# CADIA

# 710-005-EN-PLA-0025

# Biodiversity Management Plan

REGULATORY APPROVAL

| Rev | Revision Date | Developed By | Issued To | Approved By | Approval Date |
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| 1 | 18/04/2023 | Newcrest Mining Limited | NSW Department of Planning and Environment | | |
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| 2.1 | 31/01/2025 | Newmont | NSW Department of Planning and Environment | | |
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DOCUMENT CONTROL

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| 0 | 11/5/2022 | All | Draft for Consultation with Biodiversity, Conservation and Science Directorate | - | - |
| 1 | 18/04/2023 | All | Review and update | - | - |
| 2 | 30/06/2023 | All | Review and update following BCS recommendations. | - | - |
| 2.1 | 31/01/2025 | All | Review and update | Paul Yeo | - |
| 2.2 | 26/05/2025 | All | Update to include MOD 15, BCT recommendations and Newmont naming. | Paul Yeo and Luke Holley | |
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APPROVAL

| Revision No. | Approval Date | Signature |
|---|---|---|
| 2.4 | 19/08/2025 | David Coe<br>Director – Environment |

## TABLE OF CONTENTS

## LIST OF TABLES

## LIST OF FIGURES

## INTRODUCTION

Newmont Overseas Holdings Pty Corporation (Australia), a wholly owned indirect subsidiary of Newmont Corporation is the owner of Cadia Holdings Pty Limited (CHPL). CHPL is the owner and operator of Cadia Valley Operations mine (Cadia). Cadia is one of Australia's largest gold mining operations.

Commencing in 1998 and operating continuously since, Cadia is located approximately 25 km south of Orange in the Central Tablelands region of New South Wales (NSW). The mining operation occurs across two local government areas (LGAs) (Blayney Shire Council and Cabonne Council.

Cadia provides an important economic contribution to the region and NSW and is a major regional employer providing approximately 1,400 full time equivalent jobs. Confirmed mineable resources have been identified to extend operations well beyond the life of the current Project Approval (PA) (06_0295) which provides for mining until 30 June 2031. Cadia has commenced planning for the continuation of mining operations and is delivering this work through the Cadia Continued Operations Project (CCOP).

PA 06_295 issued to CHPL in January 2010 under the NSW Environmental Planning and Assessment Act 1979 (EP&A Act) provides for the following:

- Life of mine ore production (up to 30 June 2031) of approximately 525 million tonnes (Mt) of gold/copper ore from Cadia East and approximately 96 Mt of ore from Ridgeway underground mine.
- Processing of up to 32 Mt per annum (Mtpa) (or up to 35 Mtpa, subject to completion of the requirements of condition 6A to the satisfaction of the Secretary) of gold/copper/molybdenum ore on site to produce gold doré from a gravity circuit, a gold-rich copper concentrate from a flotation circuit (which is piped to a dewatering plant at nearby Blayney and then sent by rail to Port Kembla in NSW for export) as well as a molybdenum rich concentrate which is sent by truck to Port Kembla in NSW for export.
- Disposal of tailings through emplacement into one of three tailings storage facilities (TSFs) being the Northern TSF [NTSF], Southern TSF [STSF] and Pit TSF [PTSF].
- Significant surface infrastructure and ancillary activities to support the operation of the mine including ore processing, rock emplacements, water management, maintenance, store and staff facilities and land management practices.

PA 06_0295 has been modified 15 times since issue, with the most recent modification approved on 31 January 2025. Modification 15 changes the existing NTSF and STSF embankment footprints, allows for mining in the Ridgeway underground mine to recommence, amongst other various minor changes or infrastructure additions to support ongoing mining activities.

CHPL also hold other environmental licences and mining approvals and authorities.

### 1.1 Document purpose and scope

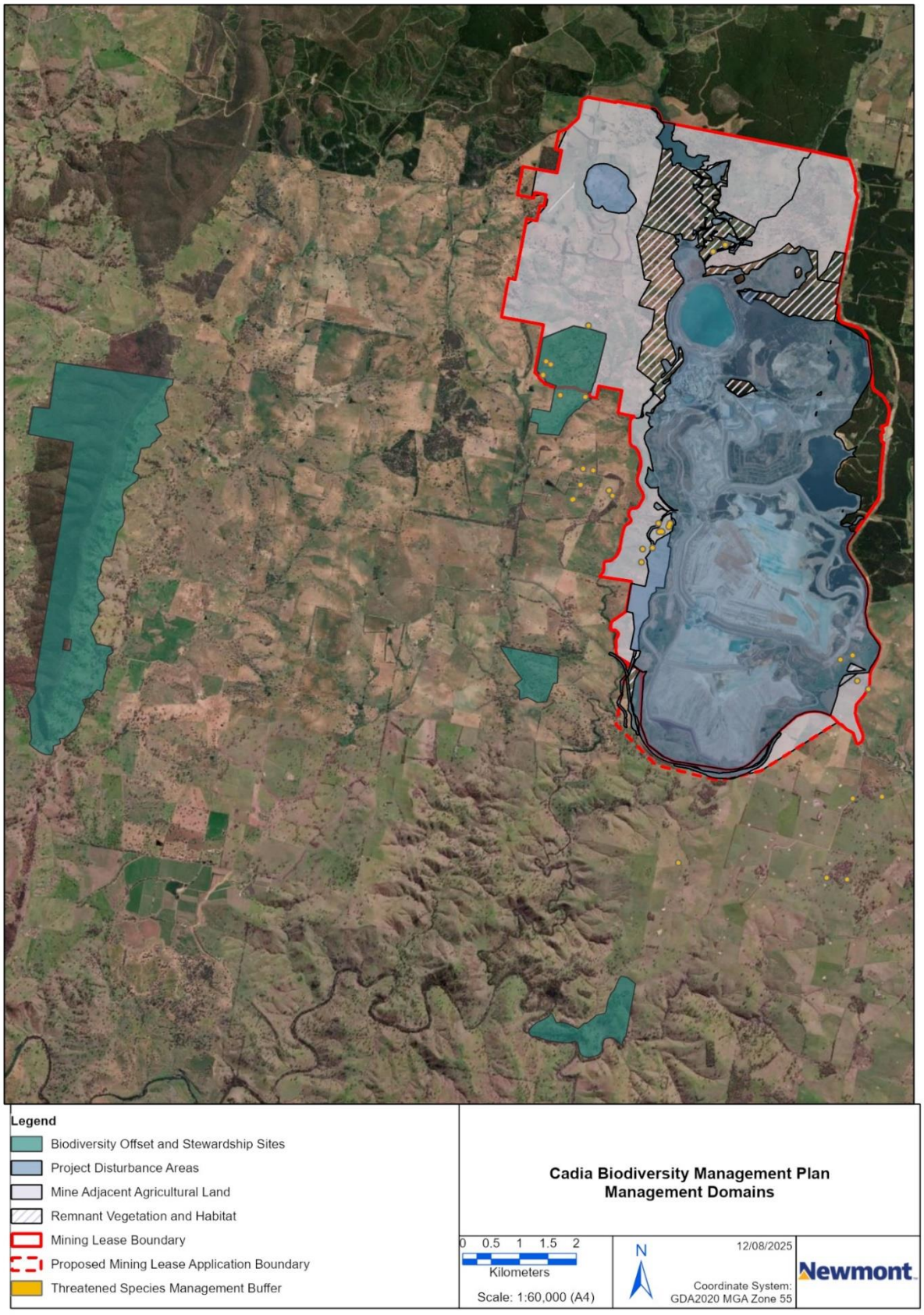
The Biodiversity Management Plan (BMP) provides a detailed overview of the objectives, guiding principles and activities relating to the management of the site. This plan relates to land described in Schedule 1 and Appendix 1 of the PA 06_0295 (referred to hereon as The Project Site) and land held under conservation agreements with the NSW BCT (referred to hereon as Biodiversity Offset Areas and Biodiversity Stewardship Sites). **Figure 1** below denotes the spatial extent of the Biodiversity Management Plans scope

The BMP meets all commitments and requirements within Cadia's project approval and describes how the management of land and biodiversity will be undertaken on:

- the Project Site, including:
    - Project disturbance areas – **section 2**
    - Remnant vegetation and habitat – **section 2**
- Mine adjacent agricultural land – **section 4**
- the conceptual vegetation corridor; **- section 4**
- the Biodiversity Offset areas **– section 5**

  and
- Biodiversity Stewardship Sites. **– section 6**

**Figure 1: Spatial Arrangement of Management Domains at Cadia**



The plan identifies potential links across Newmont owned land and identifies opportunities to extend and add value on a regional basis. It provides an overview of the approach to biodiversity management at Cadia and has been prepared in accordance with the requirements of the conditions of consent in Modification 15 which includes the Biodiversity Development Assessment Report (BDAR).

The BMP has been updated to be consistent with the Cadia Rehabilitation Management Plan (RMP) and the Forward Works Program. It also implements best practice biodiversity management across Newmont owned land.

## 1.2 Project Approvals

The relevant approvals that relate to this plan include:

- Cadia East Project Approval and subsequent modifications (PA 06_0295) under Part 3A of the NSW *Environmental Planning and Assessment Act, 1979* (EP&A Act);
- Mine Lease Conditions (ML1405, ML1449, ML1472, ML1481, ML1689, ML1690); and
- The Commonwealth *Environment Protection and Biodiversity Conservation Act*, *1999* (EPBC Act [2006/3196]).

Conditions relating to the offset area (being Black Rock Range and areas at the confluence of Flyers Creek and the Belubula River) are included in both the NSW and Federal approvals of the Project.

### 1.2.1 Environmental Planning and Assessment Act

PA 06_0295 specifies the required considerations for the BMP and **Table 1** outlines where these are addressed within this document.

**Table 1: New South Wales (NSW) Project Approval Conditions**

| Condition | Section Reference |
|---|---|
| ***Biodiversity Management Plan (Schedule 3)*** | This BMP |
| *41. Prior to any vegetation clearing impacting biodiversity values, as identified in the Biodiversity Development Assessment Report for Modification 15, unless otherwise agreed by the Secretary, the Applicant must prepare a Biodiversity Management Plan for the project to the satisfaction of the Secretary. This plan must:* | |
| *(a) be prepared in consultation with BCS;* | Section 1.7 |
| *(b) include:* | |
| *(i) the rehabilitation objectives for the offset areas;* | Section 5.2 |
| *(ii) a description of the short, medium, and long term measures that would be implemented to implement the offset strategy and manage the remnant vegetation and habitat on the site and in the offset areas;* | Section 2<br>Section 4<br>Section 5 |
| *(iii) detailed performance and completion criteria for the implementation of the offset strategy;* | Sections 5.2, 5.6 & 5.12 |
| *(iv) a detailed description of the measures that would be implemented, including the procedures to be implemented for:*<br>• *managing and mitigating impacts on biodiversity values, particularly for the Superb Parrot and Squirrel Glider;*<br>• *implementing revegetation and regeneration within offset areas, including establishment of canopy, sub-canopy (if relevant), understorey and ground strata;*<br>• *collecting and propagating seed for rehabilitation works;* | Sections 2 & 5.10<br>Section 5.11 |

| | |
|---|---|
| • *salvaging and placement of habitat features;*<br>• *controlling weeds and feral pests, including terrestrial and aquatic species;*<br>• *managing grazing and agriculture on site;*<br>• *controlling access;*<br>• *bushfire management* | Section 2.3.1<br>Section 2.2.1<br>Section 2.2.3<br>Section 3<br>Section 5.6<br>Section 2.2.4 |
| *(v) a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria;*<br>*(vi) a description of the potential risks to successful revegetation, and a description of the contingency measures that would be implemented to mitigate these risks;*<br>*(vii) details of who would be responsible for monitoring, reviewing, and implementing the plan; and*<br>*(viii) a Threatened Species Management Protocol, which outlines management strategies to protect any threatened flora and fauna species during construction, operation and post-mining* | Sections 5.7<br>Appendix B<br>Section 1.5<br>Section 2.1.3<br>Appendix E. |
| ***Biodiversity Offsets (Schedule 3)***<br><br>*38. The Applicant must:*<br>*a) implement the biodiversity offset strategy as described in the EA, and summarised in Table 14 (and shown conceptually in Appendix 6); and*<br>*b) investigate ways to salvage and beneficially use resources (including timber, fauna habitat, seed and soil resources) in areas subject to subsidence as far as is reasonable and feasible, in consultation with the BCS, to the satisfaction of the Secretary.*<br><br>*39. Within 2 years of the date of this approval, the Applicant shall make suitable arrangements to provide appropriate long term security for the offset areas to the satisfaction of the Secretary.*<br><br>*40. Within 6 months of the approval of the Biodiversity Management Plan (see condition 41 below), the Applicant shall lodge a conservation and biodiversity bond with the Department to ensure that the offset strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan. The sum of the bond shall be determined by:*<br>*a) calculating the full cost of implementing the offset strategy; and*<br>*b) employing a suitably qualified quantity surveyor to verify the calculated costs, to the satisfaction of the Secretary.*<br><br>*Notes:*<br>• *If the offset strategy is completed to the satisfaction of the Secretary, the Secretary will release the conservation bond.*<br>• *If the offset strategy is not completed to the satisfaction of the Secretary, the Secretary will call in all or part of the conservation bond, and arrange for the satisfactory completion of the relevant works.* | Section 5 |
| ***Annual Review (Schedule 3)***<br>*2. By the end of March in each year after the commencement of the project, or other timeframe agreed by the Secretary, a report must be submitted to the Department* | Section 7<br>Table 21 |

| | |
|---|---|
| *reviewing the environmental performance of the project, to the satisfaction of the Secretary.*<br>2. *A. Copies of the Annual Review must be submitted to Council and relevant agencies and made available to the CCC and any interested person upon request* | |
| ***Revision of Strategies, Plans and Programs (Schedule 3)***<br>3. *Within 3 months, unless the Secretary agrees otherwise of:*<br>*a. the submission of an annual review under condition 2 above;*<br>*b. the submission of an incident report under condition 5 or 5A below;*<br>*c. the submission of an audit under condition 7 below; and*<br>*d. any modification of this approval; or*<br>*e. a direction of the Secretary under condition 2 of Schedule 2.*<br>*the Applicant must review and, if necessary, revise the studies, strategies or plans required under the conditions of approval to the satisfaction of the Secretary.*<br>*Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted to the Secretary for approval, unless otherwise agreed with the Secretary.* | Section 7<br>Table 22 |
| ***Compliance and Non-compliance Notification (Schedule 3)***<br>5. *The Applicant must notify the Department within 24 hours of becoming aware of an incident. The notification must be made via the NSW planning portal (Major Projects) and address details of the incident including:*<br>*a. date, time and location*<br>*b. a brief description of what occurred and why it has been classified as an incident;*<br>*c. a description of what immediate steps were taken in relation to the incident; and*<br>*d. identifying a contact person for further communication regarding the incident.*<br>5. *A. The Applicant must provide the Department with a subsequent incident report in accordance with Appendix 9 (Incident Notification and Reporting Requirements).*<br>5. *B. Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing and must be submitted via the NSW planning portal (Major Projects). The notification must identify the development (including the development application number and name), set out the condition of this approval that the development is noncompliant with, why it does not comply, the reasons for the non-compliance (if known), and what actions have been undertaken, or will be undertaken, and when, to address the non-compliance.* | Section 7 |
| ***Access to Information (Schedule 3)***<br>9. *Before the commencement of construction until the completion of all rehabilitation required under this approval, the Applicant must:*<br>*a. make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this approval) publicly available on its website:*<br>• *the EA;* | Section 7<br>Section 8 |

| | |
|---|---|
| • *all current statutory approvals for the project;*<br>• *all approved strategies, plans and programs required under the conditions of this approval; • the proposed staging plans for the project if the construction, operation or decommissioning of the project is to be staged;*<br>• *regular reporting on the environmental performance of the project in accordance with the reporting requirements in any plans or programs approved under the conditions of this approval;*<br>• *a comprehensive summary of the monitoring results of the project, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs;*<br>• *a summary of the current phase and progress of the project;*<br>• *contact details to enquire about the project or to make a complaint;*<br>• *a complaints register, updated monthly;*<br>• *the Annual Reviews of the project;*<br>• *audit reports prepared as part of any Independent Environmental Audit of the project and the Applicant's response to the recommendations in any audit report;*<br>• *any other matter required by the Secretary; and (b) keep such information up to date, to the satisfaction of the Secretary.* | |

### 1.2.2 Cadia East Environmental Assessment

The following is a summary of biodiversity management commitments contained in the Cadia East EA (CHPL 2009a), the MOD 15 Modification Report and the Rehabilitation Strategy (CHPL 2020a).

The following measures are to be implemented to avoid, minimise, mitigate and offset potential impacts of the Project on flora, fauna, and their habitats:

- rehabilitation and revegetation of Project disturbance areas;
- protection and management of flora, fauna and habitats;
- Vegetation Clearance Protocol (VCP);
- Threatened Species Management Protocol (TSMP);
- fire management;
- dust controls and monitoring;
- weed management;
- restricted access areas and traffic control;
- animal pest management and monitoring; and
- offset measures.
- aquatic ecosystem monitoring;
- measures to reduce artificial lighting impacts;
- noise controls and monitoring;
- other fauna protection and management initiatives; and

### 1.2.3 Environment Protection and Biodiversity Conservation Act

The following conditions of approval under the EPBC Act relate specifically to the provision of the Cadia East Offset.

**Table 2: EPBC Act Approval Conditions**

| Condition | Section Reference |
|---|---|
| 1. *The person taking the action must prepare a plan to offset the loss of 23 ha of the White Box-Yellow Box-Blakely's Red Gum grassy woodland and derived native grassland ecological community.*<br><br>*The plan must include*<br><br>• *The desired outcomes of implementing the plan;*<br>• *The short (12 months from the date of the approval), medium (five years from the date of approval) and long term measures that will be employed to implement the plan;*<br>• *Details of how the person taking the action will provide for the long term security of the offset areas and details of the timing of when this will occur;*<br>• *Detailed performance and completion criteria for the implementation of the plan, including details of methods to rehabilitate areas of the ecological community, and methods to control weeds, feral animals, grazing, access and bushfires;*<br>• *A detailed description of how the performance of the implementation of the plan would be monitored over time to achieve the performance and completion criteria;*<br>• *A description of the potential risks to successful management and rehabilitation in the offset area, and a description of the contingency measures that would be implemented to mitigate these risks; and*<br>• *Details of who is responsible for monitoring, reviewing and implementing the plan.*<br><br>*The plan must be submitted to the Minister within 18 months of the date of this approval and prior to any subsidence impacts on the White Box-Yellow Box-Blakely's Red Gum grassy woodland and derived native grassland ecological community. The plan must be approved by the Minister and the approved plan must be implemented.* | Section 6 |
| 2. *Within 14 days of commencement of the action, the person taking the action must advise the Department in writing of the actual date of commencement.* | Completed (26/10/2010) |
| 3. *Within three months of every 12 month anniversary of the commencement of the action, the person taking the action must submit to the Department a report addressing compliance with the conditions of this approval. This report must include details of how the plan required by Condition 1 has been implemented. Annual reports must be provided until the Minister is satisfied that the person taking the action has complied with all conditions of the approval.* | Annual reporting Section |
| 4. *Upon the direction of the Minister, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and an audit report submitted to the Minister. The independent auditor must be approved by the Minister prior to commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister.* | |
| 5. *If the person taking the action wishes to carry out any activity otherwise than in accordance with the plan referred to in Condition 1 the person taking the action must submit for the Minister's approval a revised version of the plan. If the Minister approves such a revised plan that plan must be implemented in place of the plan originally approved.* | This plan |
| 6. *If the Minister believes that it is necessary or desirable for the better protection of the White Box-Yellow Box-Blakely's Red Gum grassy woodland and derived native grassland ecological community, the Minister may request that the person taking the action make* | Section 8 |

| | |
|---|---|
| *specified revisions to the plan approved pursuant to Condition 1 and submit the revised plan for the Minister's approval. The person taking the action must comply with any such request. The revised approved plan must be implemented in place of the plan originally approved.* | |
| 7. *If, at any time after 5 years from the date of this approval, the Minister notifies the person taking the action in writing that the Minister is not satisfied that there has been substantial commencement of the action, the action must not thereafter be commenced without the written agreement of the Minister.* | |

The above conditions relating to the securing and management of offset areas are addressed in Section 7 Cadia East Offset (Black Rock Range, Flyers Creek and Stratton Vale) Landscape. Section 7 outlines the broad objectives, actions and timeframes to implement the plan to meet the conditions of approval.

## 1.3 Other Legislative Requirements

The following Acts and associated regulations are applicable to Cadia's rehabilitation and management of biodiversity:

- Contaminated Lands Management Act, 1997;
- Biosecurity Act, 2015;
- Protection of the Environment Operations Act, 1997;
- Biodiversity Conservation Act, 2016 (BC Act);
- Mining Act, 1992; and
- Local Government Act, 1993.

## 1.4 State Environmental Planning Policies

The following State Environmental Planning Policies (SEPPs) are relevant to the Project:

- SEPP – Planning Systems (2021);
- SEPP – Resources and Energy (2021);
- SEPP – Biodiversity and Conservation (2021); and
- SEPP Resilience and Hazards (2021).

## 1.5 Roles and Responsibilities

The roles and responsibilities in relation to Biodiversity Management at Cadia are identified in **Table 3**.

**Table 3: Roles and Responsibilities**

| Role | Responsibility |
|---|---|
| General Manager | Responsible for the overall environmental performance of Cadia. They are also responsible for ensuring the resources (financial and personnel) are available to achieve the objectives and commitments within this plan. |
| Director, Environment | Responsible for working across departments to ensure the objectives and commitments included in this plan are implemented. |
| Lead - Environment | Responsible for daily management of mining disturbance through the EIP process, scheduling activities, and compliance audits. The Lead - Environment provides direction and advice to ensure site environmental compliance is maintained. |

| Role | Responsibility |
|---|---|
| | The Lead – Environment is responsible for the updates to the Biodiversity Management Plan. |
| Environmental Advisor (Land and Biodiversity) | Land management and rehabilitation specialist with responsibility for daily management activities associated with land, offsets and biodiversity.<br>The Environmental Advisor (Land and Biodiversity) is responsible for the monitoring and implementation of the Biodiversity Management Plan. |

## 1.6 Key Documents

Key EMS documents are controlled on the Newmont intranet site so they are electronically distributed and readily accessible across the organisation. The key documents relating to the offset site, mine disturbed and agricultural landscapes include:

- Newmont Sustainability and Stakeholder Engagement Policy;
- Newmont Biodiversity Management Standard
- Cadia Rehabilitation Strategy;
- Cadia Environment Management Strategy;
- Cadia Biodiversity Management Plan;
- Cadia Threatened Species Management Strategy
- Cadia Mine Closure Plan;
- Rehabilitation Management Plan;
- Forward Program (FP); and
- Annual Rehabilitation Report (ARR)
- Annual Review
- Conservation Agreement Management Plans

### 1.6.1 Rehabilitation Strategy

Per condition 36 of PA06_0295, Cadia has developed this Rehabilitation Strategy (CHPL 2020). The Rehabilitation Strategy describes the practices and overall rehabilitation goals at Cadia, which are to generate enduring land value, including both ecological value (e.g. biological diversity and other environmental values) and agricultural value (i.e. the ability to produce agricultural goods).

Cadias rehabilitation activities aim to generate safe and sustainable landforms at the mine site to:

- enhance biodiversity and connect to the conceptual vegetation corridor programme (ecological value);
- allow for the future land use of sustainable grazing where appropriate (agricultural value);
- retain areas that may be important for future industry and infrastructure needs and for cultural heritage conservation; and
- provide safe and stable landforms and minimise any adverse potential impacts so that there is no future liability for Newmont or the community.

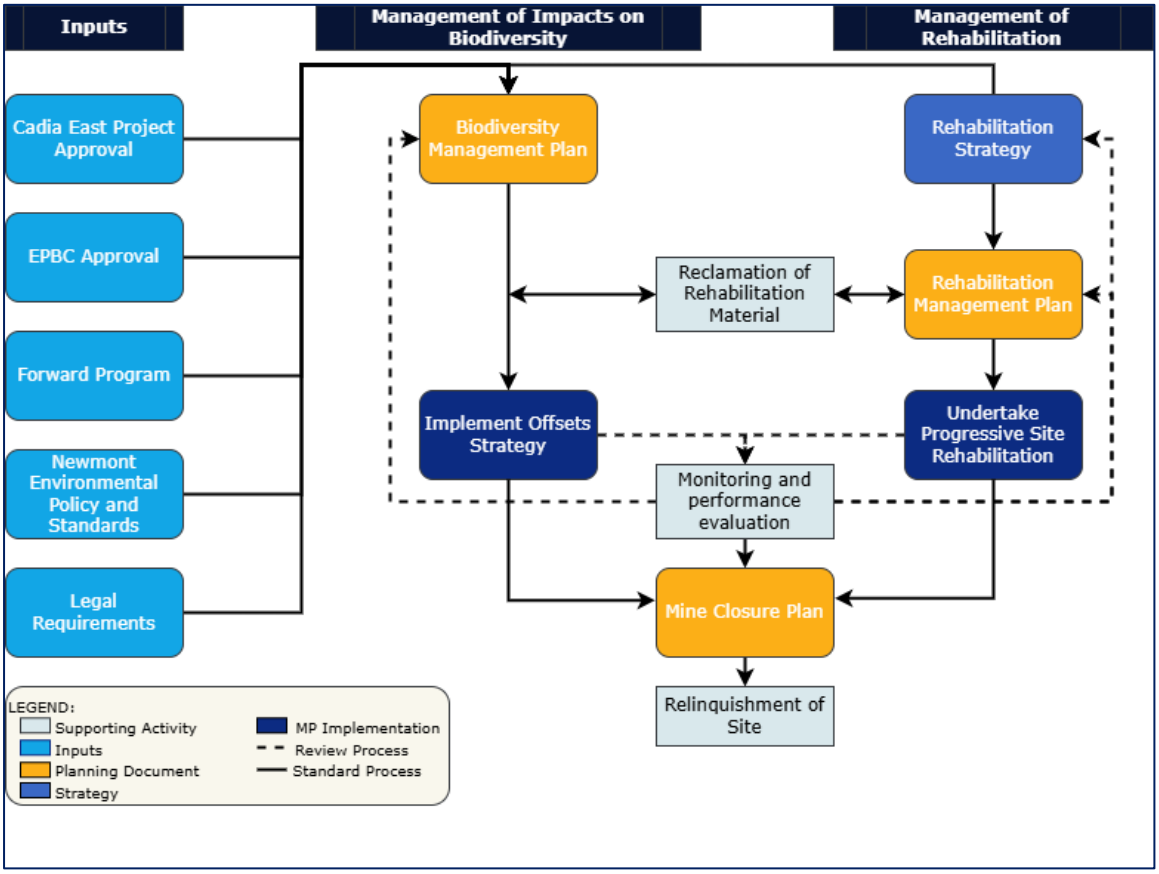
Through the implementation of the Rehabilitation Strategy, Cadia aims to provide a balanced rehabilitation outcome, recognising the alternative land uses that exist in the region and aiming to establish a combination of woodland and grazing on final landforms.

As one of the largest landholders in the Central West, Cadia recognises it can contribute significantly to biodiversity outcomes. The Cadia Biodiversity Management Plan describes the

principles and desired outcomes of management across the various land use domains, with an overall aim of achieving a balanced ecological and agricultural value.

Rehabilitation commitments, objectives and completion criteria are outlined in the RMP for Cadia's various domains/areas. The BMP works in congruence with the RMP as well as other documents (**Figure 2**).

**Figure 2: Relationships of the Biodiversity Management Plan to other Documents**




## 1.7 Consultation

In accordance with Condition 41 (PA 06_0295), the BMP has been prepared in consultation with the Biodiversity, Conservation and Science Directorate (BCS). Cadia provided a first draft to the BCS for consultation on 23 May 2022. The BCS provided feedback on the draft BMP on 20 June 2022.

This version of the BMP has been updated to reflect the comments provided by BCS on the 5 July 2024 and was provided to the NSW Biodiversity Conservation Trust (BCT) for comment. Feedback from the NSW BCT was received 14 February 2025 and incorporated. A Summary of the consultation undertaken on the BMP is provided in **Table 4.**

This BMP (once approved) replaces the Landscape and Biodiversity Management Plan, which captures the extensive consultation undertaken in that Plans revisions.

**Table 4: Consultation undertaken in plan development**

| Stakeholder | Date | Outcomes of Consultation |
|---|---|---|
| NSW BCS | June 2022 | BCS provided comments which were responded to throughout the document. |
| NSW BCS | July 2024 | BCS provided comments which were responded to throughout the document. Recommended consultation with NSW BCT for offset management. |
| NSW BCT | February 2025 | BCT provided comments which were specific to offset management components of the BMP. |
| NSW DPHI | June 2025 | DPHI provided comments which were responded to throughout the document. The Threatened Species Management Protocol was updated based on the reccommendations in the MOD15 BDAR. |

# 2 PROJECT SITE MANAGEMENT

The Biodiversity Management Plan recognizes areas within the approval boundary that will be subject to disturbance associated with mine construction and operations and areas of adjacent retained vegetation and habitat that will not be directly disturbed. Active disturbance areas refer to any surface disturbance and infrastructure directly associated with the Cadia East Project Approval (including Cadia Hill, Ridgeway and Ridgeway Deeps).

The active disturbance areas includes voids, adits and pits, major landforms (Waste Rock Dumps [WRD], Tailings Storage Facilities [TSF]), site infrastructure (water, power, processing plant, offices, workshops) and associated disturbance. The total area of disturbance is projected to be approximately 2,355 ha by the end of approved mining activities.

Adjacent retained landscapes refer to land which is located within the boundary of the Cadia East Project approval that is neither directly developed for mining or used for agricultural production. The mine adjacent landscapes contains both native and exotic vegetation, including pine plantations and built features including areas of heritage significance and ancillary infrastructure such as roads, power, communication and water management.

## 2.1 Threatened Species and Threatened Ecological Community Management

The following threatened species listed under the Biodiversity Conservation (NSW) and Environmental Protection and Biodiversity Conservation Act (Cth) were identified as occurring within the Cadia East Project Area or assumed present through the development of Environmental Assessments and Biodiversity Development Assessment Reports the project and its subsequent modifications.

**Table 5: Threatened Species identified and potentially occurring in the Cadia East Project Area**

| Common Name | Scientific Name | Conservation Status | |
|---|---|---|---|
| | | BC Act | EPBC Act |
| Birds | | | |
| Superb Parrot | *Polytelis swainsonii* | V | V |
| Swift Parrot* | *Lathamus discolor* | E | CE |
| Turquoise Parrot# | *Neophema pulchella* | V | - |
| Brown Treecreeper (eastern subspecies) | *Climacteris picumnus victoriae* | V | V |
| Speckled Warbler | *Pyrrholaemus sagittatus* | V | - |
| Flame Robin | *Perocia phoenicea* | V | |
| Regent Honeyeater* | *Anthochaera phrygia* | CE | CE |
| Diamond Firetail# | *Stagonopleura guttata* | V | V |
| Little Lorrikeet | *Glossopsitta pusilla* | V | - |
| Dusky Woodswallow | *Artamus cyanopterus* | V | - |
| Varied Sittella | *Daphoenositta chrysoptera* | V | - |
| White-bellied Sea Eagle | *Haliaeetus leucogaster* | V | - |
| Mammals | | | |
| Squirrel Glider | *Petaurus norfolcensis* | V | - |
| Yellow-bellied Sheathtail-bat | *Saccolaimus flaviventris* | V | - |
| Southern Myotis | *Myotis macorpus* | V | |
| Eastern Bentwing-bat[1] | *Miniopterus schreibersii oceanensis* | V | - |
| Eastern Pigmy Possum# | *Cercartetus nanus* | V | - |
| Amphibians | | | |
| Booroolong Frog# | *Litoria booroolongensis* | E | E |
| Plants | | | |
| Small Purple Pea# | *Swainson recta* | E | E |

* V = Vulnerable; E = Endangered, CE = Critically Endangered
# Assumed presence
* Transient, foraging only
[1] Species taxonomy has changed since the initial LBMP was approved. Species is now listed as Large Bentwing-bat (*Miniopterus orianae oceanensis*)

Of the species listed in **Table 5**, the Squirrel Glider, Yellow-bellied Sheathtail-bat and Eastern Bentwing-bat were initially considered likely to have viable populations within the Project area. However, subsequent studies revealed this scenario is unlikely, as described below for the Squirrel Glider.

For more information concerning these species, including potential impacts, refer to the CE EA, the Vertebrate Fauna Assessment (CHPL 2009a; Western Research Institute [WRI] and Resource Strategies 2012), Modification 14 (MOD 14) Biodiversity Development Assessment Report (BDAR) (Premise, 2021) and Modification 15 (MOD15) BDAR.

When undertaking mine related clearing, potential impacts on native fauna and threatened flora and fauna will be managed through the implementation of the Vegetation Clearance Protocol (VCP) (Section 3.4) and the Threatened Species Management Plan (TSMP) (Section 3.1.2).

Condition 41 of PA 06_0295 specifies the BMP should outline specific management and mitigation measures for the Squirrel Glider and Superb Parrot. These species are described in the section below.

### 2.1.1 Squirrel Glider

The Squirrel Glider was recorded within the Project area by Place Design Group in 2002 and 2008 (WRI and Resource Strategies 2012) within an isolated habitat patch, located between the existing South WRD and the Northern TSF. The identification of the Squirrel Glider within the Project area was significant, as the Project area is more than 50 km from the nearest official Squirrel Glider record, and it was considered likely that a viable population was present within the habitat available within the Project area.

At the time of compiling the CE EA (CHPL 2009a) it was stated that:

> *The removal of this habitat would almost certainly lead to the loss of the population. However, the project would not result in the wider extinction of the species, or place it at risk of state-wide extinction given the known distribution of the species in NSW.*

Surveys of the Black Rock Range Offset area confirmed the presence of Squirrel Gliders in that area (CHPL 2009a). Squirrel Gliders were also recorded during fauna surveys for the MOD 14 BDAR and MOD15 BDAR (Premise 2021) (Premise, 2024).

For disturbance associated with MOD14, Cadia prepared a Threatened Species Management Strategy for the Squirrel Glider and Superb Parrot in consultation with the NSW BCS. For impacts associated with MOD15, Cadia continues to implement the strategies to mitigate impacts on Squirrel Gliders through the implementation of the **threatened species management protocol** in **Appendix E** and the general management strategies as described in **Table 6** below.

### 2.1.2 Superb Parrot

The Superb Parrot has been recorded in CHPL-owned land in 2000, 2002, 2006, 2007, 2021 and 2024 (Resource Strategies 2000 and 2002; WRI and Resource Strategies 2009; Premise 2021, 2024). All records have been located near the southern end of the Project area. The Superb Parrot is known to breed in several areas around Cadia, with an estimated population of 30 pairs of adult birds. The Superb Parrot species were observed in western, southern, and eastern portions of the Mod 15 footprint (southern area of Cadia).

As described in the MOD15 BDAR (Premise, 2024), Cadia will implement avoidance and mitigation measures to reduce potential impacts on local Superb Parrot populations. Where tree removal associated with MOD 15 is required and approved, clearing would be undertaken with consideration of seasonal factors (wherever practicable, vegetation clearance would be undertaken during late summer/autumn) and the management strategies detailed in Table 6 and the **Threatened Species Management Protocol** (refer **Appendix E**).

As identified in the Modification report and the MOD15 BDAR (Premise, 2024), select Superb Parrot habitat trees will be retained. Retained habitat trees are demarcated and a management buffer of 50m is established around all mapped sites. Where construction works are required to occur within the threatened species management buffer, these will be scheduled to occur outside of Superb Parrot breeding season (September to December) per the MOD15 BDAR (Premise, 2024). The locations of the retained habitat trees and their management buffer is shown in **Figure 3** below.

**Figure 3: Retained Threatened Species Habitat**

**Table 6: Biodiversity Impact Mitigation Strategies for Disturbance on the Project Site**

| Stage of Operations | Mitigation Measure | Method/Techniques Used | Responsibility | Effectiveness | Performance Criteria | Validation | Other Protocols/MP Section |
|---|---|---|---|---|---|---|---|
| Planning | Avoid disturbance | Where practical, revise the footprint of mine infrastructure to avoid impacts on Threatened Species and retained native vegetation. | Cadia Environment and Mine Planning | High | Where practical, achieve a reduction in proposed disturbance footprint | Project Modification Report | Cadia East EA, MOD15 Modification Report |
| | | Maintain current spatial database for the site that indicates areas of native vegetation and threatened species habitat where disturbance is to be avoided and/or mitigated | | Moderate | Not applicable | Not applicable | Threatened Species Management Protocol<br>Environmental Impact Permit (710-005-EN-PRO-0006) |
| | Seasonal timing of works | Removal of Squirrel Glider and Superb Parrot habitat or works within the 50m habitat exclusion zones is restricted to occur within **March to May** annually. | Project Manager, Tailings Construction Manager, Superintendent Surface Operations | High | All clearing or works within the 50m habitat buffer for Squirrel Glider and Superb Parrot habitat occurs within the restricted period | Vegetation Clearance Reports | Environmental Impact Permit (710-005-EN-PRO-0006),<br>Threatened Species Management Protocol |
| | | Adjust construction operational intensity during evening hours to reduce light spill and noise disturbance | Project Manager, Tailings Construction Manager, Superintendent Surface Operations | High | Monitored noise levels are less than or equal to the criteria per PA06_0295. | Noise monitoring | Environmental Impact Permit (710-005-EN-PRO-0006)<br>Noise Management Plan (710-005-EN-PLA-003) |
| Pre-disturbance | Pre-clearance surveys | Prior to clearing, the impacted area is inspected by Environmental staff.<br>Habitat bearing vegetation is delineated and observations undertaken by a suitable specialist to confirm absence of resident fauna. | Cadia Environmental Staff | High | Pre-clearance surveys completed for all impacted areas | Pre-clearance surveys completed for all impacted areas. | Environmental Impact Permit (710-005-EN-PRO-0006)<br>Threatened Species Management Protocol<br>Fauna Spotter Catcher Procedure |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | (710-005-EN-PRO-0003) |
| | Delineation of threatened species habitat exclusion zones | Demaraction of threatened species habitat exclusion zones (50m) around mapped threatened species habitat features. | Project Manager, Tailings Construction Manager, Superintendent Surface Operations | High | All mapped threatened species habitat features are demarcated with visible flagging. | Work area inspections | Threatened Species Management Protocol<br>Environmental Impact Permit (710-005-EN-PRO-0006)<br>BMP Section 2.1.1 & 2.1.2 |
| | Demarcation of retained/approved for clearing habitat | Prior to clearing, retained habitat trees are clearly demarcated to prevent inadvertent clearing. | Cadia Environmental Staff | High | Retained habitat features are identified in all relevant EIP's and demarcated in field. | Vegetation Clearance Reports<br>Pre-clearance surveys | Environmental Impact Permit (710-005-EN-PRO-0006) |
| During construction | Clearing protocols | Best practice clearing protocols are implemented to improve outcomes for native fauna. | Project Manager, Tailings Construction Manager, Superintendent Surface Operations | High | Implement VCP, TSMP and Fauna Spotter Catcher Procedure for all habitat bearing native vegetation clearing | Vegetation Clearance Reports | Threatened Species Management Protocol<br>Fauna Spotter Catcher Procedure (710-005-EN-PRO-0003).<br>BMP Section 3.4 |
| | Temporary fencing and signage | Clear demarcation of the clearing area prior to disturbance to reduce the instances of inadvertent clearing. | Project Manager, Tailings Construction Manager, Superintendent Surface Operations | High | Flagging of clearing boundaries and habitat bearing vegetation. | Work area inspections | Threatened Species Management Protocol<br>Environmental Impact Permit (710-005-EN-PRO-0006). |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Clearing boundaries are communicated to construction staff at pre-start meetings | | | | | |
| | Modification of clearing equipment | Selection of appropriately sized equipment to undertake selective vegetation clearing. | Project Manager, Tailings Construction Manager, Superintendent Surface Operations | High | None | Work instructions | Threatened Species Management Protocol<br>Fauna Spotter Catcher Procedure (710-005-EN-PRO-0003) |
| | Inspection of felled trees | Environmental staff are to conduct inspection of felled trees for injured fauna. Injured fauna are to be transferred to care and displaced fauna relocated to suitable, nearby vegetation. All Fauna handling is to be undertaken by a licensed wildlife handler | Cadia Environment | High | Implement Fauna Spotter Catcher Procedure | Vegetation Clearance Reports | Threatened Species Management Protocol<br>Fauna Spotter Catcher Procedure (710-005-EN-PRO-0003).<br>BMP Section 2.4, 2.5 |
| Post-construction | Salvage of habitat features | At the conclusion of clearing activities, recover potential habitat features (trees, logs &/or rocks) for beneficial re-use in mine rehabilitation or offset areas. | Project Manager, Tailings Construction Manager, Superintendent Surface Operations | High | Recover, where practical, habitat features from disturbance areas identified in the work area per Section 2.2.1 and Environmental Impact Permit conditions | Photos and spatial data depicting location of relocated features | Environmental Impact Permit (710-005-EN-PRO-0006)<br>BMP Section 2.2.1 |
| Ongoing | Biosecurity protocols and weed management | Identify and risk assess planned activities against the level of weed infestation in project disturbance areas and apply hygiene controls as described in section 2.2.2 | Cadia Environment | High | Annual weed coverage map completed for project disturbance areas | Weed mapping of project disturbance areas | BMP Section 2.2.2 |
| | | Implementation of hygiene protocols as described in section 2.2.2 | All staff | High | Number of infestations of identified weeds are equal to or less than adjacent land | Weed mapping of project disturbance areas with comparison to offsite reference sites. | BMP Section 2.2.2 |
| | | Conduct ongoing weed control on the Project Site | Cadia Environment | | Greater than 75% of identified weed infestations in project area treated each calendar year. | Herbicide application records, weed mapping | BMP Section 2.2.2 |

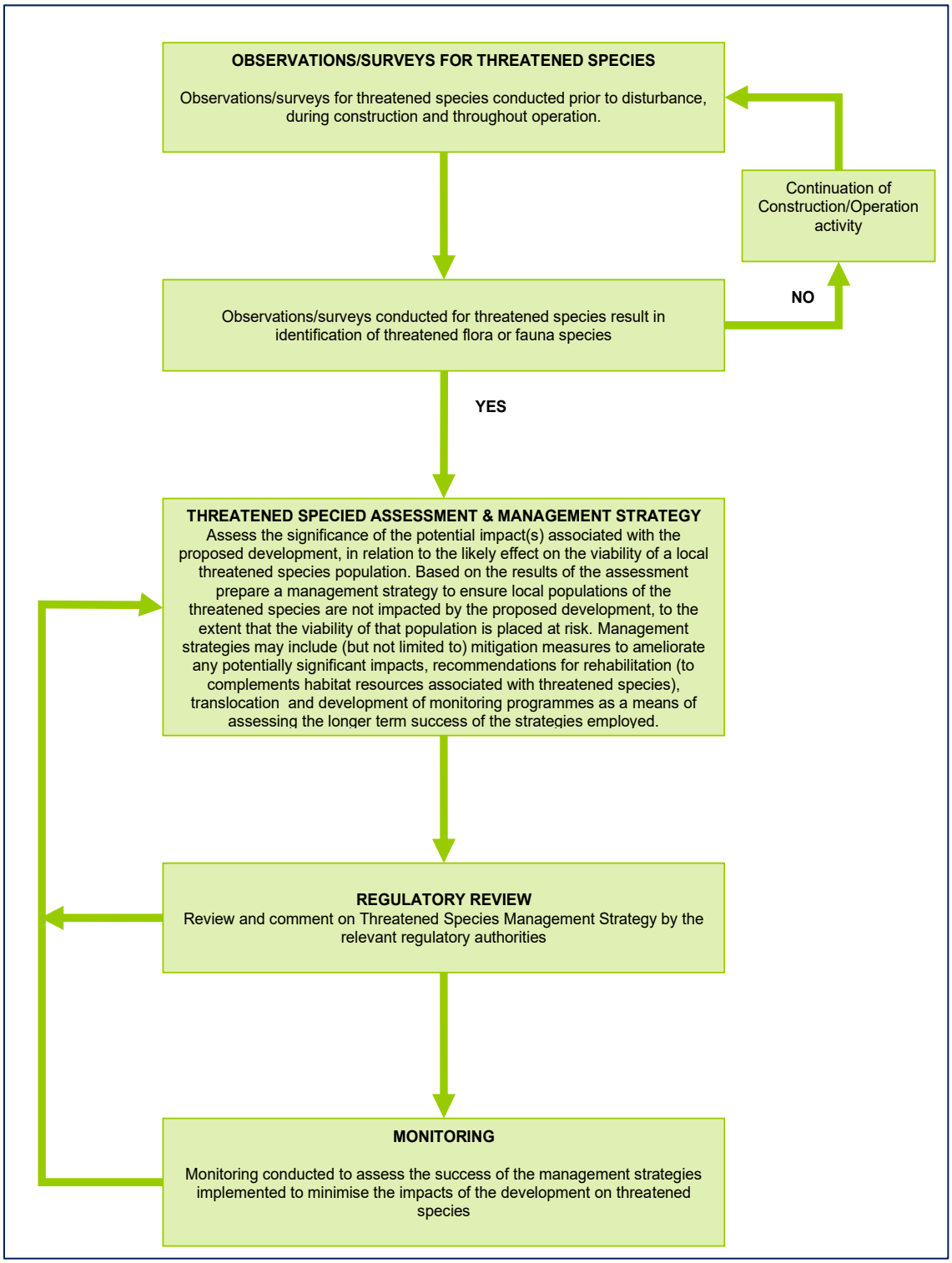
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Waste Management | Waste management is conducted to maximise reuse and recycling and to reduce waste generation and the volume going to landfill. | All staff | High | Greater than 65% of waste generated by site is recycled. | Reconciliation of waste generated by site | Waste Management Plan |
| | Site traffic management | Road signage and speed limits established on site to reduce impacts on native fauna | Tailings Construction Manager, Superintendent Surface Operations | High | None | None | BMP Section 2.2 |
| | Fugitive light management | Where practical, the use of lighting at project construction sites shall be directed away from remnant vegetation.<br>Temporary lighting at project construction sites shall be switched off when not in use. | Tailings Construction Manager, Superintendent Surface Operations | High | All construction lighting is operated with requirements of PA06_0295 | Work area inspections | Fugitive Light Management Plan (710-005-EN-PLA-0016) |
| | Sediment and erosion controls | Construct and maintain sediment and erosion controls as required by the sites Erosion and Sediment Control Plan | Tailings Construction Manager, Superintendent Surface Operations | High | ESCP developed and implemented for all project disturbance areas. | Work Area Inspections | Water Management Plan (710-005-EN-PLA-0004)<br>Environmental Impact Permit (710-005-EN-PRO-0006) |
| | Spray drift management | Conduct weed control activities under appropriate conditions to prevent damage to native vegetation | Cadia Environment | Moderate | Works undertaken in accordance with herbicide application guidelines | Herbicide application records | BMP Section 2.2.2<br>Weed Management Procedure |
| | Employee Awareness | Provide specific information to the workforce through pre-start meetings on risks and mitigations for native fauna and threatened species | Cadia Environment | High | Briefings given to workforce through pre-start meetings | Records of prestart meetings | Other internal procedures |

### 2.1.3 Threatened Species Management Protocol (TSMP)

The Cadia Threatened Species Management Protocol **(Appendix E)** has been developed to facilitate the identification and management of significant impacts on any threatened flora and fauna species. It was prepared in March 2022 for MOD14 development and updated in August 2025 for MOD15. The aim of the TSMP is to ensure local populations of threatened species and their essential habitat resources are not likely to be adversely affected by a proposed action, to the extent that the viability of the population(s) is placed at risk.

The key components of the TSMP are avoiding impacts on known habitat features, conducting observations/surveys for threatened species (prior to disturbance and during operations), threatened species assessment and management strategy, regulatory review and monitoring. The TSMP is implemented per the following flowchart (**Figure 4** – over page).

**Figure 4: Threatened Species Management Protocol**




### 2.1.4 Threatened Ecological Communities

Two Threatened Ecological Communities (TECs) were identified in the Project area, namely the White Box – Yellow Box – Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands Critically Endangered Ecological Community (CEEC) (Box-Gum Woodland CEEC) listed under the EPBC Act and the White Box – Yellow Box – Blakely's Red Gum Woodland Endangered Ecological Community (EEC) (Box-Gum Woodland EEC) listed under the BC Act.

The MOD15 BDAR identifies that mine development at Cadia would result in the impacts on 35.17 Ha of native vegetation, 34.69 Ha of which is belongs to PCT 266 – White Box Grassy Woodland and PCT 277 - Blakely's Red Gum Yellow Box Grassy Tall Woodland. Both of which are classified as Threatened Ecological Communities. Cadia mitigates the impact on White Box – Yellow Box – Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands through the implementation of the Biodiversity Offset Strategy per Condition 38 of PA06_0295, the Vegetation Corridor Program and collection of native seed per Section 2.3.1

**Figure 5** shows the vegetation communities that are present within the locality of the Project Site and **Figure 6** details the vegetation communities that occur within the MOD15 disturbance footprint.

**Figure 5: Mapped Vegetation Communities Within the Locality of the Project Site**

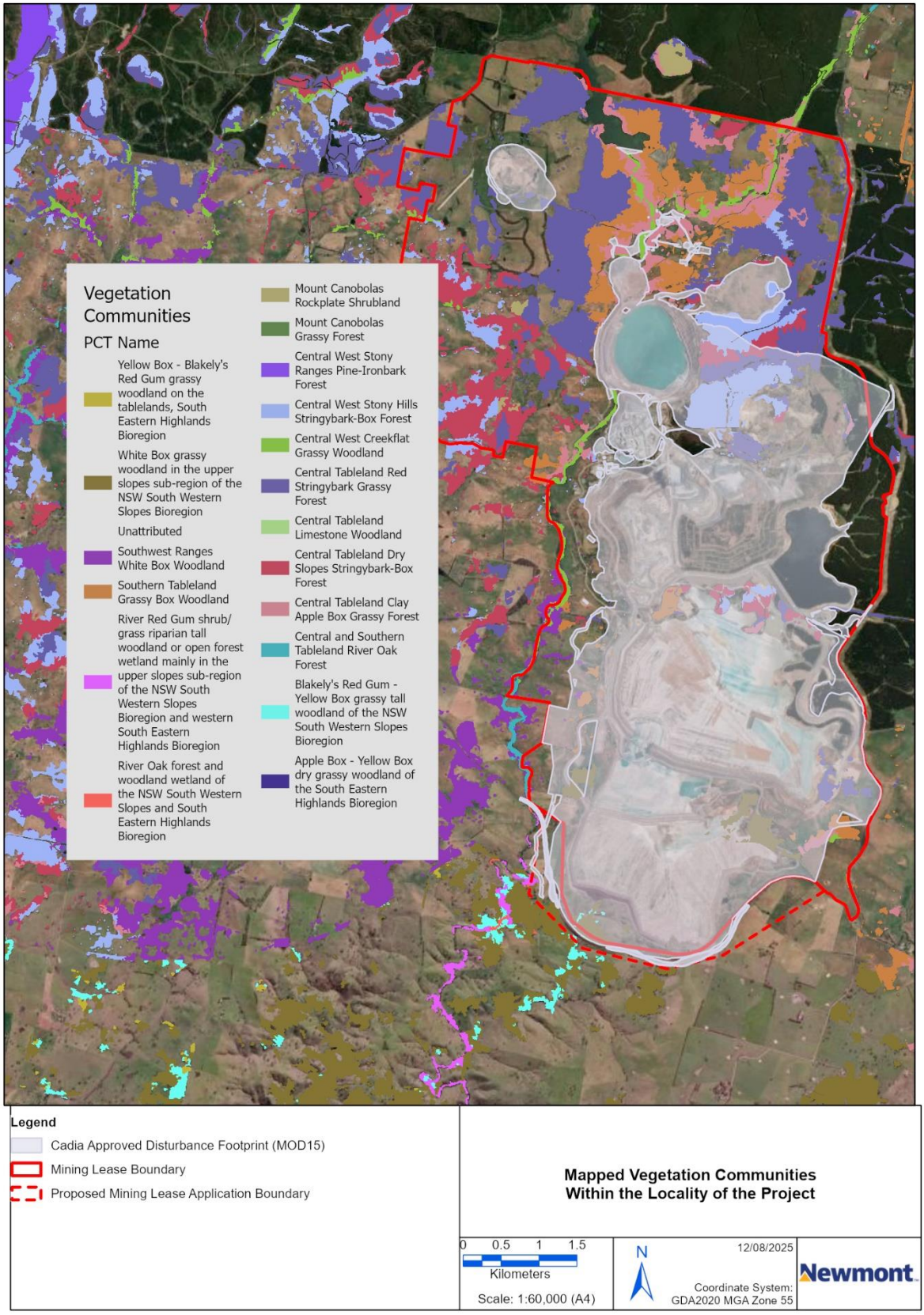
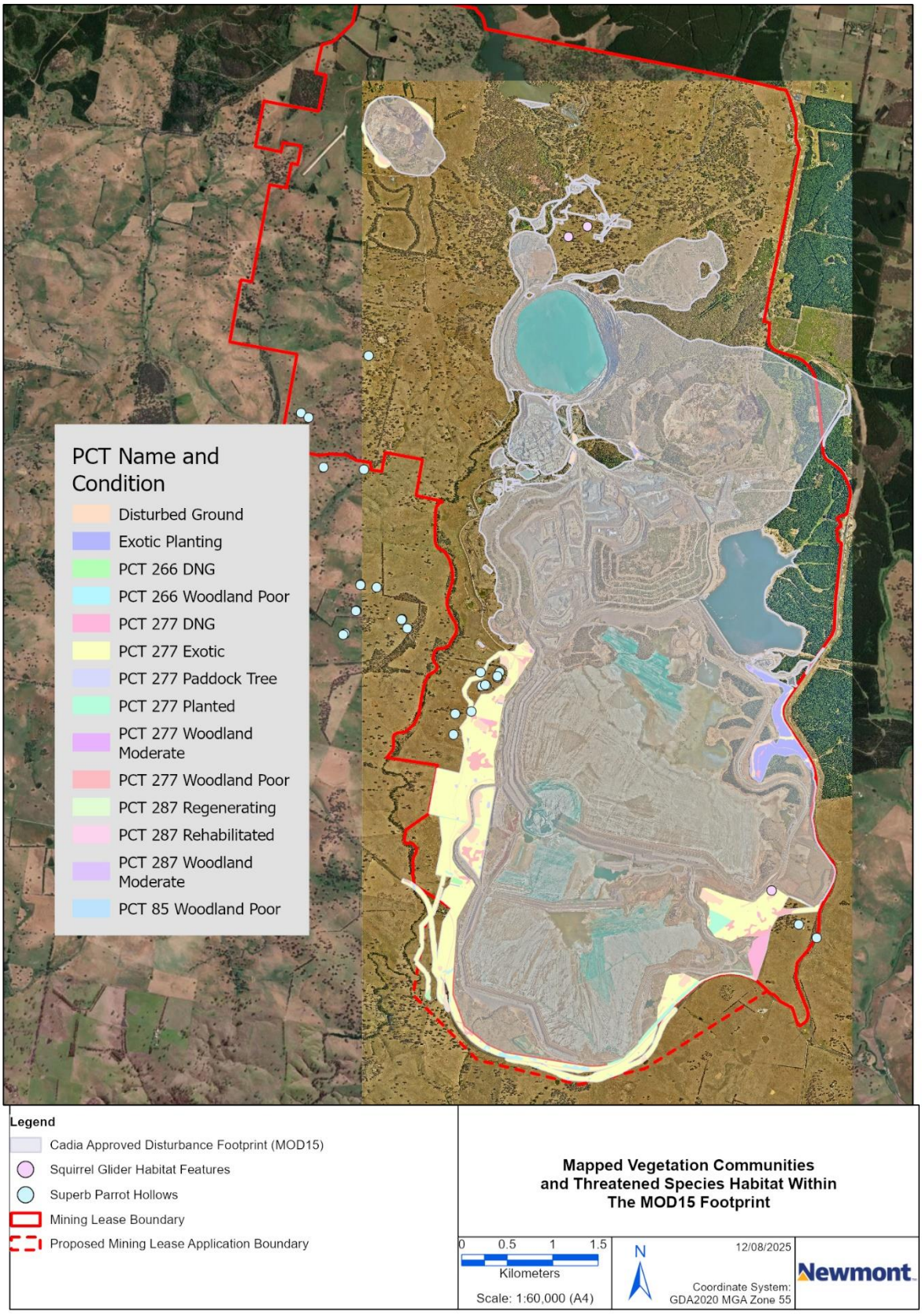


**Figure 6: Mapped Vegetation Communities Within the MOD15 Disturbance Footprint**



## 2.2 General management activities

The following activities will be progressively implemented across the Mine Disturbed and Adjacent Landscape to ensure sustainable, reliable land management for biodiversity outcomes. These activities will decrease the likelihood of impacts to biodiversity and increase the likelihood of Cadia contributing positively to the broader landscape. They ensure the land managed under Cadia will not negatively impact neighbours or operational objectives and include:

- Weed mapping, prioritization and management;
- Animal pest control including, but not limited to: pigs, deer, foxes, cats, goats, rabbits, hare, Indian Myna and any other non-native species confirmed on site;
- Stock control including fence maintenance so that livestock are restricted to the dedicated farming areas;
- Habitat salvage from areas approved for disturbance;
- Specific actions for threatened species management;
- Developing partnerships with conservation groups to implement mutually beneficial actions for biodiversity management;
- Progressive updates of fencing throughout the site to remove barbed wire (top wire at minimum) where fencing adjoins remnant native vegetation. Barb will be retained where required to meet agricultural, operational or security requirements.
- Fencing riparian areas and implementing revegetation and rehabilitation initiatives;
- Strategic bushfire management, including fuel load monitoring and undertaking management of vegetation around built infrastructure;
- Identifying and preserving strategic watering points for native fauna;
- During prolonged drought conditions, where possible, installing watering points for fauna;
- Implementation of management and control processes (permits and protocols) to ensure activities on site are congruent with achieving the objectives of this plan;
- Recording, monitoring and reporting actions and their effectiveness and implementing a continuous improvement framework, and
- Actively increase the knowledge and awareness of site personnel through training and capacity building.

### 2.2.1 Habitat Salvage and Management

Salvage and beneficial use of resources from the Cadia East subsidence zone and other areas where removal of vegetation was proposed is required by Conditions 38(b) of PA 06_0295. The following is a brief description of how Cadia has planned to utilise resources from the subsidence zone and other areas.

Habitat salvage involves the relocation of materials from areas identified for clearing to rehabilitation areas to provide immediate habitat resources for fauna occupation, with priority given to suitable habitat for target threatened species. Habitat resources can include laying timber, piling timber, stacked rocks, standing stags (mature trees with hollows) etc. The habitat features chosen to relocate will be determined by known threatened species in the locality and their nesting, roosting, shelter and feeding requirements, and the RMP outlines the relevant considerations.

The methodology is outlined as follows:

- Clearance areas will be surveyed to identify habitat features;

- Cadia's VCP and TSMP will be implemented (if required);
- An earthmoving contractor will be commissioned to remove the features from the area. Equipment used will be determined by the size, weight and type of the habitat and accessibility to the area;
- Habitat including dead wood, hollow logs, stag trees and bush rocks will be loaded as carefully as possible on the trucks and secured for transport to the recipient sites. When rehabilitation areas are not available to receive salvaged habitat, material will be stockpiled and stored in designated areas. Each habitat feature will have a corresponding GPS destination point and be unloaded with the excavator;
- Once unloaded, the features will be arranged to best replicate suitable habitat;
- The program will be staged and implemented progressively;
- Monitoring will be undertaken to determine the success of habitat relocation and occupancy of habitat, and
- Outcomes of the program will be reported in the Annual Rehabilitation Report and Annual Review.

Priorities for recipient sites include mine disturbed/rehabilitated landscapes, Vegetation Corridor Areas and Offset areas. These priorities are based on their suitability to become viable habitat for species groups, location/proximity to current remnants (identified for clearing/impact) suitability to grow food sources, aspect and proximity to water. Other considerations include efficiencies/cost of relocating and the availability and proximity of suitable machinery.

As described in the RMP, habitat relocation will continue to be undertaken during the active mining phase and generally consists of:

- The removal (felling) of timber from areas to be cleared and stockpiled (temporarily) for relocation. Prior to the relocation of stockpiled material, the timber will be assessed to ensure that no native fauna are occupying the stockpile (pre clearance survey, VCP and (if required) threatened species protocol applied).
- Relocation and placement of material within rehabilitation areas (during the Ecosystem and Land Use Establishment phase).
- Future source locations of habitat resources include the southern remnant (as areas are cleared for progressive TSF expansion), Cadia East subsidence zone and TSF expansion zones (including inundation, embankment and buttress footprint).

### 2.2.2 Weed Management

A dedicated Weed Management Procedure (WeMP) will be developed for the Project Site and Offset areas within 12 months of approval of the BMP. The WeMP will provided detailed methodologies for monitoring, control measures, management actions and reporting requirements.

**Table 7** provides a list of known noxious and priority weeds that occur within the region (according to vegetation surveys, management experience and regional observations). Weeds have been prioritised based on noxious weed declarations, known invasiveness, known impact on biodiversity and means/risk of rapidly spreading. The list of priorities will be used to assist in the preparation and execution of field-based weed control.

The control of weeds will be undertaken using an integrated approach that reduces the prevalence of the weed (including preventing seed set, spread etc) and increases the presence of desirable species to occupy the ecological niche and outcompete future establishing weeds. Control means may include:

- competition (undertaken by planting native plants that outcompete weeds through shade or structure)
- chemical (undertaken in accordance with NSW DPI - Noxious and Environmental Weed control handbook, product labels and Safety Data Sheets);
- strategic burning
- mechanical (slashing, physical removal, low impact bush regeneration techniques);
- hand removal (including seeds) and
- biological (biological control agents, livestock grazing (excluding offset areas)).

**Table 7: Noxious and Priority Weeds Relevant to the Cadia East Project (including Offset Areas)**

| Weed | NOX[1] | WONS[2] | Known[3] | Potential[4] | Control Options | Timing | Priority |
|---|---|---|---|---|---|---|---|
| Blackberry *(Rubus fruticosus* agg. spp *)* | X | X | X | | Selective herbicide (spray)<br>Strong competition to reduce establishment.<br>Biological control options available. | Spring / early summer prior to seed set. | High |
| St Johns Wort *(Hypericum perforatum)* | X | | X | | Selective herbicide (spray)<br>Strategic grazing where possible to reduce seed set-(excluding Offset Areas)<br>Strong competition to reduce establishment.<br>Biological control options available. | Spring / early summer prior to seed set. | High |
| Bathurst Burr *(Xanthium spinosum)* | X | | X | | Selective herbicide (spray)<br>Mechanical / chipping for isolated plants / small patches.<br>Strong competition to reduce establishment. | Following summer rains and before seed set. | High |
| Sweet Briar *(Rosa rubiginosa)* | X | | X | | Selective herbicide (spray / cut stem method)<br>Strong competition to reduce establishment. | Spring / early summer prior to seed set. | High |
| Black Locust ( | | | | | Selective herbicide (spray / cut stem method)<br>Strong competition to reduce establishment. | | |
| Hawthorn *(Crataegus spp)* | | | | X | Selective herbicide (spray / cut stem / injection method)<br>Strong competition to reduce establishment | Spring / early summer prior to seed set. | Medium |
| Serrated Tussock *(Nassella trichotoma)* | X | X | X | | Semi-selective herbicide (spray)<br>Strong competition to reduce establishment<br>Mechanical / chipping for isolated plants / small patches | Late winter / early spring prior to seed set | High |

| Weed | NOX[1] | WONS[2] | Known[3] | Potential[4] | Control Options | Timing | Priority |
|---|---|---|---|---|---|---|---|
| Blackberry *(Rubus fruticosus* agg. spp *)* | X | X | X | | Selective herbicide (spray)<br>Strong competition to reduce establishment.<br>Biological control options available. | Spring / early summer prior to seed set. | High |
| St Johns Wort *(Hypericum perforatum)* | X | | X | | Selective herbicide (spray)<br>Strategic grazing where possible to reduce seed set (excluding Offset Areas)<br>Strong competition to reduce establishment.<br>Biological control options available. | Spring / early summer prior to seed set. | High |
| Bathurst Burr *(Xanthium spinosum)* | X | | X | | Selective herbicide (spray)<br>Mechanical / chipping for isolated plants / small patches.<br>Strong competition to reduce establishment. | Following summer rains and before seed set. | High |
| Sweet Briar *(Rosa rubiginosa)* | X | | X | | Selective herbicide (spray / cut stem method)<br>Strong competition to reduce establishment. | Spring / early summer prior to seed set. | High |
| Black Locust ( | | | | | Selective herbicide (spray / cut stem method)<br>Strong competition to reduce establishment. | | |
| Hawthorn *(Crataegus spp)* | | | | X | Selective herbicide (spray / cut stem / injection method)<br>Strong competition to reduce establishment | Spring / early summer prior to seed set. | Medium |
| Chilean needle grass *(Nassella neesiana)* | X | X | X | | Semi-selective herbicide (spray)<br>Strong competition to reduce establishment<br>Mechanical / chipping for isolated plants / small patches.<br>Strategic grazing where possible to reduce seed set (young growth only) (excluding Offset Areas) | Late winter / early spring prior to seed set | High |
| Phalaris | | | X | | Non-selective herbicide (spray) | Late winter / early spring prior to seed set | Low |

| Weed | NOX[1] | WONS[2] | Known[3] | Potential[4] | Control Options | Timing | Priority |
|---|---|---|---|---|---|---|---|
| Blackberry<br>*(Rubus fruticosus* agg. spp *)* | X | X | X | | Selective herbicide (spray)<br>Strong competition to reduce establishment.<br>Biological control options available. | Spring / early summer prior to seed set. | High |
| St Johns Wort<br>*(Hypericum perforatum)* | X | | X | | Selective herbicide (spray)<br>Strategic grazing where possible to reduce seed set (excluding Offset Areas)<br>Strong competition to reduce establishment.<br>Biological control options available. | Spring / early summer prior to seed set. | High |
| Bathurst Burr<br>*(Xanthium spinosum)* | X | | X | | Selective herbicide (spray)<br>Mechanical / chipping for isolated plants / small patches.<br>Strong competition to reduce establishment. | Following summer rains and before seed set. | High |
| Sweet Briar<br>*(Rosa rubiginosa)* | X | | X | | Selective herbicide (spray / cut stem method)<br>Strong competition to reduce establishment. | Spring / early summer prior to seed set. | High |
| Black Locust<br>( | | | | | Selective herbicide (spray / cut stem method)<br>Strong competition to reduce establishment. | | |
| Hawthorn<br>*(Crataegus spp)* | | | | X | Selective herbicide (spray / cut stem / injection method)<br>Strong competition to reduce establishment | Spring / early summer prior to seed set. | Medium |
| *(Phalaris aquatica)* | | | | | Strong competition to reduce establishment<br>Strategic grazing where possible to reduce seed set (excluding Offset Areas) | | |
| Cocksfoot<br>*(Dactylis glomerata)* | | | X | | Non-selective herbicide (spray)<br>Strong competition to reduce establishment<br>Strategic grazing where possible to reduce seed set (excluding Offset Areas) | Late winter / early spring prior to seed set | Low |

| Weed | NOX | WONS | Known | Potential | Control Options | Timing | Priority |
|---|---|---|---|---|---|---|---|
| Scotch thistle *(Onopordum spp)* | X | | X | | Selective herbicide (spray)<br>Strong competition to reduce establishment.<br>Biological control options available. | Late winter / early spring prior to seed set | High |
| Nodding Thistle *(Carduus nutans)* | X | | | X | Selective herbicide (spray)<br>Strong competition to reduce establishment.<br>Biological control options available. | Late winter / early spring prior to seed set | High |
| Sticky Nightshade *(Solanum Sisymbriifolium)* | | | X | | Selective herbicide (spray)<br>Strong competition to reduce establishment. | Spring / early summer prior to seed set. | High |
| Other thistles (Asteraceae family) | | | X | | Selective herbicide (spray)<br>Strategic grazing (spray graze) where possible to reduce seed set (excludes offset areas)<br>Strong competition to reduce establishment.<br>Biological control options available (species specific). | Late winter / early spring prior to seed set | Low |
| Basket Willow *(Salix viminalis)* | | X | X | | Non-selective herbicide (Spray / cut stump / injection methods)<br>Mechanical removal | Spring / summer while actively growing. | High |
| Brome grass *(Bromus spp.)* | | | X | | Semi-selective herbicide (spray)<br>Strong competition to reduce establishment<br>Strategic grazing where possible to reduce seed set (young growth only – excludes offset areas) | Spring / early summer prior to seed set. | Low |
| Horehound *(Marrubium vilgare)* | | | X | | Selective herbicide (spray)<br>Strong competition to reduce establishment.<br>Biological control options available. | Spring / early summer prior to seed set. | Medium |

| Weed | NOX | WONS | Known | Potential | Control Options | Timing | Priority |
|---|---|---|---|---|---|---|---|
| Sifton bush *(Cassina arcuate)* | X | | X | | Native colonising species: will only be controlled where dominant and excluding the regeneration / establishment of other native species.<br>Selective herbicide (spray)<br>Mechanical ripping / slashing<br>Strong competition to reduce establishment. | Spring / early summer prior to seed set. | Low |
| Paterson's Curse *(Echium plantagineum)* | | | X | | Selective herbicide<br>Strategic grazing (spray graze) where possible to reduce seed set (excludes offset areas)<br>Strong competition to reduce establishment.<br>Biological control options available. | Late winter / early spring prior to seed set | Low |
| Hemlock *(Conium maculatum)* | | | | X | Selective herbicide (spray)<br>Strong competition to reduce establishment. | Late winter / early spring prior to seed set | Low |
| Fleabane *(Conyza spp.)* | | | X | | Selective herbicide (spray)<br>Strong competition to reduce establishment. | Late winter / early spring prior to seed set | Low |
| Capeweed *(Arctotheca calendula)* | | | X | | Selective herbicide (spray)<br>Strong competition to reduce establishment. | Late winter / early spring prior to seed set | Low |
| Blackberry nightshade *(Solanum nigrum)* | | | X | | Selective herbicide (spray)<br>Strong competition to reduce establishment. | Spring / early summer prior to seed set. | High |
| Barley Grass *(Hordeum leporinum)* | | | X | | Semi-selective herbicide (spray)<br>Strong competition to reduce establishment<br>Strategic grazing where possible to reduce seed set (young growth only) | Late winter / early spring prior to seed set | Low |

| Weed | NOX | WONS | Known | Potential | Control Options | Timing | Priority |
|---|---|---|---|---|---|---|---|
| Ryegrass *(Lolium spp)* | | | X | | Semi-selective herbicide (spray)<br>Strong competition to reduce establishment<br>Strategic grazing where possible to reduce seed set (young growth only) | Late winter / early spring prior to seed set | Low |
| Privet *(Ligustrum spp)* | X | | | X | Selective herbicide (Spray / cut stump / injection methods)<br>Mechanical removal | Spring / early summer prior to seed set. | High |
| English / scotch Broom *(Cytisus spp)* | X | X | | X | Selective herbicide (Spray / cut stump / injection methods)<br>Strong competition to reduce establishment.<br>Biological control options available. | Spring / early summer prior to seed set. | High |
| Heliotrope *(Heliotropium spp)* | | | X | | Selective herbicide (spray)<br>Strong competition to reduce establishment.<br>Biological control options available. | Late winter / early spring prior to seed set | Medium |
| Fireweed (Senecio madagascariensis) | | | | X | Selective herbicide (spray)<br>Strong competition to reduce establishment. | Late winter / early spring prior to seed set | Medium |

[1]NOX = Declared Noxious (either within Cabonne Council or Upper Macquarie County Council areas)

[2]WONS = Weed of National Significance

[3]Known = known to occur within the region / offset areas

[4]Potential = not currently known to occur, has potential to become established in the area.

### 2.2.3 Pest Animal Management

**Table 8** provides a list of known pests that occur within the Cadia East Project and Offset areas (according to fauna surveys, management experience and regional observations). Pests have been prioritised based on their potential to impact on biodiversity and the desired outcomes. The list of priorities will be used to assist in the preparation and execution of field-based pest control.

The control of pests will be undertaken using an integrated pest management approach to reduce the prevalence (and impact) of the pest and include destruction of the pest/removal of harbor/habitat where possible. The Pest Management Procedure contains further detail on the management of pests on Cadia owned land

**Table 8: Pest Control Measures**

| Pest | Status | Known / Potential | Control Options. | Priority |
|---|---|---|---|---|
| **Feral Pig (Sus scrofa)** | NSW declared pest species | Known | Structured 1080 baiting (or other identified baiting options) program with measures to protect non target species, trapping, shooting | High |
| **Fox (Vulpes vuples)** | NSW declared pest species | Known | Structured 1080 baiting (or other identified baiting options) program with measures to protect non target species. Shooting, trapping | High |
| **Rabbit (Oryctolagus cuniculus)** | NSW declared pest species, | Known | Harbor/burrow destruction, shooting, trapping | High |
| **Wild Dog (Canis lupus)** | NSW declared pest species | Potential | Shooting, trapping | High |
| **Feral cat (Felis catus)** | Key Threatening Process | Known | Trapping, Shooting | High |
| **Goats** | NSW declared pest species | Known | Shooting, trapping | High |
| **Deer (all species)** | Key Threatening Process | Known | Shooting | High |
| **Brown Hare (Lepus europaeus)** | NSW declared pest species | Known | Trapping, Shooting . | Medium |
| **European Carp (Cyprinus carpio)** | NSW declared pest species | Potential | Fishing, netting | Low |
| **Livestock (Sheep, cattle)** | | Known | Mustering and removal, Exclusion through fencing. Shooting when not tagged | Medium |
| **Introduced birds: Common Blackbird, Common Starling Common Myna House Sparrow** | | Known | Trapping | High |
| **Rodents: House mouse Black rat** | | Known | Trapping, Baiting | Low |

### 2.2.4 Bushfire Management

The bushfire season in the Cadia Valley area and Central West Region is generally from mid-November to mid-March.

Depending on factors such as weather, fuel loads (build-up of leaf litter and broken branches) and drought indices, this season can be extended from early September to late April.

Fuel loads will be assessed annually and management actions are detailed within a dedicated bushfire management plan (BFMP). The BFMP is due for completion within 12 months post-approval of the BMP.

CHPL-owned land, including the project site and offset areas, extends over four NSW RFS jurisdictions (i.e. Burnt Yards/Cadia, Panuara/Four Mile Creek, Springside and Cargo Brigades) which form part of the Canobolas Zone.

CHPL operates the Cadia Emergency Response Team which provides emergency assistance to the NSW RFS when required.

## 2.3 Rehabilitation Methodology

Rehabilitation of mine impacted landscapes is described in the Cadia Rehabilitation Management Plan (RMP) (710-005-EN-PLA-0026) as required by Division 10 of the NSW Mining Regulation 2017. The RMP provides the proposed rehabilitation objectives and completion criteria for the Project Site, with specific details of rehabilitation risks and controls to enhance the outcomes of rehabilitation and closure of the project. The Rehabilitation Strategy, as required by Condition 36 of PA06_0295 provides the guiding principles and schedule for the implementation of rehabilitation at Cadia as well as the conceptual post-mining land uses and landform.

Management principles and practices in this Biodiversity Management Plan support and integrate with mine rehabilitation and offset site management activities. The following sections describe the BMP specific rehabilitation-supporting procedures and measures implemented at Cadia.

### 2.3.1 Collection of Native Seed

Native seed is collected from the project site and nearby areas (nominally within 20 km of the mine lease boundary to ensure local providence) to be used in the rehabilitation of mine disturbed land, conceptual vegetation corridor and offset areas to establish Native Ecosystem areas (Conservation). Greening Australia's Florabank guidelines continue to be used to guide the collection and storage of seed.

Seed collection will prioritise harvest from areas nominated for significant disturbance, where this aligns with mining development and seed production times. Species and quantity targets are estimated based on future demand for rehabilitation and revegetation projects.

Seed is either used in direct seeding operations (aerial or ground spread) or provided to local nurseries to propagate tubestock. A campaign of seed viability testing is conducted annually on seed in storage and seed proposed to be used for direct seeding.

**Table 9** shows the current list of species selected for the re-establishment of native ecosystems as the final land use.

**Table 9: Indicative Native Ecosystem Revegetation Species List (CHPL 2022a)**

| Structure | Species |
|---|---|
| Trees | *Brachychiton populneus*<br>*Eucalyptus albens*<br>*Eucalyptus blakelyi*<br>*Eucalyptus bridgesiana*<br>*Eucalyptus melliodora* |
| Shrubs | *Acacia buxifolia*<br>*Acacia dealbata*<br>*Acacia genistifolia*<br>*Acacia implexa*<br>*Acacia mearnsii*<br>*Acacia penninervis*<br>*Acacia Vestita*<br>*Bursaria spinosa*<br>*Cassinia aculeata*<br>*Dodonaea viscosa*<br>*Hibbertia obtusifolia**<br>*Lissanthe strigosa**<br>*Melichrus urceolatus**<br>*Rubus parvifolius** |
| Grasses and groundcovers | *Austrostipa bigeniculata*<br>*Austrostipa scabra subsp. scabra*<br>*Austrostipa verticillate*<br>*Bothriochloa macra*<br>*Chloris truncata*<br>*Cymbopogon refractus*<br>*Dianella revoluta*<br>*Enteropogon acicularis*<br>*Lomandra filiformis subsp. coriacea*<br>*Poa sieberiana*<br>*Rytidosperma spp.*<br>*Themeda australis* |

*Pending germination/cutting success in commercially available quantities.

The initial list of species selected for rehabilitation works is shown in Appendix A. 'Introduced perennial species' and 'ground stabilisation species' (Appendix A) are sourced from local agricultural supply companies and are purchased on an 'as needs' basis.

## 2.4 Environmental Impact Permits

To ensure disturbance is in accordance with project approvals and to implement environmental controls (such as sediment control, dust control, drainage, vegetation clearance, fauna impact,

heritage impact), an Environmental Impact Permit (EIP) system has been developed (710-005-EN-PRO-006). An EIP is required for a variety of works and includes any activities in environmentally sensitive areas or those which require clearing/disturbance of vegetation. Guidance for controls are provided in Appendix C.

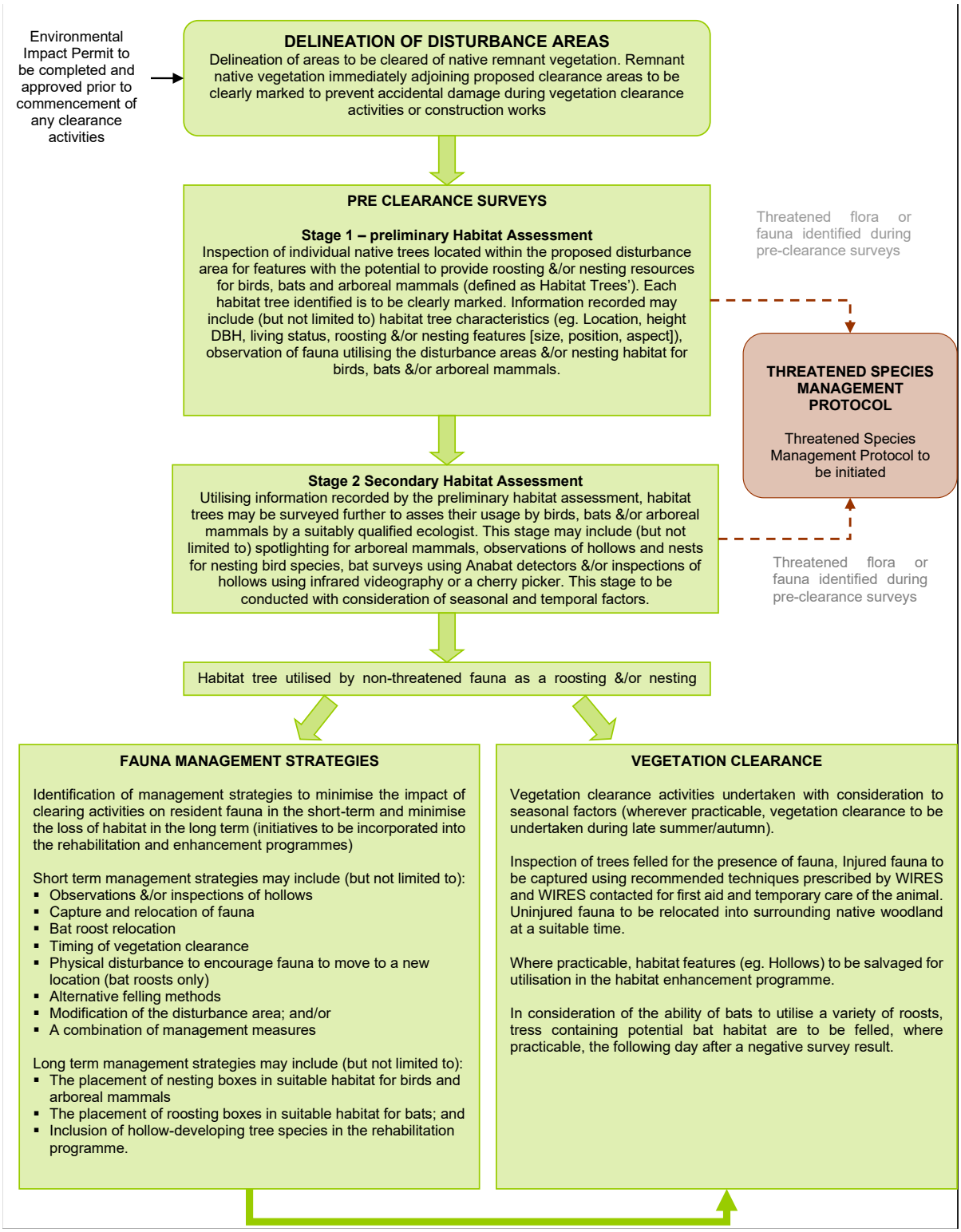
For an EIP requiring the removal of vegetation, the VCP (Section 3.4) is triggered and implemented, followed by the TSMP (if required) (**Appendix E**). EIP's also specify the requirement, where feasible, to recover and store materials for use in later rehabilitation or habitat enhancement projects.

## 2.5 Vegetation Clearance Protocol (VCP)

A VCP has been developed to minimise the impact of vegetation clearance on flora and fauna. The key components of the VCP are the identification of areas requiring clearing; pre-clearance surveys; fauna management strategies; vegetation clearance; and management of threatened species. Should threatened species be identified through this process, the TSMP would be implemented. The VCP is implemented as per the flowchart over page (**Figure 7**).

The VCP and EIP will ensure that native vegetation immediately adjoining the proposed clearance area is clearly demarcated to minise the risk of accidental damage. Felled trees will also be inspected for the presence of fauna through the use of suitably qualified Ecologists (as detailed in Cadia's Fauna Spotter Catcher Procedure – 710-005-EN-PRO-003).

**Figure 7: Vegetation Clearance Protocol (VCP) Flowchart**



# 3 NEAR-MINE AGRICULTURAL LAND

## 3.1 Introduction

Through its subsidiaries CHPL and Contango Agriculture Pty Ltd, Newmont controls a significant portfolio of agricultural properties totaling 11,000ha. Together, these agricultural properties are referred to as Cadia Farms. Within the Project Site boundary, several properties continue to be used for agricultural production alongside mining operations.

Cadia Farms which occur outside of the Project Site boundary are outside the scope of the Biodiversity Management Plan. **Figure 8** shows the Cadia Farms which occur within the Project Site boundary and are considered under this Biodiversity Management Plan.

**Figure 8: Newmont Landholdings and Agricultural Properties Adjacent to Mining Operations**

## 3.2 Management Objectives

The management objectives of the agricultural landscape are to:

- ensure the health, safety and welfare of all agistees, their employees, visitors, contractors and residents;
- achieve broader environmental objectives through:
  - improving ecological function and economic performance through best practice management;
  - adopting sustainable agricultural practices through best practice grazing management and/or conservation farming principles;
  - enhancing ecological assets by protecting, expanding and linking areas of remnant vegetation including native grasslands;
- conduct farming activities with minimal disruption to operational activities;
- maintain and over time enhance the overall value of the Cadia Farms;
- identify and plan for future land management needs, issues and options; and

## 3.3 Guiding Principles

The following principles will be used to guide the management of the agricultural landscape.

- Formal agistment agreements (Grazing Rights Agreements [GRA], Land Management Protocol and Farm Management Plan) will be in place for each property.
- Areas more suitable for conservation and biodiversity land uses need to be identified and incorporated into the Vegetation Corridor Program.
- Remnant native vegetation areas including native grasslands will be identified and progressively fenced, rehabilitated and linked in line with the Conceptual Vegetation Corridor Program (refer to

- ). Priority areas will be selected based on EECs, quality of the remnant area (including native grasslands), size of the remnant area, proximity of vegetation links/opportunities, and proximity to riparian areas. The focus will be on re-creating sustainable native woodland ecosystems rather than 'amenity' landscape plantings.
- Riparian areas will be protected from damage by grazing and erosion through fencing and off stream watering points. Avoidance of barbed fencing will occur wherever possible.
- Soil fertility, structure and quality will be maintained and improved over time through management inputs and improved grazing practices.
- Woodland rehabilitation works will match the locally occurring vegetation community and will use:
    - a range of indigenous species;
    - seed that has been locally collected; and
    - species to provide structural diversity.
- Management systems that promote and encourage persistent deep rooted perennial species will be used.
- Remnant native grasslands will be identified, conserved and expanded where appropriate and may be used as a seed source for other rehabilitation works.
- Weed control will be undertaken using a range of management techniques (including chemical, physical and biological means) aimed at preventing weed reproduction and encouraging strong competition from desirable species.
- Frequent review of the management of farming areas will be undertaken and the management style and objectives will be adjusted to allow for future land management needs, issues and options.
- Erosion areas will be identified and actively controlled.
- Manage bushfire fuel loads to protect farm, mining and community assets with consideration for conservation and biodiversity objectives.

The short, medium and long term management measures are identified in Section 3.3.1 below.

### 3.3.1 Management Measures

**Table 10** presents the short, medium and long-term management measures for agricultural land listed in Schedule 1 and Appendix 1 of the Project Approval. Further management planning and performance criteria for agricultural landscapes will occur within 2 years of the approval of the Biodiversity Management Plan.

**Table 10: Management Measures**

| Timeframe | Status | Management Measure | Performance Criteria | Responsibility | Validation |
|---|---|---|---|---|---|
| Ongoing | Recurring | Weed assessments developed for Cadia Farms to monitor weed loads on Newmont-owned land. | 100% of Cadia Farms are assessed annually by Farm Management Agent and Agronomist. | Farm Specialist, Farm Management Agent | Assessments captured in GRA audits |
| | Recurring | Fencing within agricultural areas are maintained in a stock-proof manner to prevent livestock ingress in Offset and Mining Operations areas.<br><br>Signage is maintained at access points to delineate the boundary between agricultural, biodiversity offset and mining operations areas. | 100% of all boundary fences between agricultural properties are inspected annually and issues are resolved within 6 months.<br><br>Progressive rollout of signage to occur throughout 2025/2026. Ongoing annual maintenance thereafter. | Farm Specialist, Farm Management Agent<br><br>Offset Areas – Environmental Advisor<br>Agricultural Areas - Farm Specialist, Farm Management Agent | Inspections captured in GRA audits<br><br>Offset Area Fencing Condition Reports |
| | Recurring | Fertiliser application is undertaken to ensure agricultural soils are not degraded. | Agronomist recommendations are input into all new GRA<br><br>Fertiliser applied to agricultural land per agronomist recommendations within the duration of the GRA | Farm Specialist, Farm Management Agent<br><br>Agistee | Fertiliser application records captured in GRA audits |
| | Recurring | Areas suitable for conservation (Vegetation Corridor or future offset sites) are progressively identified | Prior to renewing any GRA, Cadia Environment team are to assess if an agricultural holding would be suitable for conservation projects | Farm Specialist, Farm Management Agent, Environmental Advisor | Spatial data denoting the conversion of agricultural areas to vegetation corridor. |
| | Recurring | Pest animals pose a threat to the ecological and agricultural outcomes of Newmont-owned land. | Completion of annual, recurring pest management program | Farm Specialist, Farm Management Agent, Agistee | Summary of pest animals controlled reported in Annual Review |
| Short Term Measures (within 5 years) | Ongoing | Riparian corridors (nominally at least 5m from the bank of streams and rivers) are fenced and excluded from grazing | 30% of identified areas fenced | Environmental Advisor | Spatial data denoting completed fencing of riparian corridors |
| | Complete | Areas containing stands of remnant TECs are identified and mapped. | Complete a desktop review of available data to identify potential locations of TEC's | Environmental Advisor | Spatial data depicting potential areas containing TECs |
| | Ongoing | Stock access to stream watering points are progressively reduced over time. | See criteria for riparian corridors | Farm Specialist, Farm Management Agent, Environmental Advisor | Spatial data denoting completed fencing of riparian corridors |
| | Ongoing | Weed management achieves the on-going suppression of target weed species in Cadia Farmland | Farm weed assessments indicate a declining trend in weed coverage. | Farm Specialist, Farm Management Agent | Assessments captured in GRA audits |

| Timeframe | Status | Management Measure | Performance Criteria | Responsibility | Validation |
|---|---|---|---|---|---|
| | | | No infestations of new weed species within the agricultural landscape | | |
| Medium Term (within 10 years) | Ongoing | Riparian corridors (nominally at least 5m from the bank of streams and rivers) are fenced and excluded from grazing | 60% of identified areas fenced | Environmental Advisor | Spatial data denoting completed fencing of riparian corridors |
| | Ongoing | Areas containing stands of remnant TECs are fenced and protected from further grazing | 40% of TECs identified fenced | Environmental Advisor | Spatial data denoting fenced areas containing TECs |
| | Ongoing | Stock access to stream watering points are progressively reduced over time. | See criteria for riparian corridors | Farm Specialist, Farm Management Agent, Environmental Advisor | Spatial data denoting completed fencing of riparian corridors |
| Long Term (greater than 10 years) | Ongoing | Riparian corridors (nominally at least 5m from the bank of streams and rivers) are fenced and excluded from grazing | 100% of identified areas fenced | Environmental Advisor | Spatial data denoting completed fencing of riparian corridors |
| | Ongoing | Areas containing stands of remnant TECs are fenced and protected from further grazing | 100% of TECs identified fenced | Environmental Advisor | Spatial data denoting fenced areas containing TECs |
| | Ongoing | Stock access to stream watering points are progressively reduced over time. | See criteria for riparian corridors | Farm Specialist, Farm Management Agent, Environmental Advisor | Spatial data denoting completed fencing of riparian corridors |
| | Ongoing | At the cessation of mining operations, land that is compatible with future agricultural use is relinquished and divested to another entity | Newmont achieves successful divestiture of Cadia Farmland.<br><br>Cadia Farms are divested as productive agricultural assets | Land Tenure Specialist | Sales agreement |

## 3.4 Species Selection/Rehabilitation Methodology

Where agriculture (grazing) has been identified as the final land use, Cadia will aim to replicate pastures in surrounding agricultural land, including the planting of eucalyptus shade trees (selected from the species list in **Table 9**). The species selected, including deep-rooted perennial grasses and legume species, are listed in **Table 11**.

**Table 11: Agriculture/Grazing Revegetation Species List (CHPL 2022a)**

| Structure | Species |
|---|---|
| Grasses | *Dactylis glomerata*<br>*Festuca arundinacea*<br>*Lolium spp*<br>*Phalaris aquatica* |
| Legumes | *Trifolium repens*<br>*Trifolium subterraneum* |

Optimal timing for germination is spring or autumn with good soil moisture conditions. Sowing will be undertaken with commercial agricultural equipment. Generally, cover crops will not be required; however, if an area poses a risk of erosion, a cover crop may be used. Irrigation will not be used.

# 4 VEGETATION CORRIDORS

## 4.1 Vegetation Corridor Objectives

The aim of the vegetation corridors is to generate enduring ecological and agricultural value.

This will be achieved through the following:

- providing resources and implementing a dedicated Vegetation Corridor Program;
- conserving and enhancing areas of isolated remnant vegetation;
- linking significant areas of remnant vegetation including post closure landforms;
- providing habitat;
- enabling movement of genetic material; and
- increasing the sustainability and biodiversity of Cadia farms and surrounds.

**Figure 9** shows the status of the Vegetation Corridor Program including areas completed to date, proposed works for the next 5 years and the proposed corridor plan.

The location of the vegetation corridors may be altered from **Figure 9** pending future developments at Cadia. In the event of future development being identified in an area referenced for conceptual vegetation corridors an alternative area will be identified to maintain the objectives of this program e.g. a vegetation corridor conceptually identified for Cadiangullong Creek may change in the future to be focussed in mine owned land to the east or west of this area.

## 4.2 Considerations

The following considerations will be taken into account when planning and implementing the Vegetation Corridor Program.

- Existing viable remnants should be protected wherever possible.

- Protection is to extend to all strata and native life forms including trees, shrubs, grasses, other herbs and forbs, ground litter, fungi, logs etc.
- Existing remnants should be enlarged or connected by revegetating with the appropriate indigenous species in the landscape.
- Revegetation areas are of sufficient size (nominally >5 ha or > 100 m wide) where possible to maximise sustainability and biodiversity outcomes.
- Revegetation areas should provide a wide range of habitat features and provide specific habitat for threatened and locally significant fauna species.
- Rehabilitation planning should recognise that physiographic and topographic controls as well as land use objectives may make some areas better suited to pasture and agriculture.
- Rehabilitation planning would be conducted in consultation with the agistee and neighbouring land owners.
- Vegetation corridor planning should allow for the protection and enhancement of threatened species, communities and locally significant species (refer to Section 5.4 for further details).
- Planning for rehabilitation works will take into consideration livestock movement, stock water access, farm operational needs and future mining projects.
- Future mining development should be considered when finalising the preferred locations of vegetation corridors.

## 4.3 Determining Priority Areas

Vegetation corridor areas will be selected and prioritised based on the following criteria:

- proximity to and ability to incorporate threatened species and TECs;
- quality of remnant vegetation (including native grasslands) according to:
  - resilience (structural and species diversity or potential seedbank [Buchanan 2009]); and
  - land use history (disturbance, presence of introduced perennial grasses);
- size of remnant area;
- ability to form easy and rapid corridor links;
- distance from existing and future areas of mining development; and
- riparian areas.

## 4.4 Revegetation

Species chosen for vegetation corridor areas will be based on nearby/adjacent native vegetation communities and will vary on a site-by-site basis (Appendix A). Generally direct seeding (using a ground based commercial direct seeder) will be utilised where ground access permits. Tubestock may be used where ground-based access is difficult or where the pre-existing vegetation is competitive and greater success may be achieved from tubestock.

The appropriate seeding rate will be between 500-1000 g/km, with tubestock planting rate between 250 to 750 plants/ha (refer to **Section 5.11** for detailed revegetation methodology).

Timing of revegetation will be based on favourable (namely soil moisture) seasonal conditions (nominally between May and October for tubestock planting and between September and

December for direct seeding). If conditions are not suitable, planting/sowing may be deferred to the following season.

Species selection for riparian/aquatic areas will be in accordance with vegetation community 5a (Appendix A). Riparian areas on agricultural holdings generally consist of pre-existing creeks, farm dams, ephemeral drainage lines and springs. The following methods will be utilised in the rehabilitation of aquatic/riparian areas:

- exclusion of livestock and provision of alternate water sources where required;
- repair of any erosion areas if required;
- removal of willows and other invasive species;
- implement techniques to slow water flow and reinstate the floodplain;
- rehabilitation using tubestock (near/within the channel/water body) and direct seeding within the fenced area where access allows;
- placement of habitat structures such as rocks, logs, timber etc;
- Performance assessment against the completion criteria given in **section 4.7**.

## 4.5 Incorporating Other Habitat Features

Within revegetated areas, all remaining habitat features such as logs, rocks, fallen trees, and dead trees will remain undisturbed. Where these features are absent from the rehabilitation area, Cadia will consider relocating nearby acceptable features, such as those, salvaged from approved disturbance areas within the Project Site.

## 4.6 Projected Vegetation Corridor Areas

At the time of preparation of the BMP, the following imagery is a summary of the current land planned for the vegetation corridor and its integration with the broader landscape (refer to Figure 8).

## 4.7 Determining Success in Vegetation Corridor Areas

Prior to 2025, there were no formalised completion criteria for Vegetation Corridor works. In line with BCS feedback on the draft BMP, performance criteria for the Vegetation Corridor program have been developed and are presented in Table 12 below. Following approval of the BMP new areas within the Vegetation Corridor are assessed against the performance criteria below. Results of monitoring are captured in an Inspection Test Plan (ITP) for each area.

**Table 12: Vegetation Corridor Success Criteria**

| Phase | Veg. Corridor Component | Management Measure | Performance Criteria | Timing | Responsibility | Validation |
|---|---|---|---|---|---|---|
| 01. Site Establishment | Vegetation management | High threat weeds are controlled.<br><br>Competitive vegetation (exotic grasses) are slashed and treated with herbicide | >75% of high threat weeds controlled.<br><br>Competitive vegetation is removed and bare ground achieved. | Prior to works<br><br>Bare ground achieved >1 month prior to planting | Advisor - Environment | Spray records.<br><br>Before and after photos |
| | Ground preparation | Area that receive direct seeding or tubestock are ripped prior to planting | All areas ripped perpendicular to the gradient.<br><br>Ripping is undertaken to an appropriate depth (nominally 200mm) | Prior to works | Advisor - Environment | Before and after photos |
| | Fencing | Fencing is installed around VC areas. | Stockproof fencing is established around the entirety of the VC perimeter.<br><br>At least 1 gate is installed per section. | Prior to revegetation<br><br>Prior to works | Advisor - Environment | Photos at completion of fencing works.<br><br>Spatial data of fencing |
| | Woody debris | Woody debris is added to the VC to support fauna habitat | Fallen logs are added at a rate of 10m/Ha | Prior to revegetation | Advisor - Environment | Phots at completion of works.<br><br>Records of meters of logs placed |
| 02 - Revegetation | Plant selection | Plant species used for the VC are appropriate for the assigned PCT for that area. Nominally, VC plantings will include the relevant shrub and canopy species | All species planted are commensurate with the relevant PCT.<br><br>3 canopy species are planted per area<br><br>3 shrubs species are planted per area | Prior to planting | Advisor - Environment | Species list produced for each planting area |
| | Plant density | Plantings (direct seeding or tubestock) achieve the required density.<br><br>Spacing between patches of vegetation are reduced for habitat connectivity. | Target 40 stems/ha canopy species<br><br>Target 10 stems/ha shrub species<br><br>Inter-patch distance reduced to 50m or les | 6 months post-planting | Advisor - Environment | Spatial data based on representative sample of area |

| Phase | Veg. Corridor Component | Management Measure | Performance Criteria | Timing | Responsibility | Validation |
|---|---|---|---|---|---|---|
| 03 - Site maintenance | Weed management | High threat and priority weeds are controlled | Annual weed management undertaken<br><br>No infestations of new high threat and priority weeds. | Ongoing | Advisor - Environment | Spray records. |
| | Stock Exclusion | Stock are excluded from VC until revegetation is established | No grazing in VC area until 5 years post establishment of vegetation. | Annual | Advisor - Environment | Records of stock ingress |
| | Native Vegetation Maintenance | Infill planting as required to achieve 40 stems/ha canopy and 10 stems/ha shrubs | Supplementary planting undertaken | Annual – as required | Advisor - Environment | Spatial data based on representative sample of area |

**Figure 9: Conceptual Vegetation Corridor Program**

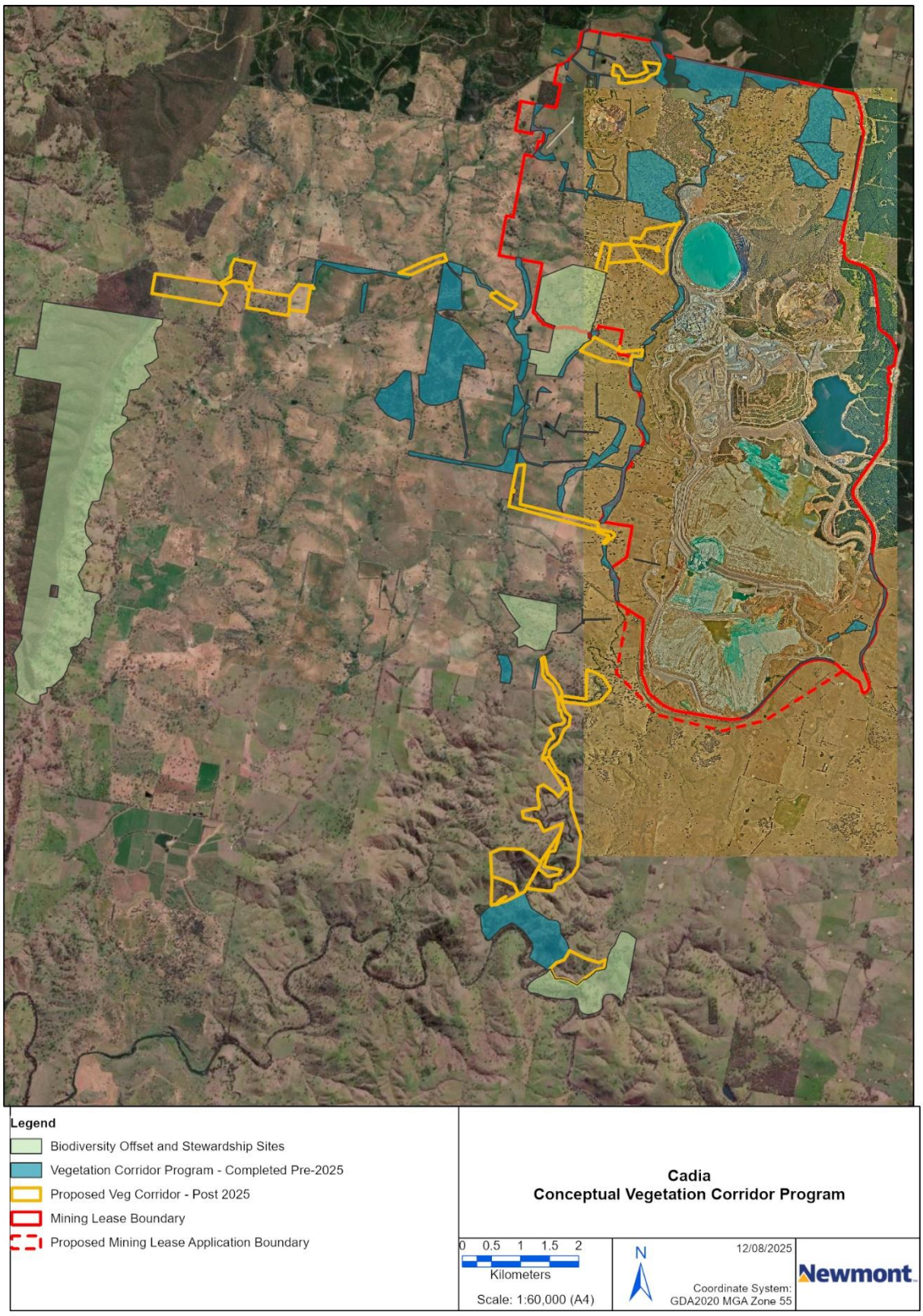
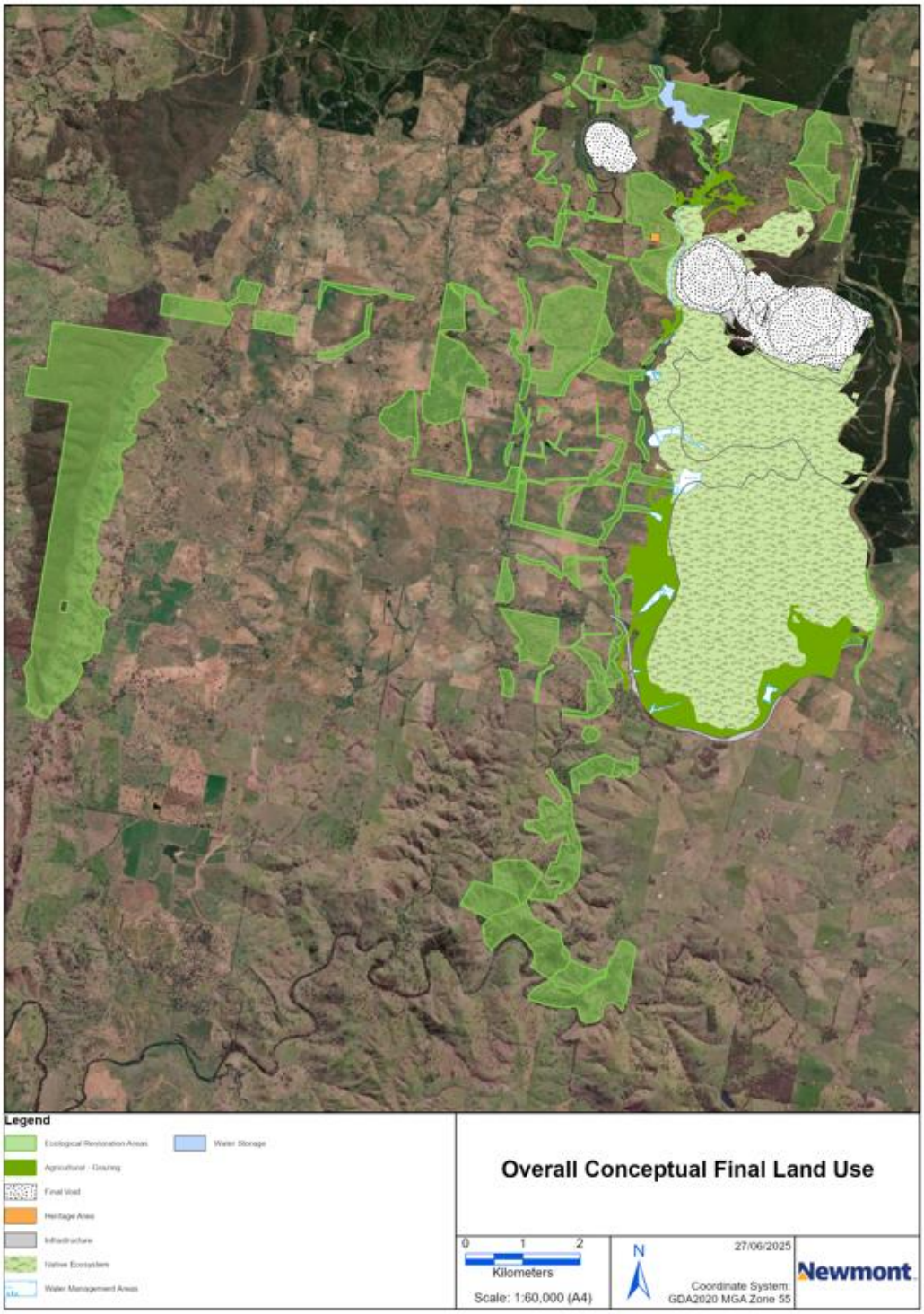


**Figure 10: Overall Conceptual Final Land Use**



# 5 BIODIVERSITY OFFSET AREAS: BLACK ROCK RANGE, FLYERS CREEK & STRATTON VALE

## 5.1 Introduction to Cadia Offsets

Condition 38 of PA06_0295 describes the approved offset strategy for Cadia which includes three offset areas (see **Figure 12** and **Figure 13**). The size of the Biodiversity Offset Strategy is summarised in **Table 13**.

**Table 13: Biodiversity Offset Strategy**

| Area | Minimum Size (ha) |
|---|---|
| Black Rock Range Offset Area – Enhancement Area | 647 |
| Black Rock Range Offset Area – Revegetation Area | 162 |
| Flyers Creek and Belubula River Offset Area | 97 |
| Stratton Vale Offset Area | 60 |
| Total | 966 |

In April 2024, the Biodiversity Offset Areas were transitioned to Conservation Agreements made under the *Biodiversity Conservation Act (2016)*. Management plans for each of the Offset Areas are attached to the Conservation Agreements and inform the management of the sites. The CA management plans contain the prescribed management actions as approved by the NSW BCT and are summarised in section 5.7 of this BMP.

A general overview of the environmental context of the region surrounding Cadia including specific offset areas have been detailed in full and can be read in the Cadia East EA (CHPL 2009a) and associated studies.

**Figure 11: Regional Context of Cadia Offsets**

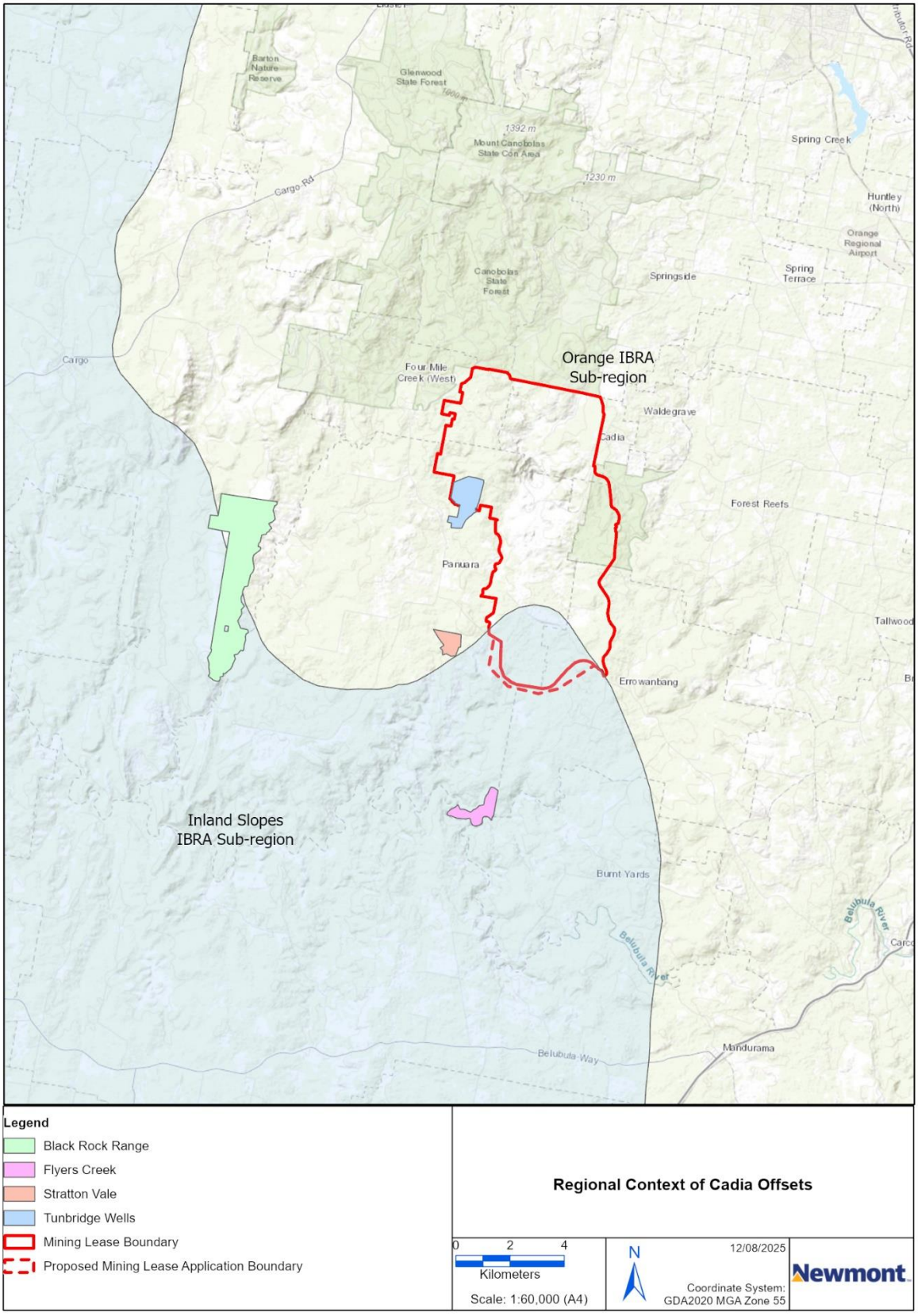


**Figure 12: Offset Proximity to Operations**

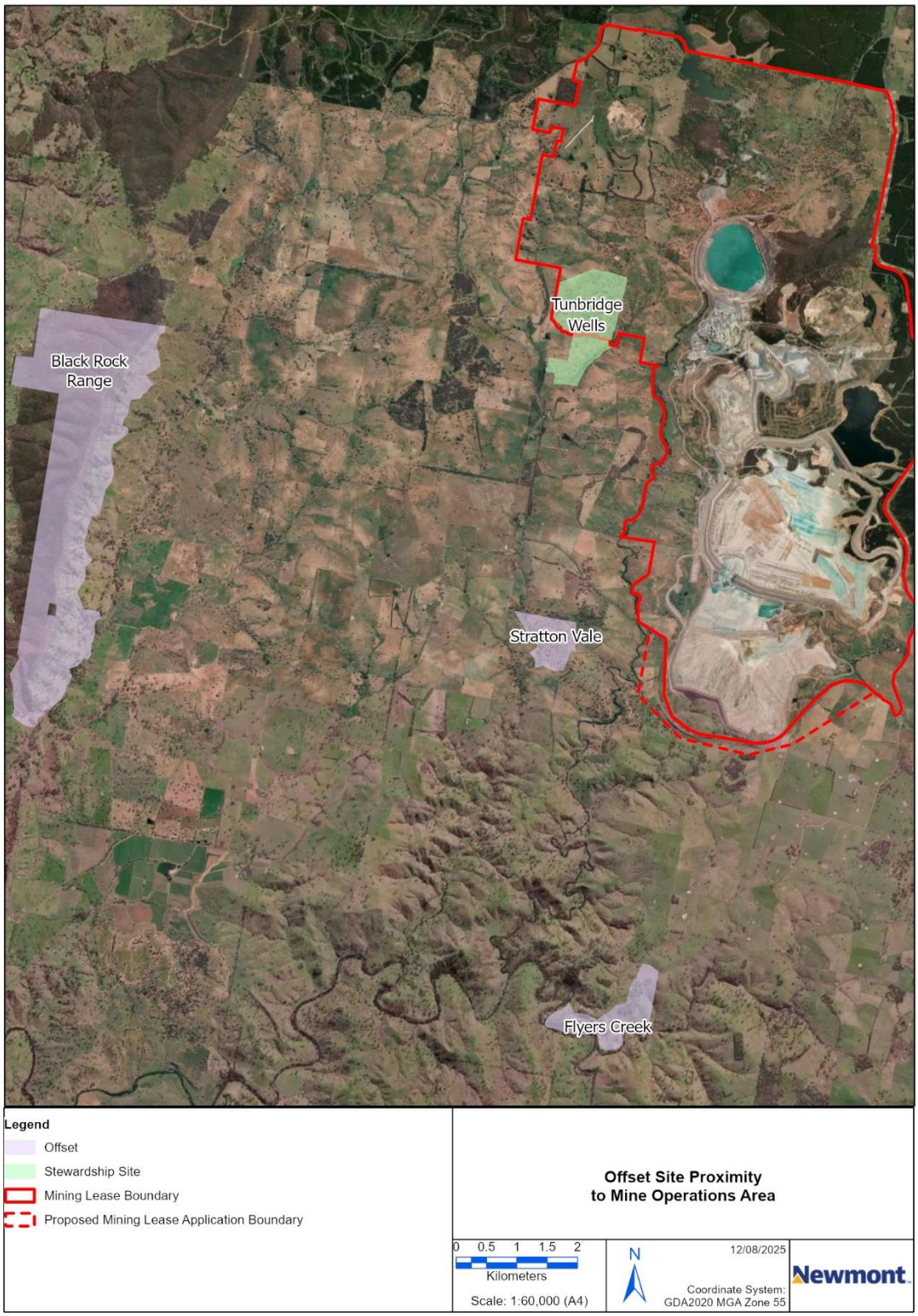


**Figure 13: Black Rock Offset Area**

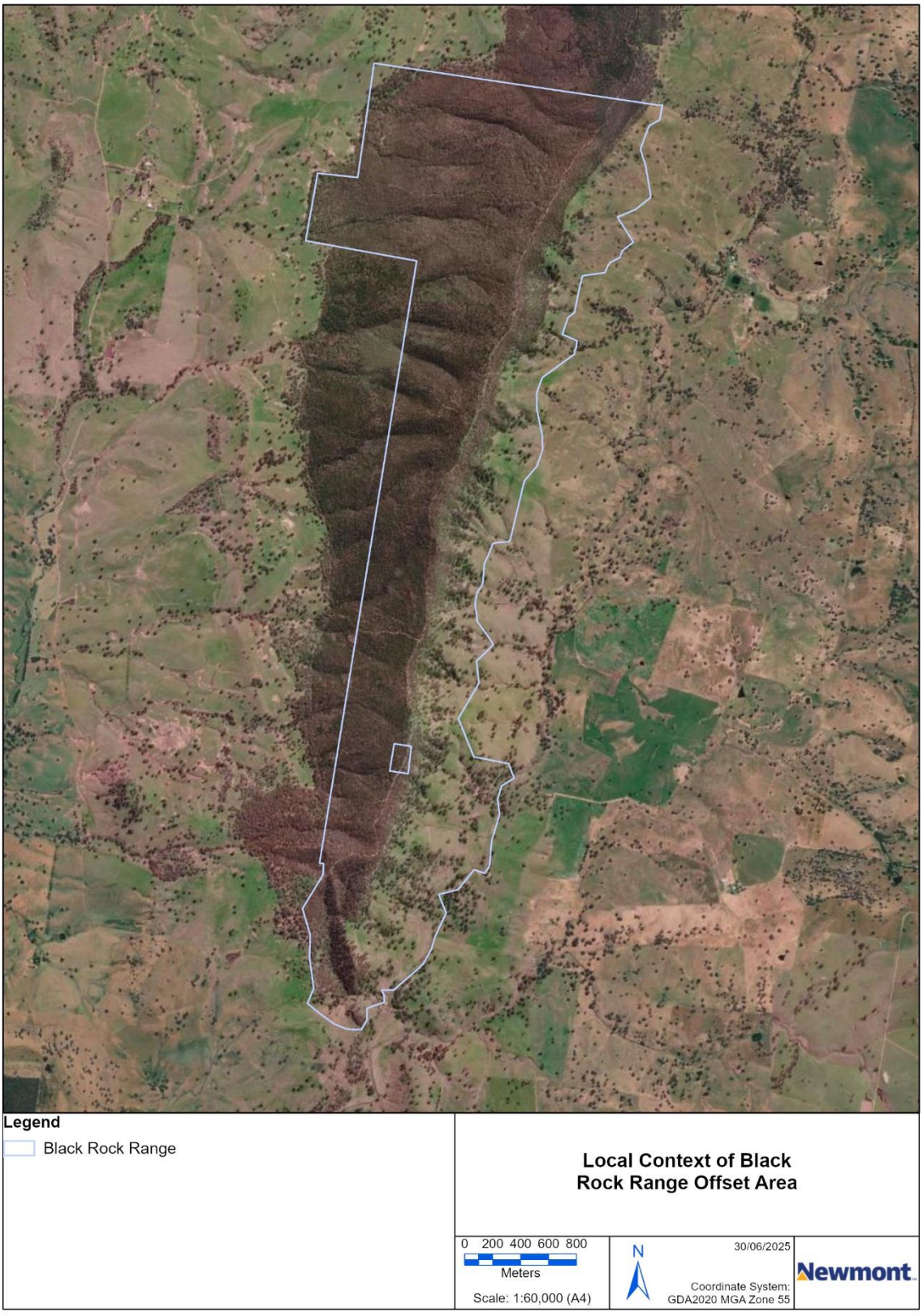


**Figure 14: Flyers Creek and Stratton Vale Offset Areas**

## 5.2 Desired Outcomes for Offset Areas

The broad desired outcome of the management of the conservation offset portions is to improve the overall ecological health, value and connectivity of these areas. Focus and priority will be given to areas mapped as TECs (including Box-Gum Woodland CEEC) to return them to a condition that is equivalent or better than local reference site condition. The following broad objectives will be applied to all three offset areas:

- Overall, offset condition should, at minimum be equivalent to local reference site condition.
- Improving the health of native vegetation by:
  - revegetating cleared areas;
  - progressively reducing the prominence of introduced species and replacing them with locally occurring native species;
  - encouraging natural resilience, regeneration and recruitment processes; and
  - providing a range of habitat resources for native fauna.
- Improving the structural diversity by:
  - providing a range of vegetation age classes;
  - conserving vegetation strata within remnant areas; and
  - revegetation of cleared areas targeting the replacement of understory, mid story and over story species.
- Improving the species diversity by:
  - conserving and managing vegetation diversity within remnant areas; and
  - revegetating cleared areas targeting the replacement of a range of locally occurring native species from understorey, mid-story and over-story strata.
- The active management or prevention of threatening processes including:
  - grazing;
  - clearing (removal of old, large habitat trees);
  - removal of fuel loads;
  - bushfire; and
  - unauthorised access.
- Increasing connectivity between remnant/offset areas by establishing a series of patches/corridors to progressively link remnant/offset areas (addressed in Section 5).
- Providing for long term conservation according to:
  - local government zoning; and
  - Conservation Agreements (CAs).

While particular focus will be on the management of TECs, the above measures will generally and progressively apply to all areas within the offset portions.

## 5.3 Baseline Flora and Fauna Information

This section provides a brief summary of baseline features of the Cadia East Offset areas with information sourced from numerous studies completed as part of environmental assessments for the Project and its modifications.

### 5.3.1 Black Rock Range Offset Area

#### 5.3.1.1 Flora

FloraSearch (2006) conducted flora surveys of Black Rock Range and mapped approximately 653 ha of native vegetation and approximately 173 ha of predominantly cleared agricultural land within the offset area. Five natural plant communities were originally defined on Black Rock Range, one of which had four distinct sub-communities. **Table 14** provides a summary of the identified communities on Black Rock Range.

During vegetation surveys in 2006, FloraSearch recorded 312 vascular plant species in the study area, of which 223 were native (71.5%) and 89 introduced (28.5%).

The most prominent native plant families represented in the study area were:

- Asteraceae (daisies) – 28 species;
- Poaceae (grasses) – 23 species;
- Orchidaceae (orchids) – 22 species;
- Faboideae (pea flowers) – 11 species; and
- Myrtaceae (Eucalypts and allies) – 11 species.

The dominant families of introduced species were:

- Poaceae (grasses) – 23 species;
- Asteraceae (daisies) – 14 species;
- Faboideae (pea flowers) – 12 species; and
- Caryophyllaceae (chickweeds and relatives) – 8 species.

Introduced species were most prominent in communities dominated by White Box and Yellow Box on deep fertile soils at the margins of Black Rock Range, and were least evident in communities dominated by Red Stringybark, Bundy and Black Cypress Pine on low fertility skeletal soils on the upper slopes and ridges of Black Rock Range. Four (4) introduced species are declared noxious in the Cabonne Council area and have specific control requirements; namely Blackberry (*Rubus fruticosus agg. spp*.), St. John's Wort (*Hypericum perforatum*), Serrated Tussock (*Nassella trichotoma*) and Sweet Briar (*Rosa rubiginosa*).

At the time of the surveys, none of the species recorded were listed as threatened under the TSC Act or EPBC Act. No species listed as ROTAP (Briggs and Leigh 1995) were identified.

Approximately 210 ha of the White Box – Yellow Box – Blakely's Red Gum Woodland (Box-Gum Woodland) EEC listed under the TSC Act was found to occur within the Black Rock Range Offset area (FloraSearch 2006). The TSC Act has since been superseded by the BC Act. Accordingly, this community has since been listed as a CEEC under the BC Act by the NSW Threatened Species Scientific Committee (TSSC) in 2020. FloraSearch (2006) also identified approximately 154 ha of the *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* CEEC listed under the EPBC Act. Box-Gum Woodland CEEC listed under the BC Act and EPBC Act was originally defined in the Black Rock Range Offset area as vegetation communities 1 and 2, which occur at the margins of the core wooded areas of Black Rock Range and as semi-cleared remnants in the agricultural land between Black Rock Range and the Panuara Rivulet.

The condition of the vegetation was found to vary across the offset area. In general, vegetation condition in the communities of the densely wooded parts of Black Rock Range was classed as good to very good, despite the effects of the 1985 wildfire and high levels of macropod grazing.

Patches of remnant vegetation in the heavily grazed agricultural areas were generally in poor condition due to dominance by weeds in the understorey, although tree health was good.

**Table 14: Plant Communities of the Black Rock Range Offset Area**

| Community | Common Names | Scientific Names | Landscape Position |
|---|---|---|---|
| 1 | White Box Woodland | *Eucalyptus albens* | Deep stony colluvial soils on upper slopes below the escarpment on the eastern side of the Black Rock Range and on deep sandy loam soils in the north western corner of the Black Rock Range Study Area on the footslopes of the range. |
| 2 | Yellow Box/Blakely's Red Gum Woodland | *E. melliodora/E. blakelyi* | Lower slopes and valleys on deep colluvial soils at the south end of the Black Rock Range and on colluvial/alluvial soils in the lower gullies and slopes draining to Panuara Creek. There is also a small occurrence in the north western corner of the Black Rock Range Study Area. |
| 3 | Red Stringybark/Red Box Forest | *E. macrorhyncha/E. polyanthemos* | This community occurs upslope of community 1 in the north west of the Black Rock Range Study Area on stony loam soils of moderate depth that may be wet for long periods in winter. It also occurs to the top of the Black Rock Range on the western side in the south. |
| 4a | Red Stringybark/Bundy/Black Cypress Pine Forest | *E. macrorhyncha/E. goniocalyx/Callitris endlicheri* | This sub-community occurs on steep rocky slopes, often south or west facing, which afford some protection from the sun. |
| 4b | Red Stringybark/Bundy/Black Cypress Pine/Rusty Spider Flower/Common Heath Myrtle Heathy Woodland | *E. macrorhyncha/E. goniocalyx/C. endlicheri / Grevillea floribunda / Calytrix tetragona* | Heathy woodlands are found on the upper western slopes and ridges of the Black Rock Range on shallow or skeletal soils, often where the sloping sandstone beds are exposed. |
| 4c | Black Cypress Pine | *C. endlicheri* | Black Cypress Pine may form almost pure stands over relatively large areas on the upper slopes and ridgetops in the central and southern parts of the range. |
| 4d | Currawang | *Acacia doratoxylon* | Currawang occurs in pure stands on slopes and ridges in the central parts of the range. |
| 5 | Gully Forest | Mixed Eucalyptus species | This community is characteristic of the lower ends of watercourses in the deeper gullies draining the western side of the Black Rock Range. |

| | | | |
|---|---|---|---|
| 6 | Cleared land | Many introduced and native species of grasses and herbs with scattered native trees. | Between the Black Rock Range and the Panuara Rivulet. |

#### 5.3.1.2 Fauna

A total of 138 species were identified by Western Research Institute and Greg Richards and Associates in the 2006 surveys of Black Rock Range, including 129 native and 11 introduced species (**Table 15**). Six threatened fauna species were identified during the survey (Western Research Institute 2006; Greg Richards and Associates 2006) (**Table 16**). Eleven (11) introduced species were identified (Western Research Institute 2006) including:

- Common Blackbird;
- Common Starling;
- House Mouse;
- Fox;
- Cat;
- Rabbit;
- Brown Hare;
- Dog;
- House Sparrow;
- Common Myna; and
- European Cow.

**Table 15: Fauna Species Count**

| Class | Species Count |
|---|---|
| Amphibians | 6 |
| Reptiles | 20 |
| Birds | 82 |
| Mammals | 10 |
| Bats | 11 |
| Introduced | 11 |

**Table 16: Threatened Fauna Species Recorded in the Black Rock Range Offset Area**

| Scientific Name | Common Name | Conservation Status | |
|---|---|---|---|
| | | TSC Act | EPBC Act |
| ***Varanus rosenbergi*** | Rosenberg's Monitor | V | |
| ***Pyrrholaemus sagittatus*** | Speckled Warbler | V | |
| ***Climacteris picumnus*** | Brown Tree Creeper | V | |
| ***Stagonopleura guttata*** | Diamond Firetail | V | |
| ***Polytelis swainsonii*** | Superb Parrot | V | V |

| | | | |
|---|---|---|---|
| ***Ninox connivens*** | Barking Owl | V | |
| ***Saccolaimus flaviventris*** | Yellow-bellied Sheathtail Bat | V | |
| ***Miniopterus schreibersii***[1] | Large Bentwing Bat | V | |
| Squirrel Glider | *Petaurus norfolcensis* | V | |

[1] Species taxonomy has changed since the initial LBMP was approved. Species is now listed as Large Bentwing-bat (*Miniopterus orianae oceanensis*)

Habitat assessment indicated that forest/woodland types found in the study area had medium conservation value with some loss of resilience and mid to low levels of disturbance. Under current management practice (no grazing and little disturbance), the dynamics are towards an overall increase in conservation value. In a landscape context, the 1985 fire created a successional mosaic that in a pre-European context would have been balanced by greater areas of unburnt mature age communities elsewhere in the landscape. This 'balance' no longer exists. Hence in the current agricultural context, hot wild fire can be a degrading factor and lead to local loss of species diversity. Vegetation layers ranged from 7 (litter, rock, log, grass-herb, shrub, mid canopy, and mature tree canopy in a range of configurations from sparse to dense) through to bare ground. The habitat values are further modified by aspect, slope, soil depth, and terrain (e.g. drainage line). Little dieback was evident, weed invasion in communities other than the western box woodlands was relatively minimal. Stags without hollows were relatively common.

The unburnt woodlands were located either on the western slope near the ridge between the ridge fire trail and the escarpment, or on the eastern slopes. These ranged from woodland formation with dominants spaced at 20-40 m intervals through to open woodland or cleared areas with remnant scattered old growth trees 50 - 200 m apart. Hollows were relatively common in these woodlands and were the major contributing factor to the presence of a much greater density of arboreal fauna in these woodlands compared to the expanse of hollow-limited mosaic communities on the greater proportion of the western slopes. Grazed areas, with their very modified understorey and continuing stock access, had diminished habitat value. Unburnt communities were assessed as reasonable examples of intact communities. However, this assertion is not necessarily reflected in the vertebrate species diversity, given their relatively small areas. Rather, the overall habitat value of this landscape is very likely dependant on the structural and floristic variability within the landscape.

The sandstone escarpment offers very specialised habitats, with its array of ledges, small caves, nooks and crannies, vine-clad sections, protection from predators, cliff-base undercuts and a rocky basal platform protruding 2-20 m from the cliff face. This is further enhanced by mostly intact vegetation communities to east and west of the escarpment.

Greg Richards and Associates (2006) states:

- The wooded habitat in the Black Rock Range Study Area appears to be highly valuable habitat for bats, and supports a large bat community. There is a trend in the wider region for extensive bat communities to be found only in large remnants, with small remnants only supporting the more common species, none of which are listed as threatened.
- The size of this wooded habitat is such that it supports what appears to be a large population of the threatened Yellow-bellied Sheathtail Bat, and it also provides extensive foraging habitat for the threatened Large Bentwing Bat.

- The survey data indicates that retention of the Black Rock Range as a conservation area would be a positive effort in retaining what appears to be a viable bat population, representative of a fauna that has suffered from past agricultural activities.

The Box-Gum Woodland in the offset area is recognised habitat for the Superb Parrot, Regent Honeyeater (Department of Environment and Heritage, 2006), Swift Parrot (Swift Parrot Recovery Team, 2001) and Turquoise Parrot (National Parks and Wildlife Service [NPWS], 2000).

### 5.3.2 Stratton Vale Offset Area

#### 5.3.2.1 Flora

The vegetation of the Stratton Vale Offset portion comprises four vegetation communities:

- Yellow Box Woodland;
- White Box Woodland;
- Derived Native Grassland; and
- Exotic Grassland.

The original woodland vegetation on Stratton Vale has been thinned historically and now comprises mostly widely spaced trees separated by grassland dominated by exotic grasses and legumes. Some large areas of derived native grassland also occur. These are dominated by grazing-tolerant native species including Speargrass (Austrostipa scabra) on dry north-facing slopes and Red Grass (Bothriochloa macra) on south-facing slopes.

A total of 69 flora species were identified during April 2015 surveys by FloraSearch, comprising 23 native (33.3%) and 46 introduced (66.7%) species. The results showed the presence of low numbers of native species and that introduced species greatly predominated.

Three introduced species are declared noxious weeds under the NSW Noxious Weeds Act, 1993 for the Upper Macquarie County Council Area and occur within the offset area including;

- Bathurst Burr (*Xanthium spinosum*);
- Blackberry (*Rubus fruticosus agg. spp*); and
- St. John's Wort (*Hypericum perforatum*).

All noxious weeds occurred only in low numbers indicating they have been well controlled.

Vegetation condition assessments concluded that that the vegetation was in relatively poor condition. The groundcover was in low condition with greater than 50% cover by exotic species. Despite this, the area does contain important features including groundcover containing native grasses/herbs/forbs, trees with hollows, fallen logs and a native overstory.

No threatened flora species were identified during the survey.

The vegetation assessment concluded that all Box-Gum Woodland remnants within the survey area conformed to the TSC Act EEC guidelines, but none conformed to the EPBC Act CEEC guidelines owing to the very poor condition of the ground cover (FloraSearch 2015).

#### 5.3.2.2 Fauna

The Stratton Vale offset portion has relatively high fauna habitat values for the following reasons (FloraSearch 2015):

- Many of the remnant trees at Stratton Vale are very large and clearly pre-date European settlement. At the time of the surveys, one tree hosted the nest of a Little Eagle (*Hieraaetus morphnoides*), listed as Vulnerable under the TSC Act. In addition, many of the

White Box trees had hollows suitable for parrots and a nesting population of the Vulnerable Superb Parrot (*Polytelis swainsonii*) present on and around the investigation area.

- While the groundcover was generally dominated by exotic species, there was a good representation of native perennial grasses, potentially providing habitat for granivorous birds favouring native grass seed, such as finches and the Superb Parrot.
- However, the Stratton Vale offset portion was lacking in tall and low shrubs that would provide cover and nesting habitat for many birds including finches, babblers, thornbills and others.
- There were limited opportunities for most reptiles owing to very dense exotic grass cover over much of the area and relatively few logs on the ground. However, areas of surface rock on ridges and rock outcrops along Swallow Creek would provide reptile habitat.
- Swallow Creek provides water for wildlife and habitat for aquatic fauna.

### 5.3.3 Flyers Creek Offset Area

#### 5.3.3.1 Flora

FloraSearch conducted flora surveys of the Flyers Creek offset area in 2015 and found that it comprises 97 ha, of which approximately 23 ha was found to meet the criteria for the NSW listed Box-Gum Woodland EEC (TSC Act) and the Commonwealth listed Box-Gum Grassy Woodlands and Derived Native Grasslands CEEC. The offset area also includes frontage to approximately 600 m of the Belubula River and 1,370 m to Flyers Creek (**Figure 14**).

BioMetric data on vegetation condition in the Belubula River/Flyers Creek area indicated that the River Oak Forest and immediately adjacent Yellow Box Woodland were both in poor condition with their ground cover in 'low' condition owing to a high dominance of exotic species. Further away from riparian areas, in areas formally identified as EEC, the condition of the Yellow Box Woodland improves with a higher incidence of native grasses, herbs and forbs.

FloraSearch (2015) did not identify any threatened flora species

#### 5.3.3.2 Fauna

Fauna habitat value across the Flyers Creek Offset area was variable:

- The eucalypt canopy has been thinned. Nevertheless, the remaining canopy provides habitat for a range of open woodland bird species and foraging opportunities for possums and gliders. The often dense River Oak canopy in riparian areas provided shelter for a variety of bird species, especially those associated with aquatic habitats.
- The open grassland areas dominated by exotic species had limited habitat value, except for macropods, granivorous birds such as finches and common insectivorous birds adapted to grasslands such as Yellow-tailed Thornbills and Magpies.
- There were limited opportunities for reptiles with few logs on the ground or surface rocks for habitat.
- The area contained old growth trees with hollows suitable for a variety of wildlife, but they were scattered in a cleared landscape with limited habitat available to denning or nesting species that depend on woodlands and forests. The area lacked patches of dense shrub cover required by some bird species for nesting and foraging.
- The River Oak Forest had moderate habitat value due to the relatively dense stands of River Oak (*Casuarina cunninghamiana*) and River Red Gum (*Eucalyptus camaldulensis*). The

Belubula River and Flyers Creek watercourses provided water for wildlife and habitat for aquatic fauna.

## 5.4 Long Term Security of Offset Areas

In accordance with the requirements of EPBC Act and condition 39 of PA06_0295, Cadia has undertaken numerous management actions to secure the long term security of the biodiversity offset areas. Cadia has recently transitioned the offset areas to Conservation Agreements with the NSW BCT which were executed in April 2024.

A history of the steps taken to secure the offset sites are detailed in appendix item D.

## 5.5 Offset Conservation Bond

Schedule 3, Condition 40 of PA 06_0295 requires a conservation bond be lodged with the DPE. A detailed and costed conservation estimate was submitted to DPIE on 29 November 2023 and was subsequently accepted (email dated 06 January 2025). The bond provides for the full cost of management and restoration of offset areas over the life of the Project.

## 5.6 Action Plans for Offset Management Aspects

The conservation agreements for each of the offset areas contain management action plans developed in consultation with the NSW BCT and will be finalised by year 2 (2026) of the conservation agreement, unless otherwise agreed by NSW BCT. As such, the management aspects for the offset sites are anticipated to developed and finalised during the review period as described in section 8 of the BMP.

**Table 17** describes the management aspects for the offset areas and contain the specific conditions from the BCT Conservation Agreement Management Plans. Where a contradiction exists between the BMP and the Conservation Agreements regarding management actions, timing and or performance criteria for the Offset sites, the conditions of the specific Conservation Agreement will prevail.

**Table 17: Interim Action Plans for the Cadia East Offset Areas**

| Management Aspect 1. Revegetation of cleared / grazed / riparian areas | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Current Situation**<br>Areas cleared for agricultural purposes are present within each conservation offset portion including the eastern portions of Black Rock Range and all of the Flyers Creek and Stratton Vale areas. These open areas have (in places) remnant canopy trees, an absent mid / shrub story and a highly disturbed understory dominated by introduced grasses and weeds. | | **Long Term Target/Management Goal**<br>Areas of EEC are protected, enhanced and expanded (revegetation of suitable areas to an EEC woodland community)<br>Areas are rehabilitated with locally occurring native species, suitable to the soil type, aspect and topography (through either direct seeding or tubestock planting) to reinstate species and structural diversity. Areas are similar (or are evolving towards) identified reference sites comprising the best local example of the same vegetation type. | | | | | |
| Management Actions | Performance Standard | Offset Area | | | Timing | | | |
| | | Black Rock Range | Flyers Creek | Stratton Vale | Annual or ongoing | Year 1 | Years 2-5 | Years 5-10 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Undertake an assessment of the offset areas to inform detailed revegetation planning. | Annual | MZ02 | MZ01, M02, MZ04 | MZ01, MZ02 | X | | | |
| Implement an annual schedule of direct seeding and Tubestock tubestock planting (season dependent). refer to Section 5.12 for further explanation, species lists, methodology etc). | Nominally >2000 tubestock planted or > 5ha direct seeded per year (season dependent) per offset area. | MZ02 | MZ01, MZ02, MZ04 | MZ01, MZ02 | X | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Conduct infill planting and maintenance to achieve target stem densities of tree and shrub plantings. | By year 6 of conservation agreements, achieve >80% of target stem densities | MZ02 | MZ01, MZ02, MZ04 | MZ01, MZ02 | X | | X | |
| Implement a native seed collection program, to collect seed for future revegetation programs.<br>Seed to be collected from within 20 kilometres of the Cadia mine lease boundary.<br>Maintain a seed store database.<br>(refer to BMP section 2.3.1) | Annual | X | X | X | X | | | |
| Annual inspection of tubestock success / seedling density. | Annual | MZ02 | MZ01, MZ02, MZ04 | MZ01, MZ02 | X | | | |
| | NOTE: Fertilisers will not be used in any offset revegetation programmes. | | | | | | | |

| Management Aspect (Continued) 1. Revegetation of cleared / grazed / riparian areas | |
|---|---|
| **Performance Measures**<br>Performance measures for Offset Site revegetation are pending development by NSW BCT.<br>Completion criteria for ecological restoration are detailed in section 5.13 | **Monitoring**<br>Ecological monitoring undertaken per Section 5.8<br>Annual records of tubestock planted, hectares sown and survival rates will be captured and reported annually |
| | **Reporting**<br>Annual records of tubestock planted, survival rates, hectares sown, seedling density will be kept and reported in the EPBC Annual report, Conservation Agreement report and the Cadia Annual Review. |

| **Continuous Improvement Framework** | | |
|---|---|---|
| Event | Mitigation and Corrective Actions | Timing |
| Failure of direct seeding | Defer direct seeding if seasonal conditions are poor.<br>Re-seeding as required to meet targets. | Annual |
| Failure of tubestock | Defer tubestock planting if seasonal conditions are poor<br>Ensure provenance seed is used for tubestock<br>Re-planting as required to meet targets. | Annual |
| Ecological monitoring not progressing towards reference site condition. | Assess individual factors from monitoring. Document improvement actions in reporting and implement. | As required |
| Insufficient local seed for revegetation. | Consider extending collection areas to >20km.<br>Source alternate contractor for seed collection. | Annual review of seed store |

| | Management Aspect 2. Management of Remnant Vegetation | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Current Situation**<br>Management zones within Black Rock Range, Flyers Creek and Stratton Vale contain remnant vegetation or are not prescribed to receive supplementary planting.<br>As such, these areas receive a less intensive management regime to maintain ecological health of remnant vegetation. | | | **Long Term Target/Management Goal**<br>Areas of Remnant are protected, enhanced and expanded<br>Maintain the health and resilience of remnant areas. | | | | | |
| **Management Actions** | **Performance Standard** | **Offset Area** | | | **Timing** | | | |
| | | **Black Rock Range** | **Flyers Creek** | **Stratton Vale** | **Annual** | **Year 1** | **Years 2-5** | **Years 5-10** |
| Undertake an inspection of remnant areas for weeds, pests and vegetation health to determine priority maintenance areas – focus on edges of remnant areas which are most susceptible to weed invasion#. | Annual inspection | MZ01 | MZ03 | MZ03 & MZ04 | X | | | |
| # signifies a recurring action as per the specified frequency in the action plan. | | | | | | | | |

| Management Issue (Continued) 2. Management of Remnant Vegetation | |
|---|---|
| **Performance Measures**<br>Annual inspection completed and documented. | **Monitoring**<br>Annual inspections documented.<br>Any low intensity maintenance actions are documented (photographs). |
| | **Reporting**<br>Annual inspections documented. Any key issues reported in EPBC Annual report, Conservation Agreement Report and Cadia Annual Review.<br>Any low intensity actions are documented (photographs) and reported in the EPBC Annual report, Conservation Agreement Report and Cadia Annual Review |

| **Continuous Improvement Framework** | | |
|---|---|---|
| Event | Mitigation and Corrective Actions | Timing |
| Remnant areas become degraded resulting in loss of biodiversity. | Inspection of remnant areas undertaken<br>Bush regeneration / weed control / low intensity management | Annual<br>As-required |

| Management Aspect 3. Bushfire Management | |
|---|---|
| **Current Situation**<br>There is no current active bushfire management within / in the vicinity of offset portions. As the offset areas are generally un-grazed there is an annual (seasonal) risk of uncontrolled bushfire impact on the offset areas.<br>Cadia is developing a bushfire management plan for all land managed by Cadia. This is due for completion in year 1 of the Conservation Agreement. | **Long Term Target/Management Goal**<br>Implement the bushfire management plan to reduce the risk of a high intensity uncontrolled bushfire from impacting the offset areas resulting in biodiversity loss.<br>Use low intensity fire as a tool to increase structural and species diversity. |

| Management Actions / Schedule | Performance Standard | Offset Area | | | Timing | | | |
|---|---|---|---|---|---|---|---|---|
| | | Black Rock Range | Flyers Creek | Stratton Vale | Annual | Year 1 | Years 2-5 | Years 5-10 |
| Develop and implement the Cadia bushfire management plan. | Fire management prepared in year 1 and submitted with year 2 CA report. | X | X | X | X | | | |
| Pending further assessment, undertake low intensity burns to increase structural and native species diversity# | 5 yearly, pending favourable conditions | X | X | X | | | | X |
| Annual maintenance of fire trails. Contractor engaged to undertake prior to bushfire season in accordance with RFS guidelines#. | Annual | X | | | X | | | |
| Upgrade fire trail signs as per RFS guidelines. | By year 2 of Conservation Agreements | X | | | | | X | |
| # signifies a recurring action as per the specified frequency in the action plan. | | | | | | | | |

| Management Issue (Continued) 3. Bushfire Management | |
|---|---|
| Performance Measures<br>Bushfire Management Plan developed (year 1 of Conservation Agreements)<br>Annual fire trail maintenance completed (Contractor engaged) | Monitoring<br>Fire trails checked prior to bushfire season |
| | **Reporting**<br>Any fire trail maintenance activities and low intensity burns documented (photographs and spatial data). Any key issues reported in EPBC Annual report, Conservation Agreement Report and Cadia Annual Review. |

| **Continuous Improvement Framework** | | |
|---|---|---|
| Event | Mitigation and Corrective Actions | Timing |
| Uncontrolled wildfire resulting in loss of biodiversity. | Fuel reduction activities<br>RFS / emergency response.<br>Post wildfire - monitoring / assessment / weed control | Annual |
| Fire trails un-usable in event of a wildfire | Annual maintenance of fire trails<br>Annual inspection prior to fire season. | Annual |
| Remnant areas loose structural and species diversity due to too frequent / infrequent / high intensity fire. | Low intensity burns (biennial).<br>Conformance with Bushfire management plan and burn regime. | 5 yearly – pending seasonal conditions and further assessment |

| | Management Aspect 4. Weed Management |
|---|---|
| Current Situation<br>Weed management programs have been in place for many years for the three offset portions.<br>Remnant areas located on Black Rock Range are least prone to weed establishment due to the strong competition from native species; as such this area is most vulnerable to weed invasion on the bushland / woodland edges, however bird spread weed species have the opportunity to establish throughout the area.<br>Previously cleared and grazed areas located within the three offset portions are most vulnerable to weed invasion and currently have a high incidence of introduced grass and broadleaf weeds with few native species. | **Long Term Target/Management Goal**<br>Coverage and abundance of high threat (HTW) and priority weeds is reduced, and ongoing suppression and replacement with desirable native species achieved.<br><br>No new emerging HTW establish in Offset Areas and existing weed infestations are not spreading to adjacent areas<br>. |

| Management Actions / Schedule | Performance Standard | Offset area | | | Timing | | | |
|---|---|---|---|---|---|---|---|---|
| | | Black Rock Range | Flyers Creek | Stratton Vale | Annual | Year 1 | Years 2-5 | Years 5-10 |
| Undertake baseline weed mapping of offset areas to determine areas, degree of infestation and weed species.<br>On-going monitoring weed mapping#.<br>On-going visual inspections# | Completed Year 1<br>Annually<br>Quarterly | X | X | X | X | X | | |
| Conduct annual inspection (nominally in August/September) to plan spring and summer weed control programmes# | Completed on annual basis | X | X | X | X | | | |
| Undertake a program of high intensity weed control targeting priority and HTW weeds<br>Complete a campaign of removal of seed and manure around former sheep camps in Stratton Vale | Annual, until year 3 | MZ02 | | MZ01 | | X | X | |
| Undertake a program of moderate intensity weed control targeting priority and HTW weeds | Annual, until year 3 | MZ01 | All zones | MZ02,MZ03,MZ04 | | X | X | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Annual contract in place for the control of noxious and high priority weeds (refer to Section 5.9 for a list of weeds and control measures)#<br>From year 4 onwards, intensity of weed control reduces to maintenance levels# | Completed on annual basis | All zones | All zones | All zones | X | | | |
| Weeds are progressively replaced with native species. (through planting, seeding, selective weed control, encouraging native species in areas where discrete, large infestations occur) | Completed on annual basis | X | X | X | X | | | |
| Undertake literature reviews to determine methods of progressively reducing the incidence of grass and broadleaf weeds (in previously cleared and grazed areas) and to encourage native grasses, herbs and forbs. | Completed 5 yearly | X | X | X | | | | X |
| | # signifies a recurring action as per the specified frequency in the action plan. | | | | | | | |

| Management Issue (Continued) 4. Weed Management | | |
|---|---|---|
| <u>Performance Measures</u><br>Weed coverage and abundance is progressively reduced and ongoing suppression achieved.<br>No new HTWs establish within the Offset Areas<br>Existing infestations do not spread to adjacent areas | <u>Monitoring</u><br>Quarterly visual inspections to verify weed control program performance and identify emerging trends in weed distribution<br>Ongoing annual weed mapping verifies reduction in weed burden over time. | |
| | <u>Reporting</u><br>Baseline weed map produced for all Conservation Areas<br>A summary of weeds controlled, hectares treated and dates of control undertaken EPBC Annual report, Conservation Agreement Report and Cadia Annual Review.<br><br>Any issues including establishment of new HTWs in Offset areas reported in EPBC Annual report, Conservation Agreement Report and Cadia Annual Review. | |
| **Continuous Improvement Framework** | | |
| Unwanted Event | Mitigation and Corrective Actions | |
| | | |
| Uncontrolled weeds impact on biodiversity values of offset areas | Weed mapping<br>Offset Area Inspections.<br>Weed control contracts<br>Long term encouragement / replacement with native species. | Annual<br>Quarterly<br>Annual<br>Ongoing |

| Management Aspect 5. Pest Management | |
|---|---|
| Current Situation<br>Pest management programs have been in place for many years for the three offset portions.<br>All offset areas are considered equally vulnerable to pest species impact due to the transient nature of vertebrate pests. | **Long Term Target/Management Goal**<br>Low occurrence and impact of pest animals on biodiversity values.<br>Reduction in abundance of and suppression of pest animal populations<br>impacts associated with pest animal species |

| Management Actions | Performance Criteria | Offset Area | | | Timing | | | |
|---|---|---|---|---|---|---|---|---|
| | | Black Rock Range | Flyers Creek | Stratton Vale | Annual | Year 1 | Years 2-5 | Years 5-10 |
| Conduct one regional pest control program, where possible, in conjunction with Local Land Services and local landholders# | One annual campaign | X | X | X | X | | | |
| Conduct bi-monthly inspections of offset areas to capture pest animal presence and abundance in offset areas# | Six inspection (two to occur in evenings) | X | X | X | X | | | |
| Implement control programs on as-required basis as informed by quarterly inspections# | Two control programs following inspection triggers | X | X | X | X | | | |
| # signifies a recurring action as per the specified frequency in the action plan. | | | | | | | | |

| Continuous Improvement Framework | |
|---|---|
| **Performance Measures**<br>Annual regional program undertaken<br>Bi-monthly inspection conducted<br>Control programmes implemented as required. | **Monitoring**<br>Bi-monthly inspection conducted to assess pest incidence and impact.<br>**Reporting**<br>A brief summary of pest management activities reported in the EPBC Annual report, Conservation Agreement Report and Cadia Annual Review. |

| Continuous Improvement Framework | | |
|---|---|---|
| Event | Mitigation and Corrective Actions | Timing |
| Uncontrolled pests impact on biodiversity values of offset areas | Regional pest control program undertaken<br>Undertake offset area inspections for vertebrate pests<br>Implement control programmes as required.<br>Monitoring and review of program efficacy in annual reporting | Annual<br>Bi-monthly<br>As-required<br>Annual |

| Management Aspect 6. Native Fauna Management | |
|---|---|
| **Current Situation**<br>A range of native fauna species occur within the offset areas (refer to Section 7.4 and Appendices D and E). Management to date has been 'passive' allowing for minimal disturbance. There have been no habitat enhancement works conducted within offset areas.<br>Refer to Pest Management and Bushfire Management sections for other Fauna management measures. | **Long Term Target/Management Goal**<br>The ultimate aim is that native fauna species are protected from major impacts that may severely impact on their population and viability.<br>Native fauna habitat is considered and allowed for in all management works (with priority given to threatened species).<br>Native fauna habitat is enhanced in areas with a history of clearing and grazing (with priority given to threatened species). |

| Management Actions | Performance Criteria | Offset Area | | | Timing | | | |
|---|---|---|---|---|---|---|---|---|
| | | Black Rock Range | Flyers Creek | Stratton Vale | Annual | Year 1 | Years 2-5 | Years 5-10 |
| Develop and implement a procedural checklist to ensure that fauna considerations are incorporated into all field based works (focussing on threatened species, recommendations from recovery plans and mitigation of key threatening processes (Refer to Section 7.13). | Checklist developed and implemented by year 2 of Conservation Agreement | X | X | X | | | X | |
| Undertake literature review on the success of man-made habitat boxes for arboreal species (in leiu of hollows). Implement in cleared areas to increase habitat availability. | Literature review completed by year 3 of Conservation Agreement | X | X | X | | | X | |
| No firewood collection, fallen timber or bush rock removal is permitted from within offset areas.<br>No tree felling (or removal of stags) is permitted (with the exception of high risk bushfire and safety considerations).<br>Opportunistically retain / place additional habitat structures within previously cleared and grazed offset portions (sourced from nearby farming / mine disturbance areas). | | | | | | | | |

| Management Issue (Continued) 6. Native Fauna Management | |
|---|---|
| Performance Measures<br>Checklist developed and utilised to assess potential impact from field based works.<br>Habitat structures opportunistically placed within previously cleared and grazed offset portions. | Monitoring<br>None proposed |
| | Reporting<br>A brief summary of habitat features placed, native fauna issues or impacts reported in the EPBC Annual report, Conservation Agreement Report and Cadia Annual Review. |

| **Continuous Improvement Framework** | | |
|---|---|---|
| | **Mitigation and Corrective Actions** | **Timing** |
| Works impact on threatened fauna populations or habitat. | Assessment of field works / risk prior to implementation. | Prior to field works being implemented. |
| Unauthorised removal of firewood, bush rock, stags, habitat trees | Removal of firewood, bush rock, stags, habitat trees not permitted.<br>Additional resources placed within previously cleared / grazed areas | Ongoing policy |
| Uncontrolled high intensity bushfire destroying habitat resources. (Refer to management aspect 3) | Fuel reduction activities<br>RFS / emergency response.<br>Post wildfire - monitoring / assessment / weed control | Annual |
| | Low intensity burns. | Biennial |

| Management Aspect 7. Unauthorised access (including livestock grazing) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Current Situation**<br>There is no open public access to any of the three conservation offset portions; access is via private property with standard agricultural gates.<br>The three portions of the offset areas are fenced to exclude livestock and are excised from any neighbouring GRA areas. | | **Long Term Target/Management Goal**<br>The ultimate aim is that unauthorised access by people or livestock does not impact on biodiversity values and fauna populations of offset areas.<br>Gates to remain un-locked for RFS access and the retrieval of livestock. | | | | | | |
| Management Actions | Performance Criteria | Offset Area | | | Timing | | | |
| | | Black Rock Range | Flyers Creek | Stratton Vale | Annual | Year 1 | Years 2-5 | Years 5-10 |
| Contract fencer to conduct inspection of offset boundary fences and undertake required repairs#<br>Ad-hoc inspections and repairs following severe storms (trees over fences / repair of floodgates) | Annual<br>As required. Repairs made within 2 months. | X | X | X | X | | | |
| Internal fencing is to be upgraded or removed if redundant from Black Rock Range.<br>Monitor site for livestock ingress as western boundary of Black Rock Range is unfenced# | By year 3 of conservation agreements.<br>Bi-monthly | X | | | | X | X | |
| Remove redundant internal fences from Flyers Creek.<br>Monitor site for livestock ingress as southern boundary of Flyers Creek is unfenced# | By year 3 of conservation agreements.<br>Bi-monthly | | X | | | X | X | |
| Place signs at the entrances to each gate identifying the area as a conservation offset area and providing contact details. | Completed year 1 of agreement | X | X | X | | X | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Undertake inspections for unauthorised access; devise actions and timeframes to increase security of offset areas as required[#] | Bi-monthly | X | X | X | X | | | |
| Replace boundary fences as required in consultation with neighbouring landholders. Fence design to consider fauna movements. | As required by fencing condition reports | X | X | X | | | | X |
| # signifies a recurring action as per the specified frequency in the action plan. | | | | | | | | |

| Management Issue (Continued) 7. Unauthorised access (including livestock grazing) | | |
|---|---|---|
| **Performance Measures**<br>Annual boundary fence inspection and repair regime.<br>Placement of signs at access points.<br>No observed impact on biodiversity aspects due to unauthorised access.<br>Minimise impacts from unauthorised livestock incursions | **Monitoring**<br>Bi-monthly and ad-hoc inspection on unauthorised access and livestock impact.<br>**Reporting**<br>Annual fence condition report prepared for all offsets and submitted with Conservation Agreement annual report.<br>A brief summary of any observed unauthorised access / livestock damage reported in the EPBC Annual report and the Cadia Annual Review.<br>Livestock incursions to be reported in Conservation Agreement Annual report including date, type, approximate quantity, cause and action taken. | |
| **Continuous Improvement Framework** | | |
| Event | Mitigation and Corrective Actions | Timing |
| Unauthorised people, vehicle / livestock access. Impacts upon flora, fauna or EECs. | Annual boundary fence inspections<br>Increase frequency of inspections<br>Offsets located on private land with no nearby public access. | Annual<br>Following increase in livestock incursions<br>Complete |

| Management Aspect 8. Erosion | |
|---|---|
| Current Situation<br>The Flyers Creek and Stratton Vale offset portion have no significant erosion and are deemed quite stable due to persistent vegetation cover.<br>The eastern portions of Black Rock Range have the highest potential for erosion due to 'light' soil type, steep slope, existing eroded gullies and annual vegetation cover due to prolonged grazing pressure. | **Long Term Target/Management Goal**<br>Healthy ground-cover and stable slopes with no instances of erosion.<br>Remediation of any new sites of erosion is actioned in a timely manner. |

| Management Actions | Performance Criteria | Offset Area | | | Timing | | | |
|---|---|---|---|---|---|---|---|---|
| | | Black Rock Range | Flyers Creek | Stratton Vale | Annual | Year 1 | Years 2-5 | Years 5-10 |
| Inspect and assess active eroding gullies for the purpose of identifying priority locations for remedial works[#] | 6 monthly inspection completed for each offset | X | | X | X | | | |
| Following identification of active eroding gullies:<br>Design and implement remediation works (will be specific to each individual gully) to reduce soil erosion.<br>Steep slopes: nominally, minimise mechanical engineering solutions due to steepness of the terrain and focus on establishing perennial, deep rooted vegetation, slowing and retaining water / nutrient within the landscape.<br>Flat areas: Mechanical engineering solutions plus establishing perennial, deep rooted vegetation, slowing and retaining water / nutrient within the landscape | Works completed within 12 months of identification | X | | X | X | | | |
| Exclude strategic grazing from steep areas with a high risk of erosion | Ongoing exclusion of livestock | X | | X | X | | | |

| | | |
|---|---|---|
| # signifies a recurring action as per the specified frequency in the action plan. | | |
| Continuous Improvement Framework | | |
| **Performance Measures**<br>Inspections undertaken and priority gully's identified<br>Works programme implemented following identification for priority gullys. | **Monitoring**<br>Annual monitoring summary containing inspection findings, photography (before and after) of erosion control works / progress. | |
| | **Reporting**<br>A brief summary of any erosion control works reported in the EPBC Annual report, Conservation Agreement Report and Cadia Annual Review. | |
| Event | Mitigation and Corrective Actions | Timing |
| | | |
| Uncontrolled erosion impacts upon biodiversity values of offset areas. | Design and implement erosion mitigation works | Every 2 years |

| Management Aspect 9. European / Aboriginal Heritage | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Current Situation**<br>Limited information is available regarding the European and Aboriginal heritage aspects of the conservation offset areas. | **Long Term Target/Management Goal**<br>Areas of cultural value are identified, protected and managed. | | | | | | |
| Management Actions | Offset Area | | | Timing | | | |
| | Black Rock Range | Flyers Creek | Stratton Vale | Annual | Year 1 | Years 2-5 | Years 5-10 |
| Undertake European and Aboriginal heritage surveys of offset areas.<br>Incorporate heritage survey findings into future revisions of this management plan | X | X | X | | | X | |
| Maintain exclusion fencing, signage and annual inspections for item - AHIMS 4440373# | | X | | X | | | |
| Provide spatial data for the locations of objects or items identified in AHIMS to NSW BCT. | | X | X | | X | | |
| # signifies a recurring action as per the specified frequency in the action plan. | | | | | | | |

| Continuous Improvement Framework | |
|---|---|
| **Performance Measures**<br>European and Aboriginal heritage surveys undertaken<br>Management Plan updated. | **Monitoring**<br>Fence, signage and condition inspection of AHIMS 4440373 |
| | **Reporting**<br>Any ad-hoc heritage findings will be reported in the EPBC Annual report, Conservation Agreement Report and Cadia Annual Review.<br>A summary will also be included following the completion of the heritage surveys. |

**Continuous Improvement Framework**

| Event | Mitigation and Corrective Actions | Timing |
|---|---|---|
| Damage / loss of heritage items due to lack of information / assessment. | Undertake survey to assess heritage items / significance<br><br>Report / assess any ad-hoc heritage findings | As required.<br><br>As required. |

| **Management Aspect 10. Resource Salvag** | |
|---|---|
| Current Situation<br>Currently, no habitat salvage is undertaken to relocate items from the Cadia East Subsidence zone to offset areas. Offset areas currently have significant remnant trees, trees with hollows, fallen timber and intact soil resources due to the previous management of these areas (noting significant cleared areas do exist) . | **Long Term Target/Management Goal**<br>Reinstate ecological function and habitat enhancement through the addition of coarse woody debris, fallen logs and nest boxes. |

| **Management Actions** | **Offset Area** | | | **Timing** | | | |
|---|---|---|---|---|---|---|---|
| | **Black Rock Range** | **Flyers Creek** | **Stratton Vale** | **Annual** | **Year 1** | **Years 2-5** | **Years 5-10** |
| Seed collection contracts to include potential collection from mine disturbance areas including the Cadia East Subsidence Zone (outside the fenced exclusion zone)# | X | X | X | X | | | |
| Campaigns to opportunistically introduce salvaged habitat features into offset areas | | X | X | | | | |
| Habitat resources form mine disturbance areas will be used in rehabilitation and offset areas (pending availability and suitability) as required to meet rehabilitation objectives. Surplus resources will be diverted to storage until required# | | | | X | | | |
| # signifies a recurring action as per the specified frequency in the action plan. | | | | | | | |

| Continuous Improvement Framework | |
|---|---|
| Performance Measures<br>Annual seed collection contracts to include potential collection from mine disturbance areas<br>Habitat resources from mine disturbance areas used in the rehabilitation of mine disturbed areas and offset sites. | Monitoring<br>Internal monitoring of habitat resource relocation, seed stocks and provenance.<br>Reporting<br>Any habitat relocation and placement undertaken within the mine disturbed landscape will be reported in the Cadia Annual Review and Forward Program.<br>Any habitat relocation and placement undertaken within the conservation offset landscape will be reported in the EPBC Annual report, Conservation Agreement Report and Cadia Annual Review. |

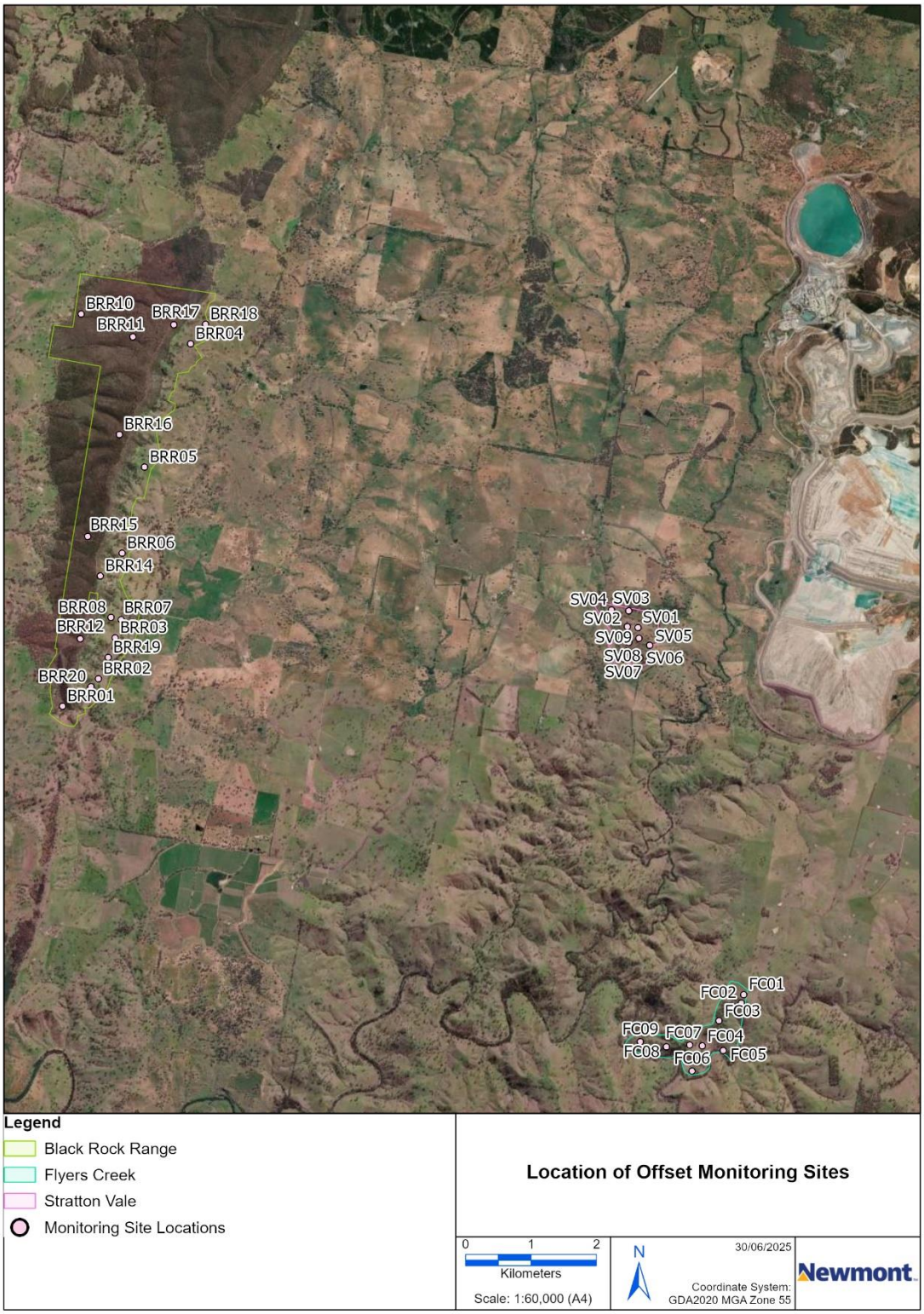
## 5.7 Offset Monitoring Program

Since the establishment of the Conservation Agreements, a program of floristic monitoring has been established for the Cadia Offset Areas. The monitoring program was developed in accordance with the Ecological Monitoring Module (EMM) and BCT EMM Operational Manual has been approved by the NSW BCT.

Floristic monitoring commenced in year 1 of the Conservation Agreements and is undertaken 5 years thereafter. From year 21 onwards, the monitoring period increase to 10 years and the number of monitoring sites may decrease by 50%. All ecological monitoring raw data is directly supplied to NSW BCT. Data obtained from the year 1 baseline monitoring will be used by NSW BCT to develop completion criteria for the Offset Areas.

As a component of the offset monitoring program, permanent photopoints are established at each of the floristic monitoring plots. **Figure 15** below demonstrates the location of the monitoring locations at the Cadia Offset Areas.

**Figure 15: Location of Offset Monitoring Sites**



## 5.8 Weed Management in Offset Areas

Weed Management in Offset Areas will be undertaken in accordance with part 5.7 of the BMP with general weed management guidance is provided in section 2.2.2 of this plan and detailed management is provided in the Cadia Weed Management Plan.

## 5.9 Non-native Animal Pest Management in Offset Areas

Pest animal management in Offset Areas will be undertaken in accordance with part 5.7 of the BMP with general pest management guidance provided in section 2.2.3 of this plan and detailed management is provided in the Cadia Pest Animal Management Plan.

## 5.10 Threatened Species Recovery Assistance in Offset areas

Table 18 provides a summary of key considerations for known threatened species and TECs that occur within the offset portions. Where available, information is drawn from threatened species profiles for the relevant species. Each management requirement has been included in the action plans (above) or other section within the plan and is referenced accordingly.

**Table 18: Management of Threatened Species and Ecological Communities**

| Species / Community# | Key Management Requirements | Action Plan (Refer to Table 16) |
|---|---|---|
| Rosenberg's Goanna (Varanus rosenbergi) | Regeneration works (correct species selection, density of planting) | 1 & 2 |
| | Maintain / improve structural diversity | 1 & 2 |
| | Use appropriate burning regimes and intensity | 3 |
| | Control pest species | 5 |
| | Cease firewood collection / tidying up / removal of logs etc | 6 |
| | Cease bush rock removal. | 6 |
| Speckled Warbler (Pyrrholaemus sagittatus) | Regeneration works (correct species selection, density of planting (open woodland) | 1 & 2 |
| | Maintain / improve structural diversity (Patches of dense shrubs for nesting) | 1 & 2 |
| | Use appropriate burning regimes and intensity | 3 |
| | Control pest species and weeds | 4 & 5 |
| | Cease firewood collection / tidying up / removal of logs etc. | 6 |
| Brown Treecreeper (Climacteris picumnus) | Retention / regeneration of woodland habitat (open woodland) | 1 & 6 |
| | Conservation of habitat trees (including large / old / dead trees with hollows) | 6 |
| | Regeneration works (correct species selection, density of planting) | 1 & 2 |
| | Cease firewood collection / tidying up / removal of logs etc | 6 |
| | Control pest species and weeds | 4 & 5 |
| | Low frequency burning. | 3 |
| Diamond Firetail (Stagonopleura guttata) | Regeneration works (correct species selection, density of planting (open woodland) | 1 & 2 |
| | Diverse native understory | 1 & 2 |
| | Maintain / improve structural diversity (Patches of dense shrubs for nesting) | 1 & 2 |
| | Use appropriate burning regimes and intensity | 3 |
| | Control pest species and weeds | 4 & 5 |

| Species / Community# | Key Management Requirements | Action Plan (Refer to Table 16) |
|---|---|---|
| | Cease firewood collection / tidying up / removal of logs etc. | 6 |
| | Reduce grazing by domestic stock. | 7 |
| Superb Parrot (Polytelis swainsonii) | Retention / regeneration of woodland habitat | 1 & 6 |
| | Conservation of habitat trees (including large / old / dead trees with hollows) | 6 |
| | Regeneration works (correct species selection, density of planting) | 1 & 2 |
| | Cease firewood collection. | 6 |
| | Control pest species and weeds | 4 & 5 |
| Barking Owl (Ninox connivens) | Retention / regeneration of woodland habitat | 1 & 6 |
| | Conservation of habitat trees (including large / old / dead trees with hollows) | 6 |
| | Regeneration works (correct species selection, density of planting (open woodland)) | 1 & 2 |
| | Cease firewood collection. | 6 |
| Little Eagle (*Hieraaetus morphnoides*) | Retention / regeneration of woodland habitat | 1 & 6 |
| | Conservation of large habitat trees for nesting) | 6 |
| | Regeneration works (correct species selection, density of planting) | 1 & 2 |
| | Cease firewood collection. | 6 |
| | Control pest species and weeds | 4 & 5 |
| | Risk on non-target damage through fox and rabbit poisoning programmes | 6 |
| Yellow-bellied Sheathtail-bat *(Saccolaimus flaviventris)* | Retention / regeneration of woodland habitat | 1 & 6 |
| | Conservation of habitat trees (including large / old / dead trees with hollows) | 6 |
| | Regeneration works (correct species selection, density of planting) | 1 & 2 |
| | Cease firewood collection. | 6 |
| | Control pest species and weeds | 4 & 5 |
| | Retention / regeneration of woodland habitat in vicinity of cave locations. | 1 & 2 |

| Species / Community# | Key Management Requirements | Action Plan (Refer to Table 16) |
|---|---|---|
| ^Large Bentwing Bat *(Miniopterus schreibersii)* | Conservation of bush rock / rock escarpments / caves | 6 |
| | Regeneration works (correct species selection, density of planting) | 1 & 2 |
| | Cease firewood collection | 6 |
| | Control pest species and weeds | 4 & 5 |
| *Squirrel Glider *(Petaurus norfolcensis)* | Retention / regeneration of bushland habitat with shrub / acacia mid-story. | 2 |
| | Conservation of habitat trees (including large / old / dead trees with hollows) | 6 |
| | Regeneration works (correct species selection, density of planting) | 1 & 2 |
| | Cease firewood collection. | 6 |
| | Control pest species and weeds | 4 & 5 |
| White Box, Yellow Box, Blakely's Red Gum Woodland.<br><br>Grassy White Box Woodlands.<br><br>Yellow Box/Red Gum Grassy Woodlands. | **Objectives** | |
| | Achieve no net loss in extent and condition of the EEC | 1 & 2 |
| | Increasing protection of sites in good condition | 1 & 2 |
| | Increasing landscape function of the EEC through management and restoration | 1 & 2 |
| | Increasing transitional areas around remnants and linkages between remnants. | Section 3.6 |
| | Management Practices | |
| | Avoid fertiliser use | 1 |
| | Control weeds | 4 |
| | Regeneration works (correct species selection, density of planting) | 1 & 2 |
| | Maintain / improve connectivity | Section 3.6 |

| Species / Community# | Key Management Requirements | Action Plan (Refer to Table 16) |
|---|---|---|
| | Maintain / improve structural diversity | 1 & 2 |
| | Use strategic grazing / otherwise exclude | 7 |
| | Use appropriate burning regimes and intensity | 3 |
| | Control pest species | 5 |
| | Cease firewood collection / tidying up / removal of logs etc | 6 |

## 5.11 Revegetation of Cleared Areas in Offsets

The following figures show areas within Black Rock Range (**Figure 15**), Flyers Creek (**Figure 16**) and Stratton Vale (**Figure 17**) that require rehabilitation, and their corresponding management zones (MZs) as identified in the Conservation Agreements. The vegetation community proposed (either 1a or 2b) has been selected to mirror the adjacent vegetation type suitable to the location (based on soil and topography). The vegetation types have been described by NSW BCT with the exception of Black Rock Range, which was undertaken by FloraSearch (2005). Updated vegetation mapping for Black Rock Range is due with the BCT site values report.

A priority for offset areas will be to manage the site to reinstate ecological functionality (in line with the principles of Landscape Function Analysis) particularly on the upper eastern slopes of Black Rock Range. Works may include:

- seeding/encouragement of perennial (native) grasses on degraded slope areas to trap sediment, nutrient and water. This may initially be undertaken in strips across the contour and encouraged/expanded to cover more of the slope areas. Seeding other species (in line with target vegetation community) as the slopes stabilise;
- installation of structures (rock boulders/logs etc) in drainage lines where practicable to prevent erosion, trap sediment, nutrient and water; and
- management to encourage the build up of organic matter and improvement in soil health/structure. Intermittent disturbance may be used (such as occasional grazing – refer to *Management Aspect 7*) to assist in the process.

Prior to undertaking rehabilitation works an assessment will be carried out on the resilience of the area and whether the native vegetation community is capable of 'self or assisted' repair in order to return to a functional community. If the area has good resilience the area will be encouraged to return without intensive rehabilitation works. Several tools may be trialled and used to assist revegetation including scarification, fire, brush matting and seed broadcast.

The following methods will be applied to areas identified for revegetation:

- Direct seeding (restricted to trafficable/arable areas):
  - Slashing of planting areas to reduce exotic biomass
  - site preparation (2-3 knockdown sprays commencing 12-18 months prior to seeding applied in 2 m bands along the contour at a suitable spacing – nominally 5 m apart);
  - selection of appropriate native species seed consistent with the target community;
  - direct seeding (along the contour in prepared areas);
  - monitoring of representative sites; and
  - maintenance (including re-sowing if required);
- Planting of tubestock (all other areas):
  - site preparation (knockdown spray approximately two to three months prior to planting);
  - ripping (across the contour) - ideally before autumn;
  - site preparation (second knockdown spray one month prior to planting – avoid residual herbicides);
  - planting tubestock consistent with the target community;
  - follow up knockdown spray (around planted tubestock) if required;
  - monitoring of representative sites; and

- maintenance (including watering, weed control, pest control, and replanting if required).

Species selection for revegetation of vegetation communities 1a, 2b and gully/riparian areas is provided in Table 19 and have been extracted from the FloraSearch survey (FloraSearch 2005) conducted as part of the CE EA and from baseline vegetation assessments. From the survey lists, the following native species have been selected due to the potential for the collection and germination of seed to produce tubestock and/or for direct seeding purposes. The actual species sown/planted will depend on the availability of seed at the time of conducting rehabilitation works.

During implementation of the above rehabilitation techniques, species lists, numbers of tubestock for each species and seeding rates will be adjusted in an attempt to provide the structural diversity for the target vegetation community. Relevant reference sites used in the Cadia annual rehabilitation monitoring program will also be used to determine appropriate species and densities. For example, for woodland community 1a, Cadia will attempt to rehabilitate the area with a eucalypt canopy with a relatively sparse mid-story and an under-story dominated by native grasses and herbs.

At Black Rock Range, a large proportion of the target vegetation community exists as a degraded native grassland and therefore rehabilitation efforts will largely focus on reinstating 'missing' structural elements and species which are primarily tree and shrub species. Regular monitoring and comparison to reference sites will determine the need for assisted regeneration.

At Flyers Creek, the understory is dominated by introduced perennial grasses and there are few native ground cover species. In these sites, the aim will be to increase the tree and shrub cover.

Stratton Vale contains open White Box remnant with improved pastures (Phalaris) which dominate the paddock clearings but Bothriochloa and Microlaena persist within the rocky areas. There is a mixture of large old growth trees and regrowth trees.

Grazing is excluded at all three offset sites, and will not be used as a method for vegetation or weed control.

Revegetation success will be determined as described in **Table 17**.

**Table 19: Species Selected for Revegetation within Offset Areas**

| Scientific Name | Common Name | Vegetation Community | | |
|---|---|---|---|---|
| | | 1a | 2b | Gully /Riparian |
| Cupressaceae | | | | |
| *Callitris endlicheri* | Black Cypress Pine | • | | • |
| Casuarinaceae | | | | |
| *Casuarina cunninghamiana* | River she-oak | | | • |
| *Allocasuarina diminuta* | | | | • |
| Dillenaceae | | | | |
| *Hibbertia obtusifolia* | Grey Guinea Flower | • | • | • |
| Epacridaceae | | | | |
| *Brachyloma daphnoides* | Daphne Heath | | | • |
| *Styphelia triflora* | Five Corners | • | | • |
| Fabaceae: Faboideae | | | | |
| *Dillwynia phylicoides* | | | | • |
| *Glycine clandestina* | Twining Glycine | • | | • |
| *Hardenbergia violacea* | False Sarsaparila | • | | • |
| *Indigofera australis* | Austral Indigo | • | | • |
| *Pultenaea procumbens* | Heathy Bush-pea | | | • |
| Fabaceae: Mimosoideae | | | | |
| *Acacia buxifolia* | Box-leaf Wattle | | | • |
| *Acacia dealbata* | Silver Wattle | • | • | • |
| *Acacia decora* | Western Golden Wattle | • | • | |
| *Acacia doratoxylon* | Currawang | • | | • |
| *Acacia implexa* | Hickory | • | | • |
| *Acacis leucolada* | | • | • | |
| *Acacia melanoxylon* | Blackwood wattle | | | • |
| *Acacia paradoxa* | Kangaroo Thorn | | • | • |
| *Acacia pennivervis* | Mountain Hickory | | | • |
| *Acacia ulicifolia* | Prickly Moses | | | • |
| *Acacia vestita* | Boree wattle | • | • | • |
| Goodeniaceae | | | | |
| *Goodenia hederacea* | | | • | • |
| *Goodenia pinnatifida* | Ivy Goodenia | | • | |
| Myrtaceae | | | | |

| Scientific Name | Common Name | Vegetation Community | | |
|---|---|---|---|---|
| | | 1a | 2b | Gully /Riparian |
| *Calytrix tetragona* | Fringe-myrtle | | | • |
| *Eucalyptus albens* | White Box | • | • | • |
| *Eucalyptus blakelyi* | Blakely's Red Gum | | • | • |
| *Eucalyptus bridgesiana* | Apple Box | | • | • |
| *Eucalyptus dealbata* | Tumbledown Red Gum | | | • |
| *Eucalyptus goniocalyx* | Bundy | | • | • |
| *Eucalyptus melliodora* | Yellow Box | | • | • |
| *Eucalyptus macrorhyncha* | Red Stringybark | • | • | • |
| *Eucalyptus polyanthemos* | Red Box | • | • | • |
| *Eucalyptus viminalis* | Ribbon Gum | | • | • |
| *Leptospermum multicaule* | Silver Teatree | | | • |
| Pittosporaceae | | | | |
| *Bursaria spinosa* | | • | • | • |
| Proteaceae | | | | |
| *Grevillea floribunda ssp. floribunda* | Seven Dwarfs Grevillea | | | • |
| *Grevillea ramosissima ssp. ramosissima* | Fan Grevillea | | | • |
| Sapindaceae | | | | |
| *Dodonaea viscosa ssp. spatulata* | Sticky Hop-bush | • | | • |
| Santalaceae | | | | |
| *Exocarpus cupressiformis* | Native Cherry | | | • |
| Sterculiaceae | | | | |
| *Brachychiton populneus* | Kurrajong | • | • | |
| Cyperaceae | | | | |
| *Carex appressa* | | | | • |
| *Carex inversa* | Knob Sedge | • | • | • |
| *Isolepis hookeriana* | | | | • |
| *Lepidosperma laterale* | Broad Sword-sedge | • | | • |
| *Luzula meridionalis* | Field Woodrush | • | • | • |
| *Schoenus apogon* | | | • | |
| Juncaceae | | | | |
| *Juncus homalocaulis* | A Rush | • | • | |
| *Juncus remotiflorus* | | | | • |

| Scientific Name | Common Name | Vegetation Community | | |
|---|---|---|---|---|
| | | 1a | 2b | Gully /Riparian |
| *Juncus subsecundus* | A Rush | • | • | • |
| Lomandraceae | | | | |
| *Lomandra filiformis ssp. coriacea* | Wattle Matrush | • | • | • |
| *Lomandra filiformis ssp. filiformis* | Iron Grass | | | • |
| *Lomandra glauca* | Pale Matrush | | | • |
| *Lomandra multiflora* | Many-flowered Mat-rush | • | | • |
| Phormiaceae | | | | |
| *Dianella caerulea* | | | | • |
| *Dianella longifolia* | | | • | |
| *Dianella revoluta* | | • | • | • |
| *Stypandra glauca* | Nodding Blue Lily | | | • |
| Poaceae | | | | |
| *Agrostis avenacea* | | • | | |
| *Aristida behriana* | Bunch Wiregrass | | • | |
| *Aristida ramosa var. speciosa* | | | • | • |
| *Aristida vagans* | | | • | |
| *Austrodanthonia auriculata* | Lobed Wallaby Grass | • | | |
| *Austrodanthonia caespitosa* | Ringed Wallaby Grass | | • | |
| *Austrodanthonia eriantha* | Hill Wallaby Grass | • | • | • |
| *Austrodanthonia laevis* | | • | | |
| *Austrodanthonia racemosa var. racemosa* | A Wallaby Grass | • | • | |
| *Austrostipa densiflora* | | | | • |
| *Austrostipa scabra ssp. falcata* | Speargrass | • | • | |
| *Bothriochloa macra* | Red Grass | • | • | |
| *Dichelachne hirtella* | A Plumegrass | | • | • |
| *Dichelachne sieberiana* | A Plumegrass | | | • |
| *Echinopogon caespitosus* | | | | • |
| *Echinopogon ovatus* | Forest Hedgehog Grass | • | | • |
| *Eleocharys acuta* | Spike rush | | | • |
| *Elymus scaber* | Wheat Grass | • | • | |
| *Microlaena stipoides var. stipoides* | Weeping Grass | • | • | • |
| *Phragmites australia* | common reed | | | • |

| Scientific Name | Common Name | Vegetation Community | | |
|---|---|---|---|---|
| | | 1a | 2b | Gully /Riparian |
| *Poa labillardieri* | Tussock | • | • | • |
| *Poa sieberiana var. sieberiana* | Fine-leaved Tussock Grass | • | • | |
| *Typha spp.* | cumbungi / bullrush | | | • |
| Xanthorrhoeaceae | | | | |
| *Xanthorrhoea glauca ssp. angustifolia* | A Grass Tree | | • | • |

**Figure 16: Proposed Vegetation Communities of Black Rock Range**

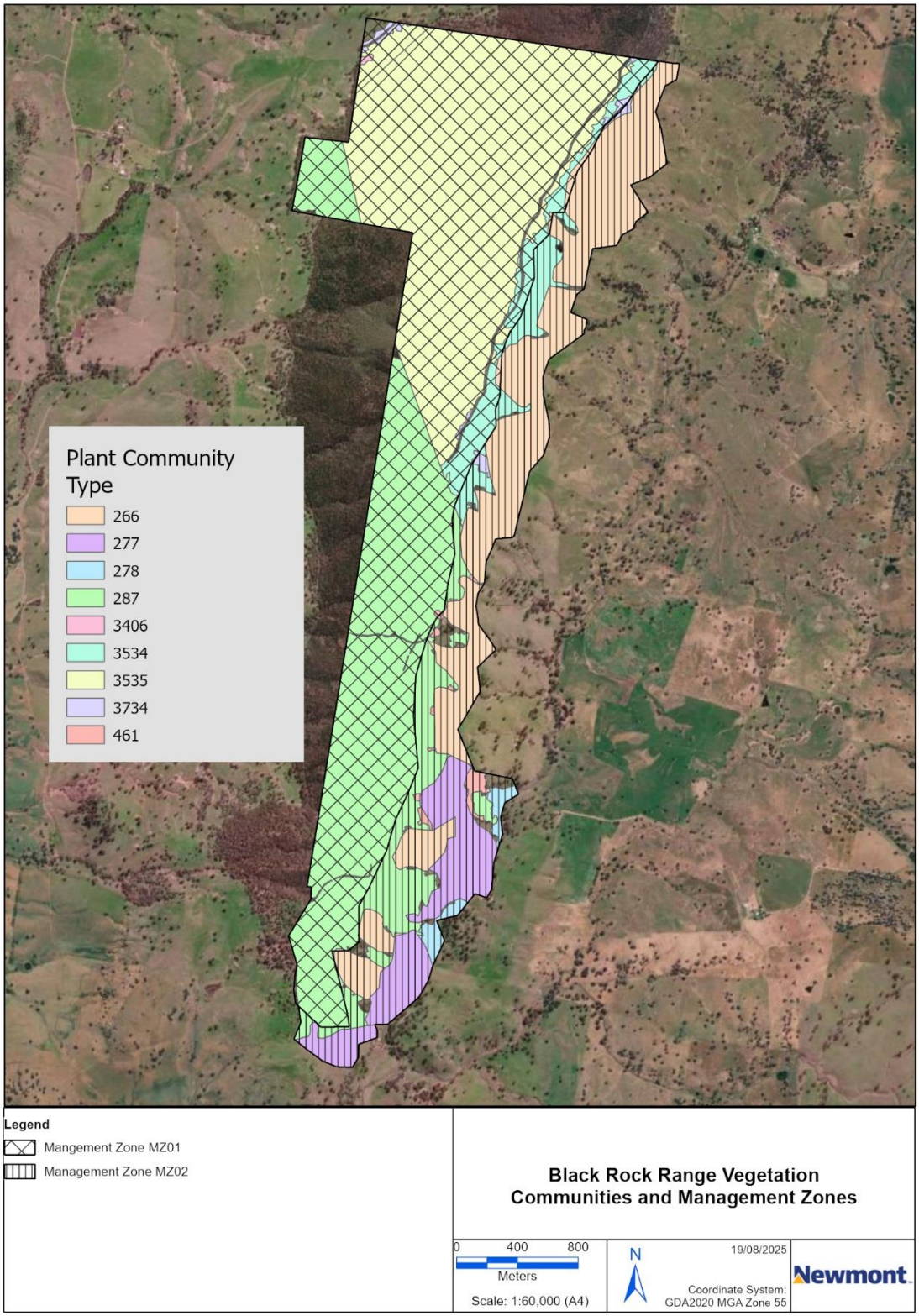


**Figure 17: Proposed Vegetation Communities of Flyers Creek**

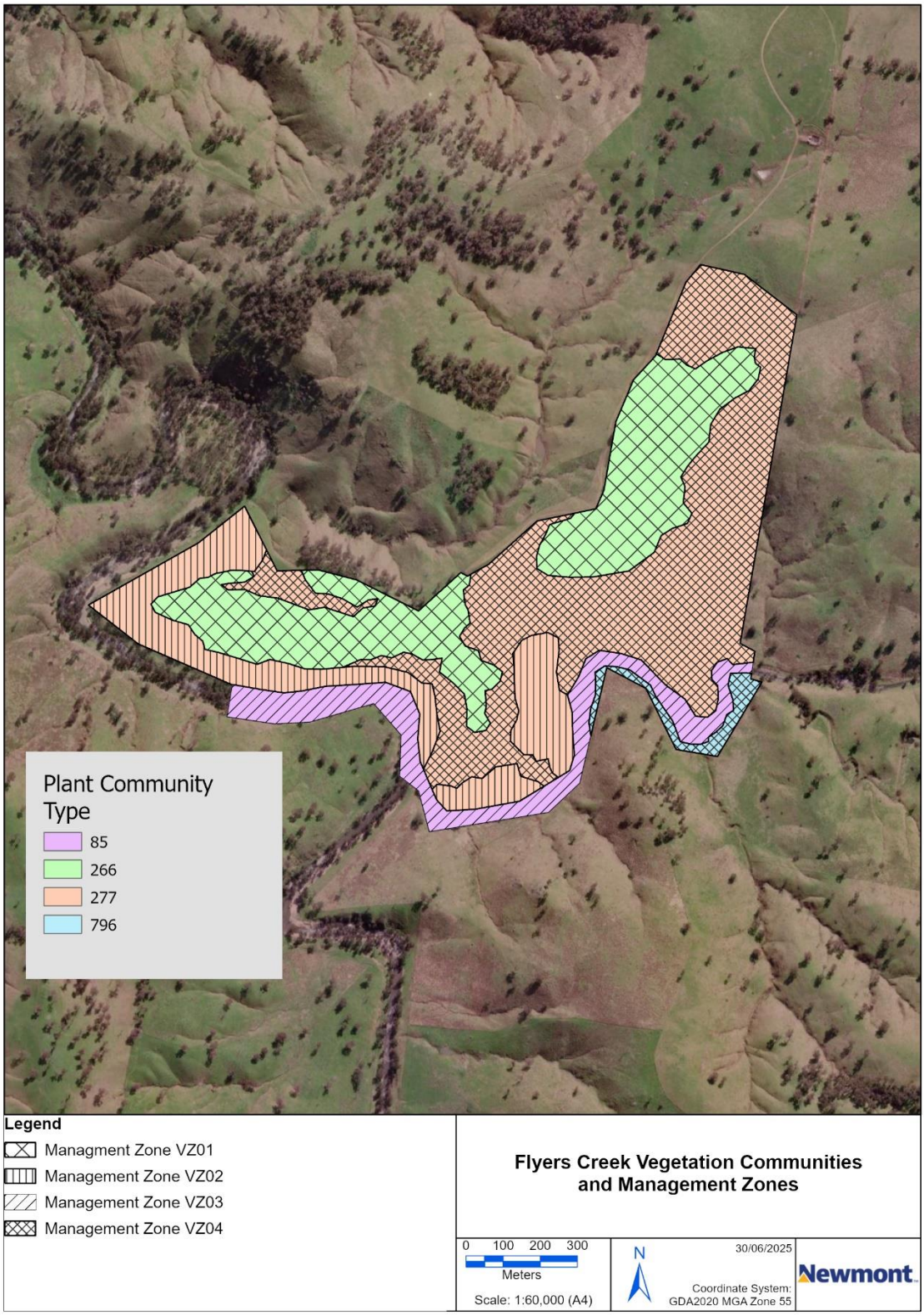
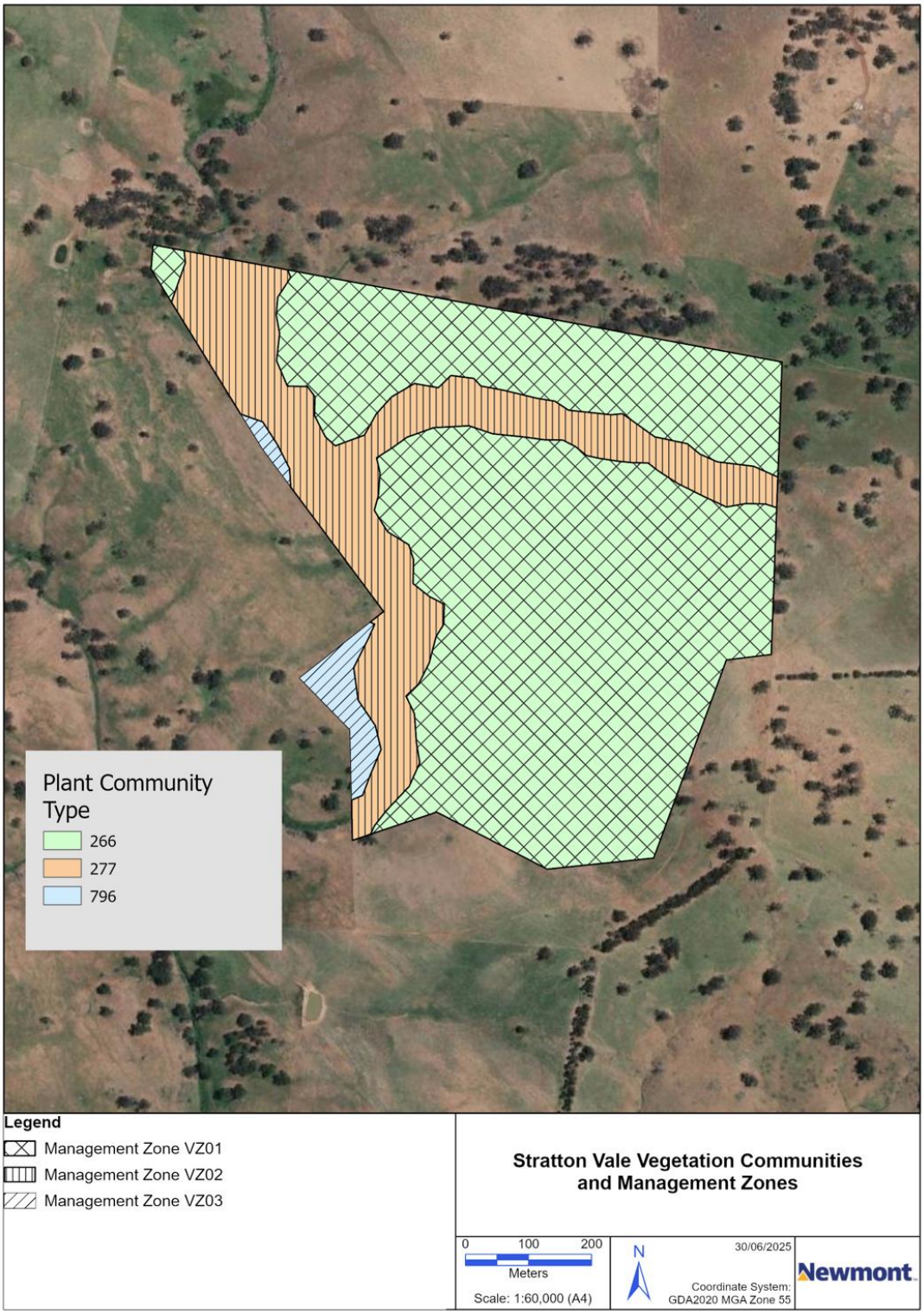


**Figure 18: Proposed Vegetation Communities of Stratton Vale**



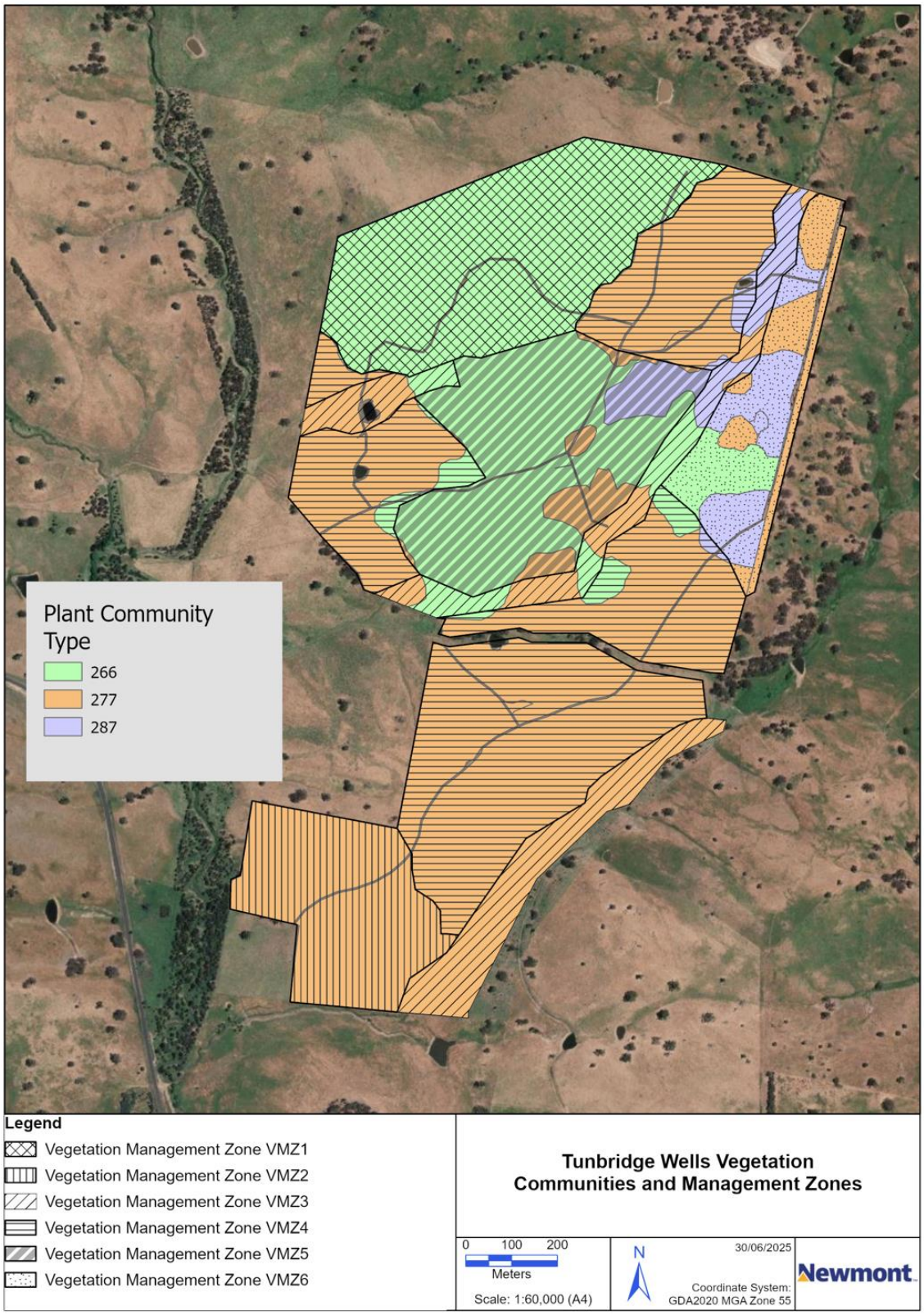
## 5.12 Offset Site Completion Criteria

Following the completion of year 1 ecological monitoring of the Offset Areas, NSW BCT will provide Cadia with Site Values Reports for each Offset Area. Cadia, in consultation with the NSW BCT will subsequently develop specific and measurable performance and completion criteria, time framed management actions and trigger-action-response-plans for the Offset areas. The BMP will subsequently be reviewed and updated per Section 8.

# 6 BIODIVERSITY STEWARDSHIP SITES: TUNBRIDGE WELLS AND CARINGLE

Tunbridge Wells and Caringle Biodiversity Stewardship Site is a 140 hectare parcel of land reserved under a conservation agreement between Cadia and New South Wales Biodiversity Conservation Trust (BCT). The stewardship agreement was executed in April 2024 and Cadia are required to undertake the ecological restoration actions over a 20 year active management period as described in the management plan developed and approved by the NSW BCT. The stewardship site agreement continues in perpetuity and is registered on title for the Caringle and Tunbridge Wells lots.

**Figure 19: Vegetation Communities of Tunbridge Wells Biodiversity Stewardship Site**



# 7 PERFORMANCE EVALUATION AND REPORTING

Schedule 3, Condition 41 (v) of PA06_0295 describes the requirement for a monitoring program to evaluate the effectiveness of the measures in Schedule 3, Condition 41 (b, iv). The following section describes the performance criteria and targets which will be assessed against in the Annual Review.

**Table 20: Biodiversity Management Plan Performance Evaluation**

| Management Aspect | Evaluation Detail | Performance Target |
|---|---|---|
| Biodiversity Impact Mitigations | Details of threatened species encountered and impacted from clearing | No clearing undertaken without mitigations in place.<br>Mitigated clearing reduces impacts on threatened species to ALARP levels. |
| | Detail the extent of Threatened Ecological Communities cleared or protected in the review period. | No clearing of TEC's beyond the impacts described in the MOD15 BDAR or previous EAs. |
| Offset Site Revegetation | Area revegetated (hectares and method) in current AR period | Undertake 20ha/year offset revegetation until offset completion criteria are satisfied. (seasonally dependent) |
| | Seedling survival rate and density for previously planted areas | >50% seedling survival at 12 months.<br>Revegetation density undertaken in line with Section 5. |
| Seed Collection | Quantities, species and locations of seed collected in the reporting period | Seed collected from areas scheduled for disturbance.<br>Seed collection strategy meets the requirements of upcoming revegetation programs. |
| Habitat feature salvage | Locations and linear meters of habitat relocated to offset or rehabilitation areas. | Nominally 1 program per year with quantities |

| | | |
|---|---|---|
| | | in line with recipient sites ecological goals. |
| Controlling feral pests and weeds | Number and species of feral pests eradicated from site during the reporting period.<br>Hectares and weed species treated during the reporting period. | Measured decrease in pest animals. |
| Managing grazing and agriculture on site | Progress against management actions in Section 3.3.1 | No adverse impacts on agricultural use or biodiversity conservation |
| Controlling access | Records of unauthorised access to land managed by Cadia | Limited occurrence of unauthorised access |
| Bushfire Management | Records of bushfire mitigation measures implemented in the reporting period | Recurring obligations in Bushfire Management Plan met. |

A summary of reporting requirements specific to this MP are included Table 21 below.

**Table 21: Reporting Requirements**

| Report Name | Due Date | Submitted to: |
|---|---|---|
| EPBC Compliance Report | 22 May | Department of Climate Change, Energy, the Environment and Water – Cth |
| Annual Review | 31 October | Department of Planning Housing and Industry – NSW, Orange City Council, Blayney Shire Council and Cabonne Council |
| Conservation Agreement Annual Report | 11 September | Biodiversity Conservation Trust - NSW |
| Biodiversity Stewardship Site Annual Report | 23 September | Biodiversity Conservation Trust – NSW |

Additional to the submissions above, Cadia will make relevant information available on it's public website in accordance with Schedule 5, Condition 9 including information on how members of the public can make enquiries or complaints

## 7.1 Incident and Non-compliance Reporting

Cadia will notify the Department within 24 hours of an incident in accordance with Schedule 5, Condition 5

Cadia will notify the Department of a non-compliance within 7 days of a non-compliance in accordance with Schedule 5, Condition 5B

# 8 MANAGEMENT PLAN REVIEW

A summary of the review triggers for the Biodiversity Management Plan is provided in Table 22 below. Consultation will be undertaken on subsequent revisions of this plan with NSW DPHI and NSW BCS (now CPHR) per Schedule 3 Condition 41 (a).

**Table 22: Plan Review Requirements**

| Review Trigger | Source | Frequency and Due Date |
|---|---|---|
| Annual Review (Cond. 5, Sch. 3) | PA06_0295 Schedule 5 Condition 3 | Annually - 31st January |
| Incident Report (Cond. 5 or 5A) | | As required* - within 3 months of notification |
| Audit (Cond. 7) | | 3 yearly – next review due December 2026 |
| Modification to PA06_0295 | | As required - within 3 months of approval |
| Direction from the Secretary (Cond. 2, Sch. 2) | | As required - within 3 months of receipt |
| Conservation Agreement Content Changes | DOC/24/472628 | Single occurrence# – anticipated 31st August 2026 |
| | CA0572, CA0734, CA0735 Part F – Condition 21 | As required – within 3 months of execution of the varied Conservation Agreement |
| Conservation Agreement Report | CA0572, CA0734, CA0735 | Annually – 11th December<br>Year 5 of CA – August 2029<br>5 yearly – post 2029. |

*#Denotes a single update as identified during consultation on this plan.*

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# APPENDIX A: REVEGETATION SPECIES LIST (CHPL 2009A) AND SEEDING RATES

| Rehabilitation Species Lists | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Native Species** | **common name** | **Community 1a** | **Community 2a** | **Community 2b** | **Community 3a** | **Community 3b** | **Community 4a** | **Community 5a** | **Pasture** |
| | Dominant Species | E. albens | E. macrorhyncha | E. melliodora | E. macrorhyncha | E. macrorhyncha | E. melliodora | C. cunninghamiana | |
| | | | E. goniocalyx | E. bridgesiana | E. goniocalyx | E. goniocalyx | E. viminalis | E. viminalis | |
| | | | E. melliodora | E. blakelyi | E. dives | E. polyanthemos | E. bridgesiana | E. bridgesiana | |
| Callitris endlicheri | Black cypress pine | | | | | 1 | | | |
| Callitris glaucophylla | White cypress pine | | 1 | | | | | | |
| Casuarina cunninghamiana | River she-oak | | | | | | | 1 | |
| Bossiaea buxifolia | Matted bossiaea | | | | | 1 | | | |
| Daviesia leptophylla | Narrow leaf bitter pea | 1 | | 1 | | 1 | 1 | | |
| Dillwynia juniperina | Prickly parrot pea | | | | | 1 | | | |
| Dillwynia phylicoides | Heathy parrot pea | 1 | | 1 | | 1 | 1 | | |
| Dillwynia retorta | Twisted parrot pea | 1 | | 1 | 1 | 1 | 1 | | |
| Hardenbergia violacea | False sarsparilla | 1 | 1 | 1 | | 1 | 1 | | |
| Hovea linearis | Erect Hovea | | 1 | | | | | | |
| Indigophera adesmiifilia | Indigo | | 1 | | | | | | |
| Indigophera australis | Australian indigo | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Pultenea cunninghamii | Grey bush pea | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Pultenea microphylla | Spreading bush pea | | | | 1 | 1 | | | |
| Pultenea procumbens | Heathy bush pea | | | 1 | 1 | 1 | 1 | | |
| Pulteneae subternata | Downy grey bush pea | | | | | 1 | | | |
| Swainsona reticulata | A darling pea | | | | | 1 | | | |
| Acacia acinacea | Gold dust wattle | | | 1 | | 1 | 1 | | |
| Acacia brownii | golden prickly wattle | | | | | 1 | | | |
| Acacia buxifolia | box leaf wattle | | | | | 1 | | | |
| Acacia dealbata | silver wattle | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Acacia falciformis | Broad leaved hickory | | | | | 1 | | | |
| Acacia genistifolia | Spreading wattle | | | 1 | | 1 | 1 | | |
| Acacia gunnii | Ploughshare wattle | | | | | 1 | | | |
| Acacia implexa | Hickory wattle | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Acacia leucoclada | Northern silver wattle | 1 | | | | | | | |
| Acacia melanoxylon | Blackwood | | 1 | 1 | 1 | 1 | 1 | 1 | |
| Acacia paradoxa | Kangaroo thorn | | | | 1 | 1 | | | |
| Acacia penninervis | Mountain hickory | | | | 1 | | | | |
| Goodenia hederacea | Ivy goodenia | | | 1 | 1 | 1 | 1 | | |
| Gonocarpus elatus | Raspwort | | | | | 1 | | | |
| Gonocarpus tetragynus | Raspwort | | | | | 1 | | | |
| Calytrix tetragona | common fringe myrtle | | | | | 1 | | | |
| Eucalyptus albens | white box | 1 | | 1 | | | 1 | | |
| Eucalyptus blakelyi | Blakely's red gum | 1 | 1 | 1 | | 1 | 1 | | |
| Eucalyptus bridgesiana | Apple box | | 1 | 1 | | 1 | 1 | 1 | |
| Eucalyptus camalduensis | River red gum | | | | | | | | |
| Eucalyptus dives | broad leaved peppermint | | | | 1 | 1 | | | |
| Eucalyptus goniocalyx | bundy box | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Eucalyptus macorhyncha | red stringy bark | | 1 | 1 | 1 | 1 | 1 | | |
| Eucalyptus melliodora | yellow box | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Eucalyptus polyanthemos | red box | | | 1 | | 1 | 1 | | |
| Eucalyptus canobolensis | canobolas candlebark | | | | 1 | | | | |
| Eucalyptus viminalis | ribbon gum | | | 1 | | 1 | 1 | 1 | |
| Kunzea ericoides | burgan | | | | | 1 | | | |
| Billardiera scandens | climbing apple berry | | | | | 1 | | | |
| Bursaria spinosa | kangaroo thorn | | | | | 1 | | | |
| Persicaria decipens | knotweed | | | | 1 | | | 1 | |
| Persicaria prostrata | knotweed | | | | | 1 | | | |
| Grevillea ramosissima | Fan grevillea | | | | | 1 | | | |
| Hakea decurrens | inland silky hakea | | | | | 1 | | | |
| Persoonia rigida | Stiff Geebung | | | | | 1 | | | |
| Exocarpus cupressiformis | native cherry | | 1 | | 1 | 1 | | | |
| Dodonea viscosa | hop bush | | | 1 | 1 | 1 | 1 | | |
| Carex spp. | sedge | 1 | 1 | 1 | | 1 | 1 | 1 | |
| Juncus spp. | rush | | | | | | | 1 | |
| Lomandra spp. | matrush | | | 1 | 1 | 1 | 1 | | |
| Dianella longifolia | long leaved flax lily | | | | | 1 | | | |
| Dianella revoluta | common flax lily | | | | | 1 | | | |
| Stypandra glauca | nodding blue lily | | | | | 1 | | | |
| **Native Grasses** | | | | | | | | | |
| Bothriochloa macra | red grass | 1 | 1 | 1 | 1 | | 1 | | 1 |
| Cymbopogon refractus | barbed wire grass | | | | 1 | | | | |
| Danthonia spp. | wallaby grass | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Dichelachne spp. | Plumegrass | | 1 | | 1 | 1 | | | |
| Echinopogon | forest hedgehog grass | 1 | 1 | | 1 | | | 1 | |
| Elymus sp. | wheat grass | | 1 | 1 | 1 | 1 | 1 | | |
| Microlaena stipoides | microlaena / weeping grass | 1 | 1 | 1 | 1 | | 1 | 1 | 1 |
| Phragmites australia | common reed | | | 1 | | 1 | 1 | 1 | |
| Poa labillardieri | Tussock | 1 | | | 1 | 1 | | 1 | |
| Poa sieberiana | snow grass | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Stipa spp. | speargrass | 1 | | 1 | 1 | 1 | 1 | | |
| Themeda australis | kangaroo grass | 1 | | | | 1 | | | 1 |
| Typha spp. | cumbungi / bullrush | | | | | | | 1 | |
| Eleocharys acuta | Spike rush | | | | | | | 1 | |
| Isolepis cernua | Nodding club rush | | | | | | | 1 | |
| Lepidosperma laterale | broad sword sedge | | | | | | | 1 | |
| Schoenus apogon | common bog rush | | | | | | | 1 | |
| Luzula spp. | woodrush | | | | | | | 1 | |
| **Introduced Perennial Species** | | | | | | | | | |
| Lolium perenne | perennial ryegrass | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1 |
| Phalaris aquatica | phalaris | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1 |
| Paspalum dilatatum | paspalum | | | | | | | | 1 |
| Dactylis glomerata | cocksfoot | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1 |
| Trifolium repens | white clover | | | | | | | | 1 |
| Trifolium subterraneum | sub clover | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1 |
| Medico sativa | Lucerne | | | | | | | | 1 |
| **Ground Stabilisation Species** | | | | | | | | | |
| Echinochloa esculenta | Japanese Millet | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Secale cereale | Cereal Rye | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| * Very low rates used on mine disturbed areas during direct seeding to provide perennial soil protection while native plants establish. | | | | | | | | | |

**Revegetation Methods and Application Rates**

| Method | When to Use | Rates | Timing |
|---|---|---|---|
| Direct Seeding<br>(Burford Tree Seeder, Aerial Seeding, Broadcast Seeder, Direct Drill) | Over large areas, but excluding difficult to access areas and steep slopes. | 3-5 Kilograms (kg) / ha | September to December |
| Tubestock Planting | Vegetation screens, infill planting, difficult to access areas (steeper areas or areas inaccessible to vehicles).<br><br>Noting expected environmental losses of >50 %. | 250 to 750 plants / ha<br><br>For a *Box Gum Grassy Woodland and Derived Native Grassland* established on cleared agricultural landscapes the lower rate is to be used.<br><br>For vegetative screens, the higher planting rate is to be used. | May to October |

## APPENDIX B: RISK ASSESSMENT

The following definitions in Tables 1 and 2 and risk matrix in Figure 3 were used to assess the risks associated with the implementation of the BMP.

**Table 1: Definition - Consequence**

| Ranking | Matrix Score | Example |
|---|---|---|
| Insignificant (Insig) | 1 | Limited damage to minimal area of low significance. Negligible, reversible environmental impact requiring very minor or no remediation. Loss of individuals – no effect on wider population. |
| Minor | 2 | Minor effects on biological or physical environment. Minor, reversible environmental impact, requiring minor remediation. Non-reportable environmental incident. Localised decrease in species abundance |
| Moderate (Mod) | 3 | Moderate short term effects but no affecting ecosystem. Moderate reversible environmental impact with short term effect, requiring moderate remediation. A reportable incident not likely to result in prosecution. Reduced viability of population. |
| Major | 4 | Serious medium term environmental impacts. Serious environmental impact, with medium term effect, requiring significant remediation. Potential for prosecution. Widespread long term impact on population. Local extinction. |
| Catastrophic (Cat) | 5 | Very serious long term environmental impairment of ecosystem. Disastrous environmental impact with long term effect, requiring major remediation, regulatory intervention or premature / temporary closure of operation. Loss of species from region. |

**Table 2: Definition - Likelihood**

| | |
|---|---|
| A | Almost Certain (AC) |
| B | Likely (L) |
| C | Occasional (OCC) |
| D | Unlikely (UL) |
| E | Rare (R) |

**Figure 3: Risk Matrix**

| | | Consequence | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| Likelihood | A | | 11 | 15 | 18 | 20 |
| | B | | 7 | 12 | 16 | 19 |
| | C | | 4 | 8 | 13 | 17 |
| | D | | 2 | 5 | 9 | 14 |
| | E | | 1 | 3 | 6 | 10 |

= High risk
= Medium risk
= Low risk

| Unwanted event | Inherent Risk | | | | Existing Controls | Recommended Action (Improve existing controls / implement new controls) | By Whom (person responsible for action) | By When (target completion date) | Final Risk | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Consequence | Likelihood | Level (H,M,L) | Rank (1 to 20) | | | | | Consequence | Likelihood | Level (H,M,L) | Rank (1 to 20) |
| Failure to undertake progressive rehabilitation | Mod | Likely | M | 12 | CE EA, Mine lease conditions, Rehabilitation Strategy. Newmont policy. RMP Commit to and implement progressing rehabilitation as per MOP, REMP. | Develop and resource 30 year schedule for implementation with tracking indicators and continuous improvement framework Action taken by regulators. | Cadia General Dircetor, Environment | Ongoing – life of Mine | Moderate | OCC | M | 8 |
| Failure to meet closure criteria. | Major | UL | M | 9 | CE EA, Mine lease conditions, Rehabilitation Strategy. Newmont policy. | Undertake regular assessment against closure criteria & correct at first sign of not meeting criteria, develop and resource 30 year schedule for implementation with tracking indicators and continuous improvement framework. | Lead - Environment | Ongoing – to relinquishment of mining lease. | Mod | UL | M | 5 |
| Un-authorised site disturbance / clearing. | Mod | Likely | M | 12 | CE EA, Newmont Policy Cadia Incident reporting and management process. Communication to workforce. | Ensure adequate site knowledge, recording and accountability for activities affect Report to regulators. Review and correct process. | Director, Environment | Ongoing – life of Mine | Mod | UL | M | 5 |
| Failure to utilise habitat structures. | Minor | AC | M | 11 | CE EA, Rehabilitation Strategy. | Re-use habitat resources as per CE EA, Rehabilitation Strategy, LBMP, develop and resource schedule for implementation. | Lead - Environment | Ongoing – life of Mine | Minor | OCC | M | 4 |
| Failure to harvest adequate topsoil and clay resources. | Major | Likely | H | 16 | CE EA, Mine lease conditions, Rehabilitation Strategy. | Harvest and store topsoil and clay resources as per CE EA, Rehabilitation Strategy, LBMP. | Director, Environment. Manager Surface Operations. | Ongoing – life of Mine | Major | UL | M | 9 |

| Unwanted event | Inherent Risk | | | | Existing Controls | Recommended Action (Improve existing controls / implement new controls) | By Whom (person responsible for action) | By When (target completion date) | Final Risk | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Consequence | Likelihood | Level (H,M,L) | Rank (1 to 20) | | | | | Consequence | Likelihood | Level (H,M,L) | Rank (1 to 20) |
| Failure to identify, investigate and remediate areas of contamination. | Mod | Likely | M | 12 | CE EA, Mine Closure Plan (CHPL 2020c), Legal requirements. Maintain a contaminated sites register. | Investigate and remediate as opportunity arises. Implement as per Mine Closure Plan. | Director, Environment | Ongoing – to relinquishment of mining lease. | Minor | OCC | M | 4 |
| Widespread bushfire across rehabilitation areas. | Major | Likely | H | 16 | NSW Rural Fire Services (RFS) Canobolas Zone Fire Management Plan. Cadia Bushfire Management Plan (lease areas), Cadia emergency response officers. | Bushfire Fuel Management Plans in place for mining and agricultural landscapes. Liaise with stakeholders. Implement Bushfire Fuel Management Plan. | Director, Environment | Ongoing – to relinquishment of mining lease. | Major | Rare | M | 6 |
| Livestock impact on rehabilitation areas. | Major | Likely | H | 16 | CE EA, Rehabilitation Strategy | Areas fenced and maintained to exclude livestock as per BMP. | Director, Environment | Ongoing – to relinquishment of mining lease. | Minor | OCC | M | 4 |
| Failure to meet requirements / commitments of project approval / management plan | Cat | OCC | H | 17 | CE EA, CE Project approval. Rehabilitation Strategy. Regulatory review & reporting requirements. 3 year compliance audits as per CE Project approval. Internal continuous improvement process. | Action taken by regulators | Cadia General Manager. Director, Environment | Every 3 years commencing 2011. | Mod | UL | M | 5 |
| Insufficient seed to undertake rehabilitation commitments. | Mod | Likely | M | 12 | CE EA, CE Project approval. Rehabilitation Strategy. Seed store maintained. Seed collection contracts in place. | Implementation of BMP. | Director, Environment | Ongoing – to relinquishment of mining lease | Minor | OCC | M | 4 |

| Unwanted event | Inherent Risk | | | | Existing Controls | Recommended Action (Improve existing controls / implement new controls) | By Whom (person responsible for action) | By When (target completion date) | Final Risk | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Consequence | Likelihood | Level (H,M,L) | Rank (1 to 20) | | | | | Consequence | Likelihood | Level (H,M,L) | Rank (1 to 20) |
| Grazing / clearing of corridor areas post Newmont Ownership | Mod | Likely | M | 12 | Fencing controls, and grazing agreements. | Investigate and implement strategies for the long term security of rehabilitation areas such as Voluntary Conservation Agreements. | Director, Environment | Offset areas by 6/1/12<br>Other areas within 5 years of mine closure. | Mod | UL | M | 5 |
| Failed encapsulation of PAF material leading to land contamination. | Major | Likely | H | 16 | Statutory requirements - project approval conditions.<br>Encapsulate PAF as per O'Kane modelling recommendations (O'Kane Consultants 2010) (refer to 2009-10 AEMR [CHPL 2010]). | Develop and implement QA/QC process.<br>Install monitoring equipment to monitor success of encapsulation. | Lead - Environment; Superintendent Surface Operations | Ongoing during rehabilitation works | Minor | UL | L | 2 |
| Unstable landforms leading to erosion. | Major | Likely | H | 16 | Mine lease conditions, project approval conditions.<br>Competent material. CE EA<br>Monitor landform stability & correct / repair as required<br>Rehabilitation monitoring and assessment against closure criteria. | Construct landforms as per Cadia East Environmental Assessment, Rehabilitation Strategy, LBMP, Mine Closure Plan. | Lead - Environment; Superintendent Surface Operations | Ongoing – life of Mine | Minor | UL | L | 2 |
| Un-suitable final land use of grazing leading to long-term land degradation. | Major | Likely | H | 16 | Mine lease conditions, CE EA. GRA. | Undertake landscape capability assessment of farms and mine disturbed areas. Modify land-use as required. | Lead - Environment | Ongoing – life of Mine | Minor | UL | L | 2 |
| Failed rehabilitation on TSF due to chemical composition. | Major | Likely | H | 16 | Competent material. CE EA. Outcomes of tailings rehabilitation trial. | Undertake 'scaled up' rehabilitation.<br>Liaise with Ore Treatment regarding possible changes in chemical composition of tailings material. | Lead - Environment; Superintendent Surface Operations | Trial commenced by December 2025 | Minor | UL | L | 2 |

| Unwanted event | Inherent Risk | | | | Existing Controls | Recommended Action (Improve existing controls / implement new controls) | By Whom (person responsible for action) | By When (target completion date) | Final Risk | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Consequence | Likelihood | Level (H,M,L) | Rank (1 to 20) | | | | | Consequence | Likelihood | Level (H,M,L) | Rank (1 to 20) |
| Failed rehabilitation on WRD due to chemical composition. | Major | Likely | H | 16 | Competent material. CE EA. Outcomes of rehabilitation to date. | Undertake annual monitoring of WRD rehabilitation. Investigate root cause of failed plantings / sowing and develop corrective actions. | Lead - Environment; | Annual | Minor | Rare | L | 1 |
| Failed rehabilitation due to drought / climatic factors | Minor | OCC | M | 4 | CE EA. Selection and use of native plants. (More drought tolerant than other alternatives). Undertake rehabilitation during times of optimal moisture and seasonal conditions. Delay planting / sowing if conditions unsuitable. | Undertake regular and detailed monitoring. Develop and resource schedule for action implementation based on improvement requirements. | Lead - Environment; | Ongoing during rehabilitation works | Insig | OCC | L | 0 |
| Liquidation of Newmont – unable to complete rehabilitation / Offset requirements. | Major | UL | M | 9 | Company business plan. External security with NSW Trade and Investment for mine disturbed areas. Mine lease condition. Frequent review of security deposits in line with Mining Operation Plan (MOP)/Rehabilitation and Environment Management Plan (REMP) process (NSW Industry and Investment 2010). | Lodge security deposit with NSW Department of Trade and Investment for mine disturbed areas and with the DPE for Offset areas. | Director, Environment | Ongoing – life of Mine | Mod | Rare | L | 3 |
| No future use of industrial infrastructure | Minor | UL | L | 2 | Mine Closure Plan (CHPL 2020c), CE EA. | Modify Mine Closure Plan to reflect status of future industrial use of site. | Director, Environment | Ongoing – life of Mine | Minor | UL | L | 2 |

| Unwanted event | Inherent Risk | | | | Existing Controls | Recommended Action (Improve existing controls / implement new controls) | By Whom (person responsible for action) | By When (target completion date) | Final Risk | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Consequence | Likelihood | Level (H,M,L) | Rank (1 to 20) | | | | | Consequence | Likelihood | Level (H,M,L) | Rank (1 to 20) |
| Failure of VCP leading to death of fauna individual. | Minor | UL | L | 2 | CE EA, Newcrest Policy, robust clearing practices with trained and skilled fauna spotter catchers.<br>Cadia Incident reporting and management process<br>Communication to workforce. | Report to regulators. Review and correct process. | Lead - Environment | Ongoing – life of Mine | Minor | UL | L | 2 |
| Failure to control noxious weeds. | Major | OCC | H | 13 | CE EA, Mine lease conditions, Rehabilitation Strategy.<br>Noxious Weeds Act.<br>Undertake weed control as per CE EA. | Rehabilitation Strategy, LBMP. | Director, Environment | Ongoing – to relinquishment of mining lease. | Minor | UL | L | 2 |
| Failure to control vertebrate pests. | Major | OCC | H | 13 | CE EA, Mine lease conditions, Rehabilitation Strategy.<br>Undertake vertebrate pest control as per CE EA. | Rehabilitation Strategy, LBMP. | Director, Environment | Ongoing – to relinquishment of mining lease. | Minor | UL | L | 2 |
| Failure to control soil erosion | Major | Likely | H | 16 | CE EA, Mine lease conditions, Rehabilitation Strategy. | Identify and control areas of erosion as per CE EA, Rehabilitation Strategy, LBMP. | Director, Environment | Ongoing – to relinquishment of mining lease. | Minor | UL | L | 2 |
| Failure of rehabilitation works from sowing non-local native seed. | Minor | OCC | M | 4 | CE EA, Rehabilitation Strategy. | Select and use locally occurring native plants as per CE EA, Rehabilitation Strategy, LBMP. | Director, Environment | Ongoing – to relinquishment of mining lease. | Insig | UL | L | 0 |
| Inadequate soil fertility to support rehabilitation. | Mod | Likely | M | 12 | CE EA, Rehabilitation Strategy<br>Undertake soil tests as part of annual rehabilitation monitoring | Annual rehabilitation monitoring (includes soil tests). Apply fertiliser / organic soil conditioners as required. | Director, Environment | Ongoing (annual) during rehabilitation works | Insig | UL | L | 0 |

| Unwanted event | Inherent Risk | | | | Existing Controls | Recommended Action (Improve existing controls / implement new controls) | By Whom (person responsible for action) | By When (target completion date) | Final Risk | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Consequence | Likelihood | Level (H,M,L) | Rank (1 to 20) | | | | | Consequence | Likelihood | Level (H,M,L) | Rank (1 to 20) |
| Un-authorised access to rehabilitation areas | Minor | OCC | M | 4 | CE EA, Rehabilitation Strategy. Cadia Security systems. | Areas fenced and maintained to discourage un-authorised access. Offset areas fenced with signs installed. | Director, Environment | Ongoing – to relinquishment of mining lease. | Insig | UL | L | 0 |
| Failure to provide adequate resources to implement LBMP. | Major | OCC | H | 13 | CE EA, CE Project approval. Rehabilitation Strategy. Regulatory review & reporting requirements. 3 year compliance audits as per CE Project approval. Internal continuous improvement process | Action taken by regulators | Cadia General Manager. Director, Environment | Every 3 years commencing 2011. | Minor | UL | L | 2 |
| Overgrazing of farming areas leading to pasture and land degradation. | Mod | Likely | M | 12 | GRA, Grazing Management Protocol. Inspections / audits by Farm Management Agent and Cadia. | BMP. | Director, Environment | Ongoing – to relinquishment of mining lease. | Insig | UL | L | 0 |
| Poor neighbour relations due to conflicting land management issues / expectations. | Minor | OCC | M | 4 | Community Relations Strategy. Newmont Policy. Complaints Management Protocol. | Implementation of BMP. Liaison with and engagement of stakeholders. | Director, Environment | Ongoing – to relinquishment of mining lease. | Minor | UL | L | 0 |
| Rehabilitation schedule not met. | Minor | Likely | M | 17 | CE EA, Mine lease conditions, Rehabilitation Strategy. Newmont policy. MOP | Commit to and implement progressing rehabilitation. 3 year compliance audits as per CE Project approval | Cadia General Manager. Director, Environment Manager Surface Operations. | Ongoing – life of Mine | Minor | UL | L | 2 |

# Appendix C Environmental Risk Controls

**Table C – 1 EIP Environmental Controls**

| Ranking | Matrix Score |
|---|---|
| **All Areas / All activities** | All machinery to be operated and maintained in a proper and efficient manner.<br>Activities occurring in or on the premises must be carried out in a manner that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.<br>The premises must be maintained in a condition which minimises or prevents the emission of dust • Drainage control and catchment boundaries must strictly be maintained as per the approved Water Management Plan • All hydrocarbons/chemicals to be stored in accordance with the Cadia Chemical Management Standard (710-000-SASTA-2015) and the Hydrocarbon and Chemical Management Plan (710-201-EN-PLA-0005)<br>No water is to be extracted from creeks, rivers, dams or bores (with the exception of the formal approved water supply network) • Water collected in drip-trays and or bunding of hydrocarbon / chemical storages is to be disposed in appropriate area. For example, water collected in oil bunding can be disposed in the oil/water separator sump at RW or Cadia washdown bays<br>Diesel contaminated water to be disposed of in accordance with recommendations of Cadia Environment Department (to be determined on a case by case basis).<br>All vehicles and/or machinery entering and leaving the site to be clean (eg. free of dirt, mud and vegetation)<br>Fauna cannot be purposely or wilfully injured. All fauna injuries or deaths must be reported. |
| **General – mine complex area (Figure 1)** | All dust control equipment must be operable at all times with the exceptions of shutdowns required for maintenance. |
| **General – outside mine complex area** | Construction hours Monday to Saturday 7am to 6pm and Sunday and Public Holidays 8am to 6pm. Fugitive lighting.<br>All external lighting must comply with Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting.<br>Lighting must be faced 'into the site' – to the north and point to the ground. Lighting must not face south east, south or south west at any times. |
| **Water – Contained catchment** | Maintain drainage according to Cadia Water Management Plan<br>No water to be pumped out or released from the contained catchment (unless strictly in accordance with EPL5590) |
| **Water – Uncontained catchment** | Minor amounts of stormwater that collects in trenches can be pumped onto adjacent land such that it does not travel from the immediate area and does not enter a water course/creek<br>Earthworks are to be carried out such that clean water is diverted around the work area |

| Ranking | Matrix Score |
|---|---|
| | Sediment control is to be installed in accordance with LANCOM blue book when earthworks are conducted on undisturbed land outside the contained catchments.<br>No earthworks will be conducted in a watercourse where flow is present, outside of the contained catchments |
| **Land & Biodiversity – undisturbed or rehabilitated areas** | Temporary access tracks are to be minimised<br>Where earthworks are carried out on undisturbed or rehabilitated land, topsoil is to be salvaged to a depth of 300mm and stockpiled separately.<br>Where topsoil/soil is stockpiled for more than 10 days, it is to be done such that the height of the stockpile is |
| **Community** | Minimise traffic noise when travelling to and from Cadia<br>Minimise traffic on public roads<br>Minimise heavy vehicle movements to and from site between 6pm and 7am<br>Cadia Environment Department to be notified prior to any new work commencing outside the mining lease area (to notify other land users). |
| **Resource use** | No waste can be removed from site unless by the Cadia licensed waste contractor.<br>No waste materials are permitted to be removed from site for private use<br>No waste to be brought onto site (refer to EPL5590)<br>Waste to be segregated and disposed using the appropriate bins or area of the waste storage facility<br>When water is used for dust suppression, minimise quantity used<br>When fill is required, only benign non-acid forming (blue) waste to be used |

# APPENDIX D OFFSET AREAS HISTORY

**Table D-1: Measures Taken to Obtain Long Term Security of the Cadia East Offset Area**

| Date | Action/Outcome |
|---|---|
| 30 June 2011 | The LBMP was submitted to the Department of Environment, Water Heritage and the Arts and NSW Department of Planning (DOP).<br><br>It presented an "Action Plan" regarding the long-term security of the offset areas, outlined as follows:<br><br>*within one year of approval of the June 2011 LBMP, CHPL will take the following actions:*<br>*Liaise with Cabonne Council and Blayney Shire Council regarding the re-zoning of Offset areas for conservation. Initiate process for rezoning. Consideration will be given to re-zoning as Zone E2 Environmental – Conservation or Zone E3 Environmental Management in liaison with Councils.*<br><br>The "Performance measure" indicated for this action is stated to be:<br>*Area re-zoned by the 6th of January 2012*<br><br>*Investigate options (such as voluntary conservation agreements, covenant etc) for the long-term conservation (in perpetuity) of offset areas.*<br><br>The "Performance measure" indicated for this action is stated to be:<br>*Preferred option selected and implemented by the 6th of January 2012*<br><br>*To ensure implementation of the plan, a security deposit will be lodged with I&I NSW.*<br><br>The "Performance measure" indicated for this action is stated to be:<br>*Security lodged within 6 months of approval of Land and Biodiversity Management Plan (Landscape Management Plan)* |
| 9 September 2011 | The Department of Sustainability, Environment, Water, Population and Communities (DSEWP&C) wrote to Cadia expressing concerns regarding the details for the long-term security of the offset areas. |
| 23 September 2011 | Cadia replied to DSEWP&C regarding its proposal to secure the required offset in part through use of a VPA. Cadia was advised that this met the requirements of DSEWP&C pending approval from NSW Department of Planning Infrastructure. |
| 4 January 2012 | Cadia wrote to NSW DP&I outlining its proposal to secure the offset required by condition 39 of PA 06_0295. |
| 24 February 2012 | Cadia received legal advice from Blake Dawson (now Ashurst Australia) which provided reasoning behind the use of the VPA. |
| 9 March 2012 | Cadia advised the DOP by email of legal advice regarding the use of the VPA. |
| 18 January 2013 | The Black Rock range area was zoned E2 Environmental Conservation with commencement of the *Cabonne Local Environmental Plan 2012*. |

| Date | Action/Outcome |
|---|---|
| 21 May 2013 | DSEWP&C advised Cadia that details and mechanisms for securing the long-term protection of the offset areas still remained unresolved. |
| 5 June 2013 | Cadia received advice from DP&I that the VPA was considered to be an appropriate means for securing the offset area where it was stated that<br>*"I see no reason why this should not be an appropriate mechanism for securing the offsets for the Cadia East Project."* |
| 14 June 2013 | Cadia in response by letter advised DSEWP&C that it had become aware of discrepancies in areas of the offset areas as proposed in the offset plan.<br>In finalising in-perpetuity security arrangements for the biodiversity offset strategy Cadia become aware that some small land parcels within the Black Rock Range and Belubula River/Flyers Creek offset areas are not able to be secured as planned due to a number of cadastral issues. |
| 14 June 2013 | Cadia advised the DoE of progress with securing the offset and that the LBMP as posted on the Cadia Valley website was considered appropriate for reconsideration for the purposes of the EPBC approval. |
| 14 March 2014 | DoE wrote to Cadia alleging a breach of condition of 1 attached to EPBC 2006/3196. |
| 7 April 2014 | Cadia responded with the view that Cadia had not contravened Condition 1 of the EPBC Approval, citing correspondence referenced above. |
| 14 May 2014 | A security deposit was lodged with DOP as required by condition 40, schedule 3 of PA 06_0295. |
| 25 May 2015 | An application to modify the Project Approval was lodged with DPE. The DOP assessment report on the application stated that:<br>*In finalising in-perpetuity security arrangements for the biodiversity offset strategy [Cadia] become aware that some small land parcels within the Black Rock Range and Belubula River/Flyers Creek offset areas are not able to be secured as planned due to a number of cadastral issues.*<br>The modification proposed approximately:<br>14.2 ha being removed from the Belubula River/Flyers Creek offset area;<br>16.5 ha being removed from the Black Rock Range offset area; and<br>60.7 ha being added to the offset strategy from Cadia's 'Stratton Vale' property. |
| 4 August 2015 | The modified biodiversity offset strategy was approved as described in Section 7.1. |
| 26 April 2016 | The Black Rock Range land (lot 21) was formally acquired.<br>All offset areas are under the ownership of Contango Agricultural Company (a related body corporate to CHPL). |
| 19 May 2016 | DEE was advised of the modification in the 2010-2015 AEMR (CHPL 2016). |
| May-August 2016 | Cadia arranged for surveys of the other offset areas to be undertaken.<br>Survey for the 'Stratton Vale' area was completed in August 2016.<br>Record winter rainfalls delayed surveys of the Belubula River frontage area for the Flyers Creek offset area. |
| April 2018 | Planning proposal submitted to BCS by Cadia. |
| 30 August 2018 | Request by the former DPIE (now DPE) to request BCS for a Gateway determination for the Oaky Creek and Stratton Vale components of the offsets. |

| Date | Action/Outcome |
|---|---|
| 2018 - 2020 | Submission of required plans to BCS for rezoning. |
| 16 April 2021 | Blayney Local Environmental Plan amended. |
| May 2021 – February 2022 | Discussions with DPE regarding progressing VPA. |
| December 2021 | Modification 14 to PA 06_0295 approval requires the preparation of a *Biodiversity Management Plan* (this document) to supersede the previous *Landscape and Biodiveristy Management Plan* (L&BMP) |
| 15 February 2022 | DPE advised that VPA would no longer be accepted to retire credits. DPE advised to progress a Conservation Agreement with Biodiversity Conservation Trust (BCT) for the offsets. |
| 27 February 2023 | Payment made to the *Biodiversity Conservation Fund* (BCF) to retire ecosystem and species credits associated with modification to PA 06_0295 (MOD 13) disturbance footprint. |
| February 2023 | Cadia presented content of the TSMS to BCS. |
| February and March 2023 | BCT conducts visit to Flyers Creek, Stratton Vale and Black Rock Range Offset Areas to identify vegetation management zones, and in preparation for the development of Conservation Agreements. |
| August 2024 | Cadia and BCT signed and executed Conservation Agreements for Black Rock Range, Stratton Vale and Flyers Creek offset areas. |

# APPENDIX E THREATENED SPECIES MANAGEMENT PROTOCOL