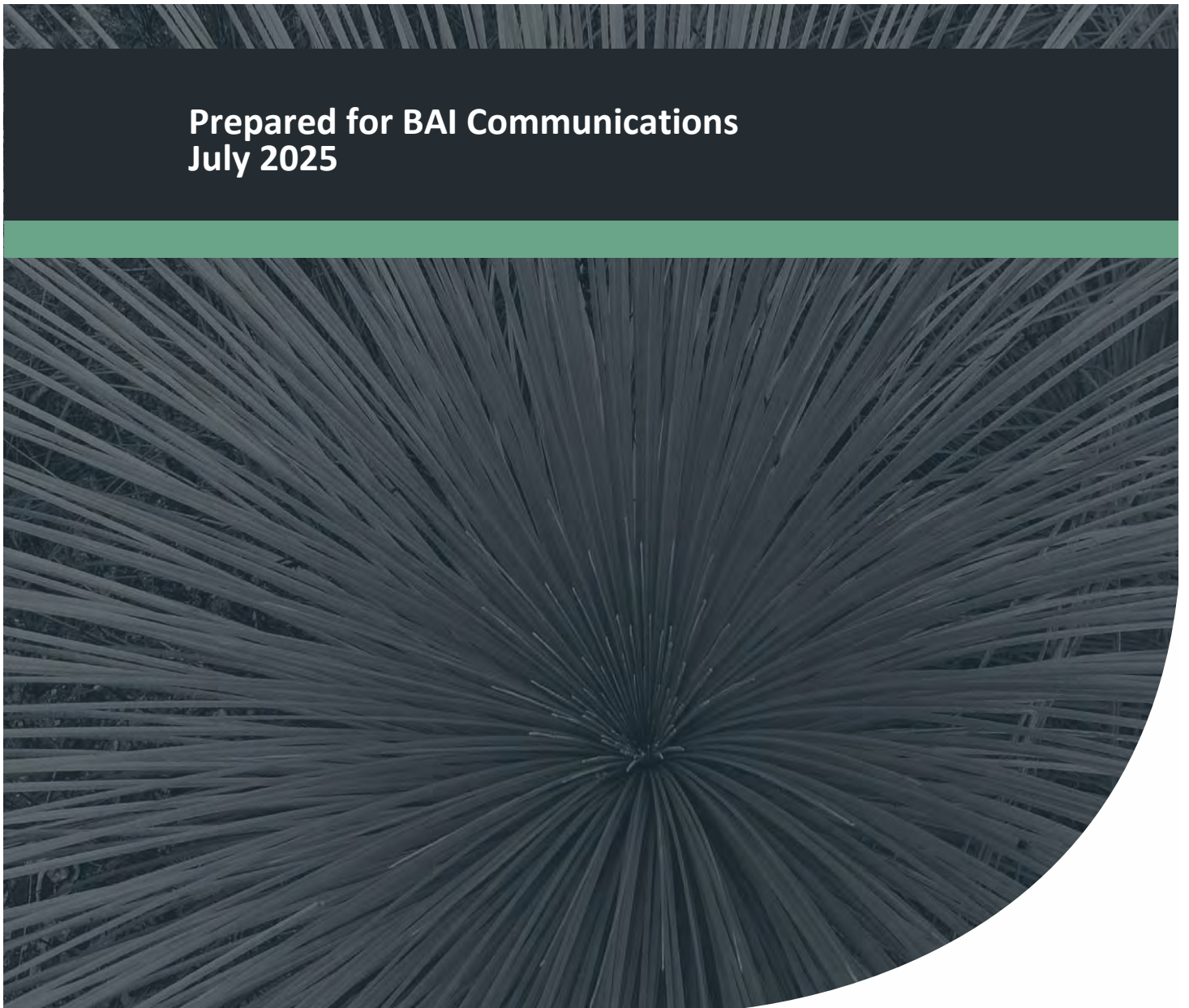


# Construction Environmental Management Plan

Hamersley Residential Development and  
Conservation

Project No: EP24-129(06)

**Prepared for BAI Communications  
July 2025**



# Construction Environmental Management Plan

## Hamersley Residential Development and Conservation



## Document Control

<b>Doc name:</b>		Construction Environmental Management Plan Hamersley Residential Development and Conservation			
<b>Doc no.:</b>		EP24-129(06)—004A CIB			
Version	Date	Author		Reviewer	
1	May 2025	Charlotte Broun	CIB	Adrian Vlok	ASV
		Emma Bentley	EKB		
Prepared for client review					
A	July 2025	Emma Bentley	EKB	Adrian Vlok	ASV
		Updated post client review and submission as attachment to documentation packages to EPA/DCCEEW			

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# Construction Environmental Management Plan

## Hamersley Residential Development and Conservation



## Executive Summary

This Construction Environmental Management Plan (CEMP) outlines the environmental management actions to be implemented as part of the construction of the Hamersley Residential Development and Conservation project within Lot 802 Erindale Road, and Lot 1 and Lot 803 Wanneroo Road, Hamersley in Western Australia (herein referred to as 'the proposed development').

The environmental management actions relate to the relevant Matters of National Environmental Significance (MNES) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and environmental factors under the *Environmental Protection Act 1986* (EP Act), including threatened and priority species and communities. This CEMP has been prepared to support the Preliminary Documentation (PD) report and Environmental Review Document (ERD) prepared to enable the Department of Climate Change, Energy, the Environment and Water (DCCEEW) and Environmental Protection Authority (EPA) to assess the proposed development under the EPBC Act and EP Act, respectively. The purpose of this CEMP is to outline the environmental management measures to avoid and mitigate potential environmental risks and impacts to threatened and priority species and communities within the site and its immediate vicinity associated with the construction of the proposed development.

Additionally, this CEMP has been prepared to ultimately ensure the impacts of the proposed development are acceptable, minimised and managed. This CEMP is 'management based' and documents the management actions required during the construction stage of implementation of the proposed development to achieve management targets.

The following management targets have been identified:

- Undertake the construction works within the residential development area associated with the proposed development (particularly any vegetation clearing activities) in a manner that avoids and minimises impacts to threatened and priority species and communities within and outside the approved clearing area.
- Avoid any potential direct impacts on threatened and priority fauna, or other fauna that might occur within the site, during the construction stage of the proposed development.
- Avoid any potential impacts on native vegetation outside of the residential development area including the conservation area and surrounding vegetation, during the construction stage of the proposed development.
- Avoid any potential impacts on native vegetation retained within the residential development area and Asset Protection Zone (APZ), during the construction stage of the proposed development.
- Ensure effective implementation, monitoring and maintenance of environmental mitigation measures throughout the construction stage of the proposed development.

In order to manage and mitigate impacts to threatened and priority species and communities during the construction process, the CEMP details management actions to be implemented, which comprise the following six categories:

- General
- Vegetation clearing

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- Fauna management
- Weed and disease management
- Fire management
- Emissions management (dust, sediment, pollution).

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Figure 1: Proposed development Area

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## Appendices

### **Appendix A**

Indicative concept plan of the residential development area

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## Abbreviation Tables

Table A1: Abbreviations – Organisations

Organisations	
DBCA	Department of Biodiversity, Conservation and Attractions
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DEC	Department of Environment and Conservation
DoEE	Department of Energy and Environment (now the Department of Climate Change, Energy, the Environment and Water)
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority

Table A2: Abbreviations – General terms

General terms	
APZ	Asset Protection Zone
CBC	Carnaby's black cockatoo
CEMP	Construction Environmental Management Plan
ERD	Environmental Review Document
FRTBC	Forest red-tailed black cockatoo
P2	Priority 2
P3	Priority 3
P4	Priority 4
PD	Preliminary Documentation
PEC	Priority Ecological Community
SRE	Short Range Endemic
TEC	Threatened Ecological Community
WA	Western Australia

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Table A3: Abbreviations –Legislation

Legislation	
BC Act	<i>Biodiversity Conservation Act 2016</i>
EP Act	<i>Environmental Protection Act 1986</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>

Table A4: Abbreviations – units of measurement

Units of measurement	
ha	Hectare

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## 1 Introduction

### 1.1 Proposed development

Digital 4 Pty Ltd (herein referred to as the 'proponent') are proposing the Hamersley Residential Development and Conservation project within Lot 802 Erindale Road, and Lot 1 and 803 Wanneroo Road, Hamersley in the City of Stirling, Western Australia (herein referred to as the 'proposed development'). The proposed development envelope is approximately 33.21 ha and includes 13.55 ha for residential development within Lot 802 Erindale Road and the western portion of Lot 803 Wanneroo Road ('the residential development'), and 19.66 ha for a conservation area within Lot 803 and the eastern portion of Lot 1 Wanneroo Road ('the conservation area'). The residential development area and the conservation area are collectively referred to as 'the site' and are shown in **Figure 1**.

The residential development includes the following activities:

- The clearing of existing vegetation, comprising 12.29 ha of native vegetation
- Bulk earthworks, including cutting and filling of the land
- Civil construction works, including the construction of residential lots, roads, services infrastructure (such as sewer, water, gas, electricity, and communications) and all other associated construction works to establish a residential estate, to the point that completed residential lots are ready for individual dwellings to be built by home builders/lot purchasers
- The provision of public open space and an Asset Protection Zone (APZ) containing vegetation to be managed to 'low threat' to provide sufficient setback requirements to the bushfire risks associated with the retained vegetation in the conservation area.

The conservation area (within Lot 1 and Lot 803) will be managed for conservation purposes including retention, protection and restoration efforts and no construction is proposed. The conservation area is subject to a separate management plan (the Conservation Area Management Plan (CAMP) (Emerge Associates 2025b)).

The proponent is progressing environmental assessment and approvals for the proposed development pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the *Environmental Protection Act 1986* (EP Act). As such, it should be noted that this report has been prepared to satisfy both EPBC Act and EP Act requirements and as such 'the proposed development' is equivalent to the 'proposed action' for the purposes of the EPBC Act and the 'proposal' for the purposes of the EP Act. Additionally, 'the site' is equivalent to the 'project area' for the purposes of the EPBC Act and 'development envelope' for the purposes of the EP Act.

### 1.2 Environmental assessment and management

This Construction Environmental Management Plan (CEMP) has been prepared to support the environmental assessment and approval processes pursuant to the EP Act and EPBC Act to enable the Department of Climate Change, Energy, the Environment and Water (DCCEEW) and the Environmental Protection Authority (EPA) to assess the proposed development. DCCEEW and EPA have requested the proponent to detail the management of potential environmental impacts

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associated with construction activities within the residential development area and immediate surrounds. The relevant MNES and environmental factors are outlined below in **Section 1.2.1** and **Section 1.2.2**, respectively.

### 1.2.1 EPBC Act MNES

The CEMP supports the Preliminary Documentation (PD) report prepared for the assessment of EPBC Act Matters of National Environmental Significance (MNES) relevant to the proposed development, as identified by DCCEEW during the referral. The following MNES, relevant to threatened species and communities, have been identified by DCCEEW and as such considered within this CEMP based on relevance to the proposed development and the outcomes of the impact assessment undertaken as part of the PD Report (Emerge Associates 2025d):

- Banksia woodlands of the Swan Coastal Plain Threatened Ecological Community (TEC) (Banksia Woodlands TEC) – Endangered under the EPBC Act
- Carnaby's black cockatoo (CBC) (*Zanda latirostris*) – Endangered under the EPBC Act
- Forest red-tailed black cockatoo (FRTBC) (*Calyptorhynchus banksii naso*) – Vulnerable under the EPBC Act.

### 1.2.2 EP Act environmental factors

This CEMP also supports the Environmental Review Document (ERD) prepared for the assessment of EP Act environmental factors relevant to the proposed development. The EPA identified 'flora and vegetation' and 'terrestrial fauna' as relevant environmental factors to the proposed development. The following threatened and priority species and communities have been considered as part of this CEMP based on relevance to the proposed development and the outcomes of the impact assessment undertaken as part of the ERD (Emerge Associates 2025c):

- Flora and vegetation:
  - Banksia woodlands of the Swan Coastal Plain Priority Ecological Community (PEC) – Priority 3 (P3) under the Western Australia (WA) policy framework. The description, area and condition thresholds that apply to the EPBC-listed TEC of the same name, also apply to this PEC and as such, it is herein referred to as 'Banksia Woodlands TEC/PEC'.
  - '*Banksia attenuata* woodlands over species rich dense shrublands' (Swan Coastal Plain (SCP) 20a) TEC - Endangered under the *Biodiversity Conservation Act 2016* (BC Act) and Endangered pursuant to the EPBC Act as it forms part of the Banksia Woodlands TEC.
  - 'Low lying *Banksia attenuata* woodlands or shrublands' Priority Ecological Community (PEC) (SCP21c) - P3 under the WA policy framework and Endangered pursuant to the EPBC Act as it forms part of the Banksia Woodlands TEC.
  - Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plains PEC – P3 under the WA policy framework and Critically Endangered pursuant to the EPBC Act. The description, area and condition thresholds that apply to the EPBC-listed TEC of the same name, also apply to this PEC and as such, it is herein referred to as 'Tuart Woodlands TEC/PEC'
  - *Acacia benthamii* - Priority 2 (P2) under the WA policy framework
  - *Jacksonia sericea* - Priority 4 (P4) under the WA policy framework.

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- Terrestrial fauna:
  - Carnaby's black cockatoo (CBC) (*Zanda latirostris*) – Endangered under the BC Act and EPBC Act
  - Forest red-tailed black cockatoo (FRTBC) (*Calyptorhynchus banksii naso*) – Vulnerable under the BC Act and EPBC Act
  - Quenda (*Isoodon fusciventer*) - P4 under the WA policy framework
  - Swan Coastal Plain shield-backed trapdoor spider (trapdoor spider) (*Idiosoma sigillatum*) - P3 under the WA policy framework
  - Black-striped snake (*Neelaps calonotos*) - P3 under the WA policy framework.

### 1.3 Purpose

The CEMP has been prepared to ensure the risks as a result of implementing the proposed development to threatened and priority species and communities, as identified above, are minimised and managed. The purpose of this CEMP is to outline the environmental management measures proposed to be implemented to avoid and mitigate potential impacts to the relevant threatened and priority species and communities as well as other fauna species that may occur within the residential development area during the construction phase of the proposed development.

The CEMP applies to the residential development area and associated construction works of the proposed development (**Figure 1**) and does not apply to the conservation area. While no construction activities associated with the proposed development will be permitted beyond the residential development area boundary, management measures (i.e. exclusion fencing and establishment of no access zones) will still apply to prevent any potential impacts to adjacent vegetation. The structure and content of this CEMP has been prepared to align with the Environmental Management Plan Guidelines where applicable (Commonwealth of Australia 2014).

### 1.4 Management targets

This CEMP is 'management based' and documents management actions required within the residential development area during the construction stage of implementing the proposed development to achieve management targets. The following management targets have been identified:

- Undertake the construction works within the residential development area associated with the proposed development (particularly any vegetation clearing activities) in a manner that avoids and minimises impacts to threatened and priority species and communities within and outside the approved clearing area.
- Avoid any potential direct impacts on threatened and priority fauna, or other fauna that might occur within the site, during the construction stage of the proposed development.
- Avoid any potential impacts on native vegetation outside of the residential development area including the conservation area and surrounding vegetation, during the construction stage of the proposed development.
- Avoid any potential impacts on native vegetation retained within the residential development area, during the construction stage of the proposed development.

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- Ensure effective implementation, monitoring and maintenance of environmental mitigation measures throughout the construction stage of the proposed development.

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## 2 Environmental management roles and responsibilities

This CEMP identifies the environmental management of activities to be undertaken by the proponent within the residential development area during the construction phase of the proposed development. The proponent acknowledges that the environmental management actions contained within this CEMP are legal requirements to be met by the proponent once the proposed development has been approved.

The proponent will maintain responsibility for implementation of the management actions outlined within this CEMP on behalf of the BAI Communications and Digital 4 Pty Ltd Managing Director/s. Management actions may be undertaken by employees and/or contractors of the proponent on behalf of the Managing Director/s.

Where management actions are undertaken by employees and/or contractors of the proponent, these will be communicated and documented to the relevant personnel through relevant environmental training as outlined in **Section 4.2**.

### 2.1 Reporting and accountability

#### 2.1.1 Reporting

An audit against the management actions, as outlined in **Table 6**, will be undertaken in accordance with and if requested by DCCEE and/or EPA in the future EPBC Act and EP Act approval of the proposed development.

#### 2.1.2 Environmental awareness

The proponent will ensure that all personnel undertaking works associated with the proposed development, including visitors, will undertake a site induction training program, or are escorted across the site. Personnel and visitors are to be made aware of:

- Key points of environmental values identified and any relevant MNES or environmental factors (including those unlikely but possible to occur within the site forming part of the assessment undertaken in the PD report and ERD)
- Understanding the requirements of this CEMP and the individual's role
- Environmental incident emergency response procedures.

#### 2.1.3 Emergency contacts and procedures

Upon works commencing emergency contact details will be signposted at appropriate locations within the site. Emergency contact details are located on the site office signboard.

##### 2.1.3.1 Incident and emergency management

In the event of any incident, the safety of all personnel, including site workers, visitors and the community in the immediate vicinity of the site will be the first priority. Following this, all practical steps will be taken to minimise the risk of further environmental damage as soon as possible after

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the event through the implementation of appropriate incident management or contingency plan procedures. Environmental incidents are defined as any breach of the management procedures detailed in this CEMP or unplanned actions (or actions within an unplanned location i.e., impacts external to the site) which are detrimental to the environment.

Examples of environmental incidents may include:

- Unapproved impacts on the TEC or PEC occurrences, priority flora, or any other native vegetation outside of the approved clearing area (unapproved clearing).
- Unapproved impacts on threatened and priority fauna habitat outside of the approved impact area. This may include unapproved clearing of suitable quenda habitat, Carnaby's black cockatoo and forest red-tailed black cockatoo (herein referred to as 'black cockatoos') habitat trees or foraging habitat.
- Environmental pollution, spillages or contamination or damage impacting on the site or the broader locality.
- Unapproved emissions (dust, sediment, pollution) to land, air or water resulting from the implementation of the proposed development.

All environmental incidents will be immediately reported by the construction contractor to the proponent emergency contact (Error! Reference source not found.), the relevant State Government agency as required by legislation (e.g. WorkSafe WA, Emergency Services and Department of Water and Environmental Regulation) and recorded using an Environmental Incident Report Form. All reported incidents are to be investigated by the construction contractor and within 48 hrs a report provided to the proponent emergency contact and if necessary relevant State Government agency.

If the incident results in a significant impact on MNES or environmental factors, or material or serious environmental harm<sup>1</sup>, the incident report will be provided to DCCEEW and/or DWER. Examples of a severe incident include impacts to a threatened or conservation significant species or community, such as black cockatoos and Banksia Woodlands TEC/PEC.

Information (i.e. improvement notice) on environmental incidents will be communicated to contractors and personnel as soon as practicable and recent incident reports will be displayed on site notice boards.

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<sup>1</sup> As defined under the EP Act.

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### 3 Potential environmental impacts and risks

Environmental impacts and potential risks to MNES and environmental factors as a result of the construction phase of the proposed development within the residential development area are discussed in the below sections. A risk assessment has also been undertaken as part of the assessment of potential impacts and risks and identifies the residual risk of the proposed impacts after implementation of proposed management measures. Environmental impacts as a result of implementation of the proposal have been considered within two categories; 'flora and vegetation' (including TECs, PECs and priority flora species) (**Section 3.1**) and 'fauna and fauna habitat' (**Section 3.2**) and summarised in the below sections. It should be noted that additional environmental values will be retained within the residential development area but will be dependent on detailed design at later stages of the planning and development process. The indicative concept plan of the residential development area, provided as **Appendix A**, shows the anticipated additional retention that will be achieved within the residential development area. However, since this cannot be confirmed until later stages of planning and development, for impact assessment and management purposes, it is assumed all environmental values within the residential development area will be lost, even though this is unlikely to be the case.

In addition to the potential retention of environmental values within the residential development area, there may also be the opportunity to retain environmental values within the APZ within Lot 803 (**Figure 2**). However, this is dependent on the finalisation of public open space placement and will be confirmed during later stages of the planning and development process. Similarly to retention areas within the residential development area, it should be assumed all environmental values within the APZ will be lost, even though it is unlikely to be the case. As such, management actions for future retention areas have also been included and considered within this CEMP.

#### 3.1 Flora and vegetation

As outlined in the PD Report (Emerge Associates 2025d) and ERD (Emerge Associates 2025c), implementation of the proposed development will result in the planned and unavoidable clearing of up to 12.29 ha of native vegetation associated with the 'Karrakatta – Central and South' vegetation complex and the following impacts to priority flora species and TECs/PECs:

- 12.29 ha of Banksia Woodlands TEC/PEC
- 0.88 ha of 'Low lying *Banksia attenuata* woodlands or shrublands' PEC (SCP21c)
- 3.63 ha of Tuart Woodlands TEC/PEC
- 80 *Acacia benthamii* individuals (P2)
- 1,559 *Jacksonia sericea* individuals (P4).

The following risks during construction activities could lead to additional direct and indirect impacts to threatened and priority flora and TECs/PECs as a result of implementation of the proposed development:

- Accidental unauthorised clearing outside the approved boundary or unapproved removal of vegetation in general (i.e., unapproved clearing within the conservation area)
- Introduction or spread of weeds and diseases

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- Accidental ignition of fire during construction within the residential development area
- Fragmentation of native vegetation
- Dust emissions covering native vegetation and impacting on vegetation health.

### 3.2 Fauna and fauna habitat

As outlined in the PD report (Emerge Associates 2025d) and ERD (Emerge Associates 2025c) implementation of the proposed development will result in the following impacts to threatened and priority fauna species:

- 12.30 ha of 'high' quality foraging habitat with a HQS of 8 (using the framework provided by DCCEEW (based on Woodman Environmental (2018))- Endangered under the BC Act and the EPBC Act
- 7.45 ha of 'high' quality foraging habitat with a HQS of 7 - Vulnerable under the BC Act and the EPBC Act
- 41 potential nesting trees providing breeding habitat for FRTBC, none of which contain hollows
- 12.29 ha of native fauna habitat types (associated with the banksia woodland habitat type) providing suitable habitat for quenda (P4) and trapdoor spider, and potentially suitable habitat for one priority reptile (black-striped snake).

The residential development area could additionally provide habitat potentially utilised by other fauna species. This could include common fauna species as well as other threatened and priority fauna species not recorded during the Basic Fauna and Targeted Black Cockatoo Assessment (Emerge Associates 2025a) but considered to have a high or moderate likelihood of occurring within the site. These species may also be impacted by the proposed development and as such have been considered within this CEMP.

The following risks during construction activities could lead to additional direct and indirect impacts to threatened and priority fauna species and other fauna species:

- Accidental and unauthorised clearing outside the approved boundary or unapproved removal of vegetation in general (i.e., unapproved clearing within the conservation area) resulting in habitat loss
- Accidental ignition of fire during construction within the residential development area resulting in habitat loss
- Fragmentation and reduction of fauna habitat
- Dust emissions impacting on fauna health
- Increased risk of fauna interactions through vegetation clearing activities and the operation of plant and equipment, resulting in injury or death.

### 3.3 Risk assessment

The Environmental Management Plan Guidelines (Commonwealth of Australia 2014) identify a requirement for a risk assessment to assess the likelihood and consequence of each potential impact in order to ensure that risks are translated into controls, mitigation and management actions.

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A risk assessment of the potential impacts identified to threatened and priority species and communities within and external to the site, was undertaken, based on the risk matrix provided in **Table 1** below. The risk matrix uses the risk categories outlined in the Department of Water and Environmental Regulation's Risk Assessments Guidelines (DWER 2020) utilising the Australian Standard (AS) 4360:2004: Risk Management and AS 31000:2009 Risk Management – Principles and Guidelines.

**Table 3** and **Table 4** provide the criteria to assess the 'consequences' and 'likelihood' of a risk event occurring.

The risk assessment has calculated the residual risk of the proposed impacts when implementation of the proposed management measures is considered (discussed below in **Section 4**). The outcomes of the risk assessment for flora and vegetation, and fauna and fauna habitat are provided in Error! Reference source not found.**Table 4**. The residual risk of each potential impact (when the proposed management measures are considered) are either moderate or low, which is considered to be a satisfactory outcome.

To assess risks, the relevant MNES and environmental factors have been considered within two categories; 'flora and vegetation' (including TECs, PECs and priority flora species) and 'fauna and fauna habitat'.

The following key risk events (direct and indirect impacts) have been assessed and rated as 'moderate' and 'low' prior to mitigation:

Risk ID 1 – Loss of flora, vegetation and fauna habitat (initial risk rating 'moderate'): Direct and cumulative impact through the loss of flora and vegetation due to accidental unauthorised clearing outside the approved boundary or unapproved removal of vegetation in general.

Risk ID 2 - Edge effects (Initial risk rating 'low'): Indirect impacts on flora, vegetation and fauna habitat surrounding the project area through edge effects such as habitat fragmentation, spread of invasive species and changes in the local fire regime.

Risk ID 3 – Fauna interactions (initial risk rating 'low'): Direct impact through the injury, mortality or displacement of MNES fauna due to vegetation clearing and earthworks.

The risk assessment is provided in **Table 5**, summarising the above risks (direct and indirect impacts) and includes the initial and residual risk ratings, the identified management measures (if required) (detailed in **Section 4**) and a rationale for the rating of each impact pathway.

Whilst **Table 5** provides a summary of the conclusions drawn from the risk analysis, each management measures is further outlined in **Section 4** below.

The outcome of the risk assessment demonstrates an overall reduction of environmental risk (when comparing initial risk to the residual risk subsequent to the implementation of mitigation measures. The initial risk assessment identified one 'moderate' and two 'low' risks compared to one 'low' and two 'very low' residual risks subsequent to the implementation of mitigation measures discussed in detail in **Section 4** and summarised in **Table 5**.

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Table 1: Risk Assessment Matrix (AS 4360)

Probability/Likelihood	Consequence/Impact				
	Slight (A)	Minor (B)	Moderate (C)	Major (D)	Severe (E)
Almost certain (5)	Low	Moderate	High	Extreme	Extreme
Likely (4)	Low	Low	Moderate	High	Extreme
Possible (3)	Low	Low	Moderate	High	Extreme
Unlikely (2)	Very Low	Low	Low	Moderate	High
Rare (1)	Very Low	Very Low	Low	Moderate	Moderate

Table 2: Criteria to assess the consequence of a risk event occurring (based on DWER 2020)

Consequence	Criteria
Severe	<ul style="list-style-type: none"> <li>Onsite impacts: <b>catastrophic</b></li> <li>Offsite impacts local scale: <b>high level or above</b></li> <li>Offsite impacts wider scale: <b>mid-level or above</b></li> <li><b>Mid to long-term or permanent impact to an area of high conservation value or special significance</b></li> <li><b>Specific Consequence Criteria (for environment) are significantly exceeded</b></li> </ul>
Major	<ul style="list-style-type: none"> <li>Onsite impacts: <b>high level</b></li> <li>Offsite impacts local scale: <b>mid-level</b></li> <li>Offsite impacts wider scale: <b>low level</b></li> <li><b>Short-term impact to an area of high conservation value or special significance</b></li> <li><b>Specific Consequence Criteria (for environment) are exceeded</b></li> </ul>
Moderate	<ul style="list-style-type: none"> <li>Onsite impacts: <b>mid-level</b></li> <li>Offsite impacts local scale: <b>low level</b></li> <li>Offsite impacts wider scale: <b>minimal</b></li> <li><b>Specific Consequence Criteria (for environment) are at risk of not being met</b></li> </ul>
Minor	<ul style="list-style-type: none"> <li>Onsite impacts: <b>low level</b></li> <li>Offsite impacts local scale: <b>minimal</b></li> <li>Offsite impacts wider scale: <b>not detectable</b></li> <li><b>Specific Consequence Criteria (for environment) likely to be met</b></li> </ul>
Slight	<ul style="list-style-type: none"> <li>Onsite impact: <b>minimal</b></li> <li><b>Specific Consequence Criteria (for environment) met</b></li> </ul>

Table 3: Criteria to assess the likelihood of a risk event occurring (based on DWER 2020)

Likelihood	Criteria
Almost certain	The risk event is expected to occur in most circumstances.
Likely	The risk event will probably occur in most circumstances.
Possible	The risk event could occur at some time.
Unlikely	The risk event will probably not occur in most circumstances.
Rare	The risk event may only occur in exceptional circumstances.

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Table 4: Risk based impact assessment

Risk ID	Risk Event	Impact Pathway	Activity	Initial Risk Rating			Mitigation (see Table 5)	Residual Risk Rating			Comments
				Likelihood	Consequence	Rating		Likelihood	Consequence	Rating	
1.	Unapproved loss of flora, vegetation and fauna habitat	Direct and cumulative impact through the loss of flora, vegetation and fauna habitat due to accidental unauthorised clearing outside the approved boundary due to clearing activities and earthworks.	Construction	Possible	Moderate	Moderate	Refer to management action 1, 2, 3, 4,	Unlikely	Minor	Low	Any indirect impacts as a result of the proposal can be mitigated through the implementation of environmental management plans so to avoid any adverse impacts on surrounding vegetation in the broader locality. No direct or indirect impacts to conservation reserves will occur. The clearing of vegetation will not result in additional fragmentation of surrounding remnant vegetation patches.
2.	Edge effects	Consequential impacts on MNES habitat retained within and surrounding the project area such as abiotic factors, bushfire, habitat fragmentation and spread of invasive species and diseases.	Construction and operation	Possible	Minor	Low	Refer to management action 1, 4, 5, 6, 7, 8	Unlikely	Slight	Very Low	Fauna habitat fragmentation is unlikely because vegetation retention associated with the conservation area will be able to maintain connectivity. Pests already occur within the project area.
3.	Fauna Interactions	Direct impact through the injury, mortality or displacement of MNES fauna due to vegetation clearing and earthworks.	Construction	Unlikely	Minor	Low	Refer to management action 1, 9, 10, 11, 12, 13	Unlikely	Slight	Very Low	The proposed development within the site is likely to create noise emissions during any associated vegetation clearing and construction works likely resulting in fauna to move away from any noise source (if present).

# Construction Environmental Management Plan

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## 4 Environmental management measures

### 4.1 Environmental management activities, controls and performance targets

A range of management actions have been identified to be implemented to control and minimise risks (as identified above) of the proposed development to threatened and priority species and communities. These have been informed based on site-specific surveys and lessons learnt from similar projects in Western Australia. These management actions will minimise potential residual impacts and achieve the identified management targets.

The following species Recovery Plans and referral guidelines have informed the development of this CEMP:

- Department of Environment and Conservation (DEC) (2008). *Forest Black Cockatoo (Baudin's Cockatoo Calyptorhynchus baudinii and Forest Red-tailed Black Cockatoo Calyptorhynchus banksii naso) Recovery Plan* (DEC 2008)
- Department of Parks and Wildlife (DPaW) (2013). *Carnaby's Cockatoo (Calyptorhynchus latirostris) Recovery Plan* (DEC 2013a)
- Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) (2012). *EPBC Act referral guidelines for three threatened black cockatoo species* (DoEE 2012)
- Quokka (*Setonix brachyurus*) Recovery Plan (DEC 2013b).

Performance targets have been established to identify outcomes sought from management actions. The management actions are specific to the construction process and have been developed to manage any potential impacts to threatened and priority species and communities present within the site.

Each management action has been identified to address the Risk ID's, as outlined above. The management actions, associated risks and performance targets are identified in **Table 5** below.

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Table 5: CEMP management actions

Relevant Risk ID	Management Action	Management Action Description	Timing	Performance Targets	Indicator of Achieved Performance Target
<u>Risk ID 1 – Unapproved clearing of flora, vegetation and fauna habitat</u>  <u>Risk ID 2 – Edge Effects</u>  <u>Risk ID 3 – Fauna interactions</u>	1: Site inductions	All staff and/or on-site personnel to be inducted on this CEMP, environmental constraints, and associated management actions before commencement of the proposed development.	Construction phase. Prior to personnel undertaking works within the site.	The proponent will ensure that all personnel undertaking works associated with the proposed development, including visitors, have undertaken a site induction training program, or are escorted across the site.	Completed induction register.
<u>Risk ID 1 – Unapproved clearing of flora, vegetation and fauna habitat</u>	2: Demarcation of approved vegetation clearing areas	The extent of the clearing area will be clearly defined before any clearing activities commence to ensure retained areas of vegetation external to the residential development area are maintained and not directly or indirectly adversely impacted during the implementation of the proposed development. This will include demarcation measures such as fencing and signage. Suitable spatial buffers such as existing tracks or fire breaks between the residential development and conservation areas will be utilised (where possible) to prevent impacts to retained vegetation and the trees' root zones.	Construction phase. Prior to clearing works.	The proponent will ensure that no vegetation clearing outside the approved clearing footprint will be undertaken as part of the sites proposed development, avoiding any impact on retained vegetation and fauna habitat. <b>Figure 2</b> identifies the no access zones within the site and where temporary fencing and permanent security fencing will be installed. The security fencing will not be fauna permeable, potentially occurring fauna species will be trapped within the site and translocated to an appropriate location.	Visual confirmation that only vegetation within the approved clearing footprint is marked for removal. Plan given to contractor and erected in site compound.

# Construction Environmental Management Plan

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Table 5: CEMP management actions (continued)

Relevant Risk ID	Management Action	Management Action Description	Timing	Performance Targets	Indicator of Achieved Performance Target
<u>Risk ID 1 – Unapproved clearing of flora, vegetation and fauna habitat</u>	3: Conservation area demarcation	The conservation area and any native vegetation adjacent to the approved clearing footprint will be clearly demarcated and fenced off throughout the duration of construction to prevent unauthorised access by construction personnel. Other areas of vegetation or trees to be retained within the residential development area or APZ will be marked and/or fenced off. Tree Protection Zones will be established in accordance with AS 4970-2009 for any retained trees to ensure their health and structural integrity is not impacted throughout construction.	Construction phase. Prior to clearing works.	The proponent will ensure that temporary fencing is established and maintained throughout construction to prevent unauthorised access to the conservation area (no access zone). All other trees and vegetation to be retained and/or where required in accordance with the proposed developments approval will also be marked and/or fenced off (refer to <b>Figure 2</b> ) and Tree Protection Zones will be established where required.	Visual confirmation that no access zones have been established, trees have been marked with survey tape or similar, and Tree Protection Zones are established where required. Trees are surveyed prior to clearing and photos are recorded of trees
<u>Risk ID 1 – Unapproved clearing of flora, vegetation and fauna habitat</u>  <u>Risk ID 2 – Edge Effects</u>	4: Establish APZ management area	Establishment of the APZ to create a separation buffer to the conservation area and ensure only management for bushfire requirements are undertaken in this area.	Construction phase. Prior to clearing works.	The proponent will ensure that no excess vegetation clearing is undertaken within the APZ, outside the approved management of vegetation for bushfire requirements. Establishment of temporary fencing along the boundary of the APZ area to clearly delineate approved works within this area. <b>Figure 2</b> identifies the APZ area and where temporary fencing is to be installed for delineation of the APZ management zone. Fauna permeable fencing will be utilised during any clearing so that potentially occurring fauna species would not be trapped within the site.	Visual confirmation that no additional clearing has been undertaken other than for the purposes of bushfire management. APZ fencing has been installed to delineate the management area.

# Construction Environmental Management Plan

## Hamersley Residential Development and Conservation



Table 5: CEMP management actions (continued)

Relevant Risk ID	Management Action	Management Action Description	Timing	Performance Targets	Indicator of Achieved Performance Target
<u>Risk ID 2 - Edge effects</u>	5: Vehicle access	Access of vehicles to be restricted to construction areas only and excluded from all vegetated areas outside of the approved clearing footprint to avoid the potential spread of weeds and diseases and potential impacts on remaining vegetation and its existing integrity/condition.	Prior to, during and post construction works.	The proponent will ensure that vehicle access is restricted to construction areas only within the approved clearing footprint as part of the site induction package.	Completed induction register. Visual monitoring by personnel.
	6: Machinery and vehicle hygiene and inspections	All machinery, vehicles and tools to be cleaned down and inspected by the contractor before entering and when leaving the site as far as practical to avoid any potential spread of weeds and diseases that presently don't occur within the site and surrounds.	Construction phase. Prior to vehicles entering site.	The proponent will ensure that all vehicles, tools and machinery is cleaned down prior to use within the site to avoid the potential importation and/or exportation of weeds and diseases to surrounding areas.	Completed induction register.
	7: Fire management	All works will be undertaken in accordance with a future Bushfire Management Plan. Any works that may result in increased accidental fire ignition will be restricted during days of extreme bushfire risk. All vehicles, plant and equipment to be fitted with fire extinguishers and restricted to designated cleared areas. Contractors are to follow all Department of Fire and Emergency Services alerts including fire bans.	Prior to, during and post construction.	The proponent will ensure that all bushfire management strategies as outlined in the future Bushfire Management Plan are implemented as required. The proponent will assess the bushfire risk when relevant and on days of extreme heat posing a risk of accidental fire ignition.	Completed induction register.
	8: Dust management	Dust control measures such as water carts and/or surface stabilization measures (e.g. hydromulch) will be utilised to prevent potential dust deposition and impacts on native vegetation external to the residential development area (i.e., conservation area and vegetation outside of the site). Wind conditions are to be monitored in summer	Prior to and during construction works.	Performance targets will include no dust complaints from community or stakeholders and no visual dust plumes generated during construction.	Visual monitoring by construction personnel that construction speed limits are being adhered to and dust control measures are implemented sufficiently.

# Construction Environmental Management Plan

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Table 5: CEMP management actions (continued)

Relevant Risk ID	Management Action	Management Action Description	Timing	Performance Targets	Indicator of Achieved Performance Target
<u>Risk ID 3 – Fauna interactions</u>	9: Pre-clearance trapping	A suitably experienced ecologist/fauna specialist will undertake a pre-clearing fauna trapping program within the residential development area prior to the commencement of any vegetation clearing to remove fauna from the clearing area and reduce the risk of fauna interactions resulting in injury or death of conservation significant fauna, or any other fauna present in the site. Appropriate licences such as a fauna taking (relocation) licence from DBCA are to be obtained prior to pre-clearing trapping occurring. Relocation destinations are to be determined in consultation with DBCA.	Construction phase. Prior to commencement of any clearing works.  Trapping required, within 7 days prior to scheduled clearing event (or as recommended by fauna specialist).	The proponent will ensure the pre-clearing fauna trapping program is undertaken by a fauna specialist/qualified ecologist prior to the commencement of vegetation clearing to avoid direct impacts to any conservation significant fauna, or any other fauna present in the site. Fauna taking (relocation) license obtained and complied with.	Confirmation that a qualified fauna specialist/ ecologist has undertaken a trapping and relocation program
	10: Fauna pre-clearing inspections, spotting and relocation	A suitably experienced ecologist/fauna specialist will undertake pre-clearing inspections of fauna habitat (including microhabitats such as logs, leaf litter and tree hollows) to ensure no fauna occur in the clearing area immediately prior to the commencement of clearing works. A suitably experienced ecologist/fauna specialist will be on-site at all times during clearing of vegetation to actively search for fauna, relocate any opportunistically identified fauna, and attend to any injured fauna. The ecologist/fauna specialist must maintain radio communication with machinery operators at all times. Appropriate licences such as a fauna taking (relocation) licence from DBCA are to be obtained prior to pre-clearing inspections, spotting and relocation occurring.	Construction phase. Prior to and during clearing works.  Pre-clearing inspection undertaken prior to commencement of clearing and/or on the morning clearing is scheduled.  Fauna spotting and relocation to be undertaken for the duration of clearing works and immediately when fauna are identified to require relocation.	The proponent will ensure the presence of a fauna specialist/qualified ecologist immediately prior to the commencement of clearing of vegetation and throughout the entirety of the clearing process to avoid direct impacts to any conservation significant fauna and is given the authority by the proponent to communicate any potential impacts to machinery operators and delay any vegetation clearing if required.	Site sign in forms with confirmation that a qualified fauna specialist/ ecologist has been present on the day of clearing, conducted the necessary pre-clearing fauna searches and stayed for the duration of vegetation clearing works though the post inspection fauna report .

# Construction Environmental Management Plan

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Table 5: CEMP management actions (continued)

Relevant Risk ID	Management Action	Management Action Description	Timing	Performance Targets	Indicator of Achieved Performance Target
<u>Risk ID 3 – Fauna interactions</u>	11: Directional clearing	Clearing of vegetation within the site to occur in a single direction in a slow progressive manner towards adjoining areas of retained native vegetation (i.e. towards the conservation area or patch to the southwest of the site)	Construction phase. During clearing works.	The proponent will ensure that all vegetation clearing within the approved clearing footprint will be undertaken in a single direction (from west to east) so that fauna species have the ability to move out of their own volition or be trapped and relocated to a suitable location ( <b>Figure 2</b> ).	Clearing records maintained by civil contractor.
	12: Halt works in event fauna are observed	An ecologist/fauna specialist will be present at all times during clearing works. They will maintain radio communications with machinery operators and if necessary, has the authority to temporarily stop works in the presence of fauna.	Construction phase. During clearing works.	A qualified ecologist/fauna specialist will be on-site during each stage of clearing. The fauna spotter is given the authority by the proponent to communicate any potential impacts to machinery operators and halt any vegetation clearing if required.	Clearing records maintained by civil contractor. Visual monitoring and records by construction personnel and fauna spotters present.
	13: Notification of injured fauna species	If any injured fauna species are encountered the Department of Biodiversity Conservation and Attractions (DBCA) Wild Care (0894749055) is to be contacted. In the instance unexpected conservation significant species are detected utilising the site, DCCEEW and/or DWER will be notified.	Prior to, during and post construction works.	The proponent will ensure that there is a protocol in place for reporting injured fauna to the DBCA and it is communicated to all parties involved in the commencement of the proposed development.	Incident register maintained by contractor.

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## 4.2 Environmental monitoring

### 4.2.1 Monitoring program

The proponent has identified key monitoring actions to monitor the potential impacts of the proposed development on threatened and priority species and communities during the implementation of the proposed development. All monitoring will be undertaken by suitably qualified individuals.

**Table 6** details the environmental outcomes for this CEMP to evaluate the performance targets identified in **Table 5**. This monitoring program has been developed to achieve the following environmental outcomes:

- Protect the threatened and priority flora species and communities within the conservation area and adjacent to the site from unauthorized clearing and potential impacts of weeds and diseases
- Delineate the approved vegetation clearing footprint and protect any retained vegetation or vegetation not approved for clearing
- Protect fauna species, particularly those of conservation significance such as black cockatoos and quenda, that are identified during the implementation of the proposed development.

# Construction Environmental Management Plan

## Hamersley Residential Development and Conservation



Table 6: Monitoring actions

Environmental outcome	Performance indicators	Parameters to be monitored	Methodology	Frequency and timing	Responsibility, recording and reporting
Protect threatened and priority flora species and communities within the conservation area, as well as occurrences within immediate proximity to the site.	<ul style="list-style-type: none"> <li>No clearing of vegetation outside the approved clearing zone (i.e., external to the residential development area or site within the no access zone <b>(Figure 2)</b>)</li> <li>Installation of delineation measures such as fencing around trees to be retained and utilisation of the existing spatial buffers such as existing firebreaks between vegetation authorised to be cleared and vegetation external to the site unapproved for clearing</li> <li>Visual observation of vegetation condition in immediate vicinity of the site to identify potential impacts of weeds, diseases and dust.</li> </ul>	<ul style="list-style-type: none"> <li>Condition of vegetation external to the clearing area</li> </ul>	<ul style="list-style-type: none"> <li>Pre and post-clearing assessment (visual inspection, photographs)</li> </ul>	<ul style="list-style-type: none"> <li>Prior to clearing and post-clearing within the site (if clearing undertaken in stages, monitoring must occur at each stage of clearing).</li> </ul>	<ul style="list-style-type: none"> <li>Civil/construction contractor/site supervisor</li> <li>Immediately record any observed incidents</li> <li>Report annually to DCCEEW and DWER as part of the annual compliance reporting</li> <li>Clearing records maintained by civil contractor</li> <li>Photographic evidence maintained.</li> </ul>
		<ul style="list-style-type: none"> <li>Integrity of delineation measures to be checked such as fencing, signage and other access restrictions/deterrents</li> </ul>	<ul style="list-style-type: none"> <li>Pre-clearing inspection and throughout the implementation of the proposed development (visual inspection, photographs)</li> </ul>	<ul style="list-style-type: none"> <li>Following commencement of clearing within the site and thereafter on a quarterly basis during the implementation of the proposed development i.e., construction.</li> </ul>	
		<ul style="list-style-type: none"> <li>Approved clearing extent and boundaries</li> </ul>	<ul style="list-style-type: none"> <li>Field survey of cleared areas with the comparison to the approved clearing area</li> </ul>	<ul style="list-style-type: none"> <li>Prior to clearing and post-clearing within the site (if clearing undertaken in stages, monitoring must occur at each stage of clearing).</li> </ul>	
		<ul style="list-style-type: none"> <li>Record of total extent and boundary cleared during the implementation of the proposed development</li> </ul>	<ul style="list-style-type: none"> <li>Field survey of cleared areas with the comparison to the approved clearing area</li> </ul>	<ul style="list-style-type: none"> <li>Once clearing within the approved clearing area has been undertaken and/or on an annual basis as part of the annual compliance reporting.</li> </ul>	
		<ul style="list-style-type: none"> <li>Evidence of unauthorised access within no access zones and observations of damage caused to delineation measures.</li> </ul>	<ul style="list-style-type: none"> <li>Pre and post-clearing assessment (visual inspection, photographs)</li> </ul>	<ul style="list-style-type: none"> <li>Following commencement of clearing within the site and thereafter on a quarterly basis during the implementation of the proposed development.</li> </ul>	
		<ul style="list-style-type: none"> <li>Record any change in weed cover and identify need for weed control treatment</li> </ul>	<ul style="list-style-type: none"> <li>Assessment of weed cover or new emerging weeds</li> </ul>	<ul style="list-style-type: none"> <li>Throughout the implementation of the proposed development on an annual basis.</li> </ul>	

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Table 6: Monitoring actions (continued)

Monitoring objective	Performance indicators	Parameters to be monitored	Methodology	Frequency and timing	Responsibility, recording and reporting
Protect fauna species (including threatened and priority fauna species) present within the site throughout the proposed development.	<ul style="list-style-type: none"> <li>No unapproved clearing within and/external of the site.</li> <li>Visual observations of fauna species occurring within the site.</li> <li>Visual observation of direct impacts to fauna species (including threatened and priority fauna species such as black cockatoos and quenda).</li> </ul>	<ul style="list-style-type: none"> <li>Conservation significant fauna and any other fauna species activity/presence within the site</li> </ul>	<ul style="list-style-type: none"> <li>Inspection by suitably experienced ecologist/ fauna specialist</li> </ul>	<ul style="list-style-type: none"> <li>At least seven days prior to the commencement of clearing.</li> </ul>	<ul style="list-style-type: none"> <li>Environmental consultant/ fauna specialist to report any findings and report annually to DCCEEW and DWER.</li> </ul>
		<ul style="list-style-type: none"> <li>Clearing area of suitable fauna habitat</li> </ul>	<ul style="list-style-type: none"> <li>Field survey of cleared areas with the comparison to the approved clearing area</li> </ul>	<ul style="list-style-type: none"> <li>During the implementation of the proposed development i.e., clearing of suitable fauna habitat and TEC and PEC, and once clearing is complete (post-construction).</li> </ul>	<ul style="list-style-type: none"> <li>Construction contractor/site supervisor to be reported at every stage of clearing (if applicable) and reported annually to DCCEEW and DWER.</li> </ul>
		<ul style="list-style-type: none"> <li>Monitoring of speed limits within the site and potential areas of pooled water that may be utilised fauna during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Inspection by construction personnel</li> </ul>	<ul style="list-style-type: none"> <li>Throughout the implementation of the proposed development.</li> </ul>	<ul style="list-style-type: none"> <li>Construction contractor/site supervisor.</li> </ul>

# Construction Environmental Management Plan

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### 4.3 Corrective actions

Triggers and corrective actions have been established in the event that monitoring identifies that management actions outlined in **Table 7** have not been implemented, and environmental objectives and performance targets have not been achieved.

The purpose of the corrective actions is to provide an appropriate remedy for the environmental objectives that have not been met and may result in the need for changes to equipment, processes and/or management actions. Any changes to processes and/or management actions may require this CEMP to be updated and additional environmental training to be provided to site personnel.

The corrective actions as outlined in **Table 7** below may incorporate the identification, investigation and reporting of an environmental incident such as a direct impact to black cockatoos, quenda or other unexpected conservation significant species. These incidents are to be reported to the relevant manager by the person responsible for the incident or the first person to observe the incident. Additionally, in the event an environmental incident has resulted in significant impact to threatened or priority species or communities, the incident will be reported to DCCEEW and/or DWER without delay.

Table 7: Corrective actions

Management Category	Corrective action trigger	Action/Response	Responsibility
Risk ID 1 – Loss of flora, vegetation and fauna habitat	<ul style="list-style-type: none"> <li>Clearing outside the approved clearing area/extent (including any unapproved clearing of threatened or priority species and communities or species habitat)</li> </ul>	<ul style="list-style-type: none"> <li>Stop works to ensure no further unapproved clearing takes place</li> <li>Record environmental incident</li> <li>Investigate cause such as inappropriate fencing or marking of trees to be retained</li> <li>Update environmental training of personnel</li> <li>Report incident to DCCEEW and/or DWER</li> <li>Undertake any remediation works (if requested by the relevant regulator)</li> </ul>	<ul style="list-style-type: none"> <li>Civil/construction contractor/site supervisor</li> <li>Qualified ecologist/environmental consultant</li> </ul>
Risk ID 1 – Loss of flora, vegetation and fauna habitat	<ul style="list-style-type: none"> <li>Clearing of vegetation marked for retention (i.e., conservation area)</li> </ul>	<ul style="list-style-type: none"> <li>Stop works to ensure no further clearing of retained vegetation occurs</li> <li>Record environmental incident</li> <li>Investigate the cause of the incident</li> <li>Update environmental training of personnel</li> <li>Report incident to DCCEEW and/or DWER.</li> </ul>	<ul style="list-style-type: none"> <li>Civil/construction contractor/site supervisor</li> </ul>
Risk ID 3 – Fauna interactions	<ul style="list-style-type: none"> <li>Clearing of vegetation not occurring in a singular direction (west to east as per <b>Figure 2</b>) potentially trapping fauna species and limiting their ability to move away</li> </ul>	<ul style="list-style-type: none"> <li>Stop works to ensure no further clearing takes place in an inappropriate manner</li> <li>Inspect potential injuries and/or impacts to fauna species</li> <li>Investigate the cause of the incident</li> <li>Update environmental training of personnel</li> <li>Report incident to DCCEEW and/or DWER.</li> </ul>	<ul style="list-style-type: none"> <li>Civil/construction contractor/site supervisor</li> </ul>

# Construction Environmental Management Plan

## Hamersley Residential Development and Conservation



Table 7: Corrective actions (continued)

Management Category	Corrective action trigger	Action/Response	Responsibility
Risk ID 3 – Fauna interactions	<ul style="list-style-type: none"> <li>Injured threatened or priority fauna species within the site, with injury suspected to be a consequence of construction activity i.e., as a result of exceeding 40 km/hr vehicle/machinery speed limit within the site</li> </ul>	<ul style="list-style-type: none"> <li>Stop works temporarily surrounding the injured individual</li> <li>Notify fauna specialist/ecologist to remove individual and transport to native fauna care facility (if required)</li> <li>Record environmental incident</li> <li>Investigate the cause of the incident</li> <li>Update environmental training of personnel</li> <li>Report incident to DCCEEW and/or DWER.</li> </ul>	<ul style="list-style-type: none"> <li>Civil/construction contractor/site supervisor</li> <li>Qualified ecologist/environmental consultant</li> </ul>
Risk ID 2 – Edge Effects	<ul style="list-style-type: none"> <li>Vehicles and machinery operating outside the approved clearing area/site potentially spreading weed and diseases to surrounding native vegetation</li> <li>Identification of new weeds and diseases or the significant increase of weed cover in the site and immediate surrounds altering the existing condition of remaining vegetation external to the site</li> <li>Vehicles and tools not cleaned prior to entering and when leaving the site.</li> </ul>	<ul style="list-style-type: none"> <li>Don't commence work within the site prior to all vehicles and machinery being cleaned</li> <li>Record if cleaning of vehicles/ machinery was not undertaken and investigate the cause</li> <li>Record if spreading of weeds and/or diseases appear to spread external to the site</li> <li>Implementation of weed management and control measures by an expert</li> <li>Record any changes in vegetation condition outside the site as a result of the spread of new weeds and diseases</li> <li>Update environmental training of personnel</li> <li>Report incidents or change in vegetation condition external to the site to DCCEEW and/or DWER.</li> </ul>	<ul style="list-style-type: none"> <li>Civil/construction contractor/site supervisor throughout the length of the proposed development.</li> </ul>

#### 4.4 Reporting, auditing and management plan review

An audit against the management actions will be undertaken as part of annual compliance reporting for the EPBC Act approval, as well as the compliance assessment report for the EP Act approval. These compliance reports will be provided to DCCEEW and DWER respectively. The audit and reporting should address the following:

- Any clearing of native vegetation outside the approved clearing area (if applicable) including a record of the extent of approved clearing undertaken at the time of the audit.
- Details of any fauna interactions, particularly conservation significant fauna species, recorded utilising the site during the pre-clearing trapping program, pre-clearing check and reported death and/or injuries. Appropriate fauna (relocation) licenses were obtained and complied with by ecologist/fauna specialist.
- Potential spread of weeds and/or diseases or accidental hazardous materials spills and leaks.
- Any other non-compliance against the management actions outlined in **Table 5**
- The results of the monitoring program as outlined in **Section 4.2.1**.
- Demonstration of compliance against the management actions as outlined in **Table 6**.

## Construction Environmental Management Plan

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Auditing and reporting will commence from the commencement of construction activities associated with the proposed development and last until the proposed development has been finalised. The annual audit report will be issued within 3 months of the last day of the annual reporting period.

At the time of auditing and reporting, a review of the management actions will be undertaken. In the instance the environmental objectives as outlined in this CEMP have not been achieved during the reporting period, the annual report will include a description of revised and/or additional management actions to be implemented to achieve the required objectives and targets. This will additionally include a rationale for any changes in management actions and a review of the associated monitoring program and corrective actions.

## Construction Environmental Management Plan

### Hamersley Residential Development and Conservation



## 5 References

The references listed below have been considered as part of preparing this document.

Commonwealth of Australia 2014, *Environmental Management Plan Guidelines*, Canberra.

Department of Environment and Conservation (DEC) 2008, *Forest Black Cockatoo (Baudin's Cockatoo *Calyptorhynchus baudinii* and Forest Red-tailed Black Cockatoo *Calyptorhynchus banksia naso*) Recovery Plan*, Perth.

Department of Environment and Conservation (DEC) 2013a, *Carnaby's Cockatoo (*Calyptorhynchus latirostris*) Recovery Plan*, Perth.

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Department of the Environment and Energy (DoEE) 2012, *EPBC Act referral guidelines for three threatened black cockatoo species*, Australian Government, Canberra.

Emerge Associates 2025a, *Basic Fauna and Targeted Black Cockatoo Assessment Lot 802 Erindale Road, Lot 1 and Lot 803 Wanneroo Road, Hamersley*, EP24-129(03)--003 AJU, Version 1

Emerge Associates 2025b, *Conservation Area Management Plan - Hamersley Residential Development and Conservation*, EP24-129(07)--005 CSR.

Emerge Associates 2025c, *Environmental Review Document - Hamersley Residential Development and Conservation*, EP24-129(08)--008 CSR.

Emerge Associates 2025d, *Preliminary Documentation: EPBC 2018/8324 Hamersley Residential Development and Conservation*, EP24-129(09)--007 CSR.

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## Hamersley Residential Development and Conservation



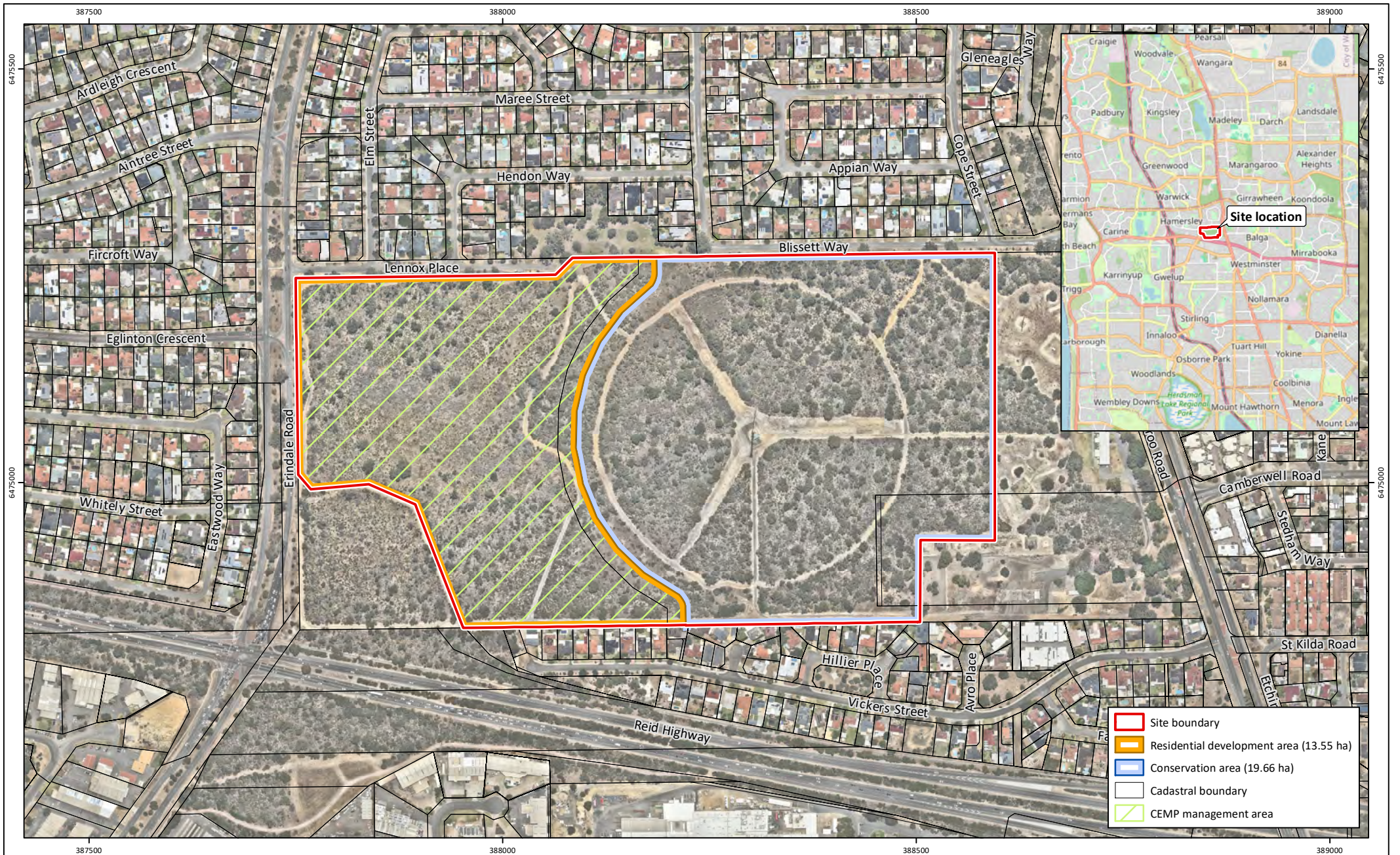
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# Figures



*Figure 1: Proposed development Area*

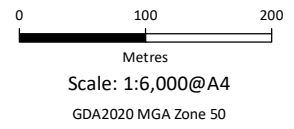
*Figure 2: Environmental Management Feature*



**Figure 1: Site Location**

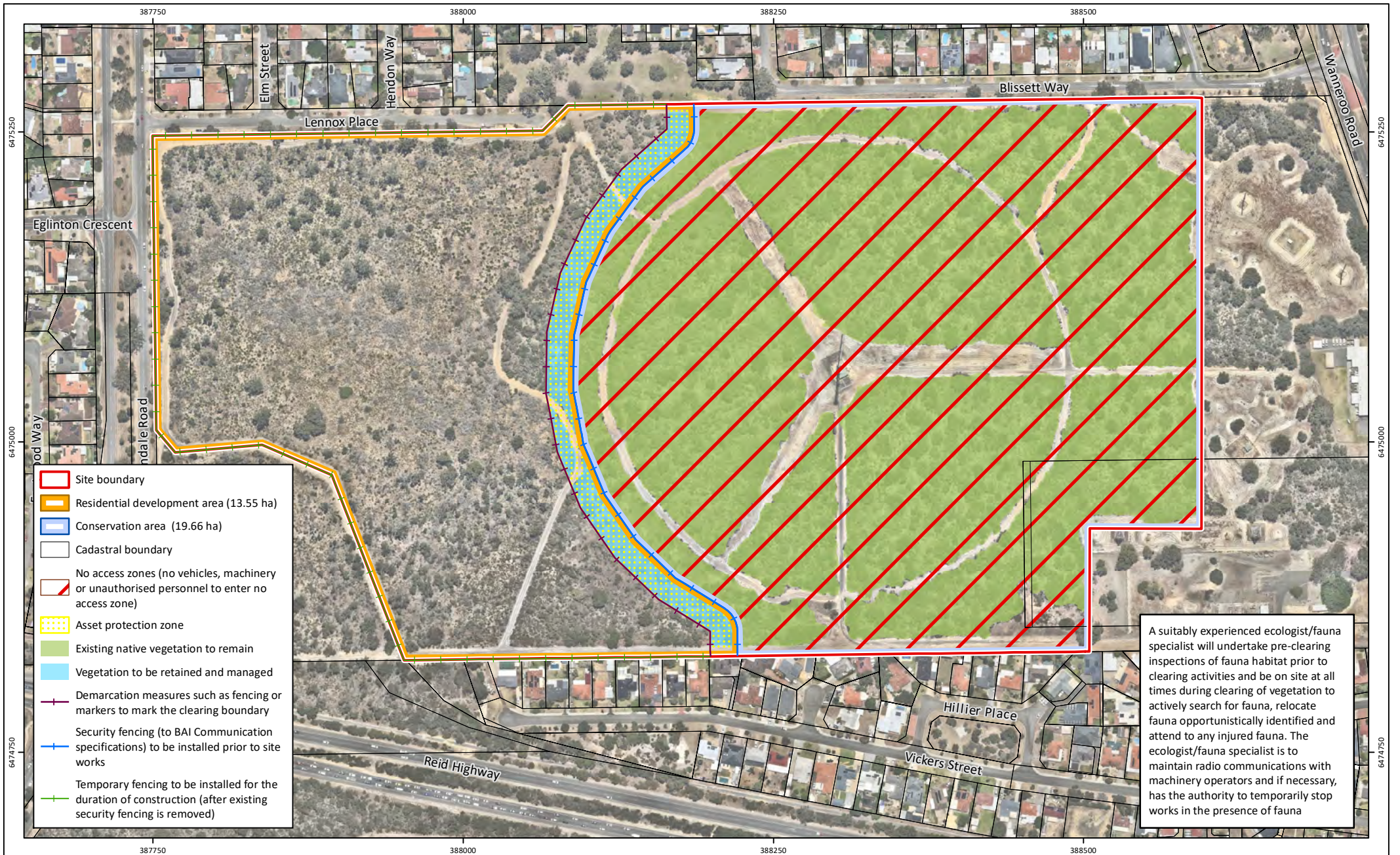
**Project:** Construction Environmental Management Plan  
Hamersley Residential Development and Conservation  
**Client:** BAI Communications and Digital 4 Pty Ltd

**Plan Number:**  
EP24-129(06)--F62  
**Drawn:** WJC  
**Date:** 16/05/2025  
**Checked:** EKB  
**Approved:** AV  
**Date:** 30/05/2025



- Site boundary
- Residential development area (13.55 ha)
- Conservation area (19.66 ha)
- Cadastral boundary
- CEMP management area





**Figure 2: Environmental Management Features**

**Project:** Construction Environmental Management Plan  
 Hamersley Residential Development and Conservation  
**Client:** BAI Communications and Digital 4 Pty Ltd

While Emerge Associates makes every attempt to ensure the accuracy and completeness of data, Emerge accepts no responsibility for externally sourced data used  
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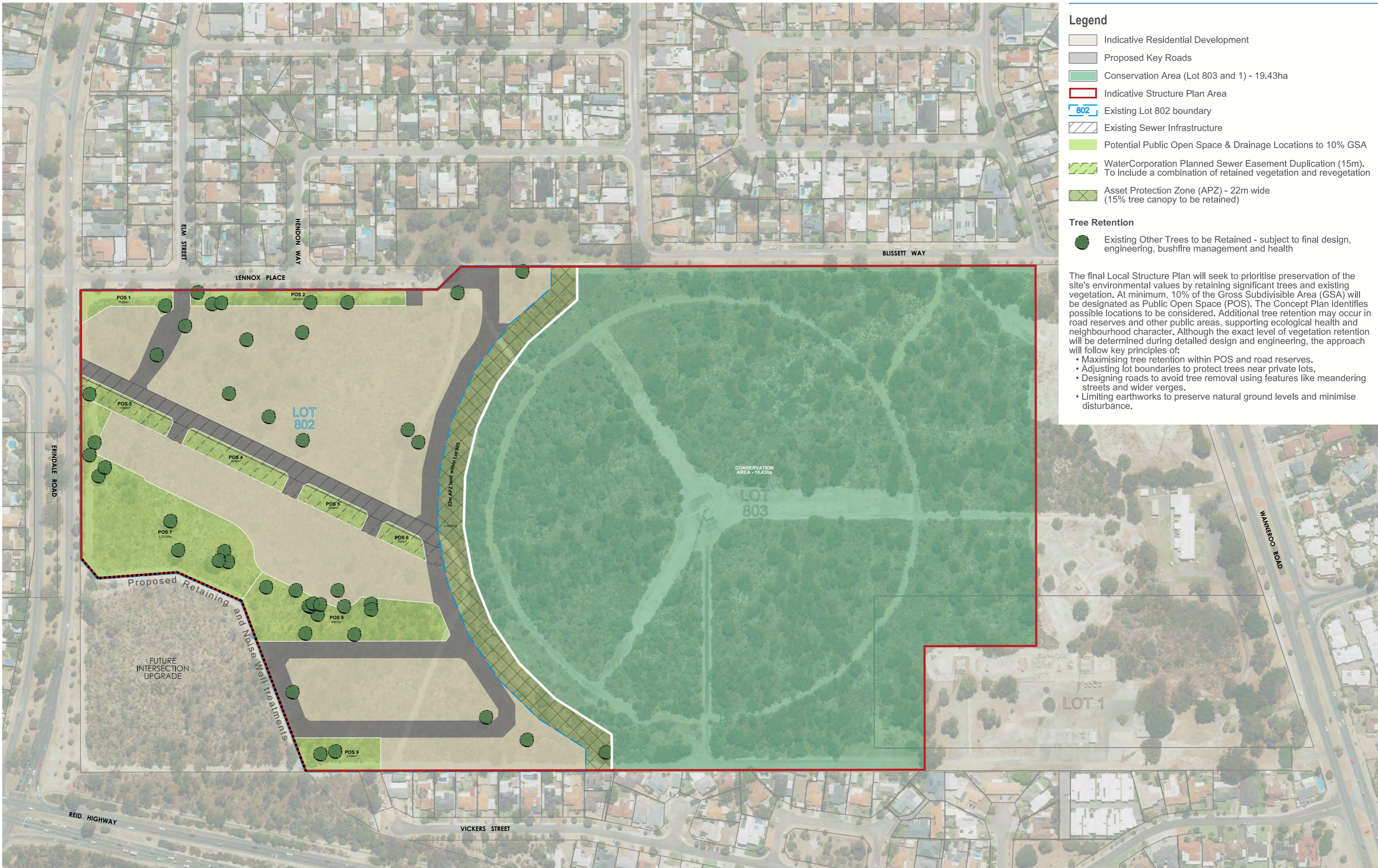


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# Appendix A

Indicative concept plan of the residential development area





- Legend**
- Indicative Residential Development
  - Proposed Key Roads
  - Conservation Area (Lot 803 and 1) - 19.43ha
  - Indicative Structure Plan Area
  - Existing Lot 802 boundary
  - Existing Sewer Infrastructure
  - Potential Public Open Space & Drainage Locations to 10% GSA
  - WaterCorporation Planned Sewer Easement Duplication (15m). To include a combination of retained vegetation and revegetation
  - Asset Protection Zone (APZ) - 22m wide (15% tree canopy to be retained)

- Tree Retention**
- Existing Other Trees to be Retained - subject to final design, engineering, bushfire management and health

The final Local Structure Plan will seek to prioritise preservation of the site's environmental values by retaining significant trees and existing vegetation. At minimum, 10% of the Gross Subdivisible Area (GSA) will be designated as Public Open Space (POS). The Concept Plan identifies possible locations to be considered. Additional tree retention may occur in road reserves and other public areas, supporting ecological health and neighbourhood character. Although the exact level of vegetation retention will be determined during detailed design and engineering, the approach will follow key principles of:

- Maximising tree retention within POS and road reserves.
- Adjusting lot boundaries to protect trees near private lots.
- Designing roads to avoid tree removal using features like meandering streets and wider verges.
- Limiting earthworks to preserve natural ground levels and minimise disturbance.

**Indicative Concept Plan**  
 LOTS 802 & 803 ERINDALE ROAD and LOT 1 WANNEROO ROAD, HAMERSLEY

A Cedar Woods Properties Ltd Project

scale:  
1:3000@A3



plan:  
19/063/020E

date:  
02/07/2025

aerial:  
March 2025

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