent of weed cover and feral animal surveys required by condition 9(a).*' The baseline results documented in this report will be used to determine compliance with this condition. Management measures implemented are to be documented in the accompanying Conservation Area Management Plan.

5. References

- Auld, B. 2009. Guidelines for monitoring weed control and recovery of native vegetation. New South Wales, Department of Primary Industries.
- DCCEEW (2011), Survey guidelines for Australia’s threatened mammals
- Department of Industry, 2017. NSW Wild Dog Management Strategy 2022-2027. State of New South Wales.
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- Contardo, J. E. (2017). Occupancy of free-ranging dogs in relation to infrastructure and habitat on Navarino Island, Cape Horn Reserve, Chile. Thesis: University of Chile.
- Johnson (2020), Caught out: Using camera traps to assess the effectiveness of feral cat baiting in north-western Australia, The University of Western Australia
- Mace, R.D, Minta, S. C, Manley, T. I and Aune, K. E (1994). Estimating Grizzly Bear Population Size Using Camera Sightings. *Wildlife Society Bulletin*
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- McNeill, A. T., Leung, L.K. -p, Goulet, M. S., Gentle, M.N. & Allen B. L. (2016). Dingoes at the Doorstep: Home Range Sizes and Activity Patterns of Dingoes and Other Wild Dogs around Urban Areas of North-Eastern Australia. *Animals* 6, 48.
- Northern Territory Government (2015), A guide for the use of remote cameras for wildlife survey in northern territory
- O’Brien. T. G., (2011). Density estimation of sympatric carnivores using spatially explicit capture–recapture methods and standard trapping grid
- Queensland Government (2015), BioCondition - A Condition Assessment Framework for Terrestrial Biodiversity in Queensland
- Rosellini S, Osorio E, Ruiz-Gonzales A, Piñeiro A, Barja I (2008) Monitoring the small-scale distribution of sympatric European pine martens (*Martes martes*) and stone martens (*Martes foina*): a multievidence approach using faecal DNA analysis and camera-traps. *Wildl Res* 35:434–440
- Victoria Government (2021), Guide to Monitoring Methods

Attachments

Attachment 1

Approved Conditions

Attachment 2

Suitably qualified project experts – CV

Attachment 3

Wildlife online species list

Attachment 1

Approved Conditions



Australian Government

Department of Climate Change, Energy,
the Environment and Water

Notification of approval

Ripley Valley PDA Providence East and South, QLD (EPBC 2018/8347)

This decision is made under section 133(1) of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Note that section 134(1A) of the EPBC Act applies to this approval. That provision provides, in general terms, that if the approval holder authorises another person to undertake any part of the Action, the approval holder must take all reasonable steps to ensure that the other person is informed of any conditions attached to this approval, and that the other person complies with any such conditions.

Proposed action

person to whom the approval is granted (approval holder)	Daleswan Pty Ltd
ABN of approval holder	94 105 650 075
Action	Development of the Ripley Valley PDA Providence East and South, located 5 km south east of Ipswich, Queensland [See EPBC Act referral 2018/8347]

Approval decision

approval decision	My decision on whether or not to approve the taking of the Action for the purposes of the controlling provision for the Action is as follows.	
	Controlling Provision	Decision
	Listed threatened species and communities (section 18 and section 18A)	Approved
period for which the approval has effect	This approval has effect until 31 November 2050.	
conditions of approval	The approval is subject to conditions under the EPBC Act as set out in Annexure A.	

DCCEEW.gov.au

John Gorton Building - King Edward Terrace, Parkes ACT 2600 Australia

GPO Box 3090 Canberra ACT 2601 ABN: 63 573 932 849

Person authorised to make decision

name and position	Mark Say Acting Branch Head Environment Assessments Queensland and Sea Dumping Branch
signature	
date of decision	15 December 2022

Annexure A

Note: Words appearing in **bold** have the meaning assigned to them at PART C – DEFINITIONS.

Part A – Conditions specific to the Action

Development Area

1. The approval holder must not **clear** or **construct** outside of the **development area** as part of this Action.
2. The approval holder must not **clear** within the **development area** more than:
 - a. 131.72 ha of **Koala habitat**
 - b. 67.85 ha of **Greater Glider habitat**
 - c. 67.85 ha of **Grey-headed Flying-fox foraging habitat**.
3. The approval holder must not **clear** or **construct** in or within 1 metre of the **conservation area** except as specified in the Conservation Area Management Plan, required under condition 11, approved by the **Minister**.
4. The approval holder must ensure that all **clearing** is undertaken with the supervision of an **independent suitably qualified field ecologist**, who is given sufficient authority to cease any **clearing** that the **independent suitably qualified field ecologist** considers may not be compliant with the requirements of conditions 1, 2 and 3.

Note: The **independent suitably qualified field ecologist** can be the same person as the **fauna spotter catcher** provided that they can demonstrate they have the relevant qualifications and meet the criteria in the definition of '**independent**'.

5. If the **independent suitably qualified field ecologist** requires the cessation of **clearing**, then the approval holder must not re-commence **clearing** unless the **Minister** has provided approval in writing.

Impact mitigation

6. To minimise risk of injury or death to the **Koala**, **Greater Glider** and **Grey-headed Flying-fox** within the **development area**, the approval holder must:
 - a. ensure that a suitably qualified **fauna spotter catcher**, who is given sufficient authority to delay and/or cease any **clearing** and/or **construction**, is present during all **clearing** and **construction** to identify **protected matters** (including in hollow bearing trees), to ensure

- Koalas, Greater Gliders and Grey-headed Flying-foxes** have safely vacated any area prior to **clearing and construction** occurring where it could injure animals in that area
- b. if a **Koala, Greater Glider or Grey-headed Flying-fox** is spotted within 100 m of any area of **clearing and construction** within the **development area**, cease all **clearing and construction** within 100 m of the **Koala, Greater Glider or Grey-headed Flying-fox** until the **Koala, Greater Glider or Grey-headed Flying-fox** has moved on its own further than 100 m from the area of **clearing and construction**, or is translocated by the **fauna spotter catcher**
 - c. **clear** only in accordance with the **Nature Conservation (Koala) Conservation Plan 2017**, so as to allow **Koalas** to safely move out of the **clearing area** and into surrounding areas of **Koala habitat**, and implement all provisions for **sequential clearing**
 - d. install temporary **Koala exclusion fencing** around any area of proposed **construction work**, immediately after **clearing** and prior to the commencement of **construction** in that area, so as to prevent **Koalas** entering any area where **construction** is taking place
 - e. prohibit workers from bringing dogs into the **development area** and adjacent **Koala habitat, Greater Glider habitat and Grey-headed Flying-fox foraging habitat** during **clearing and construction**.
7. To minimise the risk of injury or death to the **Koala, Greater Glider and Grey-headed Flying-fox** within the **development area** from vehicle traffic, the approval holder must:
- a. only **construct** roads in accordance with **Queensland's Fauna Sensitive Road Design guidelines** to minimise the risks to **Koalas, Greater Glider and Grey-headed Flying-fox foraging habitat** of vehicle strike
 - b. implement **safe movement solutions** and **local traffic management measures** to ensure that the speed of all vehicles on roads in the **development area** where **koalas** are likely to be present is no greater than 40 km/h at any time (except an emergency and until a government entity controls these roads), so as to minimise the risk to **Koala** from vehicle strike
 - c. install prominent **Koala awareness signage** consistent with **Queensland's wildlife signing guidelines**, prior to opening to public motorists, any road where the presence of **protected matters** is likely.

Conservation Area

8. For the protection of **Koalas, Grey-headed Flying-foxes and Greater Gliders** in the **conservation area**, the approval holder must implement measures, including signage, fencing, monitoring and enforcement, to effectively prevent any **unauthorised persons** from entering, and to prevent any persons leaving rubbish or bringing animals or vehicles into the **conservation area**.
9. For the protection of the **Koala, Greater Glider and Grey-headed Flying-fox** within the **development area**, within 6 months of this approval decision the approval holder must:
 - a. complete baseline **extent of weed cover** and **feral animal** abundance surveys throughout the **conservation area** in accordance with a scientifically valid, robust, and repeatable methodology
 - b. submit the results of the baseline **extent of weed cover** and **feral animal** surveys required by 9(a) for the **department's** acceptance, and must make this information available on the **website** within 2 months of the report of the **extent of weed cover** and **feral animal** abundance surveys being accepted by the **department**

- c. prepare and submit a Conservation Area Management Plan for the approval by the **Minister**, with demonstration that it has been developed in consultation with the Council and relevant stakeholders, which specifies the methods, dates and results of the surveys required under condition 9(a), and the methods and intervals for monitoring to achieve the requirements of condition 10.
10. For the remaining period of approval, the approval holder must ensure that the **extent of weed cover** and **feral animal** abundance does not increase with respect to the baseline documented by the **extent of weed cover** and **feral animal** surveys required by condition 9(a).
 11. Within 1 year of the date of this approval decision, the approval holder must **legally secure** the **conservation area**. Within 20 **business days** of **legally securing** this area, the approval holder must provide the **department** with written evidence demonstrating that the **conservation area** has been **legally secured**.
 12. For the ongoing protection of **Koala, Grey-headed Flying-fox** and **Greater Glider habitat** within the **conservation area**, the approval holder must manage the **conservation area** for the life of the approval, until and unless the approval holder provides written confirmation from the **Council** that the **Council** will implement the Conservation Area Management Plan (required under condition 9(c)) and manage the **conservation area** for **conservation purposes**.

Environmental Offset Requirements

13. To compensate for impacts of up to 131.72 ha of **Koala habitat** and up to 67.85 ha of **Grey-headed Flying-fox foraging habitat**, the approval holder must:
 - a. **Legally secure** a minimum of 183 ha of land within the **Avonvale and Cherry Gully Offset Area** prior to **commencement of the action**.
 - b. Within 20 **business days** of **legally securing** the **Avonvale and Cherry Gully Offset Area**, provide the **department** with:
 - i. Written evidence demonstrating that the **Avonvale and Cherry Gully Offset Area** has been **legally secured**
 - ii. **Shapefiles** and **offset attributes** of the **Avonvale and Cherry Gully Offset Area**.
 - c. Achieve the **habitat quality uplift**.
14. For the protection of **Koala Habitat**, the approval holder must, by the end of **Year 1**, provide written confirmation to the **department** that all livestock has been permanently excluded from the **Avonvale and Cherry Gully Offset Area**.

Offset management plan for Koalas and Grey-headed Flying-foxes

15. Within 3 months from the date of this approval, the approval holder must have a **suitably qualified field ecologist** and **suitably qualified mammal ecologist** complete baseline surveys in accordance with a scientifically valid, robust, and repeatable methodology of the entire **Avonvale and Cherry Gully Offset Area** to determine the:
 - a. **vegetation condition attributes** for each **regional ecosystem**
 - b. location of weeds and **extent of weed cover**
 - c. **seasonal feral animal** abundance
 - d. rate of **Koala** mortality attributable to **feral animals**.

Note: The **independent suitably qualified field ecologist** can be the same person as the **suitably qualified mammal ecologist** provided that they can demonstrate they have the relevant qualifications and meet the criteria in the definition of '**independent**'.

16. Within 2 months of completion of the baseline surveys required under condition 15, the approval holder must submit to the **department** for approval by the **Minister** an Offset Management Plan for the **Avonvale and Cherry Gully Offset Area**.
17. The Offset Management Plan must, to the satisfaction of the **Minister**, meet the requirements of the **Environmental Offsets Policy** and the **Environmental Management Plan Guidelines** and meet the requirements specified in Attachment H.
18. If the Offset Management Plan for the **Avonvale and Cherry Gully Offset Area** has not been approved by the **Minister** in writing within 12 months of the date on which it was submitted to the **department**, the approval holder must cease all **clearing** and **construction** within the **development area** immediately. The approval holder must not recommence any **clearing** or **construction** unless the **Minister** has approved the Offset Management Plan for the **Avonvale and Cherry Gully Offset Area** in writing.
19. The approval holder must not **clear** or **construct** within **Area B** until the Offset Management Plan for the **Avonvale and Cherry Gully Offset Area** has been approved by the **Minister** in writing. The approval holder must implement the Offset Management Plan approved by the **Minister** for the remainder of the approval.

Offsets for Greater Glider

Offset Strategy

20. Prior to **commencement of the action**, the approval holder must have a **suitably qualified Greater Glider ecologist** complete surveys to map the distribution, quantify the area, and measure the quality of all **Greater Glider habitat** within the **development area**, in accordance with a scientifically valid, robust, and repeatable survey methodology peer reviewed by an **independent suitably qualified Greater Glider ecologist**.
21. To compensate for all impacts to the **Greater Glider** and for 82 ha of **Greater Glider habitat**, the approval holder must submit to the **department**, within 3 months of this approval decision, a Greater Glider Offsets Strategy (GGOS) for the approval of the **Minister**. The GGOS must meet the requirements of the **Environmental Offsets Policy** to the satisfaction of the **Minister** and:
 - a. Specify the methods, effort, timing and results of the surveys required by condition 20.
 - b. Contain all peer review comments and recommendations made by the **independent suitably qualified Greater Glider ecologist** and a statement from the **independent suitably qualified Greater Glider ecologist** that they are **independent** and carried out the peer review to evaluate the adequacy of the survey methodology required by condition 20.
 - c. Identify a suitable environmental offset(s) for the residual significant impacts on the **Greater Glider**.
 - d. Include summary information on the impacted areas and detailed baseline information on the proposed offset(s) and commit to achievable ecological benefits, and timeframes for their achievement, for the proposed offset(s).
 - e. Describe the monitoring program(s) to be implemented that will determine progress towards, attainment of and maintenance of the ecological benefits for **Greater Glider habitat** at the proposed offset(s).

- f. Specify how and at what frequency offset(s) management outcomes, monitoring program findings and assessments of ecological benefits will be reported to the **department** and the public.
 - g. Detail how the offset(s) will be protected and **legally secured**, and ecological benefits maintained, in perpetuity.
22. If the GGOS is approved by the **Minister**, the approval holder must:
- a. implement the GGOS approved by the **Minister** for the remainder of the period of this approval,
 - b. provide written evidence to the **department** demonstrating that the offset(s) specified in the GGOS has been **legally secured** within 20 **business days** of the offset(s) being **legally secured**, and
 - c. provide the **department** with **shapefiles** and **offset attributes** of the offset(s) specified in the GGOS within 20 **business days** of the offset(s) being **legally secured**.

Note: Legal security requirements for the GGOS do not apply if the approved offset for **Greater Glider**, as required under condition 21, is the same as that required for **Koala** and **Grey-headed Flying-fox** as per condition 13.

23. If the GGOS has not been approved by the **Minister** in writing within 6 months of the date that the GGOS was submitted to the **department**, the approval holder must cease all **clearing** and **construction** within the **development area** immediately. The approval holder must not recommence any **clearing** or **construction** unless the **Minister** has approved the GGOS in writing.

Offset Area Management Plan(s)

24. The approval holder must, within 3 months of the date of the **Minister's** approval of the GGOS, submit to the **department** a Greater Glider Offset Management Plan (GGOMP) for any offset(s) specified in the approved GGOS for approval by the **Minister**. The GGOMP must meet the requirements of the **Environmental Offsets Policy, Environmental Management Plan Guidelines** and the requirements of Attachment H to the satisfaction of the **Minister**.
25. The approval holder must implement the GGOMP approved by the **Minister** for the remainder of the period of this approval. The approval holder must achieve all ecological benefits and improvements in **habitat quality** specified in the approved GGOMP in the timeframes specified in the approved GGOMP.
26. If the GGOMP has not been approved by the **Minister** in writing within 12 months of the date on which it was submitted to the **department**, the approval holder must cease all **clearing** and **construction** within the **development area** immediately. The approval holder must not recommence any **clearing** or **construction** unless the **Minister** has approved the GGOMP in writing.
27. The approval holder must not **clear** or **construct** within **Area B** until and unless the GGOMP has been approved by the **Minister** in writing.

Monitoring

28. Within three months prior to the end of each of **Year 5, Year 10** and **Year 15**, the approval holder must have an **independent expert** undertake an assessment as to whether the outcomes required by condition 13 and the habitat quality improvements specified in the approved GGOMP for the particular period for which the assessment is undertaken have been, or are likely to be, achieved. The findings of each assessment must be published on the **website** within six months of the end of the particular period for which the assessment is undertaken, remain published on the **website** for

the remainder of the duration of this approval, and each be provided to the **department** within 5 **business days** of first being published.

29. If, at any time during the period of effect of the approval, the **Minister** is not satisfied that any of the requirements or outcomes required under condition 13 and the habitat quality improvements specified in the approved GGOMP have been or are likely to be achieved or maintained, the **Minister** may require the approval holder to submit a revised Offset Management Plan or GGOMP to the **department** for approval by the **Minister**, specifying new requirements to implement corrective actions and/or to monitor, manage, avoid, mitigate, offset, record and/or report on, impacts to the **Koala, Grey-headed Flying-fox and Greater Glider**.
30. The **Minister** may specify a timeframe in which the approval holder must submit the revised Offset Management Plan or GGOMP to the **department** and may specify that the revised Offset Management Plan or GGOMP must be prepared or reviewed by an **independent expert**.
31. If the **Minister** writes to the approval holder stating that he/she considers that the revised Offset Management Plan or GGOMP is not likely to achieve the outcomes required under condition 13 and the habitat quality improvements specified in the approved GGOMP, then the approval holder must not register any title for any property in the **development area** until such time as a revised Offset Management Plan or GGOMP has been approved by the **Minister** in writing.
32. The approval holder may, at any time, apply to the **Minister** for a variation to an action management plan approved by the **Minister** or as subsequently revised in accordance with these conditions, by submitting an application in accordance with the requirements of section 143A of the **EPBC Act**.
33. If the **Minister** approves a revised **plan** then, from the date specified, the approval holder must implement the approved revised **plan** in place of the previous version of that **plan**.

SUBMISSION AND PUBLICATION OF PLANS

34. The approval holder must submit all **plans** required by these conditions electronically to the **department** and notify the local authority.
35. Unless otherwise agreed to in writing by the **Minister**, the approval holder must publish each **plan** on the **website** within 15 **business days** of the date:
 - a. of this approval, if the version of the **plan** to be implemented is specified in these conditions; or
 - b. the **plan** is approved by the **Minister** in writing, if the **plan** requires the approval of the **Minister**.
36. The approval holder must keep all published **plans** required by these conditions on the **website** until the expiry date of this approval.
37. The approval holder is required to exclude or redact **sensitive ecological data** from **plans** published on the **website** or otherwise provided to a member of the public.
38. If **sensitive ecological data** is excluded or redacted from a **plan** in accordance with condition 37, the approval holder must notify the **department** in writing what exclusions and redactions have been made in the version published on the **website**.

Part B – Administrative conditions

NOTIFICATION OF DATE OF COMMENCEMENT OF THE ACTION

39. The approval holder must notify the **department** electronically of the date of **commencement of the Action**, within 5 **business days of commencement of the Action**.
40. If the **commencement of the Action** does not occur within 5 years from the date of this approval, then the approval holder must not **commence the Action** without the prior written agreement of the **Minister**.

COMPLIANCE RECORDS

41. The approval holder must maintain accurate and complete **compliance records**.
42. If the **department** makes a request in writing, the approval holder must provide electronic copies of **compliance records** to the **department** within the timeframe specified in the request.

Note: **Compliance records** may be subject to audit by the **department**, or by an independent auditor in accordance with section 458 of the **EPBC Act**, and/or be used to verify compliance with the conditions. Summaries of the results of an audit may be published on the **department's** website or through the general media.

43. The approval holder must ensure that any **monitoring data** (including **sensitive ecological data**), surveys, maps, and other spatial and metadata required under the conditions of this approval are prepared in accordance with the *Guidelines for biological survey and mapped data*, Commonwealth of Australia 2018, or as otherwise specified by the **Minister** in writing.
44. The approval holder must ensure that any **monitoring data** (including **sensitive ecological data**), surveys, maps, and other spatial and metadata required under the conditions of this approval are prepared in accordance with the *Guide to providing maps and boundary data for EPBC Act projects*, Commonwealth of Australia 2021, or as otherwise specified by the **Minister** in writing.

ANNUAL COMPLIANCE REPORTING

45. The approval holder must prepare a **compliance report** for each 12-month period following the date of this approval, or as otherwise agreed to in writing by the **Minister**.
46. Each **compliance report** must be consistent with the *Annual Compliance Report Guidelines*, Commonwealth of Australia 2014.
47. Each **compliance report** must include:
 - a. Accurate and complete details of any **monitoring data** required by this approval.
 - b. Accurate and complete details of compliance and any non-compliance with the conditions and the plans, and any incidents.
 - c. One or more **shapefile** showing all **clearing** of any **protected matters**, and/or their habitat, undertaken within the 12-month period at the end of which that **compliance report** is prepared.
 - d. A schedule of all **plans** in existence in relation to these conditions and accurate and complete details of how each **plan** is being implemented.
48. The approval holder must:
 - a. Publish each **compliance report** on the **website** within 60 **business days** following the end of the 12-month period for which that **compliance report** is required.

- b. Notify the **department** electronically, within 5 **business days** of the date of publication that a **compliance report** has been published on the **website**.
- c. Provide the weblink for the **compliance report** in the notification to the **department**.
- d. Keep all published **compliance reports** required by these conditions on the **website** until the expiry date of this approval.
- e. Exclude or redact **sensitive ecological data** from **compliance reports** published on the **website** or otherwise provided to a member of the public.
- f. If **sensitive ecological data** is excluded or redacted from the published version, submit the full **compliance report** to the **department** within 5 **business days** of its publication on the **website** and notify the **department** in writing what exclusions and redactions have been made in the version published on the **website**.

Note: Compliance reports may be published on the **department's** website.

REPORTING NON-COMPLIANCE

49. The approval holder must notify the **department** electronically, within 2 **business days** of becoming aware of any **incident** and/or potential non-compliance and/or actual non-compliance with the conditions or commitments made in a **plan**.
50. The approval holder must specify in the notification:
- a. Any condition or commitment made in a **plan** which has been or may have been breached.
 - b. A description of the **incident** and/or potential non-compliance and/or actual non-compliance.
 - c. The location (including co-ordinates), date, and time of the **incident** and/or potential non-compliance and/or actual non-compliance.

Note: If the exact information cannot be provided, the approval holder must provide the best information available.

51. The approval holder must provide to the **department** in writing, within 12 **business days** of becoming aware of any **incident** and/or potential non-compliance and/or actual non-compliance, the details of that **incident** and/or potential non-compliance and/or actual non-compliance with the conditions or commitments made in a **plan**. The approval holder must specify:
- a. Any corrective action or investigation which the approval holder has already taken
 - b. The potential impacts of the **incident** and/or non-compliance and/or non-compliance
 - c. The method and timing of any corrective action that will be undertaken by the approval holder.

INDEPENDENT AUDIT

52. The approval holder must ensure that an **independent audit** of compliance with the conditions is conducted for every three-year period following the **commencement of the Action** until this approval expires, unless otherwise specified in writing by the **Minister**.
53. For each **independent audit**, the approval holder must:
- a. Provide the name and qualifications of the nominated **independent** auditor, the draft audit criteria, and proposed timeframe for submitting the **audit report** to the **department** prior to commencing the **independent audit**.

- b. Only commence the **independent audit** once the nominated **independent** auditor, audit criteria and timeframe for submitting the **audit report** have been approved in writing by the **department**.
 - c. Submit the **audit report** to the **department** for approval within the timeframe specified and approved in writing by the **department**.
 - d. Publish each **audit report** on the **website** within 15 **business days** of the date of the **department's** approval of the **audit report**.
 - e. Keep every **audit report** published on the **website** until this approval expires.
54. Each **audit report** must report for the three-year period preceding that audit report.
55. Each **audit report** must be completed to the satisfaction of the **Minister** and be consistent with the *Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines*, Commonwealth of Australia 2019.

COMPLETION OF THE ACTION

56. The approval holder must notify the **department** electronically 60 **business days** prior to the expiry date of this approval, that the approval is due to expire.
57. Within 20 **business days** after the **completion of the Action**, and, in any event, before this approval expires, the approval holder must notify the **department** electronically of the date of **completion of the Action** and provide **completion data**.

Part C - Definitions

Area B means the whole of the area represented in Attachment B by the areas with blue hatching and enclosed by the blue dashed lines designated 'Area B'.

Audit report means a written report of compliance and fulfilment of the conditions attached to this approval, objectively evaluated against the audit criteria approved by the **department**.

Avonvale and Cherry Gully Offset Area means the whole of the area represented in Attachment C by the zones enclosed by the red lines designated 'EPBC 2018/8347 OFFSET AREA'. The **Avonvale and Cherry Gully Offset Area** is located on Littles Road, Toogoolawah, Queensland.

Business day means a day that is not a Saturday, a Sunday or a public holiday in the state of Queensland.

Clear, Clearing, Clearance or Cleared means the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of native trees and shrubs.

Commence the action or Commencement of the action means the first instance of any specified activity associated with the action including **clearing** and **construction**. **Commencement of the action** does not include minor physical disturbance necessary to:

- a. undertake pre-clearance surveys or monitoring programs
- b. install signage and /or temporary fencing to prevent unapproved use of the **development area**
- c. protect environmental and property assets from fire, **weeds** and pests, including installation of temporary fencing, and use of existing surface access tracks
- d. install temporary site facilities for persons undertaking pre-commencement activities so long as these are located where they have no impact on the **protected matters**.

Completion data means an environmental report and spatial data clearly detailing how the conditions of this approval have been met. The **department's** preferred spatial data format is **shapefile**.

Completion of the action means the date on which all specified activities associated with the action have permanently ceased.

Compliance records means all documentation or other material in whatever form required to demonstrate compliance with the conditions of approval in the approval holder's possession or that are within the approval holder's power to obtain lawfully.

Compliance reports means written reports:

- a. providing accurate and complete details of compliance, **incidents**, and non-compliance with the conditions and the **plans**
- b. consistent with the *Annual Compliance Report Guidelines, Commonwealth of Australia 2014*
- c. include a **shapefile** of any **clearance** of any **protected matters**, or their habitat, undertaken within the relevant 12 month period
- d. annexing a schedule of all **plans** prepared and in existence in relation to the conditions during the relevant 12 month period.

Conservation Area means the retained area of at least 50 ha containing mixed remnant and regrowth vegetation within the **development area**, represented by the zone shaded dark green labelled 'Conservation' in Attachment A.

Conservation benefit means measures which maintain or improve the quality of the habitat for **protected matters**. **Conservation benefit** measures may include rehabilitation works, low intensity mosaic burning, installation of educational signage as outlined in the Conservation Area Management Plan, **weed** removal and associated management/maintenance access tracks.

Construct or **Construction** means the erection of any building or structure that is or is to be fixed to the ground and wholly or partially fabricated on-site; the alteration, maintenance, repair or demolition of any building or structure; preliminary site preparation work which involves breaking of the ground (including pile driving); the laying of pipes and other prefabricated materials in the ground, and any associated excavation work but excluding construction on sold lots or roads managed by **Council**, and the installation and maintenance of temporary fences and signage, and works necessary for **conservation benefit** in the **Conservation Area**.

Council means the local government authority responsible for the local government area encompassing Ripley Valley Priority Development Area, currently Ipswich City Council, Queensland.

Department means the Australian Government agency responsible for administering the **EPBC Act**.

Development area means the location of the Action, the 210 ha area represented on Attachment A by the zone enclosed by the bold black line labelled 'Referral Area' which passes through the numbered waypoints representing the coordinates of the **development area** as specified in the table titled 'Coordinates (GDA94 MHA Zone 56)' in Attachment A.

Environmental Management Plan Guidelines means the *Environmental Management Plan Guidelines*, Commonwealth of Australia 2014.

Environmental Offsets Policy means the *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy*, Commonwealth of Australia 2012.

EPBC Act means the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

Expert means one or more professional having the qualifications and experience specified in the following defined terms that are specifically relevant to the requirements of the condition that requires the engagement of an **expert**:

- a. **Suitably qualified field ecologist**
- b. **Suitably qualified Greater Glider ecologist**
- c. **Suitably qualified mammal ecologist.**

Extent of weed cover means the proportion (expressed as a percentage) of the total land area in which any square metre contains a non-native plant species known to restrict the movement of **Koala** and/or degrade the quality of **Koala habitat**, **Greater Glider habitat** and **Grey-headed Flying-fox foraging habitat** or reduce their ability to regenerate.

Fauna spotter catcher means a person licenced under the *Nature Conservation Act 1992* (Qld) to detect, capture, care for, assess, and release wildlife disturbed by vegetation **clearance** activities who have at least three years' experience undertaking this work with **Koalas** and **Greater Gliders**.

Feral animals means non-native predators and non-native herbivores, including those known to predate on the **Koala** and/or **Greater Glider**, or with the potential to impact on vegetation habitat regeneration for **protected matters**.

Greater Glider means the **EPBC Act** listed threatened species *Petauroides volans* (southern and central).

Greater Glider habitat means:

- a. habitat critical to the survival of **Greater Glider**, as described in page 8 of *Conservation Advice for Petauroides volans (greater glider (southern and central))*, Commonwealth of Australia 2022
- b. areas represented in Attachment B and D identified as follows:



Grey-headed Flying-fox means the **EPBC Act** listed threatened species *Pteropus poliocephalus*.

Grey-headed Flying-fox foraging habitat means the following:

- a. habitat critical to the survival of **Grey-headed Flying-fox**, as described in pages 14 and 15 of *National Recovery Plan for the Grey-headed Flying-fox Pteropus poliocephalus*, Commonwealth of Australia 2021
- b. areas represented in Attachment B and E, identified as follows:



Habitat quality is the measure of the overall capacity and ongoing viability of a site to support the relevant **protected matter(s)**, determined with respect to site condition, site context and species stocking rate and/or composition.

Habitat quality uplift means, at **Avonvale and Cherry Gully Offset Area**, to:

- a. exceed the 'baseline score' for 'site condition', 'site context' and 'species stocking rate' scores for the **Koala** as specified in Attachment E, and achieve or exceed all scores specified in Attachment F in the 'Year 5' column by the end of **year 5**, in the 'Year 10' column by the end of **year 10**, in the 'Year 15' column by the end of **year 15** and in the 'Year 20' column by the end of **year 20** and
- b. exceed the 'AU Score' for 'site condition', 'site context' and 'species stocking rate' for the **Grey-headed Flying-fox** as specified in Attachment G, and achieve or exceed all scores specified in Attachment G in the 'Year 5 Score' column by the end of **year 5**, in the 'Year 10' column by the end of **year 10**, in the 'Year 15' column by the end of **year 15** and in the 'Year 20' column by the end of **year 20**.

Incident means any event which has the potential to, or does, impact on one or more **protected matter**. Any death or injury of a **Koala**, **Grey-headed Flying-fox** or **Greater Glider** as a result of the Action is an **incident**.

Independent means a person(s) or firm that does not have an individual, or by employment or family affiliation, any conflicting or competing interests with the approval holder, the approval holder’s staff, the approval holder’s consultants involved in the referral of this Action, representatives or associated persons; or the project, including any personal, financial, business or employment relationship, other than receiving payment for undertaking the role for which the condition requires an independent person.

Independent audit means an audit conducted by an independent and **suitably qualified person** as detailed in the *Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines*, Commonwealth of Australia 2019.

Koala means the **EPBC Act** listed threatened species *Phascolarctos cinereus* (combined populations of Queensland, New South Wales and the Australian Capital Territory).

Koala exclusion fencing means fencing which safely prevents the movement of **Koalas** from one area to another. Suitable examples are found in the *Koala Sensitive Design Guideline: A guide to koala sensitive designed measures for planning and development activities*, Version 2.0, The State of Queensland 2020.

Koala habitat means the following:

- a. any area that provides or is likely to provide the essential life cycle requirements of the **Koala**, including dispersal, foraging and or breeding habitat as described in:
 - i. *Conservation Advice for Phascolarctos cinereus (Koala) combined populations of Queensland, New South Wales and the Australian Capital Territory*, Commonwealth of Australia 2022
 - ii. *National Recovery Plan for the Koala Phascolarctos cinereus (combined populations of Queensland, New South Wales and the Australian Capital Territory)*, Commonwealth of Australia 2022
 - iii. *A review of koala habitat assessment criteria and methods*, Youngentob, K.N, Marsh, K.F., Skewes, J. 2021
- b. areas represented in Attachment B and D identified as follows:



Legally secure/secured/securing means to provide ongoing conservation protection, on the title of the land, under an enduring protection mechanism, such as a voluntary declaration under the *Vegetation Management Act 1999* (Qld) or as a nature refuge under the *Nature Conservation Act 1992* (Qld), or another enduring protection mechanism agreed to in writing by the **Minister**.

Local traffic management measures means devices that reduce the speed and/or volume of traffic, for example, road closures, chicanes, crosswalks, lighting, signage and rumble strips, as described in **Queensland’s fauna sensitive road design guidelines**.

Minister means the Australian Government Minister administering the **EPBC Act** including any delegate thereof.

Monitoring data means the data required to be recorded under the conditions of this approval.

Nature Conservation (Koala) Conservation Plan 2017 means the *Nature Conservation (Koala) Conservation Plan 2017*, The State of Queensland, 2022.

Offset attributes means an '.xls' file capturing relevant attributes of the offset area, including:

- a. **EPBC Act** reference number
- b. Physical address of the offset area
- c. Coordinates of the boundary points in decimal degrees
- d. **Protected matters** that the offset compensates for
- e. Any additional **protected matters** that are benefiting from the offset
- f. Size of the offset in hectares.

Queensland's fauna sensitive road design guidelines means *Fauna Sensitive Road Design - Volume 2: Preferred Practices*, The State of Queensland 2010.

Queensland's wildlife signing guidelines means *Traffic and Road Use Management, Transport and Main Roads Volume 3 – Signing and Pavement Marking, Part 8: Wildlife Signing Guidelines*, The State of Queensland.

Plan means any action management plan or strategy that the approval holder is required by these conditions to implement.

Protected matter means a matter protected under a controlling provision in Part 3 of the **EPBC Act** for which this approval has effect.

Regional ecosystem means any of the following vegetation communities in a bioregion that is consistently associated with a particular combination of geology, landform and soil as classified by the Queensland Government under the *Vegetation Management Act, 1999*: RE 12.3.3, 12.9-10.7, and 12.9-10.2.

Safe movement solutions means measures to minimise the risk of injury or deaths of **Koalas** from vehicle strike, specifically including **Koala exclusion fencing**, fauna underpasses or overpasses, and/or bridges as described in **Queensland's fauna sensitive road design guidelines**.

Seasonal means measured separately for each season (summer, autumn, winter and spring).

Sensitive ecological data means data as defined in the Australian Government Department of the Environment (2016) *Sensitive Ecological Data – Access and Management Policy V1.0*.

Sequential clearing means implementing the provisions specified in *Sequential clearing in Koala district A or B* under the **Nature Conservation (Koala) Conservation Plan 2017** under the *Nature Conservation Act 1992* (Qld). These include provisions for the area which may be **cleared** in any one stage, periods of non-**clearing** between stages, maintaining habitat links and restrictions on **clearing** trees containing **Koalas**.

Shapefile means location and attribute information of the action provided in an Esri shapefile format. Shapefiles must contain '.shp', '.shx', '.dbf' files and a '.prj' file that specifies the projection/geographic coordinate system used. Shapefiles must also include an '.xml' metadata file that describes the shapefile for discovery and identification purposes.

Suitably qualified field ecologist means a person who has professional qualifications and at least three (3) years of work experience designing and implementing surveys for **regional ecosystems**, and can give an authoritative assessment and advice on the type and quality of **regional ecosystems**

present, including management and restoration of the **regional ecosystems** using relevant protocols, standards, methods and/or literature.

Suitably qualified Greater Glider ecologist means a person who has professional qualifications and at least three (3) years of work experience designing and implementing surveys for the **Greater Glider**, and can give an authoritative assessment and advice on **Greater Glider** presence, habitat type and quality, and habitat management and restoration measures for the **Greater Glider** (and its habitat) using relevant protocols, standards, methods and/or literature.

Suitably qualified mammal ecologist means a person who has professional qualifications and at least three (3) years of work experience designing and implementing surveys for **Grey-headed Flying-foxes** and **Koalas** and can give an authoritative assessment and advice on **Grey-headed Flying-fox** and **Koala** presence, habitat type and quality, and habitat management and restoration measures for the **Grey-headed Flying-fox** and **Koala** (and their habitat) using relevant protocols, standards, methods and/or literature.

Suitably qualified person means a person who has professional qualifications, training, skills and/or experience related to the nominated subject matter and can give authoritative independent assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods and/or literature.

Unauthorised person means a person who has not been approved by the approval holder to access and enter the **conservation area** for the purposes of undertaking conservation management, inspecting the condition of the **conservation area** or undertaking scientific study for conservation purposes. **Unauthorised person** does not include any person authorised by the Australian Government, the Queensland Government or the City of Ipswich, who enters the **conservation area** in the necessary course of administering or enforcing legislation in respect of which they are authorised to act. **Unauthorised person** does not include any representative of the Australian Government, Queensland Government or the City of Ipswich who is required to enter the **conservation area** in the normal discharge of their lawful responsibilities.

Vegetation condition attributes means the quantitative values within BioCondition benchmarks that define a **regional ecosystem**.

Website means a set of related web pages located under a single domain name attributed to the approval holder and available to the public.

Weed means any weed species identified within the Weeds of National Significance and weed species listed under the *Biosecurity Act 2014* (Qld).

Year 1 means the period within 12 months from the date of this approval.

Year 5 means the period within five years from the date of this approval.

Year 10 means the period within ten years from the date of this approval.

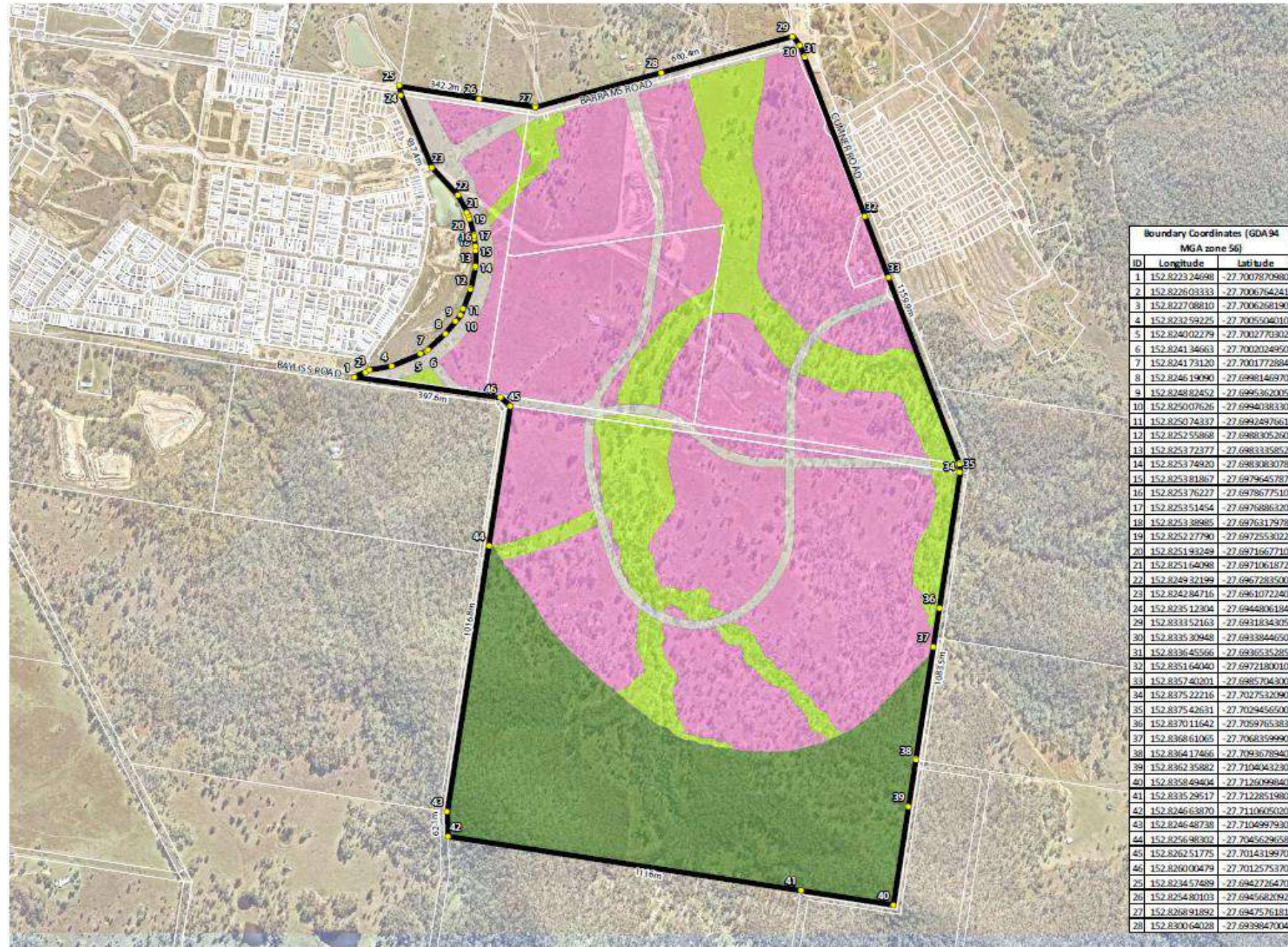
Year 15 means the period within fifteen years from the date of this approval.

Year 20 means the period within twenty years from the date of this approval.

ATTACHMENTS

Attachment A: Development Area

02b. Impact Area



Boundary Coordinates (GDA 94 MGA zone 56)		
ID	Longitude	Latitude
1	152.822324698	-27.7007870980
2	152.822603333	-27.7006764241
3	152.822708810	-27.7006268190
4	152.823259225	-27.7005504010
5	152.824002279	-27.7002770302
6	152.824134663	-27.7002024950
7	152.824173120	-27.7001772884
8	152.824619090	-27.6998146970
9	152.824882452	-27.6995362005
10	152.825007625	-27.6994038330
11	152.825074337	-27.6992497661
12	152.825255868	-27.6988305260
13	152.825372377	-27.6983335852
14	152.825374920	-27.6983083078
15	152.825381867	-27.6979645787
16	152.825376227	-27.6978677510
17	152.825351454	-27.6976886320
18	152.825338985	-27.6976317978
19	152.825277790	-27.6972533022
20	152.825193249	-27.6971667710
21	152.825164098	-27.6971061872
22	152.824932199	-27.6967283500
23	152.824284716	-27.6961072240
24	152.823512304	-27.6944806184
25	152.833352163	-27.6931834305
30	152.833530948	-27.6933844650
31	152.833645566	-27.6936535285
32	152.835164040	-27.6972180010
33	152.835740201	-27.6985704300
34	152.837522216	-27.7027532090
35	152.837542631	-27.7029456500
36	152.837011642	-27.7059765383
37	152.836861065	-27.7068359990
38	152.836417466	-27.7093678940
39	152.836235882	-27.7104043230
40	152.835849404	-27.7126099840
41	152.833529517	-27.7122851980
42	152.824663870	-27.7110605020
43	152.824648738	-27.7104997930
44	152.825698302	-27.7045629658
45	152.826251775	-27.7014319970
46	152.826000479	-27.7012575370
25	152.823457489	-27.6942726470
26	152.825480103	-27.6945682092
27	152.826891892	-27.6947576181
28	152.830064028	-27.6939847004

Notes:
 This plan was prepared as a desktop assessment tool. The information on this plan is not suitable for any other purpose. Property dimensions, area, 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. There 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 approval plan.
 Layer Source:
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 © Neumaps, 2022
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Legend

- Qld DCID6
- Referral Area
- Impact Area - 163.99 ha**
 - Development Footprint
 - Passive Open Space
 - Road
- Retention Area - 50.00 ha**
 - Conservation
- Boundary Coordinates

Date	Description	Drawn	Checked
30/11/2022	Update referral area boundary	TL	MS

0 100 200 300 m

Townsville Mercator (GDA 1994) (Zone 56) 1:8000 @ A3

Address / RFD: /04/517030/629; 112/M31/A; 110/SP1690001; 111/SP169001; 8; 190/ST1349



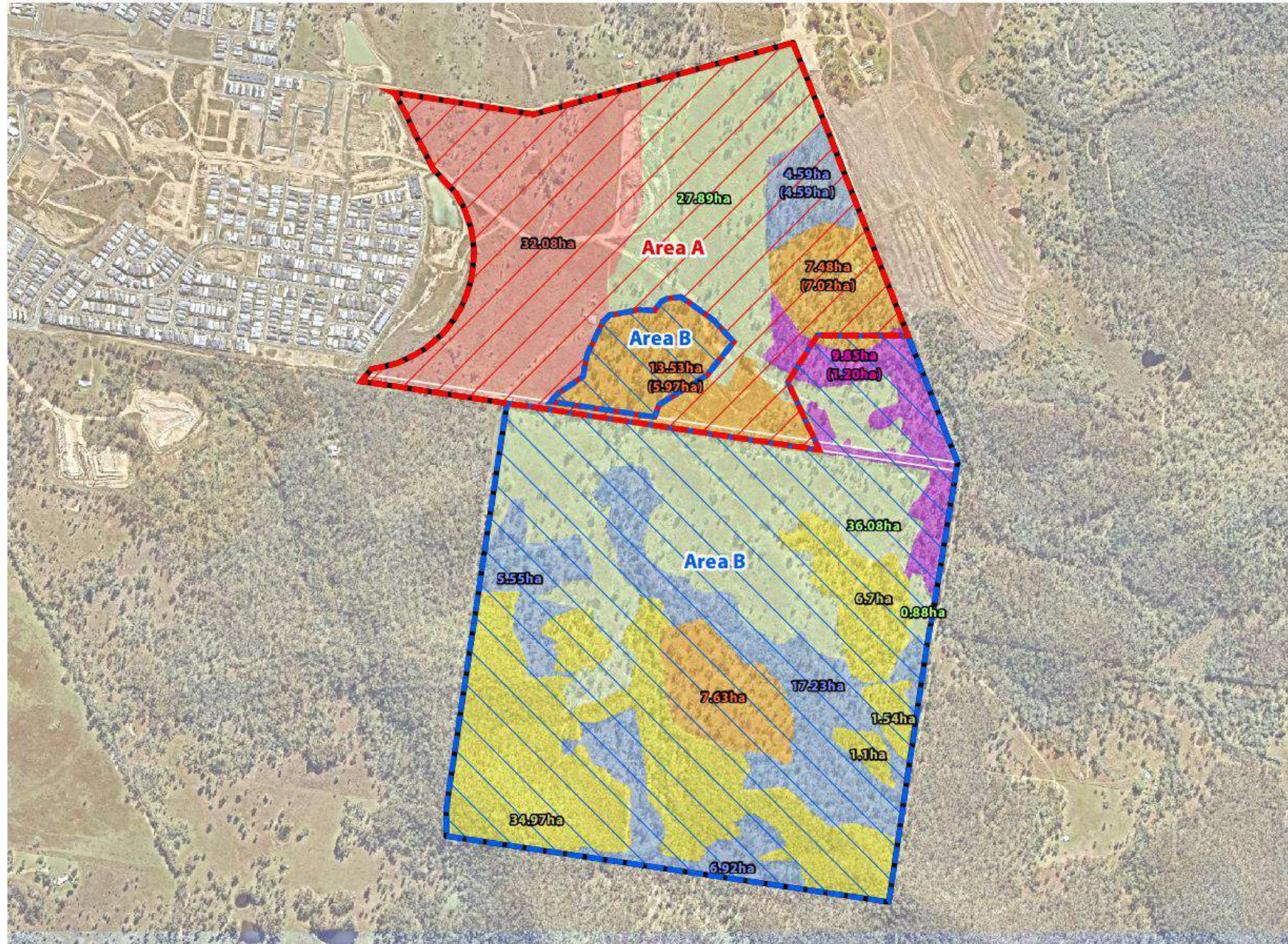
Daleswan Pty Ltd

Ripley Road, Ripley

10/11/2022 | 9896 E 02b Impact Areas.dwg

Attachment B: Staged clearing

Plan 2B



Notes:
 This plan was prepared as a desktop assessment tool. The information on this plan is not suitable for any other purpose. Property dimensions, area, number of lots and contours and other physical features shown have been compiled from existing information and may not have been verified by field survey. There 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.
 Data Sources:
 © State of Queensland 2022. Updated data available at: <http://dmr.state.gov.au/statistics/>
 © Neasmap, 2022.
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Legend

- Project boundary
- Road reserve

Development Areas

- Area A
- Area B

Vegetation communities

- Open Paddock [64.84ha]
- Regrowth RE1 2.3.3 [9.85ha]
- Regrowth RE1 2.9-10.7 [28.63ha]
- Regrowth RE1 2.9-10.2 [34.28ha]
- Remnant RE1 2.9-10.2 [44.31ha]
- Non Habitat [32.08ha]

Issue	Date	Description	Drawn	Checked
1	19/10/2022	MP	LS	AS

0 100 200 300 m

14/148 @ A3

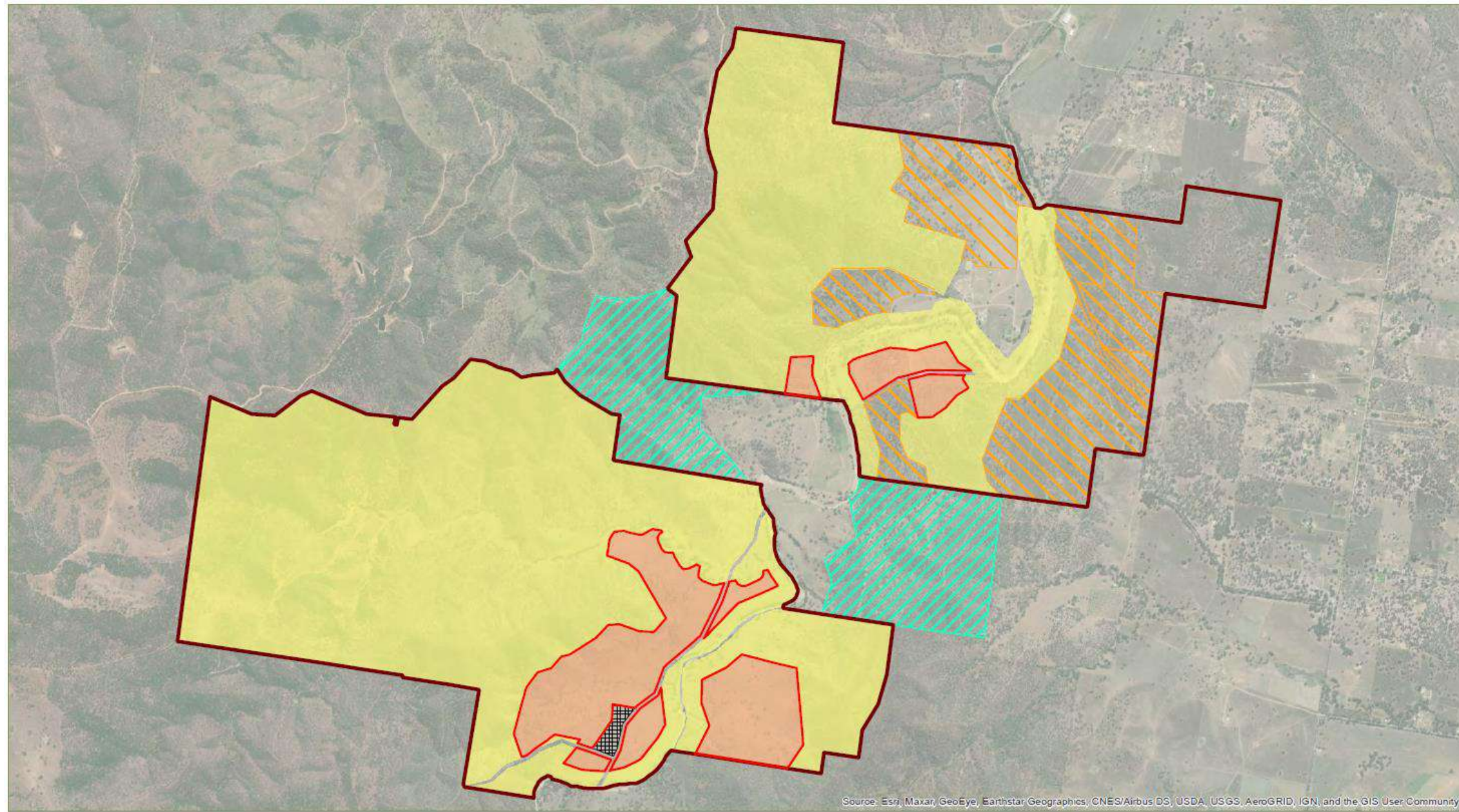


Daleswan Pty Ltd

Ripley Road, Ripley

Address / RPD | 70475/SP07679, 112/63174, 110/SP169001, 111/SP169001, & 190/31349
 19/10/2022 | 9896 E 2B Proposed Development B

Attachment C: Avonvale and Cherry Gully Offset Area



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

FILE NAME: OEL3 PLAN 5 Offset Area Design V4
30/06/2022

Cherry Gully & Avonvale Stations
Offset Management Plan (OEM3)

0 100 200 400 600 800 1,000
60494 MSA zone 56 1:26,000



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References: © State of Queensland, 2022

LEGEND

- CHERRY GULLY & AVONVALE STATIONS
- EPBC 2018/8347 OFFSET AREA
- EXISTING CHERRY GULLY & AVONVALE STATION OFFSET AREAS

- FUTURE OFFSET AREA [NOT PART OF THIS APPLICATION]
- OFFSET CARETAKER & MAINTENANCE COMPOUND

OFFSET DESIGN

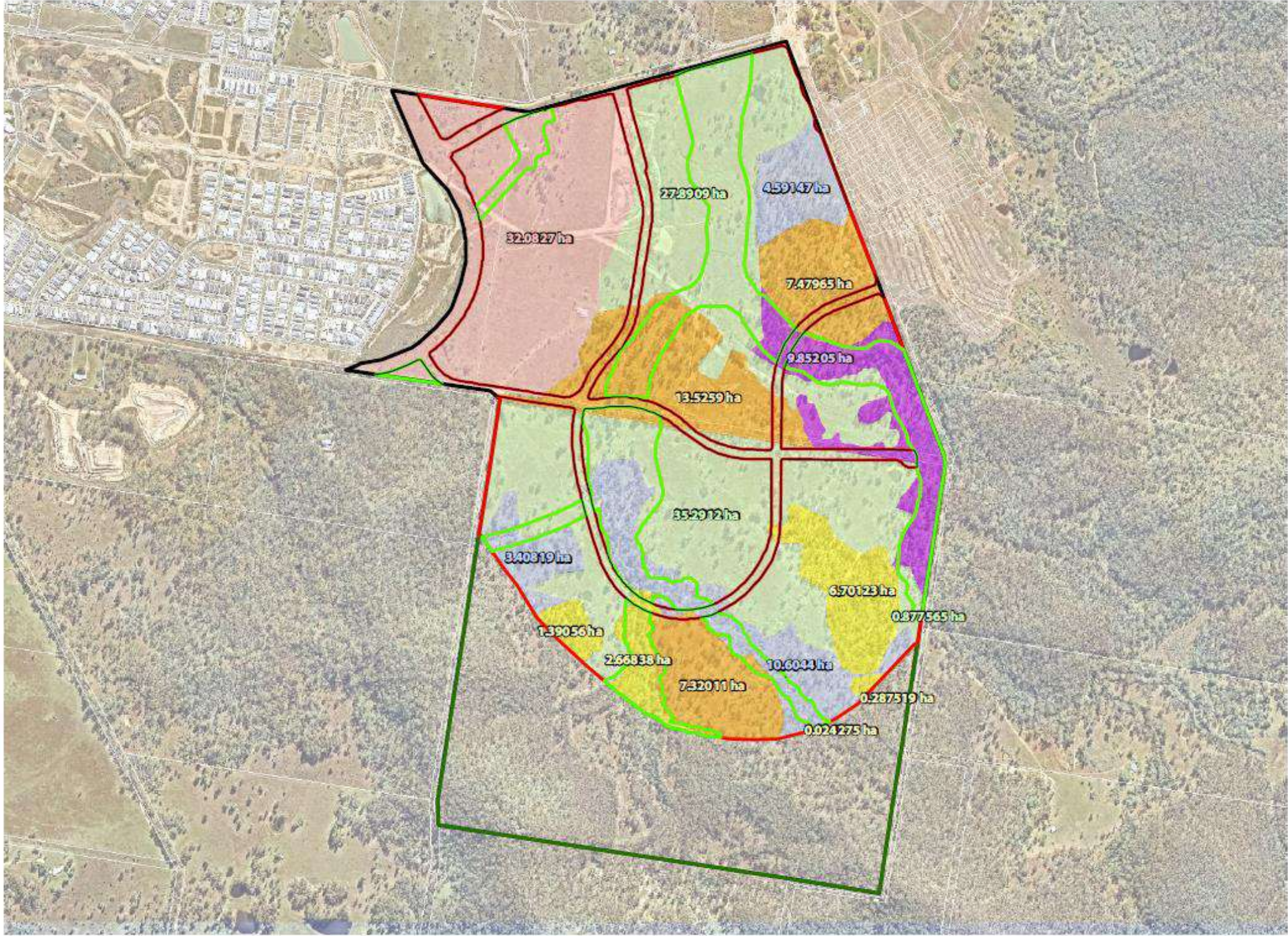
- ENVIRONMENTAL MANAGEMENT ZONE OPEN GRAZING COUNTRY - CATEGORY X VEGETATION [183.0 HA]
- FUTURE OFFSET AREA SUBJECT TO EXTERNAL LAND-HOLDER NEGOTIATIONS (NOT PART OF THIS APPLICATION)



Attachment D: Koala Impact Plan

DCCEW.gov.au
John Gorton Building - King Edward Terrace, Parkes ACT 2600 Australia
GPO Box 3090 Canberra ACT 2601 ABN: 63 573 932 849

A4. Impacted Koala Vegetation Communities



Notes:
 This plan was prepared as an assessment tool. The information on this plan is not suitable for any other purpose. Property descriptions, numbers of lots and contours and other physical features shown have been compiled from existing information and may not have been verified by field surveys. 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. It is advised that any reliance placed on the information on this plan for detailed design or any other 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 relying or acting 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 it is not an approved plan.
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Legend

- Qld OCDB
- Referral Area
- Impacted Vegetation Communities**
- Koala Habitat - 131.91 ha**
 - Open Paddock - 64.06 ha
 - Regrowth RE12.3.3 - 9.85 ha
 - Regrowth RE12.9-10.7 - 28.33 ha
 - Regrowth RE12.9-10.2 - 18.60 ha
 - Remnant RE12.9-10.2 - 11.07 ha
- Non-Koala Habitat - 32.08**
 - Non-habitat - 32.08 ha
- Proposed Development**
 - Conservation
 - Development Footprint
 - Reserved Open Space
 - Road

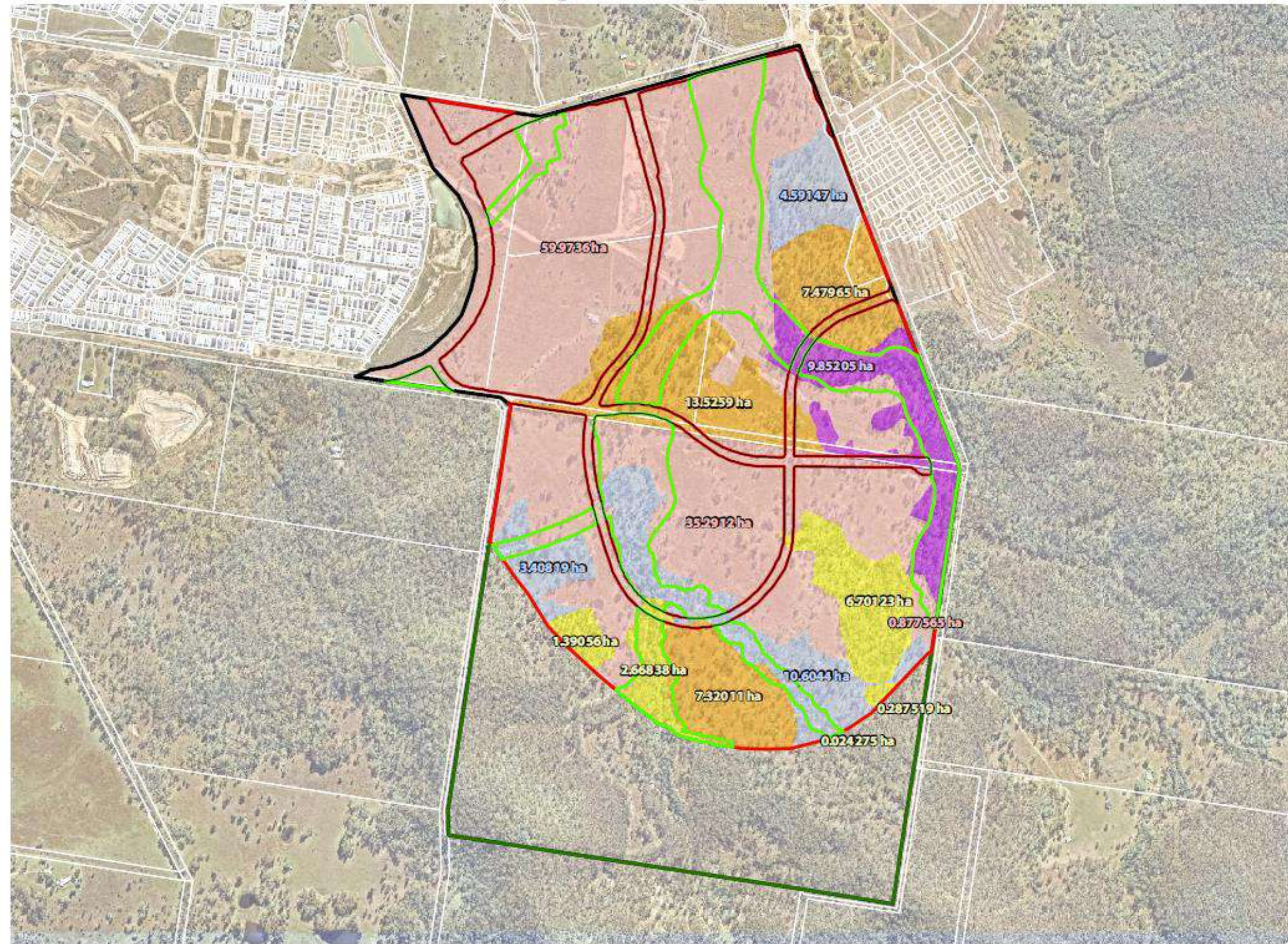
Issue	Date	Description	Drawn/Checked
A	15/09/2022	Preliminary	L.S. / J.C.

0 50 100 150 200 250 m

Terraviva/Esri/Google (© 2022) | © 2022

Address / RPZ: 7047/SP307626, 112/MS174, 1105/169301, 1115/169301, & 1905/31399

A5. Impacted Grey-headed Flying-fox Vegetation Communities



Notes:
 This plan was prepared as a desktop assessment. 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. There 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 reliance on or using this plan for any purpose other than the purpose intended 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
- Impacted Vegetation Communities**
- Grey-headed Flying-fox Habitat - 67.85 ha**
- Regrowth RE1 23.3 - 985 ha
- Regrowth RE1 29-10.7 - 28.32 ha
- Regrowth RE1 29-10.2 - 18.60 ha
- Remnant RE1 29-10.2 - 11.07 ha
- Non-Grey-headed Flying-fox Habitat - 96.14 ha**
- Non-Habitat - 96.14 ha
- Proposed Development**
- Conservation
- Development Footprint
- Passive Open Space
- Road

Rev	Date	Description	Drawn	Checked
A	5/6/2022	Preliminary	L.S.	G.

0 50 100 150 200 250 m

North Arrow

Terrestrial Vector (GDA 1984 Zone 56) 1:500 @ A3

Address / PID: 20475/20160, 1128/1174, 1106/169201, 1117/169201, & 190/5199



Daleswan Pty Ltd

Ripley Road, Ripley

5/6/2022 | 9996105 Impacted Grey-Headed Flying-fox Communities

Attachment F: EMZ 1 interim and final uplift, Koala

Table 12: MHQA Completion Criteria		EMZ 1 - Open Grazing Country													
Assessment Unit - Regional Ecosystem		RE12.11.14	Transect 1	Transect 2	Transect 3	Transect 4	Transect 5	Average of Transect(s)	% Benchmark	Baseline Score	Year 5	Year 10	Year 15	Year 20	
SITE CONDITION															
Recruitment of woody perennial species	100	0	0	33	0	50	16.60	16.60	0	0	3	3	5		
Native plant species richness - trees	6	1	1	3	0	2	1.40	23.33	0	5	5	5	5		
Native plant species richness - shrubs	7	0	0	0	0	1	0.20	2.86	0	0	2.5	2.5	2.5		
Native plant species richness - grasses	8	5	5	4	4	6	4.80	60.00	2.5	2.5	2.5	2.5	2.5		
Native plant species richness - forbs	23	2	3	3	4	4	3.20	13.91	0	0	2.5	2.5	2.5		
Tree canopy height (Canopy)*	25	0	12	0	0	12	4.80	19.20	0	0	3	3	5		
Tree canopy height (Sub-canopy)*	13	6	0	8	0	6	4.00	30.77	3	3	3	3	5		
*Average tree canopy height										0	1.5	3	3	5	
Tree canopy cover (Canopy)**	40	0	0	0	0	0	0	0.00	0	0	2	5	5		
Tree canopy cover (Sub-canopy)**	21	0	0	0	0	0	0.00	0.00	0	0	2	5	5		
**Average tree canopy cover										0	0	2	5	5	
Shrub canopy cover	4	0	0	0	0.7	0	0.14	3.50	0	5	5	5	5		
Native grass cover*	45	84.8	45	93.4	100	89	82.44	183.20	5	5	5	5	5		
Organic litter*	30	0	0.5	0	0	2	0.50	1.67	0	3	3	3	5		
Large trees (euc plus non-euc) (per ha)	33	0	0	0	0	0	0.00	0.00	0	0	0	0	0		
Coarse woody debris (per ha)	260	10.5	1.8	12.4	23.4	32	16.02	6.16	0	5	5	5	5		
Non-native plant cover	0	40	25	35	30	28	31.60	6.33	5	5	10	10	10		
Quality and availability of food and forag	NA	1	1	1	1	1	1.00	-	1	1	5	10	10		
Quality and availability of shelter	NA	1	1	1	1	1	1.00	-	1	1	5	10	10		
Site Condition Score (/100)										14	34	58.5	71.5	77.5	
Overall Site Condition Score - out of 3										0.42	1.02	1.76	2.15	2.33	
SITE CONTEXT										Baseline Score	Year 5	Year 10	Year 15	Year 20	
Size of patch	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Connectedness	5	4	4	4	4	4	4	4	4	4	4	4	4	4	
Context	5	4	4	4	4	4	4	4	4	4	4	4	4	4	
Ecological Corridors	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
Role of site location to species overall p	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
Threats to the species	15	1	1	1	1	1	1	1	1	15	15	15	15	15	
Species mobility capacity	10	4	4	4	4	4	4	4	4	4	4	4	4	7	
Site Context Score (/56)										34	48	48	48	51	
Overall Site Context Score - out of 3										1.82	2.57	2.57	2.57	2.73	
SPECIES STOCKING RATE															
Koala Stocking Rate (utilising SSR & SSR Supplementary Table(s))	70	5	5	5	5	5	5	5	5	5	30	30	30		
Species Stocking Rate Score (/70)										5.00	5	30	30	30	
Overall Species Stocking Rate Score - out of 4										0.29	0.29	1.71	1.71	1.71	
Overall Assessment Unit Score											2.53	3.88	6.04	6.43	6.77
Species Stocking Rate (SSR)											Baseline	Year 5	Year 10	Year 15	Year 20
Presence detected on or adjacent to site (neighbouring property with connecting habitat)	Score	0	5	10											
		No	Yes - adjacent	Yes - on site											
Species usage of the site (habitat type & evidenced usage)	Score	0	5	10	15										
		Not habitat	Dispersal	Foraging	Breeding										
Approximate density (per ha)	Score	0	10	20	30										
		0%	low	med	high										
Role/importance of species population on site*	Score (Total from	0	5	10	15										
		0	5 - 15	20 - 35	40 - 45										
Total SSR score (out of 70)											5				
SSR Score (out of 4)											0.285714286				

Attachment G: EMZ 1 interim and final uplift, Grey-headed Flying-fox

Table 13: GHFF FHA Completion Criteria												
Assessment Unit – Regional Ec	AU 1 – non-remnant RE12.9-10.2											
Site Reference	Transect 1	Transect 2	Transect 3	Transect 4	Transect 5	Average Score	AU Score	Year 5 Score	Year 10	Year 15	Year 20	OUT OF (X/X)
	Raw Data	Raw Data	Raw Data	Raw Data	Raw Data							
Vegetation Condition	cat X	cat X	cat X	cat X	cat X	5	5	5	5	10	10	20
Species Richness	1	1	3	0	2	1.40	5	10	10	20	20	20
Flower Score	0	0	0	0	0	0.71	8	8	8	8	8	10
Timing of Biological Shortages	All transects: Due to the juvenile and sparse nature of the vegetation, none of the biological shortages are covered.					10	10	10	10	10	10	10
Quality of Foraging Habitat	0	0	0	0	0	1	5	10	10	20	20	20
Non-native Plant Cover	40%	25%	35%	30%	28%	37.58%	5	10	20	20	20	20
Site Condition Score						38	53	63	88	88		X
MAX Site Condition Score						100	100	100	100	100		X
Site Condition Score – out of 4						1.52	2.12	2.52	3.52	3.52		X
Size of patch	Patch size	Patch size >200ha	Patch size >200ha	Patch size >200ha	Patch size >200ha	10	10	10	10	10	10	10
Connectedness	All transects have 4-6 active camps within 20km					0	0	0	0	0	6	10
Context	31-75%	31-75%	31-75%	31-75%	31-75%	6	6	6	6	6	6	10
Ecological Corridors	Within	Within	Within	Within	Within	6	6	6	6	6	10	10
Role of site location to species overall population in the state	All transects have 1-3 active level 3 GHFF camps within 20km					0	0	0	0	0	5	10
Threats to the species	10	10	10	10	10	10	10	10	10	10	10	10
Site Context Score						32	32	32	32	47		X
MAX Site Context Score						60	60	60	60	60		X
Site Context Score – out of 3						1.60	1.60	1.60	1.60	2.35		X
GHFF Foraging Tree Density	0	0	0	0	0	0	1	1	2	5	5	10
Species Stocking Rate Score						1	1	2	5	5		X
X Species Stocking Rate Score						10	10	10	10	10		X
Stocking Rate Score – out of 3						0.30	0.30	0.60	1.50	1.50		X
Total						3.42	4.02	4.72	6.62	7.37		

RE12.11.14	
Score	Stem Density Results (T1 and
1	0 – 200 stems per hectare
2	201 – 250 stems per hectare
5	251 – 300 stems per hectare
7	301 – 325 stems per hectare
10	326 – 350 stems per hectare
7	351 – 375 stems per hectare
5	376 – 400 stems per hectare
4	401 – 450 stems per hectare
2	450 + stems per hectare



Attachment H: Offset Management Plan Requirements

In addition to any requirements of the conditions of approval, an offset management plan submitted for approval by the **Minister** must:

- a. Include a reference to the **EPBC Act** approval conditions (and state or local government approval conditions) to which the Offset Management Plan refers
- b. Specify referenced plans, including revegetation and rehabilitation plans, and how these can be accessed.
- c. Include detailed information on the residual impacts to **protected matters** that will be offset. This must include the area(s) of habitat for **protected matters** and its condition and quality at all impact sites which the offset is to address
- d. Identify a suitable environmental offset(s) for the impacts on **protected matters**, and provide detailed baseline information on the proposed offset(s) and commit to achievable and measurable ecological benefits, and timeframes for their achievement, for the proposed offset(s)
- e. Detail how the offset(s) will be protected, and ecological benefits maintained, in perpetuity
- f. Include a table of commitments to achieve the ecological benefits for relevant **protected matters**, and a reference to where the commitments are detailed in the Offset Management Plan
- g. Include timebound management actions that will be implemented to achieve the measurable ecological benefits for relevant **protected matters**
- h. Include an assessment of risks to achieving the ecological benefit(s) and what risk management strategies will be applied to address these
- i. Include reporting and review mechanisms, and documentation standards to inform others annually regarding compliance with management and environmental commitments, and attainment and maintenance of ecological benefits, as specified in the Offset Management Plan
- j. Propose corrective actions to ensure ecological benefits for the **protected matters** are attained or maintained, if trigger values are reached or performance indicators not attained
- k. Include a monitoring program for the full duration of the proposed offset management period, which must include:
 - i. measurable performance indicators to monitor progress towards, attainment of the ecological benefits for the **protected matters**
 - ii. a randomisation of monitoring within the offset area to ensure ecological benefits reflect the whole offset site(s)
 - iii. trigger values and timing of corrective actions
 - iv. the timing and frequency of monitoring to detect trigger values and changes in the performance indicators.

Attachment 2

Suitably qualified project experts – CV

David Havill - Principal Ecologist

David Havill has significant practical experience in the areas of ecological site assessments (flora and fauna), weed management programs, large scale revegetation projects, wetland rehabilitation and waterway restoration. He has a strong understanding of the intricate workings of the Vegetation Management Act 1999 and the complex codes and policies which influence site vegetation constraints. David's expertise relates to the on-site identification and spatial mapping of fauna and flora species including endangered, rare and vulnerable plants and animals. He has an accurate understanding of site survey processes and standards developed by the State and Commonwealth Governments. This provides the ability to challenge the various inaccuracies that occur within broad scale vegetation mapping developed by these Government agencies. David works closely with our in-house team of GIS, environmental planning, and landscape rehabilitation specialists to document findings of ecological survey and prepare targeted restoration and rehabilitation strategies. He has a strong understanding of construction techniques associated with development projects and has the ability to prepare practical flora and fauna management plans to assist in guiding the construction process within sensitive areas.

Qualifications

- Diploma of Arboriculture, Training for Trees Pty Ltd, #04453
- Bachelor of Applied Science (Natural Systems and Wildlife Management), The University of Queensland

Dr Andrew Ridley - Principle Environmental Scientist

Andrew has extensive field experience gained while working as an ecological research scientist with the Department of Agriculture and Fisheries. Andrew comes to Saunders Havill Group with documented expertise in data acquisition, analysis and project delivery having published scientific articles in peer reviewed journal and presented at international conferences.

At Saunders Havill Group, Andrew uses his ecological expertise to assess sites against a variety of biodiversity overlays. He has a strong understanding of the science driving assessment methodologies and knowledge of Queensland flora and fauna.

Andrew's experience within the academic area provides him with the 'know how' to maintain data integrity through the project flow path.

His skills are applicable across the entire spectrum of project requirements at SHG, from instigation and formulation through development and production to client delivery.

Qualifications

- Bachelor of Science (Honours), The University of Queensland
- Doctor of Philosophy, The University of Queensland

Liam Brzezinski - Senior Ecologist

Liam has extensive field experience throughout SEQ and the broader Queensland state in his role as a Senior Ecologist with a Bachelor Degree in Environmental Management, Majoring in Natural Systems and Wildlife from the University of Queensland.

Liam has five (5) years environmental consultancy experience that ranges from local through to state and federal processes. Liam has worked on a variety of projects in a support and leadership capacity including due diligence, ecological assessment reports, state applications and EPBC referrals and Preliminary documentations. Liam has developed strong technical report writing skills and continues to build on his project management capabilities

Qualifications

- Bachelor of Environmental Management (Hons), Major in Natural Systems and Wildlife, The University of Queensland

Kirstyn Ball – Senior Ecologist

Kirstyn Ball graduated from Griffith University with a Bachelor of Science (Ecology and Conservation Biology) minoring in Wildlife Management in 2016.

After graduating from university, Kirstyn worked for a bush regeneration company based on of the Gold Coast. Kirstyn was supervising bush regeneration teams over a variety of sites in South East Queensland, where she developed her flora and fauna identifications skills as well as obtaining her Cert III in Conservation and Land Management. Her previous experience is bush regeneration has led to an in depth understanding of rehabilitation techniques as well as fauna and flora identification for field surveys.

Since starting at Saunders Havill Group, Kirstyn has gained experience in various flora and fauna survey methodologies ensuring that the relevant survey guidelines by State and Commonwealth Governments are adhered to. She has worked closely with the more senior staff, assisting on a variety of reports, ranging from Due Diligence and Local Government EARs to Federal EPBC Referrals and Preliminary Documentations. Kirstyn has developed strong technical report writing skills with an understanding of local, state and commonwealth environmental legislation, codes and requirements.

Qualifications

- Certificate III in Conservation and Land Management
- Bachelor of Science in Ecology and Conservation Biology, Griffith University

Attachment 3

Wildlife online species list



Queensland Government

WildNet species list

Search Criteria: Species List for a Specified Point
Species: All
Type: Introduced
Queensland status: All
Records: Confirmed
Date: Since 1980
Latitude: -27.7019
Longitude: 152.8309
Distance: 5
Email: liambrzezinski@saundershavill.com
Date submitted: Friday 09 Jun 2023 08:14:44
Date extracted: Friday 09 Jun 2023 08:20:02

The number of records retrieved = 32

Disclaimer

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

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

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Bufo	<i>Rhinella marina</i>	cane toad	Y			3
animals	birds	Columbidae	<i>Columba livia</i>	rock dove	Y			1
animals	birds	Columbidae	<i>Spilopelia chinensis</i>	spotted dove	Y			3
animals	birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	Y			2
animals	birds	Sturnidae	<i>Sturnus vulgaris</i>	common starling	Y			2
animals	mammals	Canidae	<i>Vulpes vulpes</i>	red fox	Y			1
animals	mammals	Felidae	<i>Felis catus</i>	cat	Y			1
animals	mammals	Leporidae	<i>Lepus europaeus</i>	European brown hare	Y			2
animals	mammals	Muridae	<i>Rattus rattus</i>	black rat	Y			1
animals	mammals	Suidae	<i>Sus scrofa</i>	pig	Y			1
animals	reptiles	Gekkonidae	<i>Hemidactylus frenatus</i>	house gecko	Y			1
plants	land plants	Apiaceae	<i>Ammi majus</i>	bishop's weed	Y			1/1
plants	land plants	Apiaceae	<i>Daucus carota</i>	wild carrot	Y			1/1
plants	land plants	Apocynaceae	<i>Catharanthus roseus</i>	pink periwinkle	Y			1/1
plants	land plants	Asteraceae	<i>Ageratina adenophora</i>	crofton weed	Y			1/1
plants	land plants	Asteraceae	<i>Ageratum houstonianum</i>	blue billygoat weed	Y			1/1
plants	land plants	Asteraceae	<i>Erigeron karvinskianus</i>		Y			1/1
plants	land plants	Asteraceae	<i>Senecio madagascariensis</i>	fireweed	Y			2/2
plants	land plants	Asteraceae	<i>Symphotrichum subulatum</i>		Y			1/1
plants	land plants	Boraginaceae	<i>Heliotropium amplexicaule</i>	blue heliotrope	Y			1/1
plants	land plants	Hyacinthaceae	<i>Ledebouria petiolata</i>		Y			1/1
plants	land plants	Iridaceae	<i>Sisyrinchium rosulatum</i>		Y			1/1
plants	land plants	Leguminosae	<i>Lotononis bainesii</i>	lotononis	Y			1/1
plants	land plants	Leguminosae	<i>Macrotyloma axillare var. axillare</i>		Y			1/1
plants	land plants	Malvaceae	<i>Sida cordifolia</i>		Y			1/1
plants	land plants	Malvaceae	<i>Urena lobata</i>	urena weed	Y			1/1
plants	land plants	Passifloraceae	<i>Passiflora suberosa subsp. litoralis</i>		Y			1/1
plants	land plants	Plantaginaceae	<i>Scoparia dulcis</i>	scoparia	Y			1/1
plants	land plants	Poaceae	<i>Eragrostis curvula</i>		Y			1/1
plants	land plants	Poaceae	<i>Paspalum distichum</i>	water couch	Y			1/1
plants	land plants	Solanaceae	<i>Solanum linnaeanum</i>	apple of Sodom	Y			1/1
plants	land plants	Verbenaceae	<i>Lantana montevidensis</i>	creeping lantana	Y			1/1

CODES

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

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992*.

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

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

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

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

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

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